

**MINISTRY OF LABOUR, INVALIDS AND SOCIAL AFFAIRS
VIETNAM**

**THE PREPARATORY SURVEY
ON THE PROJECT FOR
STRENGTHENING VOCATIONAL
TRAINING SECTOR
IN
VIETNAM**

FINAL REPORT

NOVEMBER 2015

JAPAN INTERNATIONAL COOPERATION AGENCY

ORIENTAL CONSULTANTS GLOBAL CO., LTD.

OVERSEAS VOCATIONAL TRAINING ASSOCIATION

UNICO INTERNATIONAL CORPORATION

1 R
JR(先)
15-062

**MINISTRY OF LABOUR, INVALIDS AND SOCIAL AFFAIRS
VIETNAM**

**THE PREPARATORY SURVEY
ON THE PROJECT FOR
STRENGTHENING VOCATIONAL
TRAINING SECTOR
IN
VIETNAM**

FINAL REPORT

NOVEMBER 2015

JAPAN INTERNATIONAL COOPERATION AGENCY

ORIENTAL CONSULTANTS GLOBAL CO., LTD.

OVERSEAS VOCATIONAL TRAINING ASSOCIATION

UNICO INTERNATIONAL CORPORATION

Table of Contents

List of Figures and Tables
 List of Annexes
 Location Map
 Abbreviations

	Page
1. Outline of the Survey.....	1
1.1. Background of the Survey.....	1
1.2. Outline of the Project	2
1.2.1. Objectives of the Project.....	2
1.2.2. Contents of the Project.....	2
1.2.3. Target area of the Survey	3
1.3. Objectives of the Survey.....	3
1.4. Policy of the Survey	3
1.5. Schedule of the Survey	5
2. Project Background and its Necessity.....	6
2.1. Current situation, challenges and related policies of the vocational training institute (especially for machining, electricity and electronics) in Vietnam	6
2.1.1. Industrialization progress in Vietnam (including the supporting industry development)	6
2.1.2. Human Resources needs for the field of Machining, Electrics and Electronics in Vietnam.....	13
2.1.3. Requests of the Production Sector in Vietnam regarding Education Programme needs.....	16
2.1.4. Current status and Issues in the Vocational Training Sector (especially in the field of Machining, Electricity and Electronics) in Vietnam.....	18
2.1.5. Current situation and progress of the related policies.....	30
2.1.6. Budget and human resource allocation for vocational training sector in MOLISA.....	37
2.1.7. Overall employment rate of students upon graduating from Vocational Colleges.....	39
2.1.8. Financial conditions of Vocational Training Institutes.....	42
2.1.9. Projects for Vocational Training Sector	42
2.1.10. Demands of Skills Certification Examination in Vietnam.....	49
2.2. Economy, industrial development trend, current situation, challenges and related policies of vocational training sector in the target areas	52
2.2.1. Current situation, challenges and related policies of vocational sector (especially in machining, electrical, and electronics) in the target areas: Hanoi, Hai Phong, Ha Nam, Da Nang, Ho Chi Minh, Dong Nai, Ba Ria Vung Tau and Vinh Phuc.....	52
2.2.2. Industrial and Japanese enterprises situation in each target areas.....	56
2.2.3. Outline of the target vocational college/university (including history, organizational structure, financial condition, management planning, relationship between regulatory authorities and local governments, the education and training situation and challenges of machining, electrical and electronic fields (including installation of the related equipment, maintenance method and frequency, and confirmation of equipment procurement authority), existence of employment support service (including employment rate and employment place record))	58

2.2.4.	Demographic movement especially the vocational college age group at the target areas including the area of 2 nd campus.....	64
2.2.5.	Industrial development as contemplated in the Master Plan by 2020, enrolment and instructors securing issues as well as human resource need forecast in machining, electrical and electronic fields	65
2.3.	Significance and Necessity of the Project.....	68
3.	Objective and Scope of the Loan Project.....	71
3.1.	Objectives of the Loan Project.....	71
3.2.	Scope of the Loan Project	71
3.2.1.	Equipment procurement for each target vocational training institution.....	71
3.2.2.	Consulting Services	71
3.3.	Selection of the target Vocational Training Institutions for the Loan Project.....	72
3.3.1.	Selection criteria	72
3.3.2.	Method of selection	73
3.3.3.	Situation of the selection.....	73
3.3.4.	Result of the Selection	77
4.	Equipment Plan	79
4.1.	Background and preconditions of the plans	79
4.1.1.	Background and preconditions	79
4.1.2.	Fundamental policies related to the number of planned equipment	79
4.1.3.	Fundamental policies for grading planned equipment (quality of equipment) and their accuracy	80
4.1.4.	Handling the existing equipment	80
4.1.5.	Policy on planned equipment in collaboration with technical cooperation	81
4.2.	Procedure flow of equipment planning.....	83
5.	Facility Plan.....	84
5.1.	Background and Preconditions	84
5.2.	Building Renovation Plan / Construction Work Plan	84
5.2.1.	Site survey of the school building.....	84
5.2.2.	Planning for repair and renovation work	89
5.2.3.	Construction work plan.....	91
5.3.	Outline Design Drawings.....	92
6.	Implementation Structure, Operation and Management (O&M) Structure	93
6.1.	Implementation Structure of the Loan Project.....	93
6.1.1.	The Ministry of Labour, Invalids and Social Affairs (MOLISA)	93
6.1.2.	Implementation structure of the Loan Project.....	98
6.1.3.	Management of current projects under other donor.....	100
6.2.	Operation and Maintenance (O&M)	101
6.2.1.	Operation and Maintenance Management System.....	101

6.2.2.	Timing of implementation of periodical inspection, its method, condition of maintenance tools and securement of spare parts	103
6.2.3.	Organization for Operation and Maintenance Control.....	103
6.2.4.	Cost estimation for operation and maintenance work and securing of budgetary sources ..	104
6.2.5.	Availability to Hire Outsourcing Agent for Operation and Maintenance of Equipment.....	105
6.2.6.	Plan for Develop and Strengthen the Equipment Operation and Maintenance system in collaboration with Technical Cooperation being planned.....	105
7.	Operation and Effect Indicators.....	107
7.1.	Background and Objectives	107
7.2.	Draft operation and effect indicators, their baselines and goals, methods to collect the data, and methods for monitoring	107
8.	Proposal for collaboration with other projects	109
9.	Study Tour to Japan	113
9.1.	Objectives	113
9.2.	Implementation Outline	113
9.2.1.	Delegation members	113
9.2.2.	Program contents	113
9.2.3.	Purpose and contents of each program, comments from delegation members and visiting images	115
9.3.	Comments from JST.....	116
10.	Project Outline (PO).....	117
11.	Technical Cooperation.....	118
11.1.	Background of Review on Technical Cooperation Projects.....	118
11.2.	Cooperation content and schedule of the vocational training institutions by the yen loan.....	122
11.3.	Review Steps.....	122
11.4.	Review results.....	123
11.4.1.	Activities and results of technical cooperation project	123
11.4.2.	Activity plan and progress of the on-going technical cooperation projects.....	124
11.4.3.	Examine current situations of Loan target colleges	126
11.4.4.	Consideration on assistance in vocational training related systems (Skill Test)	129
11.5.	Technical Cooperation Proposal, PDM and PO Draft	134
11.5.1.	Basic policies	134
11.5.2.	Technical cooperation proposal (ToT)	136
11.5.3.	PDM draft based on Technical Cooperation Proposal	143

List of Figures and Tables

List of Figures

	Page
Figure 1-1	Schedule of the Survey 5
Figure 2-1	GDP (constant 2010 price) 6
Figure 2-2	GDP Annual Growth Rate (constant 2010 price) 6
Figure 2-3	Gross Output of Industry (constant 2010 price) 7
Figure 2-4	Gross Output of Manufacturing Industry (constant 2010 price)..... 7
Figure 2-5	Gross Output of Textile Industry (constant 2010 price) 8
Figure 2-6	Gross Output of Wearing Apparel Industry (constant 2010 price)..... 8
Figure 2-7	Gross Output of Leather and Related Products Industry (constant 2010 price) 8
Figure 2-8	Gross Output of Fabricated Metal Products (except Machinery and Equipment) Industry (constant 2010 price) 9
Figure 2-9	Gross Output of Computer Electronics and Optical Products Industry 9
Figure 2-10	Gross Output of Electrical Equipment Industry (constant 2010 price)..... 9
Figure 2-11	Gross Output of Machinery and Equipment Industry (constant 2010 price)..... 10
Figure 2-12	Gross Output of Motor Vehicles, Trailers and Semi-trailers Industry 10
Figure 2-13	Total FDI for Vietnam (newly approved and expansion)..... 10
Figure 2-14	Japanese FDI for Vietnam (newly approved and expansion) 11
Figure 2-15	Japanese FDI in Vietnam in 2014 (as of November 20, 2014)..... 11
Figure 2-16	Comparison of “Vocational Education Law” and “Vocational Training Law” 20
Figure 2-17	State management on Vocational Training by Line Ministries, and DOLISA 21
Figure 2-18	Organization chart of MOLISA/GDVT 38
Figure 2-19	Number of Vocational Colleges in the Target Areas 52
Figure 2-20	Gross Output of Industry of Target Areas 57
Figure 2-21	Number of Japanese Enterprises in the Target Area 57
Figure 2-22	Non-Current Asset Book Value 59
Figure 2-23	Self-Revenue Ratio (Self-Revenue / Ordinary Revenue) 60
Figure 2-24	Growth Rate of Self-revenue 61
Figure 2-25	Growth Rate of Non-Current Asset Acquisition Cost 61
Figure 2-26	Operating Profit Ratio (Operating Profit / Operating Revenue: the Average of the Last 3 Years)..... 62
Figure 2-27	College Operation Expense per Student 62
Figure 2-28	Accumulated Depreciation Ratio 63
Figure 2-29	Profit before Depreciation (including subsidies) 64
Figure 2-30	Population Pyramid in 2009 65
Figure 2-31	VCs Estimated Enrolment (2020)..... 65
Figure 3-1	Method to select target VCs..... 73
Figure 6-1	MOLISA/GDVT Organizational Chart 93
Figure 6-2	PMU Organizational Chart for the Loan Project for Strengthening of Vocational Training Sector 94
Figure 6-3	PMU Organizational Chart for this Loan Project 98
Figure 6-4	Implementation Structure of the Loan Project 99
Figure 6-5	Operation and Maintenance System (i) Completed exclusively by a specialized section)..... 103
Figure 6-6	Operation and Maintenance System (ii) Focused in outsource control)..... 104
Figure 6-7	Operation and Maintenance System (iii) Collaboration between a management section and faculties)..... 104

Figure 11-1	VC Operational & Management and Collaboration with Industry in the On-going Technical Cooperation P-3	124
Figure 11-2	Technical cooperation Structure	135
Figure 11-3	Correspondence relationship with the equipment maintenance through technical cooperation and yen loans.....	135
Figure 11-4	PDM.....	144

List of Tables

	Page	
Table 2-1	Summary of Regulations related to the Main Four Sectors of Industrialization.....	12
Table 2-2	International Standard Classification of Occupations (ISCO)	13
Table 2-3	Engineer and Technician Classification.....	13
Table 2-4	Employment Forecast by Industry	14
Table 2-5	Employment Forecast by Occupation.....	14
Table 2-6	Employment Forecast in the Industry Sector.....	15
Table 2-7	Human Resources Development Survey of needs by Japanese Industries in Vietnam.....	16
Table 2-8	Training Level in Vietnam.....	21
Table 2-9	Number of Vocational Training Institutes (by governing agency, 2012)	23
Table 2-10	Number of Vocational Training Institutions (by region, 2012)	23
Table 2-11	Number of Vocational Training Institutions (by occupation).....	24
Table 2-12	Number of vocational training instructors	26
Table 2-13	Condition of lecturers in the target schools	26
Table 2-14	Policies related to the Vocational Training Sector	30
Table 2-15	Outline of Human Resource Development Strategy.....	31
Table 2-16	The Structure of Training Grade.....	31
Table 2-17	Human Resource Development in the Industry and Construction Sectors	31
Table 2-18	Number of Vocational Instructors and Trainers	31
Table 2-19	Human Resource Development Strategy by Region.....	32
Table 2-20	Vocational Training Development Strategy 2011-2020 Target and Achievement.....	34
Table 2-21	Staff assignment in GDVT	38
Table 2-22	Number of admissions and graduates of vocational institutions.....	39
Table 2-23	Number of Capacity, Admissions, and Graduates in the target VCs	40
Table 2-24	Employment Rate by Training Occupations.....	41
Table 2-25	Graduate results by training occupation in VTC	41
Table 2-26	Main Japanese Enterprises where Graduates were employed (Random Order)	42
Table 2-27	Major projects for the Education and Vocational Training Sector by Other Donors	42
Table 2-28	ADB Project Target Schools.....	44
Table 2-29	AFD Project Target Institutions.....	44
Table 2-30	BMZ Project Target Institutions	45
Table 2-31	JICA Technical Cooperation Projects.....	46
Table 2-32	Loan conditions of each donor.....	48
Table 2-33	National Occupational Skills Standard: NOSS Decision No.09/QD-BLDTBXH 2008/03/27	49
Table 2-34	14 Occupations, National Skill Assessment Scheme, MOLISA	50
Table 2-35	Target of Gross Output of Industry in 2020.....	67
Table 3-1	Targeted and Expected Beneficiaries of the Loan Project.....	71
Table 3-2	List of Target VCs	72

Table 3-3	Major Risks/ Issues, Countermeasures and Future Actions.....	73
Table 4-1	Handling the Existing Equipment.....	81
Table 5-1	Existing Campus and New Planned Facilities Drawings.....	85
Table 5-2	Renovation / Repair work (as of December 11, 2014)	89
Table 5-3	Renovation / Repair work cost and period (as of December 11 th , 2014).....	91
Table 6-1	Roles of PMU Divisions for the Loan Project for Strengthening of Vocational Training Sector	94
Table 6-2	PMU Personnel.....	95
Table 6-3	Role of Agency in Procurement.....	100
Table 6-4	Condition of Equipment Operation and Maintenance in Each Vocational College	102
Table 7-1	Operation and Effect Indicators (Draft).....	108
Table 8-1	Technical Cooperation.....	109
Table 8-2	Grass-roots Technical Cooperation/Grant Assistance	110
Table 8-3	Dispatch of Experts.....	111
Table 9-1	Delegation Member List	113
Table 9-2	Study Tour Program.....	114
Table 9-3	Purpose and Contents of each programs and Comments from delegation members....	115
Table 10-1	Contents of Project Outline (PO).....	117
Table 11-1	Outline of Technical Cooperation Projects for Vietnam	118
Table 11-2	Activity Contents of Technical Cooperation Projects for Vietnam	119
Table 11-3	Process management of vocational training	123
Table 11-4	Technical Cooperation P-3 Activity Planning and Progress.....	125
Table 11-5	5S activities.....	126
Table 11-6	The Content of Each Process and Its Major Actions in Process Management	127
Table 11-7	Implementation of 5S Method	131
Table 11-8	Management Methods for a Training Process that incorporates company needs	132
Table 11-9	Career Support System	133
Table 11-10	Indicator of Cooperation P-3 Implementation Status	136
Table 11-11	Implementation Status of Technical Cooperation P-3 in the Machinery Department ..	136
Table 11-12	Specialized Technical Plan in Electricity Department.....	138
Table 11-13	Specialized Technical Plan in Electronic Department.....	139
Table 11-14	8 Kinds of Polytechnic College Management and Administration Major Inspection Items	141

Annexes

- Annex-1 Member of the JICA Survey Team
- Annex-2 Schedules of the Field Surveys
- Annex-3 List of Participants
- Annex-4 Decision on the name changing of Vietnam-German Vocational College to VPVC
- Annex-5 The Law on Vocational Education
- Annex-6 Transition of the Number of Enrolments, Graduates and Employed Graduates by VCs
- Annex-7 GDP Growth Rate, Industrial Structure, and Manufacturing Output Transition in the target area, FDI
- Annex-8 Outline of the target vocational college/university
- Annex-9 Summary of Quantitative Information and Supplements
- Annex-10 Demographic in the Target Area
- Annex-11 Result of Information Analysis on Criteria Satisfaction and Useful Information for Selection
- Annex-12 Information from DOLISA about New Construction Work for HCMVC (English and Vietnamese)
- Annex-13 Summarization of the Report on Rehabilitation of Subsidence problem of HVCHT
- Annex-14 Duplication with ADB's support (technical cooperation and equipment procurement)
- Annex-15 Verification Sheet
- Annex-16 Outline Design Drawings
- Annex-17 Decision on Duty Assignment for Preparation of ODA Loan Project



Location Map

Abbreviations

Abbreviations	English
ADB	Asian Development Bank
AFD	Agence Française de Développement
AFTA	ASEAN Free Trade Area
ASEAN	Association of Southeast Asian Nations
BMZ	Federal Ministry for Economic Cooperation and Development
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CIF	Cost, Insurance and Freight
CNC	Computer Numerical Control
CPA	Centre for Enterprise Partnership and Vocational Skill Assessment
CUDBAS	A Method of Curriculum Development Based on Vocational Ability Structure
DOLISA	Department of Labour, Invalids and Social Affairs
EDCF	Economic Development Cooperation Fund
EIA	Environmental Impact Assessment
FOB	Free on Board
GDP	Gross Domestic Product
GDVT	General Department of Vocational Training
ICB	International Competitive Bidding
JAVADA	Japan Vocational Ability Development Association
JEED	Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers
JICA	Japan International Cooperation Agency
JPP	Japanese Partnership Project
JST	JICA Survey Team
KfW	Kreditanstalt für Wiederaufbau
KOICA	Korea International Cooperation Agency
MARD	Ministry of Agriculture and Rural Development
MOET	Ministry of Education and Training
MHLW	Ministry of Health, Labor and Welfare
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MOLISA	Ministry of Labour, Invalids and Social Affairs
MOT	Ministry of Transport
MP	Master Plan
MPI	Ministry of Planning and Investment
NDF	Nordic Development Fund
NOSS	National Occupational Skills Standard
ODA	Official Development Assistance
OJT	On-the-Job-Training
PC	People's Committee
PDC	Personal Digital Communications
PDCA	Plan-Do-Check-Act
PMU	Project Management Unit
PLC	Programmable Logic Controller

Abbreviations	English
PO	Project Outline
PPC	Provincial People's Committee
PQ	Pre-Qualification
SEDS	Socio-Economic Development Strategy
STEP	Special Terms for Economic Partnership
TOT	Training of Trainers
TVET	Technical and Vocational Education and Training
USD	U.S.dollar
VC	Vocational College
VND	Vietnam Dong
WTO	World Trade Organization

Candidate Vocational Training Institutions		
Abbreviation	English	Governing Agency
HCMVC	Ho Chi Minh Vocational College	Ho Chi Minh PC
HIVC	Hanoi Industrial Vocational College	Hanoi PC
VCCT	Vocational College of Technique and Technology	MOLISA
BRVTVC	Ba Ria-Vung Tau Vocational College	Ba Ria-Vung Tau PPC
VPVC	Vinh Phuc Vocational College	Vinh Phuc PPC
HVCHT	Hanoi Vocational College of High Technology	Hanoi PC
DNVC	Da Nang Vocational College	Da Nang PC
CVCT	The central vocational college of Transport No.2	MOT
HVCT	Ho Chi Minh Vocational College of Technology	MOLISA
VCMI	Vocational College of Machinery and Irrigation	MARD
HaUI	Hanoi University of Industry	MOIT
HPVC	Hai Phong Vocational College	Hai Phong PC
HNVC	Ha Nam Vocational College	Ha Nam PPC

¹ The name of the college was officially changed by the “DECISION 1335-QD-BLDTBXH (October 15 2014)”, refer to Annex-4 “Decision on the name changing of Vietnam-German Vocational College to VPVC”

1. Outline of the Survey

1.1. Background of the Survey

The Socialist Republic of Vietnam (hereinafter referred to as “Vietnam”) has experienced remarkable economic development, with a 7-8% GDP growth rate, in the context of foreign direct investment and strong export industry including manufacturing and assembly.

On the other hand, it seems that Vietnam’s competitive strength in labor-intensive industry will subside because manufacture supply chain in the ASEAN region has begun restructuring in the context of eliminating tariff and non-tariff barriers² within the ASEAN region and neighboring countries with less expensive labor force.

Supporting industry³ is developing and especially in manufacturing industry, the percentage of Vietnam’s procurement rate of Japanese manufacturer’s item or material of 33.2% is greatly inferior in comparison with other developing countries in ASEAN, such as 54.8% in Thailand, 43.1% in Indonesia, and 40.7% in Malaysia⁴.

Vietnam has planned to achieve its goal in becoming an industrialized country by the year 2020, as formulated in the Social Economy Development Strategy 2011-2020 (hereinafter referred to as “SEDS”), by strengthening its supporting industry. Machining, electricity and electronics fields are the basic industrial fields that support the supply chain of manufacturing industry. The development of these 3 fields is expected to contribute to industrial competitiveness and in becoming an industrialized country.

However, the number of high quality human resources to support this industrial development is still insufficient, and the causes are: (1) vocational colleges (hereinafter referred to as “VC”) managers and instructors’ lack of awareness of the skill demanded by industry, (2) VC instructor’s lack of experience and skill, (3) insufficient facility and equipment, (4) improper national system of skill test and qualification, and (5) lack of budget for equipment procurement. Failing to meet the industrial sector’s needs for skilled human resources and capacity development in both hard and soft skills has become a pressing issue for VC in Vietnam.

In order to solve this issue, the Government of Vietnam has planned “The 9th Social Economic Development Five-year Plan (2011-2015)” and put priority in improving the education system including vocational training.

In addition, the Government of Vietnam planned the "Vocational Training Development Strategy (2011-2020)" as a more detailed policy for vocational training that has 4 main purposes, which are: (1) implementation of vocational training that meets the industrial sector needs (2) improvement of vocational training quality to international level (3) training high skilled worker (4) standardization of vocational training content. Under this situation, the Prime Minister issued the Decision No. 761/QD-TTg on May 23rd, 2014 approving the plan on developing 45 high quality VCs by the year 2020.

Under these circumstances, the ODA loan demand list (10 universities and 5 VCs) from the Government of Vietnam was submitted in September 2011 to the Government of Japan. the

² For item which has a large impact, it has been recognized that the timing of a tariff reduction will be postponed in 2018.

³ Company which produce material or parts to assemble company

⁴ Research on actual conditions for Japanese companies in Asia and Oceania(2014) : Issued by JETRO

Government of Japan has proposed 6 VCs as ODA loan target colleges based on the survey “Study on Human Resource Development in Vietnam” (March to September 2012) by JICA and Ministry of Labor, Invalids and Social Affairs/ General Department of Vocational Training (hereinafter referred to as “MOLISA/GDVT”) have agreed with this proposal.

The Minister of MOLISA has issued the Decision No. 784 “Decision on approval of 40 state-owned schools list to be the High-quality schools in vocational training area by 2020” and “45 state-owned schools list” (5 state-owned schools is added based on Minister Decision No. 784) and approved by the Prime Minister in May 2015 based on Decision No.761 “Approving “the high quality vocational school development project by 2020”.

Based on the development policy of the Government of Vietnam, economic activities and needs of human resources of Japanese manufacturing companies in Vietnam, as well as results of Japanese technical cooperation in vocational training in Vietnam, 13 VCs were selected as candidate schools of ODA loan support in May 2014 based on the discussion between JICA and MOLISA/GDVT, with the focus on strengthening machinery, electricity and electronics fields.

1.2. Outline of the Project

1.2.1. Objectives of the Project

This project provides machining, electricity and electronics training equipment to candidate vocational colleges and aims to acquire Vietnam's economic growth and international competitiveness by strengthening vocational training sector and improving human resource of high-quality skilled technicians whose skill is suited to industrial human resource needs.

1.2.2. Contents of the Project

Under yen loan project, equipment procurement for VCs in Vietnam in the field of machining, electrical and electronic shall be carried out in order to provide international level VCs. The international level in Vietnam is the level as defined in developed countries such as Japan, Europe and US, whereas in this project, the equipment as international level is the same level as Japan's Polytechnic College⁵ (as prescribed by Human Resources Development Promotion Enforcement Regulations Article 12 and "specialized courses"⁶ level set in appendix 6). Upon installing the equipment, take into account the features of the equipment and the surrounding environment (weight, vibration, noise, electromagnetic interference, etc.), clarify the facilities required for the installation (renovation, repair) and estimate the construction cost for outline design & detailed design with the assumption it is to be conducted by the Government of Vietnam, and based on this, confirm the feasibility of the project. Furthermore, consider collaboration with technical cooperation for instructors and manager training, development of curriculum, syllabus and teaching materials in order to achieve the initial objective by utilizing the materials and equipment effectively.

⁵ Same level as Japan Polytechnic College under JEED

⁶ “Specialized Courses” means 2 years training course from basic to advance technical after graduated from high school. https://www.jeed.or.jp/js/kousotsusya/polytech_co/gaiyo.html

1.2.3. Target area of the Survey

The target area of the Survey consists of Hanoi City, Vinh Phuc Province, Hai Phong City, Ha Nam Province, Da nang City, Dong Nai Province, Ba Ria-Vung Tau Province and Ho Chi Minh City.

1.3. Objectives of the Survey

Conducting a Preparatory Survey (hereinafter referred to as "the Survey") is necessary for JICA to collect sufficient information about objectives, outline, project amount, implementation structure, operation and maintenance structure, attentions to environmental and social factors to conduct the appraisal for the "Project for Strengthening Vocational Training Sector" expected to be financed through ODA loan. The Survey will also research the conditions for formulating a Technical Cooperation Project in parallel with the Loan Project to ensure the high level of efficiency of JICA's support.

1.4. Policy of the Survey

In consideration of the basic understandings of the Survey, policies for the Survey are established as follows:

Basic Understandings of the Survey

1. To conduct the Survey for the appraisal for the ODA Loan Project and the Technical Cooperation Project.
2. To strive to develop the Japanese-style vocational training model.
3. To select the target Vocational Training Institutes/Colleges (hereinafter VCs) based on the selection criteria agreed between MOLISA/GDVT and JICA.
4. To examine the potential application of Special Terms for Economic Partnership (STEP) to plan equipment to be financed through ODA Loan.
5. To utilize the results of previous surveys especially the evaluation criteria for selection of targeted vocational institution.
6. To examine the collaboration with other projects in order to maximize the effectiveness of the outcomes of the ODA Loan Project.
7. To investigate the implementation organization under MOLISA and related agencies.
8. To design and estimate costs based on JICA Manuals.
9. Vocational institution with 2nd and/or 3rd campus planning will not be governed either selected or not under the Loan Project.

Basic Policies for the Survey

Technical Policies

1. In order to introduce the Japanese model of vocational training, which is an objective of the Project, to consider current methods of the vocational training field such as CUDBAS (A Method of Curriculum Development Based on Vocational Ability Structure) when selecting target VCs, outlining the design and so on.
2. To examine elements such as a) the specification and quantity of equipment in accordance with the practices of Japanese Polytechnic College, b) the equipment which was procured through former Japanese ODA, c) the needs from the industry including from Japanese enterprises, and d) to ensure consistency with curriculum of TOT applied in the Technical Cooperation Project.
3. The Project does not cover the construction or rehabilitation of facilities. Therefore, the current situation and the availability of facilities will be examined carefully by the time of equipment installation. In case the candidate

vocational training institutions need to construct or rehabilitate facilities, construction schedule and budget allocation will be confirmed during the Survey.

4. The JST provides the activities and support to formulate the Project and to contribute to the expansion of production of impact.

Operational Policies

1. The JST positively exchanges opinions with and provides explanations to wide-ranging related organizations in order to correctly share the information and formulate consensuses in accordance with JICA's decision.
2. The JST periodically (on an as needed basis) reports on the progress of the Survey to JICA instead of only at the submission of the reports.
3. The JST allocates appropriate experts who are familiar with each field, and establishes a synergetic team.
4. The JST efficiently employs local engineers in order to implement the Survey safely and effectively in a short period.

As the basic policy, the reason of offering Japanese polytechnic college level in vocational training is due to the prior technical cooperation project , Vietnamese government policies, and the challenges faced by Japanese companies in Vietnam. JICA has conducted several technical cooperation projects in the field of vocational training, such as “Project for Strengthening Training Capability for Technical Workers Course in Hanoi Industrial College” (April 2000 - March 2005), and “Project for Human Resource Development of Technicians at Hanoi University of Industry” (January 2010 - January 2013). HaUI affiliated with Ministry of Industry and Trade (hereinafter referred as “MOIT”) offers vocational training in the same level as Japanese polytechnic college in 3 main majors: Machining, Electrical, and Electronics, and has supported the construction of education and training system in line with the needs of industry. As a result, Japanese companies in Vietnam that has university-industry collaboration with HaUI as well as companies where graduates of HaUI are employed think that HaUI has produced graduates with the ability equivalent to graduates of Japanese polytechnic college. Moreover, the Government of Vietnam has made creating vocational colleges with international standard as one of its policy issue, and according to the notice of the Prime Minister's Office, HaUI is positioned as a model base for supplying the advanced human resources in Japanese companies⁷. Having jurisdiction over the same university, Ministry of Commerce and Industry also wish to expand HaUI as one of the model university in Vietnam. Furthermore, the strong expectations in transferring the knowledge and experience that HaUI has to other vocational training institutions were once again confirmed during the data collection and survey in September 2012.

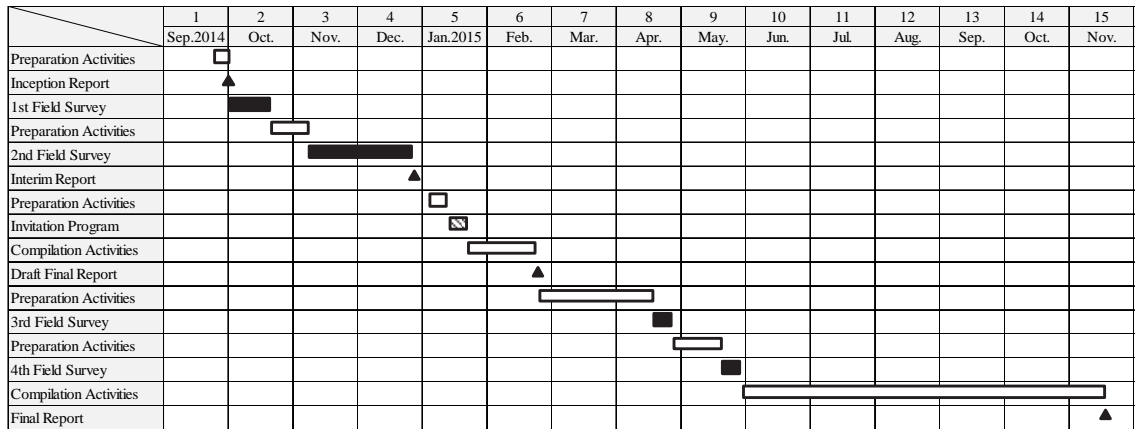
Currently, the number of Japanese companies in Vietnam is 1,783 companies⁸, 719 companies (about 40%) of which are in manufacturing. The high demand for human resources with the skill of machining, electrical and electronic fields as the important foundation in manufacturing industries, regardless the company size, was confirmed in JICA “Human Resources Development Survey in Vietnam” . It understood that graduates who has received Japanese-style vocational training at polytechnic colleges in Japan have good environment for employment.

⁷ Prime Minister's Office Notice No.267/TB-VPCP (July 24th, 2012)

⁸ Based on a survey conducted by JETRO (September 2012)

1.5. Schedule of the Survey

The Survey period is from September 2014 to November 2015⁹. The schedule of the Survey is shown below.



Source: prepared by the JST

Figure 1-1 Schedule of the Survey

⁹ Agreed between JICA and the study team on January 14 2015 and May 29th 2015

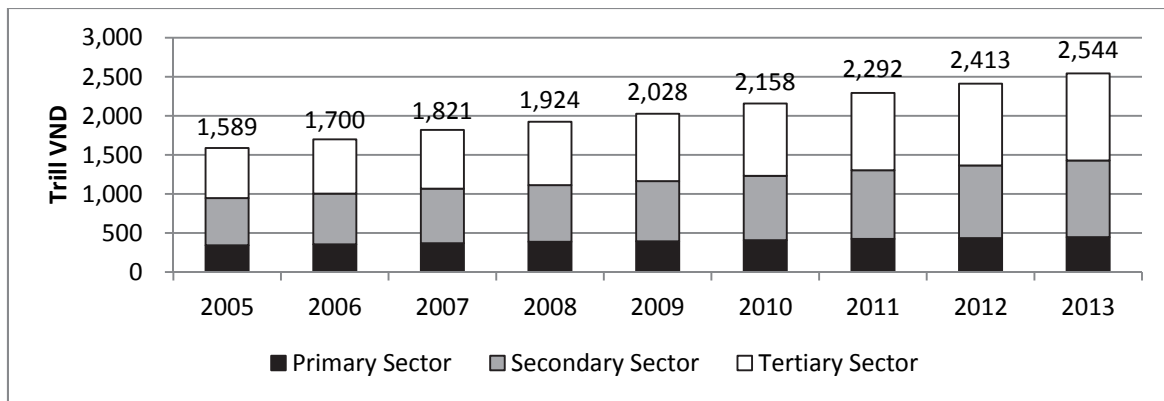
2. Project Background and its Necessity

2.1. Current situation, challenges and related policies of the vocational training institute (especially for machining, electricity and electronics) in Vietnam

2.1.1. Industrialization progress in Vietnam (including the supporting industry development)

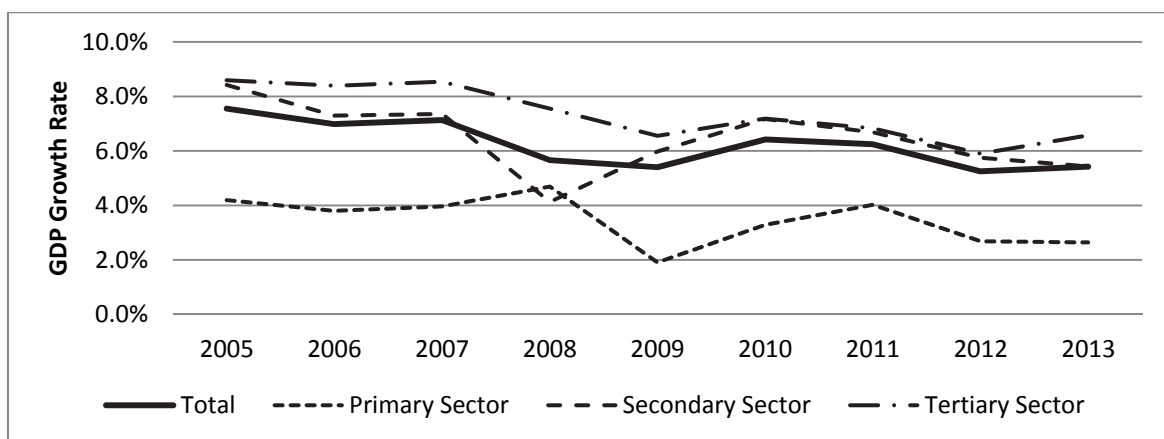
i. Economic growth rate

The government of Vietnam developed the industrialization strategy with the support from the Japanese government aiming at the national goal “industrialization by 2020” in the “Socio-Economic Development Strategy 2011-2020” and has sustained a steady economic growth rate. Vietnam’s GDP grew 7~8% annual economic growth rate owing to the excellent export performance of the manufacturing and assembling industries in the 2000s. The country’s economic growth rate has slowed down due to the global financial crisis in the late 2008; however, the primary and secondary industries still experience more than 5% annual economic growth rate (Figure 2-1 and Figure 2-2).



Source: Statistics Yearbook of Vietnam 2013

Figure 2-1 GDP (constant 2010 price)

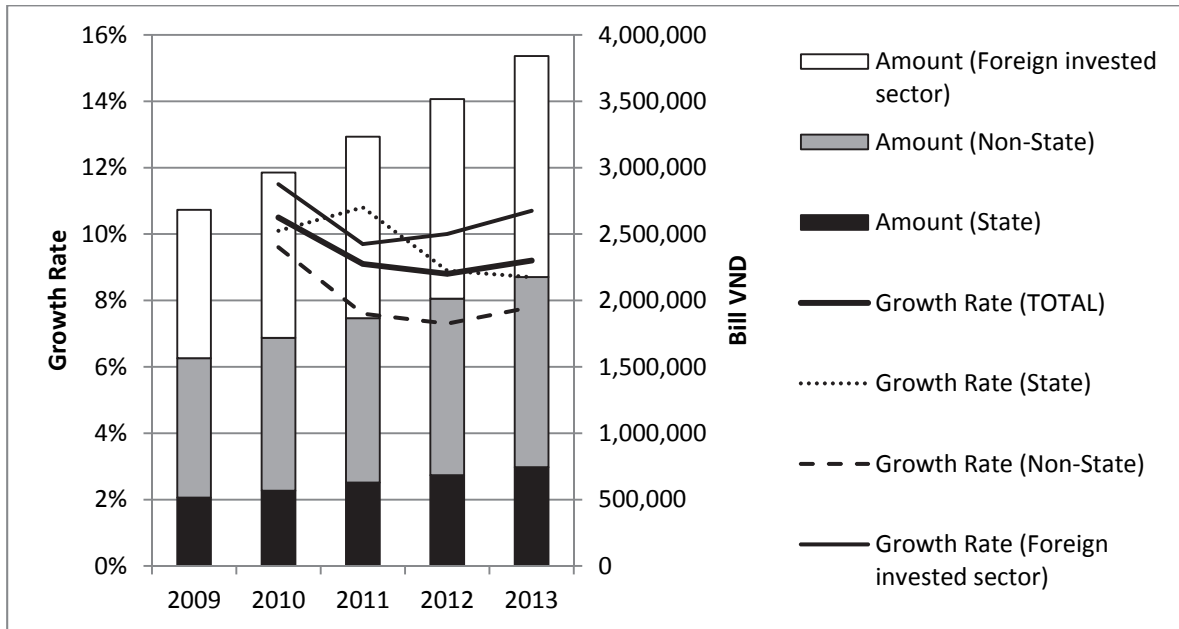


Source: Statistical Yearbook of Vietnam 2013

Figure 2-2 GDP Annual Growth Rate (constant 2010 price)

ii. Gross Output of Industry¹⁰

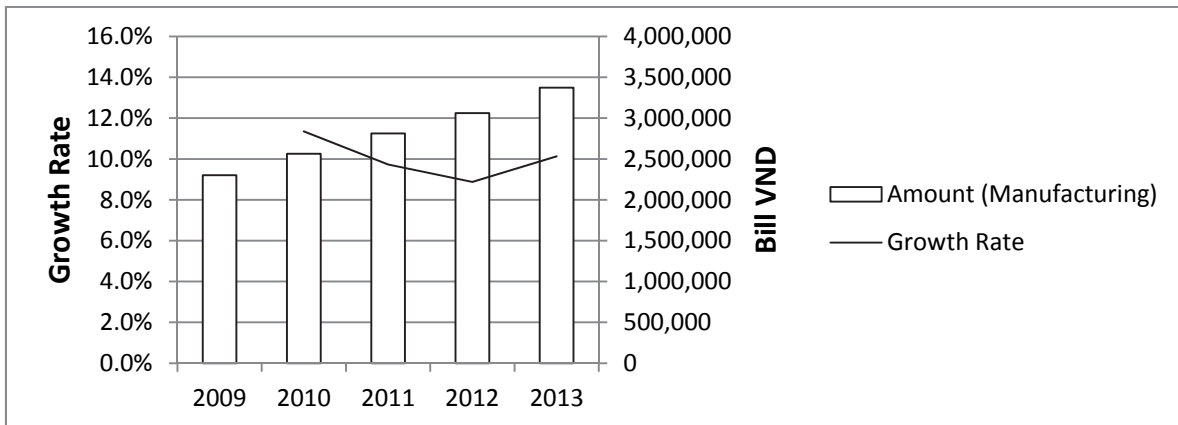
The gross industry output growth rate was 9.2% in 2013 for the entire country and 10.7% for the foreign invested sector while the rate for government sector was 8.7%, decreased from the 2010-2011 growth rates over 10%. The industry output of the foreign-invested sector accounts for 40% of the total industry output and for more than twice of the output of the government sector.



Source: Statistical Yearbook of Vietnam 2013

Figure 2-3 Gross Output of Industry (constant 2010 price)

The gross output of the manufacturing industry, which was VND 3,372,210 Billion in 2013, accounts for more than 80 % of the total gross output of the industry sector. The manufacturing industry has grown steadily with annual growth rates around 10% between 2010 and 2013, similar to the growth rates of the total gross output of the industry sector.

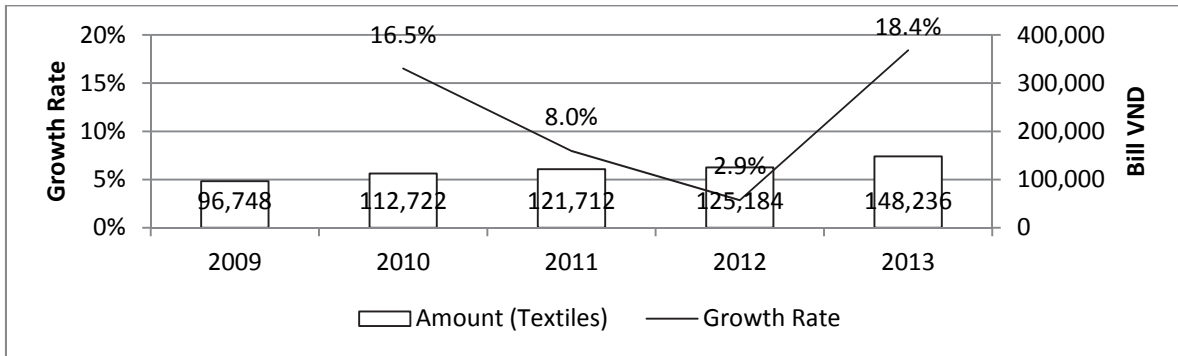


Source: Statistical Yearbook of Vietnam 2013

Figure 2-4 Gross Output of Manufacturing Industry (constant 2010 price)

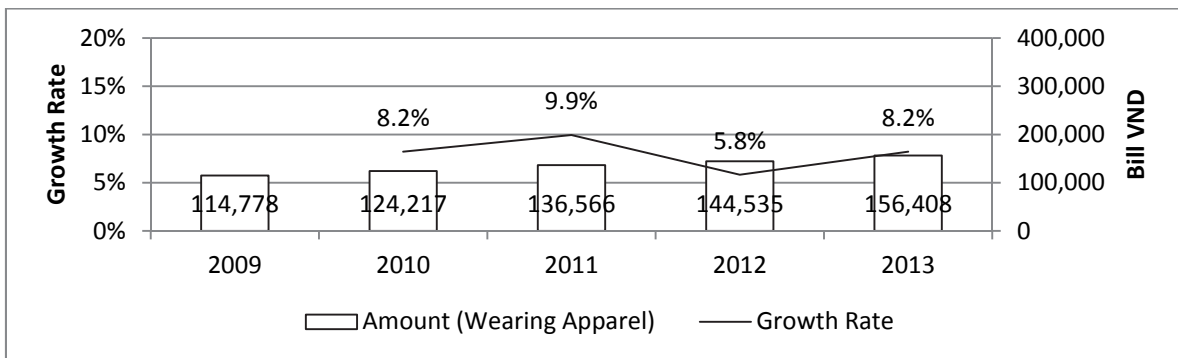
¹⁰ Since the GDP by industrial activity is not recorded in the Statistical Year Book of Vietnam 2013, the Gross Output of Industry was used for this report that includes the Gross Output of all industrial activities.

The following figures show the gross output of supporting industries¹¹. The gross output of “computer, electronic and optical products” and “fabricated metal products (except for machinery and equipment)” was VND 335,857 Billion and VND 234,775 Billion respectively and they are larger than other supporting industries. Additionally, the growth rate of these two supporting industries is high with 25.4% and 15.3% respectively.



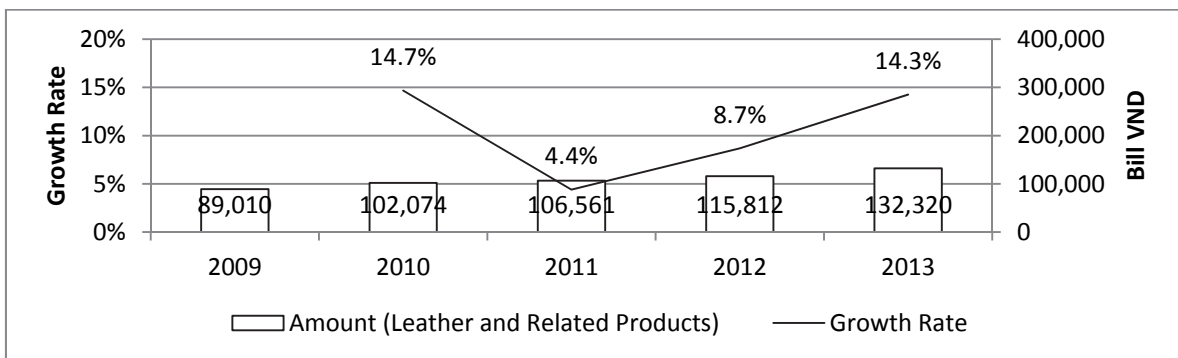
Source: Statistical Yearbook of Vietnam 2013

Figure 2-5 Gross Output of Textile Industry (constant 2010 price)



Source: Statistical Yearbook of Vietnam 2013

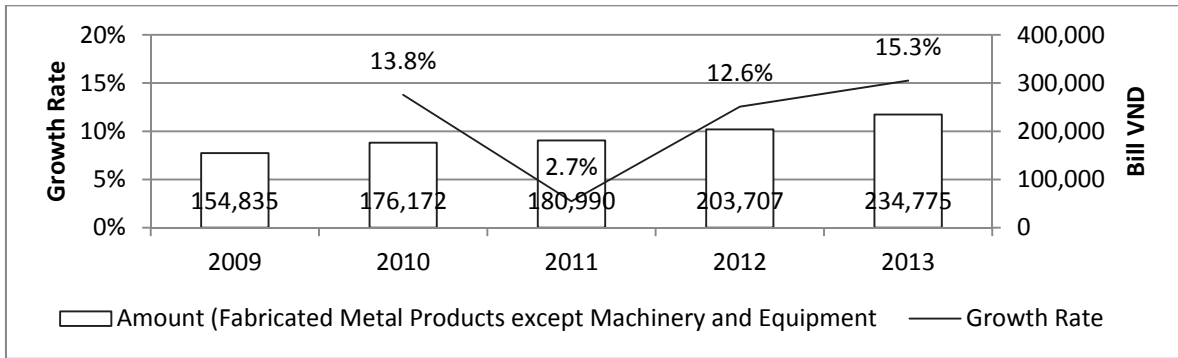
Figure 2-6 Gross Output of Wearing Apparel Industry (constant 2010 price)



Source: Statistical Yearbook of Vietnam 2013

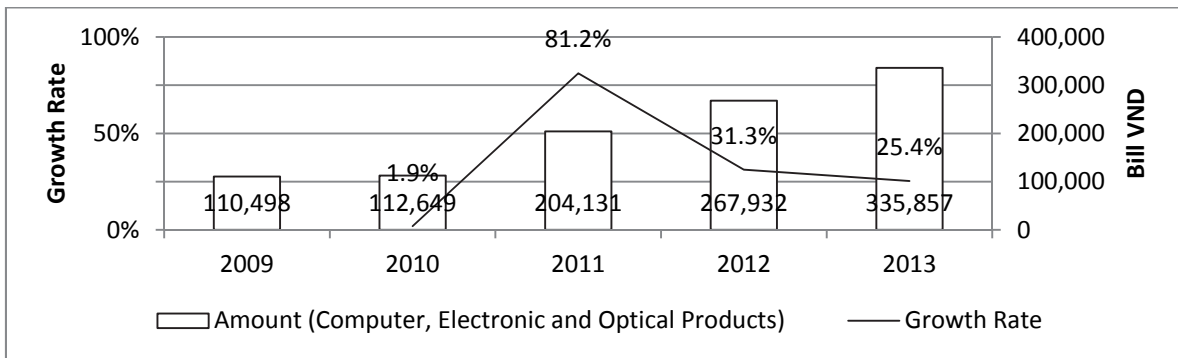
Figure 2-7 Gross Output of Leather and Related Products Industry (constant 2010 price)

¹¹ Decision NO.12/2011/QĐ-TTg “Policies on development of a number of supporting industries” defined machinery, electric/IT, automobile manufacture/assemble, textile, leather/footwear and high-tech industry as supporting industries.



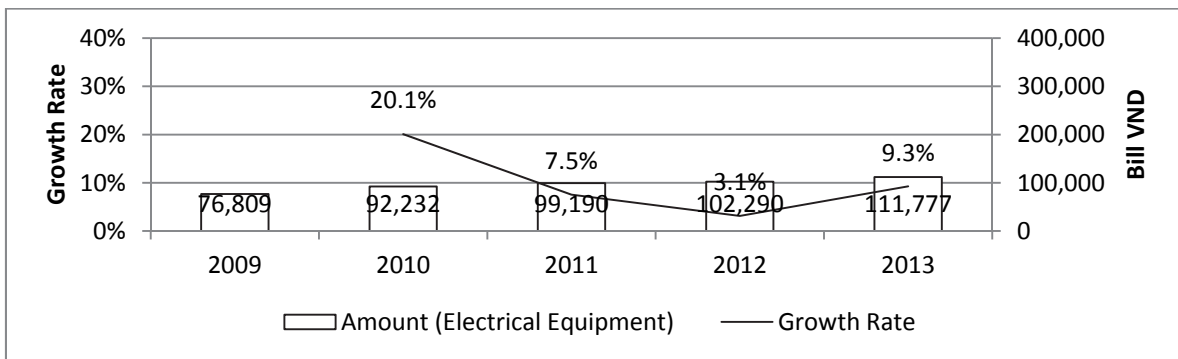
Source: Statistical Yearbook of Vietnam 2013

Figure 2-8 Gross Output of Fabricated Metal Products (except Machinery and Equipment) Industry (constant 2010 price)



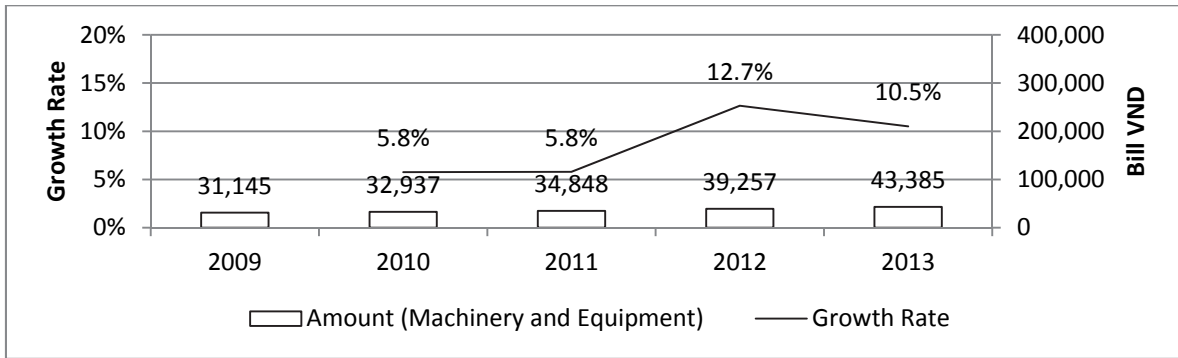
Source: Statistical Yearbook of Vietnam 2013

Figure 2-9 Gross Output of Computer Electronics and Optical Products Industry (constant 2010 price)



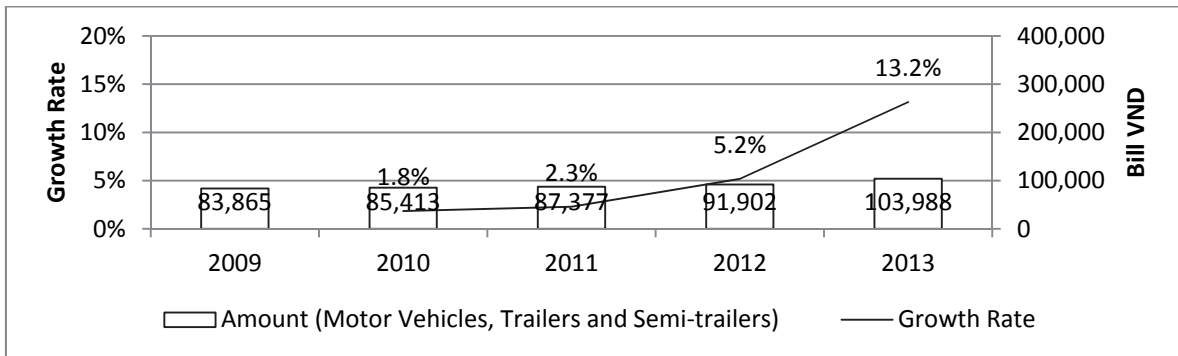
Source: Statistical Yearbook of Vietnam 2013

Figure 2-10 Gross Output of Electrical Equipment Industry (constant 2010 price)



Source: Statistical Yearbook of Vietnam 2013

Figure 2-11 Gross Output of Machinery and Equipment Industry (constant 2010 price)

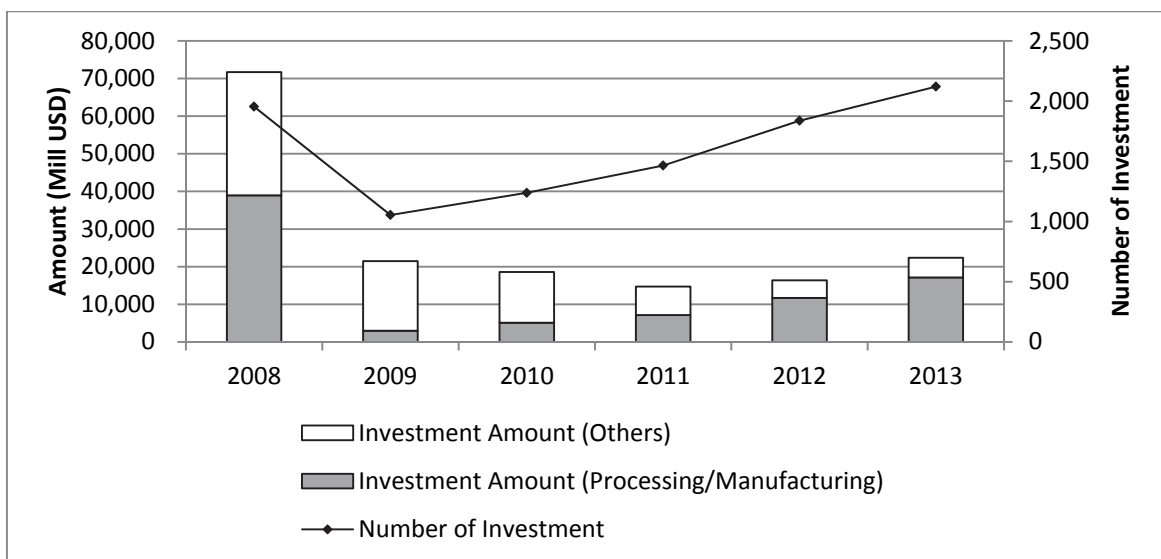


Source: Statistical Yearbook of Vietnam 2013

Figure 2-12 Gross Output of Motor Vehicles, Trailers and Semi-trailers Industry (constant 2010 price)

iii. Foreign Direct Investment

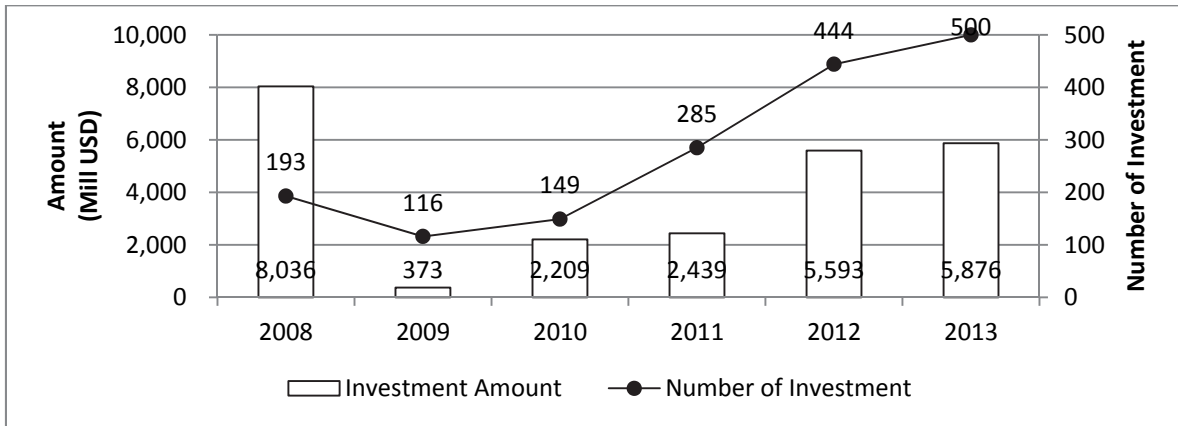
The total foreign direct investment (FDI) for Vietnam declined in 2009 in terms of number and amount due to the global financial crisis. The amount of FDI in 2013 is only 30% of the one in 2008; however, the number of FDI recovered in 2013 to the level before crisis. The proportion of processing/manufacturing investments has been increasing since 2009.



Source: Prepared by the JST based on "General Condition of Vietnam 2014", JETRO Hanoi Office

Figure 2-13 Total FDI for Vietnam (newly approved and expansion)

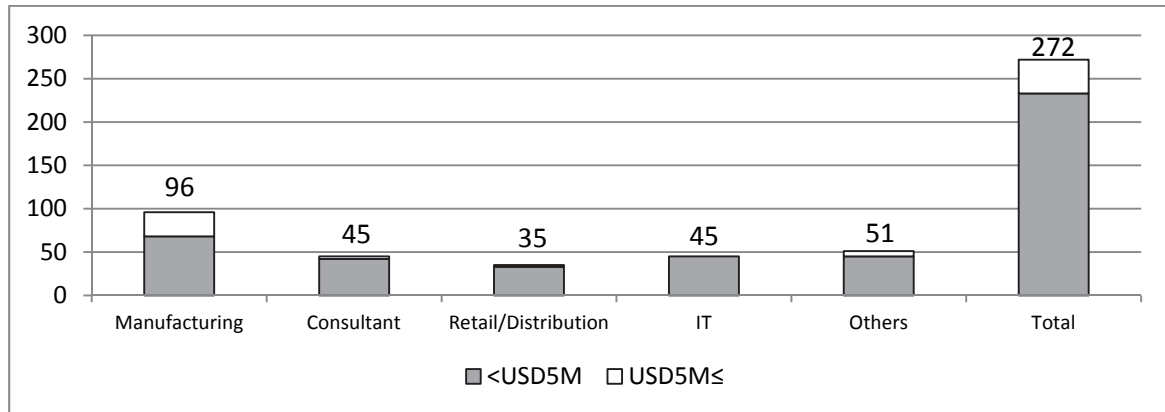
The Japanese FDI for Vietnam declined in 2009 as well. However, it increased in the following years. The total amount of FDI reached USD 5,876 Million in 2013, for 500 cases of FDIs, which was 2.5 times more than the number of FDIs in 2008 prior to the crisis.



Source: Prepared by the JST based on “General Condition of Vietnam 2014”, JETRO Hanoi Office

Figure 2-14 Japanese FDI for Vietnam (newly approved and expansion)

In 2014, Japanese investment in Vietnam amounted to 272 FDIs as of November 20 and most of them were less than USD 5 Million. 96 of these FDIs were in the manufacturing sector, of which 70% were less than USD 5 million.



Source: Prepared by the JST based on a hearing at the JETRO Hanoi Office

Figure 2-15 Japanese FDI in Vietnam in 2014 (as of November 20, 2014)

According to the JETRO’s survey regarding the overseas operation by Japanese enterprises in 2013¹², 54.0% of the enterprises who answered the questionnaire (3,471 enterprises) will expand their overseas operations by 2015 and 55.1% of the manufacturing enterprises will expand the overseas operation as well. Vietnam is the fourth promising market following Thailand, China and Indonesia due to the size of market, market growth potential and economical and abundant labour force.

¹² <http://www.jetro.go.jp/jfile/report/07001622/07001622.pdf>

iv. Related Policies/Regulations

Policies and regulations related to the industrialization in Vietnam are described in details in the final report of “Research on Sources of Development in Vietnam’s North-South Axis” (January 2013). The regulations related to the main five sectors of industrialization are summarized in the table below.

Table 2-1 Summary of Regulations related to the Main Four Sectors of Industrialization

Sector	Name	Outline
Regulations related to promotion of the supporting industries	Decision NO.12/2011/QD-TTg Policies on development of a number of supporting industries	Definition of supporting industries, preferential treatment for enterprises of the supporting industries
	Circular NO.96/2011/TT-BTC Fiscal policies on the supporting industries	Preferential treatment for fund raising of enterprises of the supporting industries
	9028/QD-BCT (Oct. 8, 2014) Approval on the supporting industry master plan	Master plan and vision of the supporting industries including main 3 industries: parts, textile and leather footwear, high-tech industries.
	Decision No.879/QD-TTg Approval on the strategy for Vietnam’s Industrial Development Plan 2025 with a vision toward 2035	Priority of mechanical and manufacturing industries and electronic and telecommunication industries. Selection of supporting industries to be prioritized
	Decision No.880/QD-TTg Approval on the general planning of industrial development in Vietnam by 2020 with a vision toward 2030	Enhancement of manufacturing industry, competitiveness in the global market and the growth of supporting industries.
Regulations related to priority and cutting edge industries	Circular NO.27/2006/QD-BKHCN Guidelines on criteria for high-tech industrial projects	Guidelines on criteria for high-tech industrial projects
	Decision NO.55/2007/QD-TTg Approving list of priority industries and cutting edge industries	Support for priority industries and cutting edge industries
	Decree NO.56/2009/ND-CP Assistance to the development of small and medium sized enterprises	Preferential treatment and support to small and medium sized enterprises
Regulations related to incentives for investment such as tax benefits	Decree No.108/2006/ND-CP Detailed provisions and guidelines on implementation of a number of articles of the Investment Law	Guidelines on establishment and operation of enterprises and procedure of investment.
	No.14/2008/QH12 Law on Corporate Income Tax	Law on Corporate Income Tax
	Decree No.124/2008/ND-CP Guideline on the Corporate Income Tax law	Guidelines on Corporate Income Tax Law
	Circular No.130/2008/TT-BTC Guideline on the implementation of the Corporate Income Tax Law	Guidelines on the implementation of a number of articles of the Corporate Income Tax Law
	Decree No.87/2010/ND-CP Decision on the Import and Export Duty Law	Guidelines on the implementation of a number of articles of the Import and Export Duty Law
	No. 67/2014/QH13 (Nov. 26, 2014 amended) Amended Investment Law	The Amended Investment Law is planned to be executed on July 1, 2015. Definition of foreign investors, banned business lines and license of conditional business lines.

Sector	Name	Outline
Regulations related to economic zones, industrial parks and export processing zones	Decree No. 29/2008/ND-CP Decision on industrial parks, export processing zones and economic zones	Regulation and policies for the establishment, operation, state management of industrial parks, export processing zones, economic zones and border-gate economic zones.
Regulation related to establishment and management of enterprises	No.60/2005/QH11 (Nov. 26, 2014 amended) Amended Enterprise Law	The Amended Enterprise Law planned to be executed on July 1, 2015 consists of a simplification of procedure, definition of state enterprises and institutionalization of enterprises.

Source: "Research on Sources of Development in Vietnam's North-South Axis" Final Report, January 2013, JETRO, <http://www.corporate-legal.jp/>

2.1.2. Human Resources needs for the field of Machining, Electrics and Electronics in Vietnam.

As it was difficult to get information regarding particular Human Resources needs on the selected fields of Machining, Electrics and Electronics, JST surveyed and analysed employment forecast by industries and occupations, and employment forecast in manufacturing in Vietnam instead. Machining, Electrics and Electronics are the fundamental area in manufacturing, thus the human resources needs on these fields and the needs in manufacturing are not very different.

A classification of occupations is regulated by the "International Standard Classification of Occupations (ISCO)" that was established in accordance with skills associated with work duties formulated by the ILO occupational classification. The classifications are as follow.

Table 2-2 International Standard Classification of Occupations (ISCO)

Occupational classification	Occupation
1 Managers	Managers, Senior Officials and Legislators
2 Professionals	Teaching Professionals, Health Professionals, Professionals in each field
3 Technicians and Associate Professionals	Associate Professionals in each field
4 Clerical Support Workers	Clerks
5 Service and Sales Workers	Personal Service Workers, Salesman
6 Skilled Agricultural, Forestry and Fishery Workers	Agricultural Workers, Forestry and Hunting Workers
7 Skill Handicraft and Related Trades Workers	Metal, Machinery and Related Trades Workers, Electrical and Electronic Trades Workers
8 Plant and Machine Operators and Assemblers	Assemblers, Drivers and Mobile Plant Operators etc.
9 Simple Task Workers	Labors in Mining, Construction, Manufacturing and Transport etc.

Sources: ILO "International Standard Classification of Occupations (ISCO)"

In addition, the international division of "engineers" is classified as follows.

Table 2-3 Engineer and Technician Classification

Engineers (Engineer)	Engaged in Design and Research Development etc.	Research and Development Department
Engineers II (technologist)	Manufacturing Management etc.	Manufacturing Management, Production Supervision
Technicians (technician)	Manufacturing	Production Supervision, Multi-skilled Worker

Sources: Prepared by the JST

According to the Research Report titled “Labour Demand and Supply in Vietnam” reported by Mr. Wang and Mr. Tran of National Kaohsiung University, Taiwan on the “Research in the World Economy” published by SCIED Press, Canada, the result of the Survey on employment forecast by industry and by occupation in manufacturing are given in the following tables.

Table 2-4 Employment Forecast by Industry

Industry	2011		2015		2020		2011-2020 Increase	Increase rate
	1,000 Person	%	1,000 Person	%	1,000 Person	%	1,000 Persons	%
Agriculture, forestry and fishing	24,363	47.44	25,599	45.73	27,048	42.08	2,685	1.2
Manufacturing	6,973	13.80	7,804	13.94	8,806	13.70	1,833	2.9
Construction	3,221	6.27	3,578	6.39	4,862	7.56	1,641	5.7
Wholesale and retail trade	5,828	12.24	6,892	12.31	6,616	10.29	788	1.5
Hotel and restaurants service	1,995	4.18	2,274	4.06	3,353	5.22	1,358	7.6
Realtor	119	0.29	242	0.43	1,411	2.19	1,292	120.6
Recreation and other daily services	250	0.50	476	0.85	2,273	3.54	2,023	89.9
Other	7,603	15.28	9,111	16.29	9,911	15.42	2,308	na
Total	50,352	100.00	55,976	100.00	64,280	100.00	13,928	3.1

Source: Labour requirement and Supply Survey of Vietnam, Middle and Long term Forecast / World Economy Survey Vol.5 No.2, 2014

The employment forecast by industry reflects the direction toward the economic reformation in Vietnam. The employment rate in agriculture, forestry and fishing in primary industry have dropped, whereas in secondary industry (manufacturing, construction) and tertiary industry (service) are expected to grow. In manufacturing industry, although the employment rate is expected to decrease slightly in 2020, the actual figures is expected to be 8,806,000 workers, with an increase of 1,833,000 workers compared to the data in 2011 of those engaged in manufacturing industry.

Table 2-5 Employment Forecast by Occupation

Occupation	2011		2015		2020		2011-2020 Increase	Increase rate
	1,000 Person	%	1,000 Person	%	1,000 Person	%	1,000 Person	%
Legislators, senior officials and managers	538	1.04	647	1.16	1,060	1.65	522	10.8
Professionals	2,681	5.50	3,545	6.33	5,110	7.95	2,429	10.1
Technicians and associate professionals	1,777	3.37	1,904	3.40	2,131	3.32	354	2.2
Clerical support workers	765	1.62	686	1.23	787	1.22	22	0.3
Service and sales workers	7,560	16.00	9,811	17.53	13,286	20.67	5,726	8.4
Skilled agriculture, forestry and fishery workers	7,087	12.65	8,938	15.97	11,786	18.33	4,699	7.4
Skilled handicraft and related trades workers	6,075	11.71	7,318	13.07	8,567	13.33	2,492	4.6

Occupation	2011		2015		2020		2011-2020 Increase	
	1,000 Person	%	1,000 Person	%	1,000 Person	%	1,000 Person	%
Plant and machines operators, and assemblers	3,516	7.26	3,827	6.84	5,394	8.39	1,878	5.9
Simple task workers	20,353	40.85	19,299	34.48	16,159	25.14	-4,194	-2.3
All occupations	50,352	100.00	55,976	100.00	64,280	100.00	13,928	3.1

Source: Labour requirement and Supply Survey of Vietnam, Middle and Long term Forecast / World Economy Survey Vol.5 No.2, 2014

The employment forecast by occupation reflects the economic reforms, industrialization, and employment modernization in Vietnam. Compared to the data in 2011, 4,194,000 simple task workers is expected to decrease in 2020, whereas plant and machines operators (increase 1,878,000), assemblers, and skilled handicraft and related trades workers (increase 2,492,000) are expected to increase 4,370,000 workers.

Table 2-6 Employment Forecast in the Industry Sector

Occupation	2015		2020		2015-2020 Increase		Growth Rate in 2020 (2015 is assumed as 1.)
	1,000 Person	%	1,000 Person	%	1,000 Person		
Legislators, senior officials and managers	54	0.69	89	1.01	35		1.65
Professionals	244	3.13	328	3.72	84		1.34
Technicians and associate professionals	181	2.32	174	1.98	-7		0.96
Clerical support workers	107	1.37	119	1.35	12		1.11
Service and sales workers	209	2.68	334	3.79	125		1.60
Skilled agriculture, forestry and fishery workers	7	0.09	5	0.06	-2		0.71
Skilled handicraft workers and related trades workers	4,076	52.23	4,259	48.36	183		1.04
Plant and machines operators, and assemblers	2,194	28.11	3,109	35.31	915		1.42
Simple task workers	732	9.38	388	4.41	-344		0.53
All occupations	7,804	100.00	8,806	100.00	1,002		1.15

Source : Labour requirement and Supply Survey of Vietnam, Middle and Long term Forecast / World Economy Survey Vol.5 No.2, 2014

Manufacturing industry tends to request multi-skilled workers for the future human resources needs in Vietnam. Therefore, future workers are expected to be qualified in high technology with the ability of understanding peripheral technology (especially Vocational College Graduates) in all the production flow from the production site to the sales and service site.

This means that Skilled handicraft workers and related trades workers (1.04 times) can support the base of the Technical Hierarchy Triangle, even if the simple task workers will decrease drastically down to 0.53 times. It is noted that the questionnaire survey on foreign direct investment (FDI) for Vietnam by Japanese Enterprises taken by the JETRO in 2013 reported that 55.1% of Japanese production companies are scheduled to come to Vietnam, therefore, the requirement for human resources who can support manufacturing is expected to be in high demand.

Polytechnic college in Japan is aiming to bring up technician engineers who has multiple ability such as advanced knowledge, technic and skill which is enough to assume

“MONOZUKURI” system in production, capability in original and flexible planning, development, application and product management. It is equal to engineers II ‘technologist’

2.1.3. Requests of the Production Sector in Vietnam regarding Education Programme needs

JICA Vietnam Office has executed the “Human Resources Development Survey in Vietnam, 03 Oct. 2014” by means of questionnaires and interviews focusing on Japanese manufacturers in Vietnam (Questionnaires were sent to 610 companies, and 121 companies responded (19.8%) – 88 answers were from the north area of Vietnam, and 33 answers from the south area). The following is the result of the Survey.

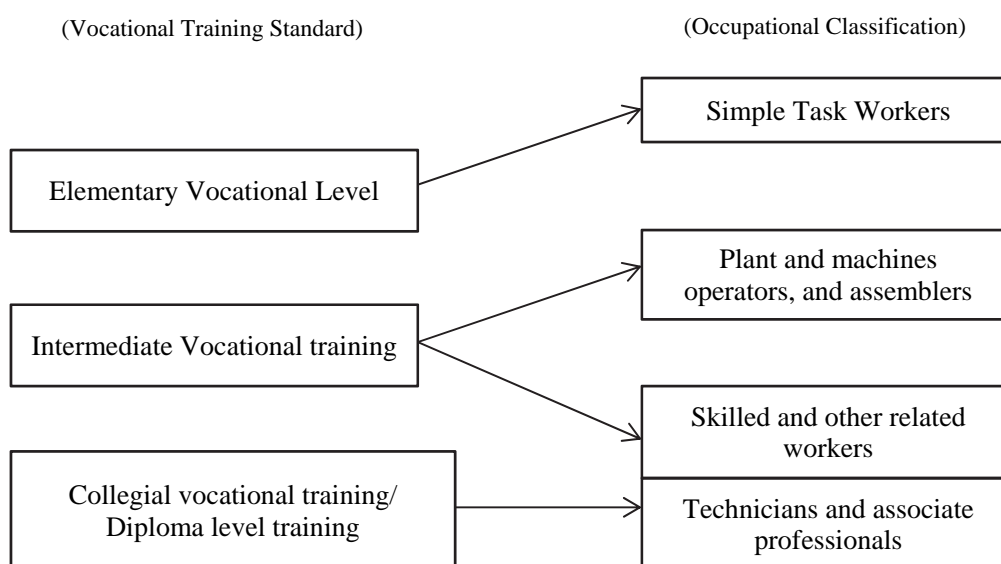
Table 2-7 Human Resources Development Survey of needs by Japanese Industries in Vietnam

1. Currently, do you need any skilled workers for your activity? Yes: 80%, No: 8%, Neither (DI): 12%			
2. Considering future development, do you need any skilled workers? Yes: 89% No: 3% , DI: 8%			
3. Specific requirements of the expected Skilled Workers:			
1)	Basic labour ethics such as 5S.	About 80	
2)	Practical skill experience	65	
3)	Specific skill	40	
4)	Communication skill	45	
5)	Logical thinking	40	
6)	Safety education	35	
7)	Leadership	35	
8)	Teamwork	30	
9)	Basic knowledge of Mathematics and/or Physics.	15	
with the above mentioned specific skills are:			
<ul style="list-style-type: none"> ● Mechatronics technology ● CNC Machining, operation of facilities and equipment, operation on production method. ● Plastic moulding, metal moulding, casting. ● Electric Controls. 			
4. Relevance with Skills Tests : Do you think Skills Tests is useful for your activity in Vietnam? Yes: 48% , No: 14% DI: 38% In answer “Yes”, what is the reason:			
1)	Skill improvement (Quality)	45	
2)	Motivation	30	
3)	Employment criteria	20	
4)	Post-employment evaluation	25	
5)	Privileges	23	
Field of job category that may be useful:			
Jobs related to machining	Machine maintenance 22, Machining24, Mould making9, Machine inspection 9, Drawing 6, Machine finishing 5 Press work 4, Electro-discharge machining 3, Casting 3		
Jobs related to electricity	Electrical equipment assembly 5, Electric drawing 3, PCB manufacturing 2		
Jobs related to electronics	Electronics equipment assembly 5, Electronics circuit wiring 3		
Other job categories	Welding 5, Painting, Printing, Chemical analysis, IT wiring installation.		
Skill Test Level that is considered effective :			
3 rd Grade 23%, 2 nd Grade 44%, 1 st Grade 27%, Advanced Grade 6%			

It should be noted that the Skill Test considered useful level from 3rd Grade to Advanced Grade in the above table are the level of Japan’s Skill Test system. However, because Skill Test system is not familiar in Vietnam, Japanese manufacturers could not apply Skill Test in their factory. (14% answered “no useful” and 38% answered “neither” to the questionnaire regarding usefulness of Skill Test).

Based on the above survey results, more than 80% of Japanese manufacturers demanded skilled workers, as well as basic labour ethics such as 5S and practical skill experience. We can therefore understand that there is a high demand for “Skilled and other related workers” and higher by the occupation classification. This means that the data is well matched to the Employment Forecast by the occupation stated above.

Moreover, “Vocational Training Standard in Vietnam” which will be discussed in the following chapter and considering that Occupational Classification is as the following chart, we can understand that the demand for graduates of Intermediate Level Vocational Training and the College Level Vocational Training will be high.



In terms of skills, the answers were skills related to mechatronics, CNC machinery, and equipment operations, operations on production methods, plastic, metal molding & casting, and electrical control, showing that the need for vocational training related to these skills are high. In particular, skill test for these occupations is considered useful. It was also confirmed in the survey of loan project to the target schools.

In addition, "the needs on vocational skills and human resources required by companies, 2014" conducted by JEED has the following results, which similar training needs was also confirmed in Japan. Accordingly, training needs for these areas are also expected to increase in Vietnam.

Type of work	Necessary vocational skill when for recruitment		The skills to acquire in in-house OJT
	Below age 40	Above age 40	
Machinery	1. Trace (45.6%) 2. Part design (45.6%) 3. Welding (45.4%) 4. Outer processing (39.0%) 5. Machining center (38.8%)	1. Welding (36.8%) 2. Quality management practices (35.6%) 3. Part design (34.2%) 4. Outer processing (32.6%) 5. Programming machining center (processing)	1. TIG welding (29.8%) 2. CAD/CAM (machining center processing) (29.0%) 3. Programming machining center (processing) (28.1%) 4. 3D CAD (27.3%)

Type of work	Necessary vocational skill when for recruitment		The skills to acquire in in-house OJT
	Below age 40	Above age 40	
	Other 30.0%, more than 13 items	(31.3%) 6. Production planning practice (31.3%) Other 30.0%, more than 7 items	5. Shielded metal arc welding (26.9%)
Electrical	<ol style="list-style-type: none"> 1. Control circuit design (46.9%) 2. Control panel assembly (43.8%) 3. Connection (electronics assembly) (40.7%) 4. Basic design (automation control) (37.9%) 5. Parts assembly (36.3%) 6. Wiring and terminal processing (36.3%) Other 30.0%, more than 6 items	<ol style="list-style-type: none"> 1. Control circuit design (37.0%) 2. Control panel assembly (28.9%) 3. Basic design (automation control) (27.9%) 4. Connection (electronics assembly) (26.6%) 5. Conservation (automation control) (26.6%) 	<ol style="list-style-type: none"> 1. Reed sequence control circuit design (39.2%) 2. PLC control circuit design (37.9%) 3. Positioning control circuit design (34.5%) 4. A/D, D/A conversion control circuit design (34.1%) 5. PC control system (33.6%) Other 30.0%, more than 3 items
M&E Works	<ol style="list-style-type: none"> 1. Electrical and communication works (52.6%) 2. Electrical and communication design (37.1%) 3. HVAC (35.3%) 4. Cost estimate (33.0%) 5. Water supply, drainage and sanitary works (32.2%) 	<ol style="list-style-type: none"> 1. Electrical and communication works (43.7%) 2. Cost estimate (43.3%) 3. Electrical and communication design (41.5%) 4. Construction plan (40.4%) 5. Implementation management (40.0%) 	<ol style="list-style-type: none"> 1. Wiring (wiring, connection, insulation, grounding, etc.) (30.7%) 2. Piping (laying, support, bend, connection, grounding, etc.) (28.3%) 3. Optical fibre cable installation (28.3%) 4. Equipment installation (27.2%) 5. Equipment adjustment and testing (26.9%)
IT	<ol style="list-style-type: none"> 1. Computer basic operation (65.9%) 2. Programming techniques (61.5%) 3. Programming language (60.1%) 4. Programming (57.9%) 5. Database technology (53.8%) Other 30.0%, more than 17 items	<ol style="list-style-type: none"> 1. System design (62.8%) 2. System design progress management (59.6%) 3. System quality design (56.8%) 4. System performance design (56.0%) 5. Quality control (54.6%) Other 30.0%, more than 30 items	<ol style="list-style-type: none"> 1. System quality design (30.0%) 2. System design process management (28.7%) 3. System performance design (28.7%) 4. System design (25.3%) 5. Quality control (24.7%) 6. Project management (24.7%)

Sources: "The needs findings on vocational skills and human resources required by the company, 2014" by JEED

2.1.4. Current status and Issues in the Vocational Training Sector (especially in the field of Machining, Electricity and Electronics) in Vietnam

1) Current status of Vocational Training Sector

(Vocational Training System)

After the Vocational Training Directorate (GDVT) was transferred from MOET to MOLISA and the purpose and function of GDVT were clarified, Vocational Training in Vietnam is developed based on the "socio-economic development strategy (Vietnam's Socio-Economic Development Strategy) 2001-2010 that aims to increase the number of vocational training students by 10% annually. In addition, "Vocational Training Law" was enacted in 2006, and as the system and structure of vocational training in Vietnam were developing, "Vocational

Training Development Strategy 2011-2020" was established in 2011 and was carried out, showing how Vietnam was actively involved in the development of technicians and engineers to meet the needs of industry through vocational training toward the national goal "Industrial Nation by 2020".

"The Vocational Training Act" of 2006 was however revised to "The Vocational Education Law" and was enforced in July 2015, in which the system and the structure were more clarified.

"The Vocational Education Law" is as par attached as Appendix-5 Vocational Education Law.

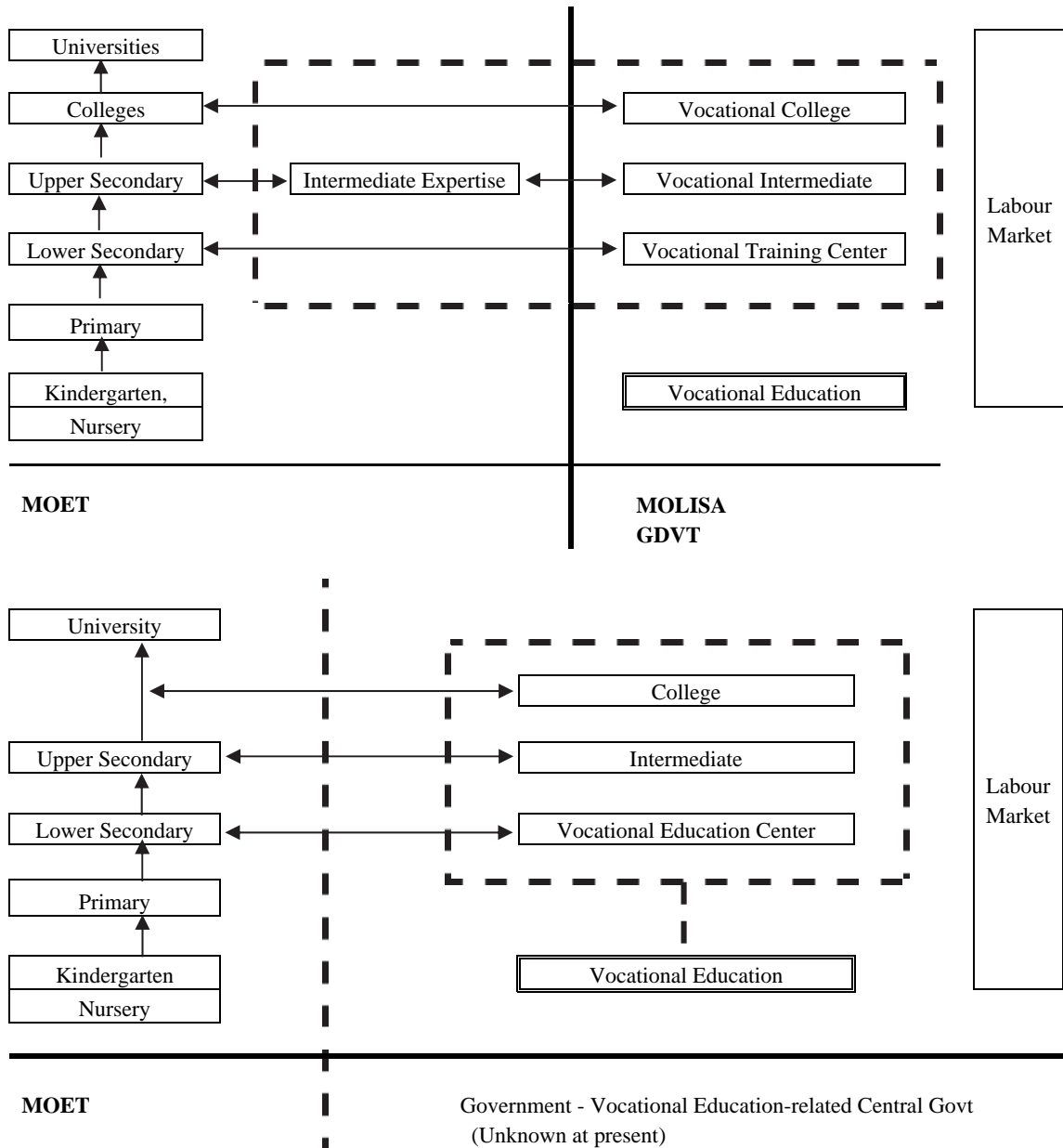
The clarified role and function of GDVT are as follow.

- 1) Making the strategy and plan of vocational training
- 2) Legislation establishment on vocational training facility, setting the skill standards, training target, and instructors' qualification, as well as issuing completion certificate and degree according to the Law.
- 3) Manage vocational training institutions, vocational training centers and other vocational training facility.
- 4) Develop instruction guides for vocational training institutions related ministries and agencies, other managing ministries involved as well as DOLISA.

It should be noted that school education and its education system is managed by the Ministry of Education (Ministry of Education and Training / MOET) and the correlation between the vocational training system which managed by MOLISA (Comparison of "Vocational Education Law" and its predecessor "Vocational Training Law ") is shown in Figure 2-16.

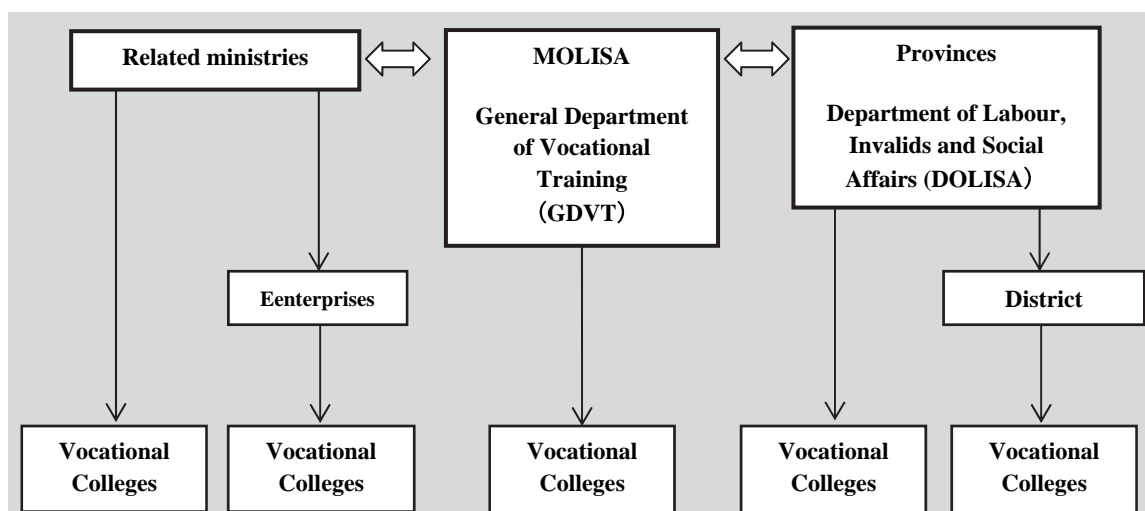
Graduates at each level after school education completion can take vocational training before entering the labor market, in accordance with the respective educational level. Skill level at the time of completion of vocational training colleges, vocational training intermediate and vocational training centers, generally correspond to NOSS 3, 2, 1, which will be described later in "2.2. 5. Current situation and progress of the related policies".

As defined in the "Vocational Education Act", in addition to "general training (year-round training)" of the past for vocational training, "continuing training" was newly established, in which one can return to school as desired. Graduates of vocational training college can also continue higher education to university without having to work first.



Source: GDVT, MOLISA 2015, The Vocational Education Law, prepared by the JST
Figure 2-16 Comparison of “Vocational Education Law” and “Vocational Training Law”

In addition to the above, Vocational Institutions are not only controlled by MOLISA and DOLISA, but also by the related ministries. Below is the relation between ministries related to human resource development and state government related to vocational training.



Source: MOLISA/GDVT, 2012

[note: ⇔ shows collaboration between ministries]

Figure 2-17 State management on Vocational Training by Line Ministries, and DOLISA

(Vocational training standards)

Article 4 of "Vocational Education Law" which was enacted in November 2014 and enforced since July 2015 defines the purpose and standards of vocational education, whereas Article 33 defines the training period as described below.

1. The purpose of vocational education (training)

The goals of vocational education are to train direct workforce for production, business and services who possess vocational capacity corresponding to their training levels; moral qualities and good health; a sense of vocational responsibility; and creativity and adaptability to the working environment in the context of international integration; to ensure working productivity and quality; and to create conditions for graduates to find jobs, self-employ or study at higher levels.

2. The vocational education (training) standard and period

The 3 levels of vocational education (training) and the skills required at each school level are shown in the table below.

Table 2-8 Training Level in Vietnam

Training level	Training standard	Training period
Elementary vocational training	Have knowledge and practical ability to do simple work	3 months – 1 year (with at least 300 learning hours)
Intermediate vocational training	Have knowledge and practical ability to do complicated work as well as to work full-fledged in a team	1-2 years The time required to gain credits/ module training,
Collegial vocational training / Diploma level training	Knowledge and practical ability to do complicated and sophisticated work as well as to guide and supervise teams	For those with high school diploma, 2-3 years For module training, depends on the necessary credits or module,

3. Training program, curriculum, training methods, and graduation certificate, etc. (Vocational Education Law, Article 34-45)

There are 2 types of training: general training (year-round training) and continuing training (training by individual contract of principal and training period and student).

Training program is regularly reviewed and updated in accordance with the industry trends and needs. The head of vocational training determine and is responsible the training program.

GDVT define the minimum graduation capacity at each level.

The Course Book (stipulated in Article 35, presumed to be referring to the curriculum and syllabus) in which each modules/credits and the minimum necessary skills for active learning are defined.

Head of the Training facility will select the syllabus and after getting approval from the Council, develop the syllabus.

GDVT regulates the compilation, selection, evaluation, and approval, of Course Book.

Requirements on training methods

1. Elementary-level training focuses on practical training, taking initiatives, and awareness.
2. Intermediate level, college level (diploma) training conducted a practical science integrated training, to promote initiatives and awareness, as well as independence, group work, and learning the use of information software, application of information technology, and communication skills.

There are 2 types of training: general training (year-round system) and continued training, which are implemented by module -academic credit system.

Students who have taken the necessary credits are approved to finish and the modules acquired in the past need not to be taken again.

GDVT regulates general training (year-round system) and the module credits system.

Graduation and certificate

Elementary-level training certificate is awarded by the School Principal to students who have passed the graduation requirements for elementary level training.

Intermediate-level VE diploma is awarded by the School Principal to students who have passed the graduation requirements for intermediate level training (by annum, by module-credit method).

Collegial diploma that will be recognized as Bachelor of practice or Engineer of practice will be awarded by the School Principal to students who have passed the graduation requirements for collegial-level or diploma training (by annum, by module-credit method).

(Vocational Training Institutions)

The current status of vocational training institutions in Vietnam in 2012 is shown below.

Table 2-9 Number of Vocational Training Institutes (by governing agency, 2012)

Vocational Training Level Institute	Governing Agency		Enterprise		Public institutions	Individuals	Total
	Ministries	People's Committee	Public	Private			
Vocational College	40*	53	17	17	5	23	155
Vocational Secondary School	16	151	23	63	19	33	305
Vocational Training Centre	10	512	0	137	30	178	867
Total	66	716	40	217	54	234	1,327

Source: Department of Organization and Personnel-GDVT, MOLISA, 2012

Note: Ministry of Agriculture and Rural Dev. 17VC, Ministry of Culture, Sports and Tourism 6VC, Ministry of Defence 5VC (also 14, Ministry of Transport 5VC, MOLISA 3VC

Note: Socio Political = Established by Labour Unions, Chamber of Commerce and Industry, etc.

The majority of vocational training center that offers vocational elementary training, and vocational secondary school that offers vocational secondary training are operated and managed by the People's Committee and private sectors.

Vocational Colleges that perform vocational diploma training are operated and managed by ministries and local governments of province. Most VCs have annexed vocational secondary school (Intermediate School).

In response to the training needs, training institutions in areas are established where industry is developed (particularly VC).

Table 2-10 Number of Vocational Training Institutions (by region, 2012)

	Red River Delta	Northern midlands and mountain areas	North Central area and Central coastal areas	Central Highlands	South East	Mekong River Delta
Vocational College	56	24	33	5	25	12
Vocational Secondary School	104	38	65	12	50	36
Vocational Training Centre	197	198	167	62	115	128
Total	357	260	265	79	190	176
Remarks	Hanoi, Hai Phong, Vinh Phuc, Ha Nam		Da Nang		Ho Chi Minh, Ba Ria-Vung Tau, Dong Nai	

Source: Vocational Training Report-Viet Nam 2012, National Institute for Vocational Training

According to the enrollment statistics, popular training in VCs is industry-related occupations, enterprise management like accounting, management as well as hotels and catering trade-related occupations, followed by transportation and traffic-related occupations.

Table 2-11 Number of Vocational Training Institutions (by occupation)

No.	Occupations	Training Contents	No. of Vocational Colleges
1	Industrial Occupations	Provide training of electricians and telecommunication technicians that offer training to refrigeration and air conditioning technicians, cable operator and repairers, electronic transformer technicians; refrigeration technicians, tractor technicians).	320 Colleges
2	Mechanical and Technology Occupations	Provide training of agricultural mechanical engineers, turners, millers, welders, and metal cutters).	318 Colleges
3	Information technology group	Training programs of software programmers, database administrators, computer network administrators, office computer and information technology management, etc.).	n.a
4	Corporate Accounting	Accounting and auditing (mainly corporate accounting)	128 Colleges
5	Hospitality and restaurant services	Provide training of food processing techniques, housekeeping, waiting tables, bartending, hotel and restaurant management, etc.	n.a

Source: Vocational Training Report-Viet Nam 2012, National Institute for Vocational Training

(Vocational Training Instructors)

In “Vocational Education Law” Chapter 5 Section 1, instructors are regulated as follows.

< Definition of Instructor-Article 53>

1. A person who teaches theory or practice or both is called a teacher/ lecturer.
2. Instructors who teach elementary-level at vocational training centers and intermediate-level at secondary school/ intermediate school are called teachers, whereas instructors who teach at college level are called lecturers.
3. There are many types of instructors: teacher, principal teacher, senior teacher, lecturer, principal lecturer and senior lecturer. However, the role of each type is not clarified.

< Standard qualification for Instructors-Article 54>

1. Elementary-level teachers must possess intermediate-level or higher degrees or vocational skills certificates for teaching at elementary level.
2. Intermediate-level theory teachers must possess university or higher degrees; intermediate-level practice teachers must possess vocational skills certificates for teaching intermediate-level practice.
3. Lecturers

Collegial-level theory lecturers must possess university or higher degrees; collegial-level practice lecturers must possess vocational skills certificates for teaching collegial-level practice.

Lecturers who have no university degree must possess pedagogy certificates.

GDVT shall stipulate the contents of vocational skills training and re-training programs and vocational skills certificates for teaching practice at different levels; and stipulate the contents of pedagogical re-training programs for lecturers at vocational education institutions

< Task and power of Instructors-Article 55>

Vocational Education Law, compared to its predecessor Vocational Training Law, is not only more detailed but also stated participation in facility management, evaluation, curriculum development, and training method. The major contents are as follow.

1. To give full and quality teaching according to training objectives and programs.
2. To regularly study and improve their professional qualifications and teaching methodologies.
3. To preserve their quality, prestige and honor; to respect students, fairly treat students and protect their lawful rights and interests.
4. To participate in the management and supervision of vocational education institutions; and in the work of the Party and mass organizations and other social activities.
5. To use teaching documents, facilities and aids and equipment and physical foundations of vocational education institutions for the performance of their assigned tasks.
6. To sign contracts with other vocational education institutions to work as guest lecturers in accordance with law.
7. To contribute opinions on policies and plans of vocational education institutions concerning teaching programs, course books and teaching methodology and matters related to their interests. Participation to internships to learn and develop new skills.

< Recruitment, assessment and refresher training of instructors-Article 56>

1. Recruitment of instructors must ensure the criteria and standardized trained qualifications prescribed in Clause 4, Article 53, and Article 54, of this Law and comply with the laws on labor and public employees.
2. To prioritize the recruitment of persons who have practical production, business or service experiences relevant to the disciplines and trades they are expected to teach. Teachers shall be assessed and classified annually in accordance with law.
3. Re-training to raise professional and pedagogical qualifications, vocational skills, IT skills, foreign languages, and internships are regulated by GDVT.

<Other important matters related to instructors>

Vocational Education Law Article 58 states that instructors who teach both theory and practice are eligible for special allowance.

Below is the number and condition of instructors in the target vocational training institutions.

Table 2-12 Number of vocational training instructors

Vocational Training Institutions		2011	2012		
			Public	Non-Public	Total
Vocational Training Institutions	Vocational College	12,807	11,005	3,272	14,277
	Vocational Secondary School	11,412	7,997	2,877	10,874
	Vocational Center	11,575	5,568	8,541	14,109
	(Sub-Total)	(35,794)	(24,570)	(14,690)	39,260
Other Institutions offering vocational training		18,037	12,900	5,137	18,037
Total		53,831	37,470	19,827	57,297

Source: Vocational Training Report-Viet Nam 2012 National Institute for Vocational Training

Table 2-13 Condition of lecturers in the target schools

			Number of Lecturer	Qualification				Classification of assignment		
				Master, Doctor	Bachelor	Diploma	Others	Lecturer who teach theories	Lecturer who teach practice	Lecturer who teach both
1	HCM VC	Machinery	11	6	5	0			11	
		Electrical	17	3	13	1	5	7	5	
		Electronics	11	6	5				11	
2	HIVC	Machinery	10	6	4		2		8	
		Electrical	22	8	14	0			22	
		Electronics	12	10	2				12	
3	VCTT	Machinery	11	5	6		1		10	
		Electrical	11	2	9		2	1	8	
		Electronics	9	5	4				9	
4	BRVT VC	Machinery	30	4	26				30	
		Electrical	22	9	13				22	
		Electronics	13	1	12				13	
5	HVCHT	Machinery	20	9	10	1	0		20	
		Electrical	8	5	3				8	
		Electronics	8	1	7				8	
6	VPVC	Machinery	24	11	13				24	
		Electrical	33	22	11				33	
		Electronics	14	9	5				14	
7	DNVC	Machinery	14	3	11				14	
		Electrical	42	24	18				25	
		Electronics							17	
8	CVCT	Machinery	12	3	9		4		8	
		Electrical	19	7	10	1	1	11	2	6
		Electronics								
9	HVCT	Machinery	16	4	9	3			3	13
		Electrical	11	6	5					11
		Electronics	11	6	5					11
10	VCMi	Machinery	25	14	10	1			1	25
		Electrical	35	1	34					20
		Electronics								15

			Number of Lecturer	Qualification				Classification of assignment		
				Master, Doctor	Bachelor	Diploma	Others	Lecturer who teach theories	Lecturer who teach practice	Lecturer who teach both
11	HaUI	Machinery	21(Total No. of VJC)	11	10					
		Electrical								
		Electronics								
12	HPVC	Machinery	23	3	19		1	3		20
		Electrical	33	16	17			1		25
		Electronics								7
13	HNVC	Machinery	8	2	6					8
		Electrical	30	8	21	1				30
		Electronics								

Source: Prepared by the JST

(Operation and Management of Vocational Training Institution)

Chapter 2 of Vocational Education Law stipulates Operation and Management of Vocational Training Institution. The articles related to the target VCs are as follows.

Article 10- Organizational structure of vocational education institutions

- a/ The school council, for public intermediate vocational schools and colleges; the board of directors, for private intermediate vocational schools and colleges;
- b/ Rector and vice rectors;
- c/ Professional divisions or sections;
- d/ Faculties, subject departments;
- e/ Advisory councils;
- f/ Branches, research centers

Article 11-School councils

1. A school council shall be set up in a public intermediate vocational school or college.
2. The school council is an administration organization representing the ownership of the school, having the following tasks and powers:
 - a/ To resolve on development orientations, goals, strategies, master plans and plans and the organization and operation regulation of the school;
 - b/ To resolve on orientations for training and international cooperation;
 - c/ To resolve on policies on use of finance, assets and development investment orientations of the school in accordance with law;
 - d/ To resolve on the organizational structure of the school; the establishment, merger, division, split-up and dissolution of organizations of the school; and the proposal on relief of duty of the rector;

- e/ To supervise the implementation of its resolutions and the democracy regulation in school activities

Article 14- Rectors of intermediate vocational schools and colleges

1. The rector of an intermediate vocational school or a college is the head of the school or college who shall represent the school or college before law and manage its activities. The term of a rector must be 5 years. A rector shall be appointed and re-appointed by term, but for no more than two consecutive terms. The rector of an intermediate vocational school or a college must be the account owner of the school or college, and shall take responsibility before law for the management of its finance and assets.
2. The rector of an intermediate vocational school or a college must fully satisfy the following criteria:
 - a/ Possessing moral qualities, having worked as trainers or participated in vocational education administration for at least 5 years;
 - b/ Holding a university or higher degree, for rectors of intermediate vocational schools, or a master's or higher degree, for rectors of colleges;
 - c/ Having been trained in vocational education administration;
 - d/ Being physically fit; being at an age to be able to hold at least one office term, for appointment of rectors of public intermediate vocational schools and colleges.
3. The rector of an intermediate vocational school or a college has the following tasks and powers:
 - a/ To issue regulations and rules of the school or college in accordance with resolutions of the school council or the board of directors;
 - b/ To organize the implementation of resolutions of the school council or the board of directors;
 - c/ To decide on the establishment, merger, division, split-up and dissolution of organizations of the school or college in accordance with resolutions of the school council or the board of directors; to appoint, relieve of duty and dismiss heads and deputy heads of organizations of the school or college;
 - d/ To plan and develop the contingent of teachers and administrators; to decide on the structure and number of employees and salary payment based on their performance effectiveness and quality; to recruit public and other employees according to the needs of the school or college; to sign work or labor contracts with and manage and employ public and other employees, and terminate these contracts in accordance with law;
 - e/ To organize training, international cooperation and vocational education quality accreditation activities and coordinate with enterprises in organizing training;
 - f/ To manage physical foundations, assets and finance of the school or college and organize effective exploitation and use of resources mobilized to serve its training activities in accordance with law;
 - g/ To implement information and reporting regulations and submit to supervision, inspection and examination in accordance with law;

- h/ To develop and implement the regulation on grassroots democracy; to submit to the supervision by individuals, organizations and mass organizations in the school or college;
- i/ To annually report on the performance of tasks and exercise of powers of the rector and the school management board to the school council or board of directors.

2) Problems and Issues currently faced

Each VC responded to the requests from manufacturing sectors regarding the demand and needs from each region. However, there are some problems and issues.

There are insufficient numbers of vocational training institutions to execute high quality training to respond to the needs from the labour market. For example, the knowledge and skills acquired by the graduates are well matching to the Vocational Training Standard, but qualities such as creativity and teamwork are not transferred thoroughly to the students. It means that fostering skills transfer is the main target of the training institutions, but workplace skills and philosophy are not transferred well. This situation might be due to not having good and close collaboration between Vocational Training Institutions and private sectors, which can be summarized as follows:

- Vocational training subjects and curriculum do not correspond to the human resource needs of the labour market.
- The quality of vocational training besides the vocational training standard does not meet the industrial needs.
- The evaluation of vocational training, quality of the instructors' qualifications and aptitude does not match with each other.
- Vocational training' is responding to the demand of the labour market too slowly.
- The environment of vocational training and the facilities/equipment are insufficient to do training.

Moreover, vocational training instructors are very important key issues in the Vocational Training Institutions. However, there are some problems and issues as follow.

The role of vocational training is not correctly and socially understood in Vietnam as a part of Human-Resources Fostering, with some hidden barrier when employing instructors. In Vietnam, being an instructor for school education sector is generally preferred to being a vocational instructor when they receive the appointment letters, so this point of view becomes a normal understanding barrier to foster and to employ vocational training instructors.

According to the recent MOLISA rules, university graduates can be vocational training instructors by acquiring the required instruction skills and certificate. However, they usually do not have sufficient abilities or technical skills and actual skill such as job experience on site. On the other hand, the instructors who only having a diploma from VCs have no problems regarding skills, but many of whom have no pedagogical skills and certificates.

In order to strengthen the skill of VC instructors, GDVT has conducted a pilot project of 95 instructors (welding 24 people, industrial electricity 23 people, industrial electronics 24 people, and automobile 24 people) to participate in a skill development training program in Malaysia,

Many trainings have been conducted to develop the skills of the current VC instructors, although the current condition doesn't seem to have improved.

According to GDVT about a skill test given to the lecturers of vocational training colleges, 29.5% have standard skill, 30.82% do not have standard skill, and the rest have not taken the test.

2.1.5. Current situation and progress of the related policies

Due to a slowdown of GDP growth rate, the government of Vietnam developed an industrialization strategy towards the national goal “industrialization by 2020”, which is described in the “Socio-Economic Development Strategy 2011-2020” and the “Socio-Economic Development Plan 2011-2015”. The government also defined in collaboration with the Japanese government the six important industries for industrialization to become value-added industries: electronics; agricultural machinery; processing of agricultural and fishery products; shipbuilding; environment and energy-saving; and manufacturing of automobiles and auto parts.

Accordingly, because the need for workers in these sectors tends to increase, MOLISA formulated and enacted “Human Resource Development Master Plan 2011-2020” and “Vocational Training Development Strategy 2011-2020”.

The following urgent issues to be resolved.

1. Policy making for cultivation of technicians
2. Guidance and improvement of administrators in management method of vocational training sector
3. Capacity building of instructors

Table 2-14 Policies related to the Vocational Training Sector

Name	Date	Outline
Socio-Economic Development Strategy 2011-2020	Jan. 2011	10-year national social development strategy
Socio-Economic Development Plan 2011-2015	Nov. 2011	5-year national social development plan
Human Resource Development Strategy 2011-2015	2011	9 goals and 30 action plans for human resource development
Human Resource Development Master Plan 2011-2020	2011	10-year human resource development masterplan
Vocational Training Development Strategy 2011-2020	2011	4 principles and 7 targets for vocational training development
Amendment of Employment Law	2014	Skill test was stipulated in the “law on vocational training” but transferred to the article 31 of the “law on employment” when it was amended.
Vocational Education Law	Established in November, 2014 and Enforced in July, 2015	This law has been established as an alternative to "the Law on Vocational Training" 2006 enacted. System and institutions of vocational education and role and functions of the relevant parties have been clarified.

Source: prepared by the JST

Human Resource Development

Based on “Decision No.1216/QD-TTg on approving the Master Plan on Development of

Vietnam’s Human Resources during 2011-2020” which was issued on July 22, 2011, not only has the human resource development strategy 2011-2020 been implemented, but also “Decision No.630/QD-TTg on approving the Vocational Training Development Strategy for 2011-2020” was issued on May 29, 2012 accordingly. Based on this and “Human Resources Development Strategy and Human Resource Development Master Plan”, vocational trainings have been conducted. The outline of the human resource development strategy is as follows.

Table 2-15 Outline of Human Resource Development Strategy

Period	Ratio of All worker	Ratio of Vocationally trained worker
By 2015	Educational and Vocational Trained worker: 30.5 mil which will be 55% of all workers (55.0 mil)	Vocationally trained workers: 23.5 mil (77%) Trainee trained by education training system: 7 mil (23%)
By 2020	Educational and Vocational Trained worker: 43.8mil which will be 70% of all workers (63.0 mil)	Vocationally trained worker: 34.4 mil (78.5%) Trainee trained by education training system: 9.4 mil (21.5%)

Table 2-16 The Structure of Training Grade

By 2015		By 2020	
Elementary:	18 mil (59%)	Elementary:	24 mil (54%)
Intermediate:	7 mil (23%)	Intermediate:	12 mil (27%)
Collegial:	2 mil (6%)	Collegial:	3 mil (7%)
Tertiary:	3.3 mil (11%)	Tertiary:	5 mil (11%)
Postgraduate:	0.2 mil (0.7%)	Postgraduate:	0.3 mil (0.7%)

Table 2-17 Human Resource Development in the Industry and Construction Sectors

	2010	By 2015	By 2020
No. of Labourers	10.8 mil (22% of Labourers)	15 mil (27% of Labourers)	20 mil (31% of Labourers)
In Industry	7.9 mil (22% of Labourers)	10 mil (22% of Labourers)	11-12 mil (22% of Labourers)
Trained Labourers (ratio)	69%	76%. Of which: Elementary:66.5% Intermediate:23.5% Collegial:4% Tertiary and Postgraduate: 6%	80%. Of which: Elementary:56% Intermediate:33.5% Collegial: 4% Tertiary and Postgraduate: 6.5%
Trained Labourers (ratio) In Industry	78%	82%. Of which: Elementary:66% Intermediate:23% Collegial:4.5% Tertiary and Postgraduate: 6.5%	92%. Of which: Elementary:51% Intermediate:37% Collegial: 5% Tertiary and Postgraduate: 7%

Table 2-18 Number of Vocational Instructors and Trainers

By 2015		By 2020	
Collegial-level:	13,000	Collegial-level:	28,000
Intermediate-level:	24,000	Intermediate-level:	31,000
Elementary-level:	14,000	Elementary-level:	18,000
Total:	51,000	Total:	77,000

Table 2-19 Human Resource Development Strategy by Region

North Key Economic Zones				
Region	Northern midland and mountainous Region		Red River Delta Region	
Target	Target by 2015	Target by 2020	Target by 2015	Target by 2020
Total Labourers	7.5 mil	8.2 mil	13 mil	15 mil
Trained Labourers Rate	43%	55%	73%	89%
Trained labourers	3.2 mil (+0.9 mil after 2010)	4.5 mil (+1.3 mil after 2015)	9 mil(+2.6 mil after 2010)	13 mil(+4 mil after 2015)
Trained labourers increase (% p.a)	2011-2015 increase rate: 7%p.a	2016-2020 increase rate: 7%p.a	2011-2015 increase rate: 8%p.a	2016-2020 increase rate: 7%p.a
Numbers of labourers by occupational sector	Agriculture, Forestry and Fishery Sector : 1.2 mil	Agriculture, Forestry and Fishery Sector : 1.9 mil	Agriculture, Forestry and Fishery Sector : 2 mil	Agriculture, Forestry and Fishery Sector :3.8 mil
	Industry and Construction Sector : 850 mil	Industry and Construction Sector : 1.4 mil	Industry and Construction Sector : 3.6 mil	Industry and Construction Sector : 4.7 mil
	Service Sector : 1.1 mil	Service Sector : 1.2 mil	Service Sector : 3.7 mil	Service Sector : 4.5mil
2011-2020 Human Resources Development for the major sectors.	Production and processing of Agriculture and Forestry, Mineral processing, Water Plant Generation, Machine metals processing industry (Production and maintenance on Automobiles and Motor bicycles, Machines for Agriculture & etc.), Production and Assembly of Electronics Appliances, Materials industry and production, Sight-seeing Services and etc.		Finance, Banking, Insurances, Travel Agency, Sight-seeing Services, Restaurant, Transport, Human Resources Development, High-Technology Medical Issues, Machine Production, Electronics, New Raw Materials, Pharmacy, Food Processing, High Technology Engineer Training (Electronics, Machine Production, Electric Engineering, Production of Raw Materials, Tour Services, Communication).	

Middle Key Economic Zones				
Region	North and South Central Coast Region		Central Highland Region	
Target	Target by 2015	Target by 2020	Target by 2015	Target by 2020
Total Labourers	12 mil	13 mil	3.2 mil	3.6 mil
Trained Labourers Rate	48%	65%	41%	50%
Trained labourers	6 mil(+2 mil after 2010)	8.5mil(+2.5 mil after 2015)	1.3mil(+0.9 mil after 2010)	1.8mil(+0.4 mil after2015)
Trained labourers increase (% p.a)	2011-2015 increase rate: 8%p.a	2016-2020 increase rate: 9%p.a	2011-2015 increase rate: 9%p.a	2016-2020 increase rate: 5.5%p.a
Numbers of labourers by occupational sector	Agriculture and Forestry : 2 mil	Agriculture and Forestry : 3 mil	Agriculture and Forestry : 0.58 mil	Agriculture and Forestry : 0.78 mil
	Industry and Construction :2 mil	Industry and Construction : 3 mil	Industry and Construction : 0.34 mil	Industry and Construction : 0.52 mil
	Service Sector : 2 mil	Service Sector : 2.5 mil	Service Sector : 0.39 mil	Service Sector : 0.45 mil
2011-2020 Human Resources Development for the major sectors.	Crude oil chemistry, Oil refining, Machining (Ship building and repair, Automobile production and maintenance , Engine, Agricultural Machines, etc.) , Production of Electric and Electronic machines and appliances, High technology Industry (Software, Educational Machines and Equipment , New raw materials and etc.) ,		Water Plant Generation, Mining, Agriculture and Forestry processing, Developing of Engineers (Coffee, Rubber, Peppers, Cashew nuts, etc.), Human Resources Development (Financial Bankers, Protection of the Environment, Traveling, etc.) .	

	Fishery products processing for export, High technology services (Sight-seeing development, Banks, Advertising Technology, Juridical Legislation, Environment, Communication and etc..)	
--	---	--

South Key Economic Zones				
Region	Eastern South Region		Mekong River Delta Region	
Target	Target by 2015	Target by 2020	Target by 2015	Target by 2020
Total Labourers	9 mil	10.6 mil	11 mil	12 mil
Trained Labourers Rate	76%	92%	36%	51%
Trained labourers	6.8 mil(+2 mil after 2010)	9.8 mil(+6 mil after 2015)	4 mil(+2 mil after 2010)	6.5 mil(+2.5 mil after 2015)
Trained labourers increase (% p.a)	2011-2015 increase rate: 8%p.a	2016-2020 increase rate: 7%p.a	2011-2015 increase rate: 13%p.a	2016-2020 increase rate: 9%p.a
Numbers of labourers by occupational sector	Agriculture and Forestry : 0.5 mil Industry and Construction :3.2 mil Service Sector : 3.1 mil	Agriculture and Forestry : 1 mil Industry and Construction :4.5 mil Service Sector :4.3 mil	Agriculture and Forestry : 1 mil Industry and Construction :4.5 mil Service Sector :4.3 mil	Agriculture and Forestry : 2.5mil Industry and Construction : 2 mil Service Sector : 2 mil
2011-2020 Human Resources Development for the major sectors.	Higher Value Added Industry (International Trading, Speculation, Information and Computer Engineering, Communication , Oil Science, Electricity and Electronics Engineering, Machine Production, High – Tech Agriculture)		Exporting Agriculture, Forestry and Fishery Processing, Vegetable, Fruits and Meat Processing, Agricultural machines, Maintenance of Machines, Electric and Electronic Industry, Information and Computer engineering, Chemistry, Pharmacy, Broidery and Shoes Industry.	

Source: Decision: No.1216/QĐ-TTg 2011/07/22 Approving the Master Plan on Development of Vietnam's Human Resources during 2011-2020

Vocational Training Strategy

The development of Vocational Training scheme is an important key element on the Human Resources Development Strategy and Human Resource Development Master Plan of Vietnam. This is why the government of Vietnam developed the “Vocational Training Development Strategy 2011-2020” and is taking actions in the following areas:

- 1) Participation of related institutions and sectors in the producing of Human Resources to match the Labour Market Demands,
- 2) Strengthening of administration for Standardizing Vocational Training and for improvement towards International levels,
- 3) Improvement of vocational training contents to match the demand of domestic industries,
- 4) Development of vocational training with high quality and the international cooperation for establishing a vocational training centre, and set up of the practical actions with eight targets.

The followings are expected targeting figure and the result achieved up to 2013.

Table 2-20 Vocational Training Development Strategy 2011-2020 Target and Achievement

Item		Target	Achievement ¹³
1	Vocationally Trained Labourers as a percent of Total Labourers	40% equivalent to 23,500,000 (2015)	
		55% equivalent to 34,400,000 (2020)	-
		9,600,000 (2011-2015)	1,637,253 (2011) 1,330,625 (2012) 1,514,119 (2013) Total 4,517,997 (47.1% of 9,600,000 people)
2	Number of Trainees	College and Intermediate: Total 2,100,000 Elementary and Short Training: Total 7,500,000 (2011-2015)	College and Intermediate: 258,692 (2011) 213,212 (2012) 216,116 (2013) Total 688,020 (33% of Target) Elementary and Short Training: 1,530,263 (2011) 1,280,167 (2012) 1,515,900 (2013) Total 4,326,330 (58% of Target)
		College and Intermediate: Total 2,900,000 Elementary and Short Training: Total 10,000,000 (2016-2020)	-
3	Number of Vocational Institutes	Vocational colleges: 190 (incl. 26 high quality colleges) Vocational secondary schools: 300 Vocational training centre: 920 1 vocational college/1 model vocational training centre per province/city 1 vocational training centre/a vocational secondary school per district/town. (2015)	Vocational colleges: 162 (85% of target) Vocational secondary schools: 302 (101% of target) Vocational training centre: 875 (95% of target) (2013)
		Vocational colleges: 230 (incl. 40 high quality colleges) Vocational secondary schools: 310 Vocational training centre: 1,050 (incl. 150 model vocational training centres) (2020)	-
4	Number of Teachers/Lecturers	Total: 51,000 Vocational college lecturer: 13,000 Vocational secondary school teacher: 24,000 Elementary and short training teacher: 14,000 (2015)	Vocational college lecturer: 16,034 (123% of target) Vocational secondary school teacher: 11,525 (61% of target) Elementary and short training teacher: No data (2013)
		Total: 77,000 Vocational college lecturer: 28,000 Vocational secondary school teacher: 31,000 Elementary and short training teacher: 18,000 (2020)	-

¹³ Report on Implementation of Program and Mission in 2013 and Plan for 2014, MOLISA GDVT

Item		Target	Achievement ¹⁵
5	Curriculum	National level: 130 curricula Regional level: 49 curricula International level: 26 curricula Rural level: 300 curricula (2015)	No data
		National level: 150 curricula (revision) Regional level: 70 curricula International level: 35 curricula Rural level: 200 curricula (2020)	-
6	Vocational training quality accreditation centre	Accreditation centre: 3 public centres and some non-public centres	No data
7	National Occupational Skills Standard (NOSS)	250 national occupational skill standards (incl. 130 key national occupations) National occupational skill certificate: 2,000,000 (2015)	No data
		400 national occupational skill standards (incl. 150 key national occupations) National occupational skill certificate: 6,000,000 (2020)	-
8	Labour market system with linkage between vocational training and employment	No target	-

Source: Report on Implementation of Program and Mission in 2013 and Plan for 2014, MOLISA GDVT

Based on 2013 data, the number of vocational training institutions did not achieved the 2015 target yet, while the vocationally trained labourers' rate and the number of trainees are much lower than the target. How to secure the targeted number of trainee/enrolment will be an issue in the future rather than how to secure sufficient facilities and instructors. The achievement of Curriculum, Vocational Training Quality Accreditation Centre and National Occupational Skills Standard (hereinafter referred to as "NOSS") are not indicated in the report. Regarding this, since the department in charge in MOLISA/GDVT should have collected this achievement data, each department in charge need to confirm the collected data properly.

VTDS 2011-2020 also defines 9 solutions in order to achieve the targets. The Solutions are:

- 1) To innovate state management of vocational training;
- 2) To improve vocational training lecturers, teachers and administrators;
- 3) To develop NOSS;
- 4) To develop curriculum and programs;
- 5) To increase vocational facilities and equipment;
- 6) To control and assure vocational training quality;
- 7) To link vocational training to the labour market with the participation of enterprises;
- 8) To raise awareness about vocational training development; and
- 9) To promote international cooperation on vocational training.

The followings are present implementation situations, reported from GDVT in April 2015, of the action plan mentioned above.

- 1) Innovation of state management of vocational training
 1. Establishment of the Vocational Education Law instead of Vocational Training Law
Amendment of vocational training related contents in the Employment Law
 2. Improvement of mechanisms and policies on vocational training
 3. Improvement of the system of state management on vocational training
 4. Development of a mechanism for independence and autonomy of vocational training institutions
 5. Promotion of IT application in vocational training and management sector (Vocational Training Information System)
 6. Separation of vocational training to general course and continuous course
 7. Establishment of a vocational training assistance fund
 8. Establishment of a network of vocational training institutions
 9. Socialization of vocational training and multilateralization of resources
- 2) Improvement of vocational training lecturers, teachers and administrators
 1. Standardization of vocational training pedagogy (Circular 19/2011/TT-MOLISA dated 21/7/2011、 Decision No.647/QD-TCDN dated 25/11/2011)
 2. Development of 68 types of technologies/skills programs and teaching materials
 3. Implementation of the practical evaluation for 1,200 trainers and issuing certificate to qualified trainers (at least 50%)
 4. Implementation of internship for beginning trainer and retraining
 5. Standardization of work contents of administrative staff of vocational training sector and implementation of practice
- 3) Development of NOSS
MOET is preparing a project “Formulating National Vocational Qualification Framework” with MOLISA and GDVT.
- 4) Development of curriculum and programs
 1. Developed by a regular vocational training division (79 out of 130 programs are already developed)
- 5) Maintenance of vocational facilities and equipment
 1. Formulation of standard facility and equipment list for 15 faculties
 2. Formulation of minimum requirement of equipment list for 115 vocational training
- 6) Control and assurance of vocational training quality
 1. Accreditation of 93 out of 123 VCs
 2. Implementation of quality control survey of 44 vocational training programs
 3. Established Vocational Training Accreditation Department in September 2013
 4. Certified 32 vocational skill assessment centers

5. Formulated 189 technic standards out of 190 occupations and established 62 examination question banks out of 82
- 7) Link of vocational training to the labour market with the participation of enterprises
- 8) Raising awareness about vocational training development
Implement advertising activities by using TV, radio, newspaper and Internet etc.
- 9) Promotion of international cooperation on vocational training
Strengthen international cooperation with ASEAN, Korea, Japan, EU and the United States etc.

2.1.6. Budget and human resource allocation for vocational training sector in MOLISA

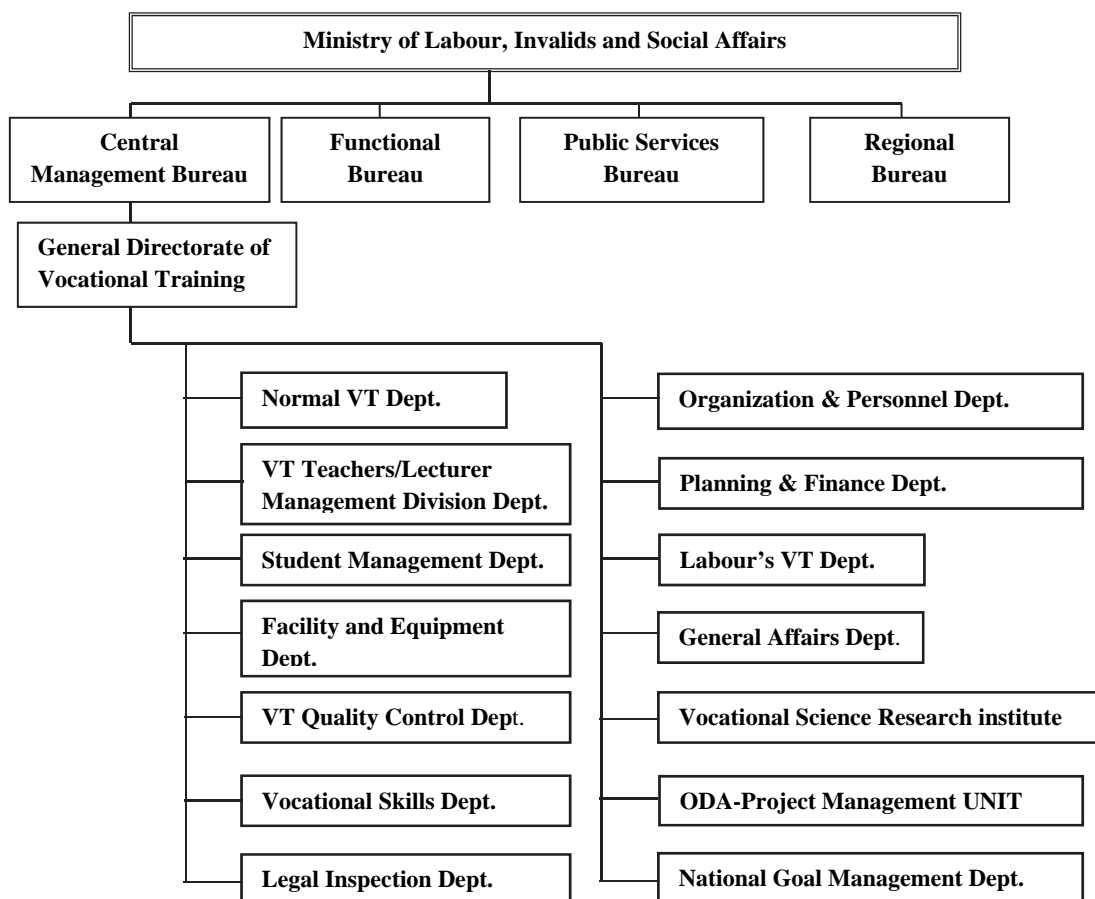
Budget allocation

We asked the authority of MOLISA to provide us with the annual budget data for the Vocational Training, but MOLISA responded that they could not open the detailed contents of the Ministry's budget to the outside.

The Prime Minister's Decision No. 1201/QĐ-TTg (August, 31, 2012) "Approving National Target Program on Jobs and Vocational Training in the Period of 2012-2015" states that the budget shall be allocated to the projects for the development of vocational training, job creation and the enhancement of labour markets.

Human resource allocation

The organization diagram of the Ministry of Labour, Invalid and Social Affairs is illustrated below and one of the Central Management Department named General Director of Vocational Training (GDVT) is in charge of the Public Vocational Training in Vietnam.



Source: MOLISA/GDVT

Figure 2-18 Organization chart of MOLISA/GDVT

As shown above, GDVT is organized in 11 Departments, 1 Research Institute and 2 Management Units. The numbers of regular staff is shown below. In addition to the regular staff, there are 48 contracted workers engaged in the ODA Project Management Unit.

Table 2-21 Staff assignment in GDVT

Department	Numbers of regular staff (Person)
General Director and other managing staff	4
Normal Vocational Training Division	9
Vocational Training Teachers/Lecturer Management Division	9
Student management Division	8
Facility and Equipment Division	6
Vocational Training Quality Control Division	15
Vocational Skills Division	9
Legal Inspection Division	9
Organization and Personal Affairs Division	8
Planning Finance Division	7
Labour's Vocational Training Division	7
General Affairs Division	17
Vocational Science Research Institute	28
ODA Project Management Unit	14
National Goal Management Unit	6
TOTAL	156

Source: MOLISA GDVT

2.1.7. Overall employment rate of students upon graduating from Vocational Colleges

According to the 2014 enactment, student recruitment in the "Vocational Education Law", which will take effect from July 2015 by Article 32 is made as follows. Moreover, GDVT is to publicise the number of students to be recruited by the VCs.

1. Number of recruitment: Depending on the quality and quantity of teaching staff, facilities and equipment, the number of recruitment for each VCs shall be determined by taking into consideration human resources development plan and industrial development.
2. Admission
 - a Set admission period several times a year based on the fixed number of admission.
 - b Beginner level: documentary elimination (Selection-based enrolment)
 - c Secondary level, college level (documentary elimination and admission exam, or the combination) , the Principal has the authority for the first screening.
3. Admission from moderate level to the college level
 - a Admissions with high school diploma, having finished high school, passed examination, secondary VET diploma
 - b Work experience of 2 years in addition to the above
 - c The appropriate person according to article 64 paragraph 2 (such as skill contests winner, etc.)

The number of admissions and graduates of vocational training institutions are as follow.

Table 2-22 Number of admissions and graduates of vocational institutions

	2011			2012			2013		
	Total students	Admission	Graduates	Total students	Admission	Graduates	Total students	Admission	Graduates
Vocational College Course	147,149	90,551	51,381	n.a	84,381	38,431	144,251	87,887	42,602
Intermediate Course	210,221	168,141	91,609	n.a	128,831	67,318	185,635	128,229	62,007
Elementary Course	910,842	910,842	910,842	n.a	913,732	858,441	173,597	876,788	717,622
Vocational Training within 3 Months	619,421	619,421	619,421	n.a	366,435	366,435	130,610	639,112	691,888
Total	1,887,633	1,788,955	1,673,253	n.a	1,493,379	1,330,625	634,093	1,819,903	1,514,119

Note: Total numbers of students in 2012 are not available in the following source.

Source: MOLISA/GDVT PMU

The number of drop out in VCs in the past 3 years is considered a lot. (Assuming there is zero drops out, the number of students enrolled by the end of academic term 2011 is 186,319 students. If this is the same number as the enrolled students in 2012, the number of initial enrolment in 2013 is estimated to be 232,269 students, where in fact there are only 144,251 students, showing a gap of 88,018 students)

“Continuing training” is believed to have been established in the Vocational Educational Law as the effort to solve this drop out issue.

In addition, the number of students in the target VC and departments are as follow.¹⁴

Table 2-23 Number of Capacity, Admissions, and Graduates in the target VCs

VC	Dept	2013			2014			2020 (estimation)		
		Cap.	Adm.	Grad.	Cap.	Adm.	Grad.	Cap.	Adm.	Grad.
HCMVC	Machinery	186	147	33	346	141	48	600	400	300
	Electrical	182	120	80	245	122	99	500	300	200
	Electronics	89	36	80	112	96	27	400	200	100
HIVC	Machinery	80	64	35	80	102	41	80	*1	*1
	Electrical	120	147	135	120	156	150	130	*1	*1
	Electronics	120	81	69	120	90	54	120	*1	*1
VCTT	Machinery	*1	40	28	*1	50	42	*1	75	60
	Electrical	*1	77	65	*1	85	64	*1	85	70
	Electronics	*1	47	40	*1	60	55	*1	75	60
BRVT VC	Machinery	100	135	11	150	265	32	300	300	250
	Electrical	100	165	75	60	185	130	210	210	200
	Electronics	*2	210	210	100					
HVCHT	Machinery	320	240	53	320	477	89	615	615	460
	Electrical	320	207	26	320	316	73	500	500	395
	Electronics	240	180	71	240	254	102	450	450	370
VPVC	Machinery	140	92	101	105	97	81	120	*1	*1
	Electrical	85	34	49	85	35	0	140	*1	*1
	Electronics	35	30	25	35	34	15	50	*1	*1
DNVC	Machinery	Target department doesn't exist.								
	Electrical	175	163	132	175	169	64	200	200	150
	Electronics	70	28	30	70	33	27	100	100	70
CVCT	Machinery	30	10	16	30	17	12	60	55	55
	Electrical	140	90	130	140	168	116	280	250	250
	Electronics	Target department doesn't exist.								
HVCT	Machinery	45	86	24	86	90	29	100	100	95
	Electrical	180	196	148	196	123	73	150	150	200
	Electronics	37	33	21	120	54	46	75	75	125
VCMi	Machinery	105	59	47	108	56	52	100	50	50
	Electrical	138	73	63	136	75	61	120	60	60
	Electronics	Target department doesn't exist.								
HaUI (VJC)	Machinery	100	175	68	200	244	34	500	400	300
	Electrical	300	220	143	400	233	114	450	300	250
	Electronics	300	125	67	300	118	51	400	200	170
HPVC	Machinery	*1	35	31	*1	26	17	*1	100	100
	Electrical	*1	217	365	*1	200	314	*1	300	300
	Electronics	*1	51	49	*1	40	32	*1	70	70
HNVC	Machinery	Target department doesn't exist.								
	Electrical	100	93	73	100	83	74	250	250	250
	Electronics	Target department doesn't exist.								

Source: prepared by the JST based on the query to each VCs via the PMU on August 2015

*1 : PMU didn't answer.

*2 : There is no applicant in 20013 and 2014.

¹⁴ The number of enrolment, graduates, and employment of the target VCs from 2011 to 2014 are shown in Annex -6 " Transition of the Number of Enrolments, Graduates and Employed Graduates by VCs "

Regarding graduation, as defined in Article 38 (certificate), graduation for students who meet the graduation requirements (by annum or by module-credit method) and granted certificates, collegial diplomas that will be recognized as bachelor of practice or engineer of practice by the school principal. The central government section chief stipulates and manages the issuance or cancellation of certificate, as well as graduation certificates of foreign training facilities.

According to the report titled “Vocational Training Report-Viet Nam 2012” published by the National Institute for Vocational training, an affiliated organization of MOLISA, the employment rate of graduates from Vocational Training Institutions (6 months after graduation, in major occupations from General, Senior, and Vocational Colleges) and the graduation rate of vocational training institute upon completion of major training courses are shown below.

Table 2-24 Employment Rate by Training Occupations

	Training Course	2010	2011	2012
1	Industrial Electronics	85%	72%	66%
2	Corporate Accounting	74%	69%	67%
3	Automotive Technologies	90%	78%	73%
4	Welding	92%	91%	76%
5	Computer Network Administration	77%	72%	76%
6	Industrial Electrical Engineering	87%	80%	77%
7	Metal Cutting	89%	84%	84%
8	Computer Programming	-	-	65%

Source: MOLISA GDVT

Table 2-25 Graduate results by training occupation in VTC

	Training Courses	Number of students eligible for graduation Exam.	The employment rate of students.
1	Industrial Electronics	836	98%
2	Corporate Accounting	8784	97%
3	Automotive Technologies	2836	97%
4	Welding	1035	99%
5	Computer Network Administration	1298	93%
6	Industrial Electrical Engineering	4461	97%
7	Metal Cutting	654	94%
8	Computer Programming	921	98%

Source: MOLISA GDVT

Based on the survey result, the graduation rate of the subjects related to the Machining, Electricity and Electronics is high, but the employment rate went down year by year. It means that fulfilment of the quality of training instruction and levelling up of the training contents is necessary.

The employment situations of the graduates of Vocational Training Colleges (VC) to the main Japanese Enterprises are given below;

Table 2-26 Main Japanese Enterprises where Graduates were employed (Random Order)

Akebono Brake Astra Vietnam Co., Ltd.	Nissei Technology Co., Ltd
Asahi Intec Hanoi Co., Ltd.	Panasonic Appliances Vietnam Co., Ltd.
Brother Industries Vietnam Ltd.	Panasonic Industrial Devices Co., Ltd.
Canon Vietnam Co., Ltd.	Panasonic Sales Vietnam Co., Ltd.
Denko Viet Nam Precision Machining Company	Panasonic System Networks Vietnam Co., Ltd.
KATO Vietnam Co., Ltd.	Panasonic Vietnam Co., Ltd.
Panasonic Industrial Devices Vietnam	Ricoh Imaging Products Vietnam Co., Ltd.
Denso Manufacturing Vietnam Co., Ltd.	Sato Vietnam Co., Ltd.
Denyo Vietnam Co., Ltd.	Showa Auto Parts Co., Ltd.
Fujikin Vietnam Co., Ltd.	Showa Denko Rare-Earth Vietnam Co., Ltd.
Fujimold Vietnam Co., Ltd.	Sumitomo Bakelite Vietnam Co., Ltd.
Honda Lock Vietnam Co., Ltd.	Sumitomo Heavy Industries Vietnam Co., Ltd.
Honda Vietnam Co., Ltd.	Tabuchi Electric Co., Ltd.
Ikeuchi Vietnam Co., Ltd.	Takagi Vietnam Co., Ltd.
Inoue Rubber Co., Ltd.	Tanaka Precision Vietnam Co., Ltd.
Kamogawa Vietnam Co., Ltd.	TOHO Vietnam Co., Ltd.
Kato Spring Vietnam Ltd.	Toyoda Gosei Hai Phong Co., Ltd.
Meiko Electronics Vietnam Co., Ltd.	Toyota Motor Vietnam Co., Ltd.
Meisei Vietnam Co., Ltd.	Yamaha Motor Part Manufacturing Vietnam Co., Ltd.
Muto Technology Hanoi Co., Ltd.	Canon Vietnam Co, Ltd
Nagatsu Vietnam Co., Ltd	Suzuki Vietnam Co., Ltd
Nikkiso Vietnam Co., Ltd.	Isuzu Motor Co., Ltd.
Nissan Techno Vietnam Co. Ltd.	

Source: prepared by the JST

2.1.8. Financial conditions of Vocational Training Institutes

Financial conditions of each vocational college are described in 2.2.3.

2.1.9. Projects for Vocational Training Sector

Other Donor Projects

Projects for the vocational training sector by other donors are as follows.

Table 2-27 Major projects for the Education and Vocational Training Sector by Other Donors

	Name of Project/Donor	Target Area	Project Outline	Start/Finish	Project Cost
1	The Vocational and Technical Education Project/ADB, JICA, AFD, NDF	Whole country	Project for upgrade of key school by improvement of education system, development of curriculum and teaching material, improvement of equipment and facility. Also for capacity development of GVDT. (15 target schools)	1998.12/2008.10	USD86.3M
2	Five Vietnam-Korea Vocational Colleges Establishment Project/EDCF	Several areas	Establishment of vocational colleges in Hanoi, Quang Ninh, Quang Ngai, Binh Duong and Ca Mau. (5 target schools)	2007	USD35.0M
3	Vocational Training Equipment Supply Project/EDCF	Several areas	Procurement of equipment to vocational institutions in Thanh Hoa, Ha Tinh, Quang Binh and A Yun Pa. (4 target schools)	2008 and 2009	USD11.9M

	Name of Project/Donor	Target Area	Project Outline	Start/Finish	Project Cost
4	Skills Enhancement Project/ADB	Several areas	Project for high quality vocational training schools to obtain high vocational training skills in accordance with rapid progress in modern industrial sector.	2010.7/ 2014 (expected)	USD70.0M
5	Investment in Development of High Quality Vocational Training Schools in Vietnam/AFD	Several areas	Construction of facilities, procurement of equipment and training of trainer and management for the high quality vocational colleges. (5 target schools)	2013/ On-going	EUR33.0M
6	Reforming Technical and Vocational Education and Training in Viet Nam /BMZ	Several areas	Project aims to achieve the national goal through improvement of vocational training, training of trainer and assistance to school management. (19 target schools)	2006/ On-going	EUR24.6M

Source: prepared by the JST

“The Vocational and Technical Education Project” was implemented by the Asian Development Bank (ADB), Agence Française de Développement (AFD), Nordic Development Fund (NDF) and JICA from December 1998 to October 2008 as a support to the vocational sector in Vietnam. The project aimed at upgrading the key institutions by improving the education system, developing a curriculum and teaching material, improving equipment and facilities, as well as improving the capacity of GVDT. The project also consisted in the improvement of an education program and system responding to the labour market, increasing the number of minority students such as female students and the reform of private division in schools.

Korea, through the Economic Development Cooperation Fund (EDCF), implemented projects for the vocational training sector which were the establishment of vocational colleges in Hanoi, Quang Ninh, Quang Ngai, Binh Duong and Ca Mau in 2007 and the Procurement of equipment to vocational institutions in Thanh Hoa, Ha Tinh, Quang Binh and A Yun Pa in 2008 and 2009.

Similar to this JICA project, the “Skill Enhancement Project” by ADB is for the improvement of vocational training institutions. The target occupations were selected based on the criteria: 1) must be in high growth industries, 2) must be in high demand and/or have wide application in other industries, and 3) must be a higher-level occupation. Criteria for selection of target schools are location, employment situation of graduates, training contents, number of students and performance of lecturers, by which 15 public vocational training institutions and 5 private vocational training institutions were long-listed. The target occupations are automobile technology, manufacturing (electricity), tourism, IT, manufacturing (machining) and transport. Consulting services for the project started in May 2011 and the project will be completed in December 2017. The project cost amounts to USD 78 million including USD 30 million intended for the procurement of equipment.

Table 2-28 ADB Project Target Schools

	Name	Province/City	Duplication with JICA Project
1	Yen Bai Vocational College	Yen Bai	No
2	Vocational College of Transport No. 2	Hai Phong	Yes
3	Hai Duong Vocational College	Hai Duong	No
4	Nam Dinh Vocational College	Nam Dinh	No
5	Hanoi Mechanic Electricity Vocational College	Hanoi	No
6	Nghe An Trading and Tourism Vocational College	Nghe An	No
7	Da Nang Vocational College	Da Nang	Yes
8	Phu Yen Vocational College	Phu Yen	No
9	Daklak Central Highland Ethic Youth Vocational College	Daklak	No
10	HCM Maritime Vocational College	Ho Chi Minh	No
11	Hung Vuong Techniques Technology Vocational Secondary School	Ho Chi Minh	No
12	Vung Tau Tourism Vocational College	Vung Tau	No
13	Can Tho Vocational College	Can Tho	No
14	Soc Trang Vocational College	Soc Trang	No
15	Kien Giang Secondary Vocational School	Kien Giang	No

Source: prepared by the JST

The AFD's "Investment in Development of High Quality Vocational Training Schools in Vietnam" project amounts to EUR 33 million (loan portion: EUR 24.5 million which consists of EUR 17 million for equipment, EUR 3 million for facility and the remaining for trainer and management) and consists of 4 packages: consulting services, procurement of equipment, training of trainer and management training. There are 5 target institutions, of which 1 institution is only for capacity development. The project aims to introduce French style vocational skill certificates, namely the diploma of higher technic (BTS) and the professional licence (LP).

Table 2-29 AFD Project Target Institutions

	Name	Construction /Equipment	Capacity Development	Target Occupation	Duplication with JICA Project
1	Lilama Technical and Technology Vocational College 2 (LILAMA 2)	Eco-friendly facility	Yes	Welding, telecommunication network	No
2	Vocational College of Agricultural Mechanics (VINH PHUC)	Workshop system, improvement of facility	Yes	Automobile, industrial electricity, metal cutting, welding	No
3	Dung Quat Vocational College of Engineering and Technology (DUNG QUAT)	Workshop system, improvement of facility	Yes	Automobile	No
4	Tam Diep Electromechanical Construction Vocational Training (VIET XO)	Workshop system, improvement of facility	Yes	Automobile, industrial electricity, metal cutting	No
5	Nghi Son Vocational Training Secondary School (NGHI SON)	No	Yes	N/A	No

Source: prepared by the JST

The “Reforming Technical and Vocational Education and Training in Viet Nam” by Germany through the Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) supports the target vocational colleges by a vocational training facility development in line with goals for industrialization and improvement of the education system. The criteria to select the target colleges are 1) effectiveness of training for employment, 2) financial independence, 3) qualification of human resources and 4) organizational structure and efficiency.

Equipment procurement by VTP 2006 was implemented for 11 vocational colleges with EUR 12 million. Equipment procurement by VTP 2008 has started in 2008 for 3 faculties (machining, electricity and electronics) of 5 vocational colleges (1 college is suspended out of 5) with EUR 8.3 million and the tender documents will be prepared by December 2014. VTP 2011 will be implemented for 3 vocational colleges with EUR 4.3 million. In addition, the supports for Hai Phong Polytechnics College and Lilama 2 Vocational College were implemented.

The loan project for Vocational College of Technic and Irrigation in Dong Nai Province, which is also a candidate college of the JICA project, was agreed upon between MOLISA and KfW on November 27, 2014. It amounts to EUR 6.5 million for eco-friendly facility (Green-TVET) and training equipment. An additional EUR 2-3 million is also planned for the loan. It was mentioned by KfW/GIZ during the meeting among GDVT, KfW/GIZ and JICA on December 12, 2014 that it would be good if GIZ/KfW and JICA could consider the way to cooperate to support VCMI in principle with no duplication.

Table 2-30 BMZ Project Target Institutions

	Name	Province/City	Duplication with JICA Project
VTP2006			
1	Vietnamese-German Industrial College	Thai Nguyen	No
2	Vietnamese-German Vocational Intermediary School Lang Son	Lang Son	No
3	Vinh Phuc Vietnamese-German Vocational College	Vinh Phuc	Yes
4	Thanh Hoa Industrial Vocational College	Thanh Hoa	No
5	Hung Yen University of Technology and Education	Hung Yen	No
6	Nam Dinh University of Technology Education	Nam Dinh	No
7	Vietnamese-German Technical Vocational College Nghe An	Nghe An	No
8	Vietnamese-German Vocational College Ha Tinh	Ha Tinh	No
9	Nha Trang Vocational College	Nha Trang	No
10	Ho Chi Minh Vocational College of Technology	Ho Chi Minh	Yes
11	Nguyen Tat Thanh College	Ho Chi Minh	No
VTP2008			
12	Viet Bac-VINACOMIN Industrial Vocational College	Thai Nguyen	No
13	Bac Ninh Vocational Economic and Technical College	Bac Ninh	No
14	Ninh Thuan Vocational College	Ninh Thuan	No
15	Long An Vocational College	Long An	No
16	An Giang Vocational College	An Giang	No
Others			
17	Hai Phong Polytechnics College	Hai Phong	No
18	Lilama 2 Vocational College	Dong Nai	No
19	Vocational College of Technic and Irrigation	Dong Nai	Yes

Source: prepared by the JST

<Duplication of the Target Institutions by AFD and KfW/GIZ >

Lilama 2 Vocational College is the target institution of projects of both AFD and KfW/GIZ. The supports from both agencies are demarcated by the faculties: the welding and telecommunications and network faculties are by AFD; the metal cutting, industrial mechanics, industrial electricity/electronics and mechatronics faculties are by KfW/GIZ. The mutual agreement on the demarcation was signed by both agencies before the implementation.

JICA Technical Cooperation Projects**Table 2-31 JICA Technical Cooperation Projects**

	Name	Target Area	Project Outline	Start/Finish	Project Cost
1	Project for Strengthening Training Capability for Technical Workers Course in Hanoi Industrial College (Technical Cooperation)	Hanoi Northern part of Vietnam	development and implementation of curriculum and capacity development of lecturers	04/2000 - 03/2005	JPY 665,848,000
2	Project for Human Resource Development of Technicians at Hanoi University of Industry (Technical Cooperation)	Hanoi Northern part of Vietnam	Improvement of training based on the needs from industrial sector through 1) strengthening the management cycle, 2) establishment of skill test and 3) provision of internship.	01/2010 - 01/2013	JPY 200,000,000
3	Project for Strengthening TOT functions at Hanoi University of Industry (Technical Assistance related to ODA Loan)	Hanoi Surrounding area of Hanoi	Project is aimed at the technology transfer cultivated in HaUI as the preceding model of Japanese vocational college in mechanics, electricity and electronics, to other colleges.	06/2013 - 06/2016 (Expected)	-
4.	Advisor for organizing national skill testing system in Vietnam (Aid in singular form: Expert)	Hanoi	Activities, advises and supports on planning and establishment of the effective national skill testing system	09/2010 - 09/2013	-
5.	Advisor on Vocational Training system (Expert: Loan)	Whole of Vietnam	Activities, advises and supports on improvement of the vocational training and national skill testing system in line with the needs of industries	08/2013- On-going	-
6.	Human resource training and supporting metal industry promotion in Ba Ria-Vung Tau province (JPP: Local gov. type)	Ba Ria-Vung Tau	Promotion of supporting industry related to metal manufacturing and obtaining knowhow of business development in cooperation with Sanjo-Shi, Nigata-Ken. Developing ability of small and medium-sized enterprises related to metal	12/2013 - 03/2016 (Expected)	JPY 32,860,000

	Name	Target Area	Project Outline	Start/Finish	Project Cost
			manufacturing in Sanjo-Shi for market expansion in Vietnam.		
7.	Enhancing the skills of Japanese MONO-ZUKURI (manufacturing skills) in Ho Chi Minh City Vocational College JPP: Local gov. type)	Ho Chi Minh	Training program aiming to Japanese unique high level and elaborate manufacturing at HCMVC in order to develop young engineer to be a leader by Kawasaki-Shi	08/2013 - 07/2016 (Expected)	JPY 59,997,000
8.	Manufacturing HRD Program in Dong Nai Province, Vietnam (JPP: Local gov. type)	Dong Nai	Development of proper and sustainable training system in accordance with education curriculum corresponding to Japanese enterprises' needs at electric, electrical and mechanic course in Long Thanh-Nhon Trach VC and Lac Hong University.	06/2014 - 03/2017 (Expected)	JPY 29,997,000
9.	Leadership Development Project in the Education of Machinery Techniques and Skills at Hanoi Industrial Vocational College (JPP: Local gov. type)	Hanoi	Vocational training education for Japanese level skill test in order to respond the needs of industrial sector in cooperation with Chiba-Ken Education Board.	06/2013 - 03/2016 (Expected)	JPY 23,830,000
10.	A program for improving plant management of manufacturers in Hai Phong (JPP: Local gov. type)	Hai Phong	Establishment of the contact point regarding the human resource development in manufacturing management and plant engineering in HPVC in cooperation with Kitakyusyu-Shi	04/2011- 03/2014	-

Source: prepared by the JST

The technical cooperation projects of JICA in Vietnam are the “Project for Strengthening Training Capability for Technical Workers Course in Hanoi Industrial College (04/2000 – 03/2005)”, the “Project for Human Resource Development of Technicians at Hanoi University of Industry (01/2010 – 01/2013)”, the “Project for Strengthening TOT functions at Hanoi University of Industry (06/2013.6 - ongoing)” and the “Leadership Development Project in the Education of Machinery Techniques and Skills at Hanoi Industrial Vocational College (2013.6 – ongoing)”.

The “Project for Strengthening Training Capability for Technical Workers Course in Hanoi Industrial College (04/2000 – 03/2005)” contributed to the development and implementation of curriculum and capacity development of lecturers of the machinery processing, metal processing and electric control courses.

The “Project for Human Resource Development of Technicians at Hanoi University of Industry (01/2010 – 01/2013)” was aimed at training technicians to meet the demand of the

industrial sector especially Japanese enterprises through the vocational training skill, 5S and professional ethics which are required by Japanese enterprises.

The “Project for Strengthening TOT functions at Hanoi University of Industry (06/2013 - ongoing)” is being implemented for the capacity development of lecturers in order to transfer the knowhow of human resource development cultivated in the university to other vocational colleges.

The “Advisor on Vocational Training system” is being implemented with activities to advise and support the vocational training and align the national skill testing system with the needs of the industries. The expected outputs are the strengthening of the vocational training system through the improvement of training of trainers, the implementation of national skill test especially in the supporting industries and the strengthening of the cooperation system with private sectors for improvement of the vocational training and the national skill test.

The Japanese Partnership Projects (JPP) related to vocational training were implemented. One of the projects, the “Leadership Development Project in the Education of Machinery Techniques and Skills at Hanoi Industrial Vocational College (06/2013 – ongoing)” is also for the development of technicians responding to the human resource needs of the industrial sector through the vocational training for the Japanese level mechanical vocational skill test (lathe and mechanical inspection), in coordination with the above mentioned “Project for Strengthening TOT functions at Hanoi University of Industry.”

Loan conditions of each donor

The comparison of the loan conditions of each donor is shown in the table below. The conditions of JICA loan are more advantageous than the others in terms of the interest and the repayment period.

Table 2-32 Loan conditions of each donor

Donor	JICA		ADB	KfW	AFD	EDCF (KOICA)	World Bank
	Human Resource Development	Special Terms for Economic Partner(STEP)					
Interest rate	0.3%	0.1%	1%	0.75%	6.34% > n > 0.25%	1%	1.25%
Redemption period	40 years	40 years	30years	40years	20years	30years	25 years
Grace Period	10 years	10 years	8years	10years	7years	10years	-
Conditions for Procurement	Untied	Tied	Untied (tied with ADB members)	Untied	Untied	Tied	Untied
Coverage Ratio (A ceiling ratio of the coverage of a loan over total costs of a project)	85%	100%	89.7% Based on the ongoing project	-	74.3% Based on the ongoing project	-	96% Based on the actual project

Source: prepared by the JST. The data of the World Bank is from the MOLISA’s project “Social Assistance System Strengthening Project”

2.1.10. Demands of Skills Certification Examination in Vietnam

The contents of National Occupational Skills Standards (NOSS) on 126 occupations are currently defined. Besides the regulation of MOLISA, the related Ministries are executing the Occupational Certification system in their own way. The Ministry of Commerce and Industry defines 56 Occupations (Mechatronics, Heat Treatment Technology, ICT, Factory Electricity, Industrial Electronics, Electric Power Measurement, Machine Assembling and Finishing, PC Maintenance, Electric Inspection, Web Design, Maintenance of Refrigerators, etc.). The Ministry of Transportation defines 33 Occupations (Aero Nautical Communication Equipment, etc.). The Ministry of Agriculture defines 13 Occupations (Operation and Modification of Electric Pump site, etc.). The Ministry of Construction defines 24 Occupations (Electric Facilities in Factory, etc.). Those categories of occupations are similar occupations defined by MOLISA. In the future, comprehensive and consistent standards will be required among the related Ministries to avoid any discrimination for similar occupations at the national level.

Currently, MOLISA is executing the National Occupational Skills Certification Test for 14 occupations according to the NOSS system. There are 5 Levels from Level 1 to Level 5; those are shown in Table 2-33 below, and the required qualification contents are regulated.

**Table 2-33 National Occupational Skills Standard: NOSS
Decision No.09/QD-BLDTBXH 2008/03/27**

Level 1	<p>Level 1 (Certificate 1)</p> <ul style="list-style-type: none"> (a) Competent in performing simple tasks and repetitive tasks within one occupation; (b) Understand and has basic knowledge in a narrow range of operations of an occupation of some areas; can apply some specific knowledge when carrying out the task; (c) Be able to receive, take note and transfer information as required, takes limited responsibility for outcome, output of himself.
Level 2	<p>Level 2 (Certificate 2)</p> <ul style="list-style-type: none"> (a) Competent in performing simple tasks, repetitive tasks and some complicated tasks in a defined range of situations under direction; (b) Understand and has some basic knowledge of operations of an occupation; can apply some professional knowledge and be able to come up with some solutions to solve normal issues in their work; (c) Be able to consider, predict and explain information; can work in team, can work independently in some cases and take responsibility mostly for outcome, output of himself.
Level 3	<p>Level 3 (Certificate 3)</p> <ul style="list-style-type: none"> (a) Competent in performing different tasks, most of which are complex and major in a range of options, can work independently without guidance; (b) Understand and has knowledge of basic theoretical concepts, professional knowledge of the occupation; can apply professional knowledge and be able to identify to apply knowledge to deal, solve normal issues in a variety of contexts; (c) Can identify, classify, analyse and evaluate information from different sources; be able to give direction for others in the working team or group; take responsibility for output of self with specified standard quality and can take limited responsibility for output of others in the working team or group
Level 4	<p>Level 4 (Certificate 4)</p> <ul style="list-style-type: none"> (a) Competent in performing a broad range of varied works, most of which are complex and major in a range of different options, can work independently without supervision and guidance; (b) Understand and has broad knowledge of basic theoretical concepts and has deep professional knowledge in different areas of the occupation; be able to transfer and apply creatively knowledge and skills to deal with complex technical issues in a variety of contexts;

	(c) Can analyse, evaluate information and can use analysis to come up with ideas, recommendations serving for the sake of research and management; be able to manage and run the working team or group when performing the work; take responsibility for outcome, output of self with specified standard quality and take limited responsibility for outcome, output of the working team or group.
Level 5	<p>Level 5 (Certificate 5)</p> <p>(a) Competent in performing all varied works of the occupation at fluency and skilful level; work with high independence, great self-control;</p> <p>(b) Has broad knowledge of basic theoretical concepts and has deep professional knowledge in many areas of the occupation; have techniques of analysing, forecasting, designing, considering to solve both technical and managing problems in a wide scope;</p> <p>(c) Can analyse, evaluate and generalization information to come up with opinions and initiatives; manage and run the working team or group when performing the work; take responsibility for outcome, output of self with specified standard quality and take responsibility for output of the working team or group in accordance with specified standards and specifications.</p>

Vocational Training Institutions managed by GDVT execute the certification tests for the lower levels of Level 2 and Level 3. It should be noted that the training target level of Vocational Training College is Level 3. Actual certification tests are supposed to be assessed at any time by the authorized National Occupational Skills Assessment Centre, approximately once a year. The assessment fee is free in principle. This programme started in 2011, and there has been about 1,500 applicants between 2011 and April 2013. In addition to the above assessing method, some Vocational Colleges execute the certification tests using their own questionnaires.

In Japan, the graduates of a Vocational College must take a Graduation Examination of Skills Certification Test of which the same Level with Japanese Grade 3 Skills Test and they shall be qualified to sit for Grade 2 Skills Test automatically, then NOSS 3 Level might be equivalent to the Japanese Grade 3 of Skills Test.

(Source: Surveyed Data on the Questionnaire to Japanese Industries by JICA, July 2014)

MOLISA is now executing the standard for the 14 Occupations shown in Table 2-34 below, and they are planning to organize the Skills Standard of 400 Occupations in total, and all students shall take Assessment Tests at their graduations.

Table 2-34 14 Occupations, National Skill Assessment Scheme, MOLISA

No.	Occupations
1	Mechatronics
2	Graphic Design
3	Mining Exploitation Technology
4	Mining Mechanic Electricity Technology
5	Mining Civil Technology
6	Industrial Electricity
7	Industrial Electronics
8	Industrial Garments
9	Electric Transmission Lines and Transformer Station Installation
10	Electrical Testing
11	Electric Facility System
12	Welding
13	Automobile Technology
14	CNC Machining

Source: Surveyed Data on the Questionnaire to Japanese Industries by JICA, July 2014

According to the above data, beside the NOSS Certification system by MOLISA, the related Ministries are executing Jobs Certification system in their own way for Mechatronics, Heat Treatment Technology, ICT, Factory Electricity, Industrial Electronics, Electric Power Measurement, Machine Assembling and Finishing, PC Maintenance, Electric Inspection, Web Design, Maintenance of Refrigerators, Aeronautical Communication Equipment, Driving and Modification of Electric Pump site, Electric Facilities in Factory, etc. Therefore the needs of workers related to the above mentioned occupations might be high. Moreover, close relations between the GDVT authority and the industry sectors will be needed to promote the future expansion of vocational training (Expansion of NOSS system and spreading out) from now on.

On the other hand, Mr. Takeo Hayaki, Ex-JICA Expert to construct the National Trade Skills System in Vietnam had reported the suggestion plan for the improvement on the system as follows

1) Training of Assessors

The most important role to take in the execution of the fair Skills Certification Tests is that of the assessors. To organize 1st time and 2nd time Skills Certification Tests of Lathe machine work, a Japanese private company named DENSO dispatched the instructors and gave full training thoroughly to the future assessors. In the 2nd time, we asked 2 lecturers newly from Nam Dinh Teachers University and Binh Teachers University to participate as assessors. In other words, we need the effort to keep the skill levels high as required to the assessors and to foster new assessors.

2) Lack of measurement instrument and tools.

There is a problem that Vocational Training Institutions in Vietnam have a lack of measurement instruments and tools which have the required measurement accuracy to execute the Skills Certification Tests continuously of Lathe Operator Occupation, and bring the level of the NOSS Tests up to Japanese Skill Test Certification of Level 3 to Level 2. Under the limits situation of National Budget in Vietnam, it is important to purchase the required instruments and tools effectively at the Vocational Training Institutions side, considering future Skills Tests by NOSS. (Note: Needed measurement instruments and tools list for the Japanese Skills tests is given on the Practical Test Sheet and Procedure Guidance Sheet of the said test.)

3) Ensure the procurement for the required machines and tools, and the execution of proper maintenance.

In May 2013, we asked the instructors from DENSO, a Japanese Industry, whether the installed machine tools of Milling Machine in the several Vocational Training Institutions can be used for the Skills Certification Tests.

The results mentioned that there were very few of the current machines that can be used for the Skills Certification tests, and most milling machines installed in the Vocational Training Institutions were not adequate for the Tests. Addition to the above the maintenance of machines were found to not be appropriate. This result is expected to be a big issue for the other Occupations too.

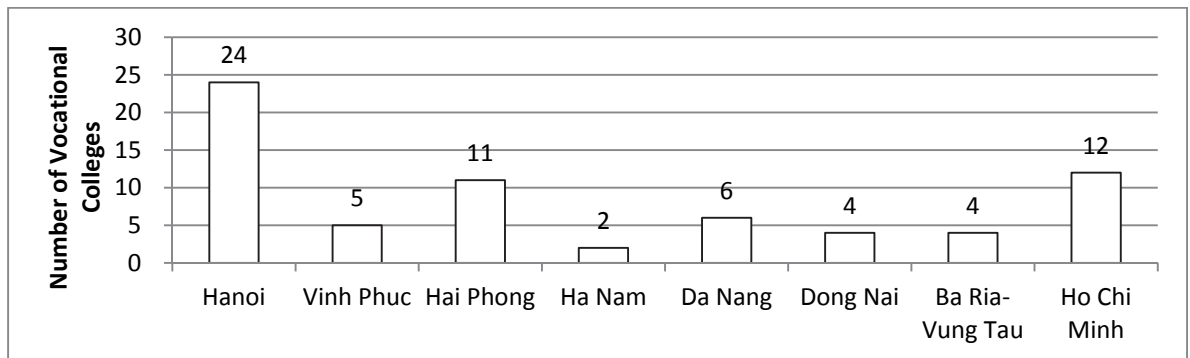
In other words, in order to conduct Skills Tests (NOSS) in Vietnam, “Setting up of the Skills Standard to expand Skills Test Occupations” should be urgently taken into action. Note that the important key problems are the lack of major infrastructures such as “Training of Assessors” and “Installation of appropriate machines and measurement tools, as well as the place for conducting Skills Test”.

This conclusion shows exactly the present situation.

2.2. Economy, industrial development trend, current situation, challenges and related policies of vocational training sector in the target areas

2.2.1. Current situation, challenges and related policies of vocational sector (especially in machining, electrical, and electronics) in the target areas: Hanoi, Hai Phong, Ha Nam, Da Nang, Ho Chi Minh, Dong Nai, Ba Ria Vung Tau and Vinh Phuc.

Current situation and challenges of vocational training sector in the target area were surveyed by means of discussion with and questionnaire to GDVT and the governing agencies of VCs. The following table shows the number of VCs in the target areas. There are 24 VCs in Hanoi City which is the most among the areas, meanwhile there are only 2 VCs in Ha Nam.



Source: prepared by the JST

Figure 2-19 Number of Vocational Colleges in the Target Areas

Hanoi City

There are 128 vocational training institutions including 24 vocational colleges, 44 vocational intermediate schools and 60 vocational training centres. The industrial sector demands additional labour for electricity, electronics, machining and maintenance. In addition, the industrial sector requires higher quality vocational training. Manufacturing enterprises in Hanoi are in stable and effective operation, and need a large number of labourers in manufacturing (The output of the manufacturing industry is described in the next chapter). The establishment of industrial parks is planned for the future and demands for labour are expected to be increased by enterprises moving into the industrial parks. However, the demands will not be fulfilled immediately because of lack of high-skilled labourers.

The vocational training does not satisfy the demand for skilled labourer even though the quality of vocational training has been improved recently, according to Hanoi PC. Hanoi PC enumerates the reasons of dissatisfaction as follows. The number of trainers in vocational training is not sufficient, especially in the vocational centres in the districts that do not have enough permanent trainers. The training curriculum has not been developed properly due to the lack of experience of trainers. The number of vocational training management officers in PPC is insufficient compared to the volume of duties. The conditions of facilities and equipment are not appropriate to the training requirements in the current curriculum. There is a gap between the training contents and the needs of enterprises due to the limited involvement of the enterprises in vocational training.

PPC recognises that it is necessary to provide high quality vocational training corresponding to the needs of enterprises through improvement of the network of vocational training institutions for information-sharing and proper investment in key vocational training institutions. It is also necessary to make a suitable mechanism and policy to strengthen involvement of enterprises in vocational training and attract the attention of trainers.

As policies, PPC is strengthening management activities of vocational training institutions and creating favourable conditions in management, training of trainer, facilities and equipment.

Vinh Phuc Province

There are 48 vocational training institutions including 5 vocational colleges, 4 universities and colleges with vocational training course, 2 vocational intermediate school, 5 intermediate schools with vocational training courses and 32 vocational training centres. Most of graduates from the vocational training institutions were employed by enterprises and satisfied the requirements of enterprises because many vocational institutions developed training curriculum in cooperation with enterprises.

Japanese enterprises such as Toyota and Honda have operated in Vinh Phuc Province and these enterprises and their subcontractors have employed many graduates from vocational institutions.

The problem which Vinh Phuc PPC pointed out is necessity of investment for facilities and equipment of vocational training institutions. In addition, young people tend to focus more on academic studies with higher diploma and less on vocational training.

Vinh Phuc people's committee issued Decision No. 1588/QD-UBND (June 24, 2013) "Approval of Development Planning for Supporting Industry of Vinh Phuc Province to 2020, Orientation to 2030" and it supports vocational training with the following solutions.

- Expansion of vocational training focusing on mechanical repair, manufacturing and electronics which are the bases of supporting industries
- Association with universities and vocational training centres
- Link between the teaching program and the actual demand
- Vocational training by the large enterprises
- Training of management and administration
- Introduction of the industrial working habit, rights and obligations of enterprises

Hai Phong City

There are 58 vocational training institutions including 11 vocational colleges, 10 vocational intermediate schools, 24 vocational training centres and 13 other training institutions. The enrolment in vocational training institutions in 2013 is about 50,000 people in total including 7,000 people of vocational college's enrolment.

Due to the lack of cooperation between vocational training institutions and enterprises, the ability of graduates does not meet the needs of the enterprises. Other challenges are insufficient high quality training not corresponding to needs of industrial sector; necessity of improvement of teaching method; lack of practical experience of trainers; improvement of

facilities and equipment; and necessity of foreign language and soft skill training. The related policies of Hai Phong City is stated in 2.2.2.

Ha Nam Province

There are 22 vocational training institutions including 2 vocational colleges, 3 vocational intermediate schools, 7 vocational training centres and 10 institutions with vocational training course.

It is difficult to keep a sufficient enrolment since new universities have been established in the province and the qualification of vocational training is not highly appreciated as university qualification. Other problems are the necessity of policies for conditions of vocational teachers/lecturers, the lack of facilities and equipment, the imbalance between students and labour demand which is often fluctuating.

Countermeasures for above problems are the improvement of the status of vocational training qualification and the expansion of opportunity of employment. To improve the quality of vocational training, it is necessary to develop a curriculum suitable for the actual production in cooperation with enterprises and to improve the quality of teachers/lecturers through inviting engineers to the schools and sending teachers/lecturers to enterprises. The policies for vocational training are the consolidation of vocational training system, the examination of vocational training quality, and the merger of education centres (educational facility to supplement schoolwork) into vocational training centres in districts.

PPC provides financial support to vocational training institutions for lectures of Japanese language and culture, pursuant to the PPC Decision to train 1,000 industrial labourers to support Japanese enterprises in 2014-2016. PPC also provides VND 1,000,000/person for vocational training of labourers in enterprises.

Da Nang City

There are 56 vocational training institutions including 6 vocational colleges, 4 vocational intermediate schools, 27 vocational training centres and 10 institutions with vocational training course. More than 50,000 people graduated from or left vocational training institutions in total in 2014. The graduation ratio and the employment ratios are 80-90% and 70% respectively. The problems are the necessity of improvement of old facilities and equipment, and the investment of equipment being not suitable for the curriculum.

Dong Nai Province

There are 16 vocational training institutions including 4 vocational colleges, 9 vocational intermediate schools, 3 vocational training centres and 10 institutions with vocational training course. The skilled labour demand for industrial parks is forecasted by qualification levels as follows.

- College Level :	38,000 people (2015)	89,700 people (2020)
- Intermediate Level :	98,100 people (2015)	179,300 people (2020)
- Primary Level :	630 people (2015)	699 people (2020)

The problems are the severe competition to keep enrolment among vocational institutions, the insufficient condition of facility not suitable for training needs, the poor condition and

insufficient number of training equipment compared to the GDVT requirement, and the necessity of strengthening lecturer's training ability including English abilities.

Ba Ria-Vung Tau Province

There are 9 vocational training institutions including 4 vocational colleges, 4 vocational intermediate schools, 1 vocational training centre.

Ba Ria-Vung Tau people's committee issued Decision No.358/QD-UBND (March 1, 2012) "Approving Human Resource Development Plan of Ba Ria-Vung Tau Province in 2011-2020 period" and it is aimed at improving the level of knowledge and skills of workers to meet the international level. The target number of labourers with qualifications from colleges and universities in 2015 is more than 75,000 people and in 2020 it will be more than 95,000 people. It also proposes to develop a network of vocational training institutions among primary vocational school, secondary vocational schools and vocational colleges in order to meet the needs of the labour market with diverse occupations.

The target percentage of trained labourers against total labourers by training level is as follows.

- Short-term training:	18% (2015)	16% (2020)
- Primary level training:	46% (2015)	46.5% (2020)
- Secondary level training	10% (2015)	12% (2020)
- College level training	3% (2015)	3.5% (2020)

It also proposes to increase the percentage of vocational college trainers with master's degrees against total trainers to more than 40% in 2020

Ho Chi Minh City

There are 12 vocational colleges, 26 vocational intermediate schools, and about 300 vocational training centers¹⁵ in the city.

The concern of vocational training is the limited enrolment. Therefore, the vocational training institutions are improving job opportunities in order to increase enrolment through the cooperation with Ho Chi Minh City Export Processing and Industrial Zone Authority (HEPZA) and the agreement with enterprises in the industrial park. In order to keep enrolment, the consultation for young people regarding admission in urban and sub-urban districts has been held, and the advertisement of vocational training institutions has been strengthened. In addition, the quality of vocational training has been improved for enhancement of job opportunity.

¹⁵ based on interview with GDVT PMU

Southern Key Economic Area¹⁶

The “Industrial development plan of the southern key economic area to 2020¹⁷” states its human resource policy focusing on the training for engineering electronics and information technology to create skilled labourers with knowledge of modern technology.

The “Overall plan on socio-economic development of the southern key economic zone to 2020 and vision 2030¹⁸” also mentions that the area shall be a centre of education and training of human resources. The prioritized vocational colleges to be invested in include HCMVC, HVCT and BRVTVC.

2.2.2. Industrial and Japanese enterprises situation in each target areas

Economic scale of target areas

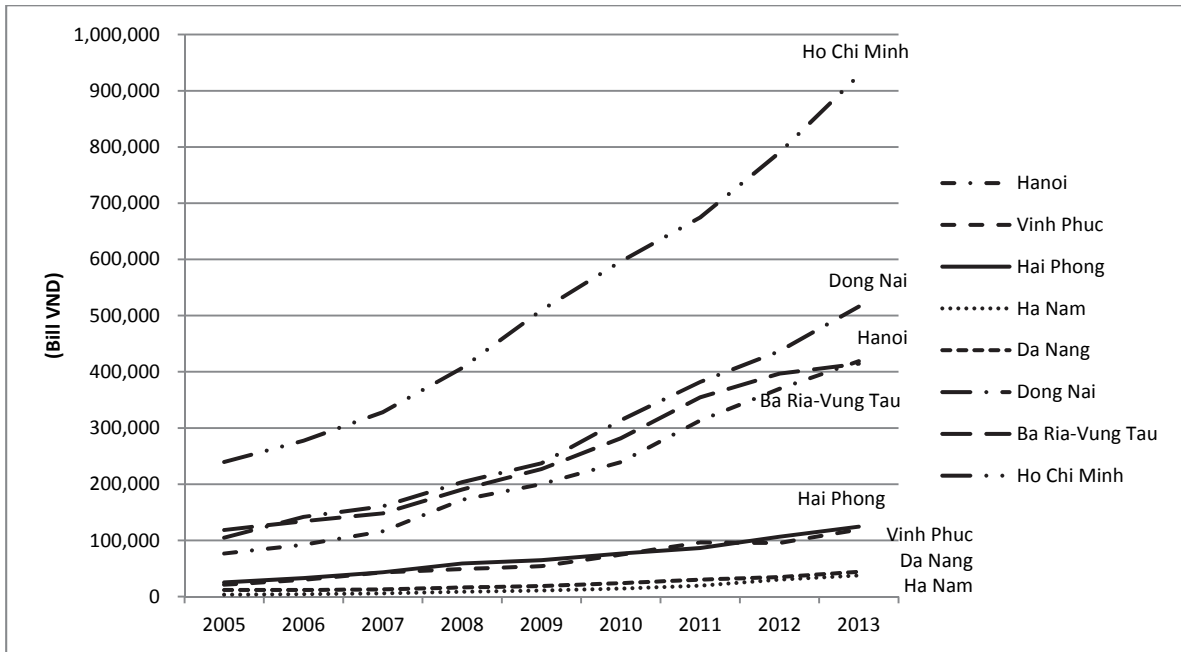
The area with largest gross output of industry is Ho Chi Minh City with VND 927,363 Billion, which is 20 times greater than the VND 37,705 Billion output of Ha Nam Province which is the smallest area output. Target areas can be ranked by approximate gross industry output as follows;

- VND 900,000 Billion (USD 40 Billion) size : Ho Chi Ming City
- VND 500,000 Billion (USD 20 Billion) size : Dong Nai Province, Hanoi City,
Ba Ria-Vung Tau Province
- VND 100,000 Billion (USD 5 Billion) size : Hai Phong City, Vinh Phuc Province
- VND 50,000 Billion (USD 2 Billion) size : Da Nang City, Ha Nam Province

¹⁶ Southern Key Economic Zone: Binh Duong Province, Ba Ria - Vung Tau Province, Ho Chi Minh City, Dong Nai Province, Tien Giang Province, Long An Province, Tay Ninh Province and Binh Phuoc Province

¹⁷ <http://asemconnectvietnam.gov.vn/default.aspx?ZID1=14&ID1=2&ID8=11436>

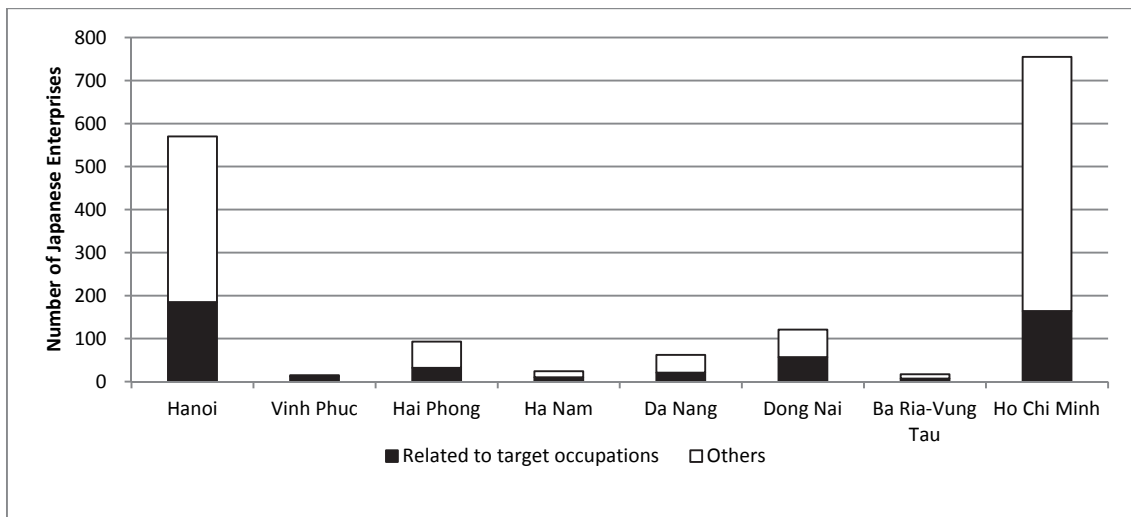
¹⁸ <http://asemconnectvietnam.gov.vn/default.aspx?ZID1=14&ID1=2&ID8=21963>



Source: Statistical Yearbook of Vietnam 2013

Figure 2-20 Gross Output of Industry of Target Areas

The following figure shows the number of Japanese enterprises in total and Japanese enterprises related to the target occupations in the target areas. The numbers of Japanese enterprises related to the target occupations are maximum in Hanoi and minimum in Ba Ria-Vung Tau with 185 enterprises and 7 enterprises respectively.



Source: Japanese enterprises in Vietnam (COMM BANGKOK CO., LTD)

Figure 2-21 Number of Japanese Enterprises in the Target Area

Related Policies

The Deputy Prime Minister’s Notice No.404/TB-VPCP (October 9, 2014) “Conclusions By Deputy Prime Minister Hoàng Trung Hải At The Meeting On Mechanical Manufacturing And Policies For Development Of Supporting Industries And Southern Hanoi Supporting Industrial Park” states preferential policies in order to encourage the infrastructure development for

supporting industry. The Southern Hanoi Supporting Industrial Park, supporting industrial lots in Dong Nai (3 lots) and industrial parks for mechanical manufacturing and electronic industry in Hai Phong and Ba Ria- Vung Tau are permitted to apply the following preferential policies.

- Land is leased not exceeding 70 years
- Land lease fee is exempted up to 20 years from the completion of infrastructure development
- Import tax is exempted for the imported goods for the purposed fixed assets of the projects

MOIT Decision No.2757/QD-BCT (March 31, 2014) ¹⁹ “Approving the Master Plan for industrial development in the northern key economic region in 2020, vision to 2030” shows its policy to rapidly develop the electronic industry, precision engineering, mould manufacturing, medical devices and pharmaceutical industry. It also aims to encourage the development of supporting industries including mechanical engineering industry, automobile-motorcycle manufacturing and electronics industry.

The “Industrial development plan for the southern key economic area to 2020” consists of a development policy to focus on the industries with high-quality human resources (mechanical manufacturing, electronics and chemicals). It plans to expand to about 35 thousand hectares of industrial parks and export processing zones. The development plan for target areas is as follows.

- Ba Ria-Vung Tau Province: Oil, gas, steel and shipbuilding
- Ho Chi Minh City: Precision engineering with advanced technology
- Dong Nai Province: Small and medium-size mechanical manufacturing industry, agricultural machines, small dynamics machine, the domestic spare parts for cars

The “Overall plan for socio-economic development of the southern key economic zone to 2020 and vision 2030” defines Ho Chi Minh City, Dong Nai Province, Ba Ria-Vung Tau Province and Binh Duong Province as key areas for industrialization. It plans to promote the development of industries that produce high-value added products and supporting industry with a priority to the electronic industry and information technology.

Annex-7 shows the GDP growth rates, industrial structure, gross output of manufacturing industry, and number of foreign direct investment.

2.2.3. Outline of the target vocational college/university (including history, organizational structure, financial condition, management planning, relationship between regulatory authorities and local governments, the education and training situation and challenges of machining, electrical and electronic fields (including installation of the related equipment, maintenance method and frequency, and confirmation of equipment procurement authority), existence of employment support service (including employment rate and employment place record))

Outline of the target vocational colleges (except for financial situation and management plan) is shown in Annex-8.

¹⁹ Northern Key Economic Region: Hanoi City, Hai Phong City, Quang Ninh Province, Hai Duong Province, Hung Yen Province, Bac Ninh Province and Vinh Phuc Province

Financial condition and management plan of the target vocational colleges

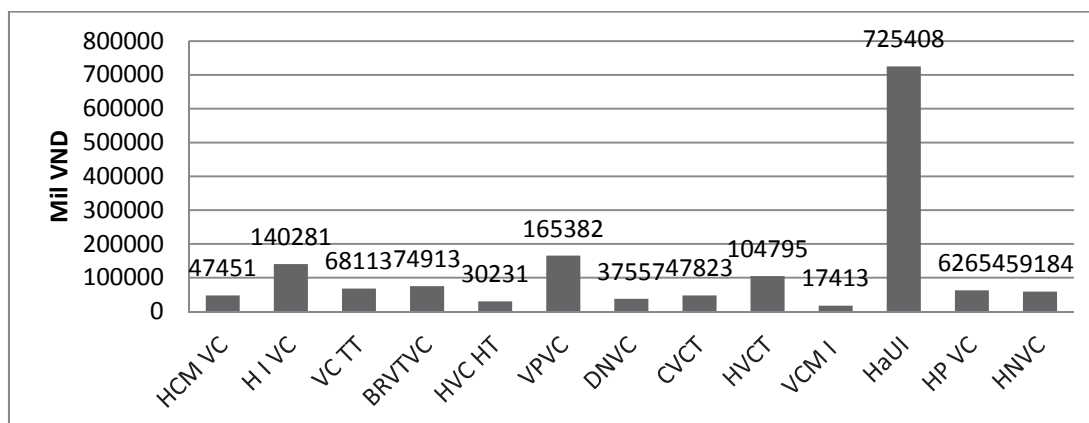
The JICA Survey Team compared vocational schools surveyed from the viewpoint of safety, growth, profitability, and soundness. Note that all the indicators are calculated based on inconsistent materials submitted and interviews.

1) Safety

The financial safety of an organization is generally determined based on whether it has a stable repayment fund in accordance with redemption periods on its credit side: current ratio, long-term compliance rate, equity ratio, and so forth. However, accounting for public school is a peculiar field and such criteria do not apply. No vocational institution surveyed has any debt and the equity occupies most of the credit side. On the other side, major accounts on debt side are assets such as school buildings and equipment, and each vocational institution under governmental control only invests when government bodies approve its applications. As a result, no vocational institution borrows. We can safely assume that institutions in which the government invests actively are expected to develop continuously, and we compared institutions' assets to study safety. Vietnam has policies to reinforce profitable businesses and promote autonomy of vocational institutions by transforming them into independent corporations. We decided to compare the ratio of tuition fees and self-revenue of profitable business to the total ordinary income as an indicator to continue stable management in accordance with this governmental policy.

Non-current asset book value

The figure below lists 13 colleges in order of the book value at the end of 2013. As shown in the figure, differences in scale are obvious, and HaUI is exceptional: even if we exclude HaUI, the non-current asset book value of VPVC is about 10 times larger than that of VCMI. Considering that investments in their facilities are governmental subsidies, we can say that non-current asset book value represents some aspects of governmental policies to the colleges.

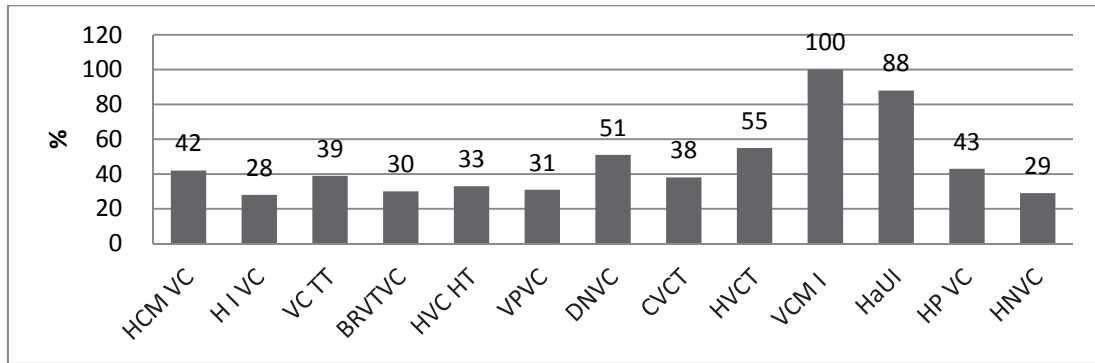


Source: prepared by the JST

Figure 2-22 Non-Current Asset Book Value

The ratio of self-revenue (tuition fee and ordinary revenue) to total revenue

As shown in the figure below, the self-revenue ratios of VCMI and HaUI exceed 80% and these colleges can be independent of subsidies. In contrast, 7 VCs whose ratio is below 40% are dependent of subsidies and it is difficult to transform them into independent corporations.



Note: The ratio is calculated as the average of the last three years. Self-revenue comprises tuition fee and profitable business revenue; ordinary subsidy is not included.

Source: prepared by the JST

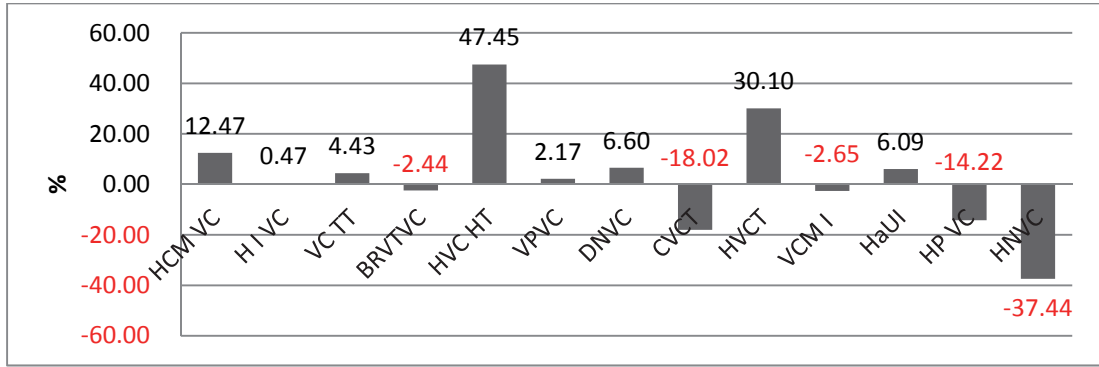
Figure 2-23 Self-Revenue Ratio (Self-Revenue / Ordinary Revenue)

2) Growth

It seems that the possibility of long-term finance repayment strongly depends on schools' circumstances and governmental policies. From financial point of view, we speculate managerial ability and schools' locations through past growth: we determine managerial ability using self-revenue growth rate of the past three years and the status of the government's support activity using non-current asset acquisition cost growth rate of the past three years.

Self-revenue growth

Five colleges saw a decrease in growth rate of self-revenue (tuition fees plus profitable business) between 2011 and 2013. HNVC had a significant decrease of self-revenue growth rate because the tuition fees for intermediates/colleges course and elementary/vocational training course were reported separately. It is minus 12.65% after uniting and returning another separated business, and the amount of this decrease is large. On the other hand, as average ordinary profit for three years is plus 0.42%, there is no concern. CVCT whose growth rate of self-revenue is minus 18.02% is trying to improve ordinary profit by holding down profitable business expense. In the result, ordinary profit of CVCT is improving for three seasons and moved into the surplus. HPVC whose growth rate of self-revenue is minus 14.22% has achieved plus ordinary profit consistently although tuition fee is decreasing. Although both growth rate of self-revenue of VCM I and BRVTVC, minus 2.65% and minus 2.44% each, these are small rate and in range of extraneous effect. That wouldn't be a problem. In contrast, HVCHT steadily increased tuition fees and expanded profitable business revenue remarkably at the same time, which implies its great effort. As this school is keeping high performance equipment and hiring high-level lecturers, it is considered possible to collect outstanding students.

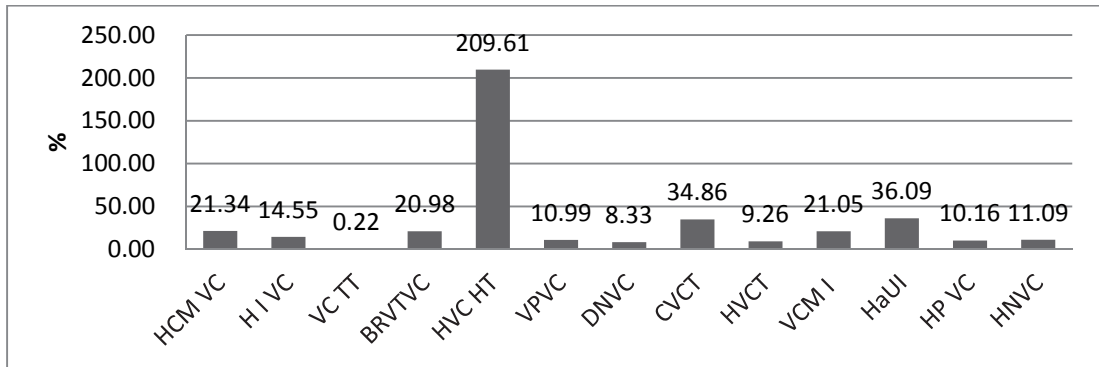


Source: prepared by the JST

Figure 2-24 Growth Rate of Self-revenue

The growth rate of non-current asset acquisition cost

HVCHT has the highest growth rate of non-current asset acquisition cost in the last three years (2011-2013). Its assets are small and it acquires mainly machinery. Although every college invests more than their assets’ depreciation, VCCT’s investment remains almost balanced to the depreciation.



Source: prepared by the JST

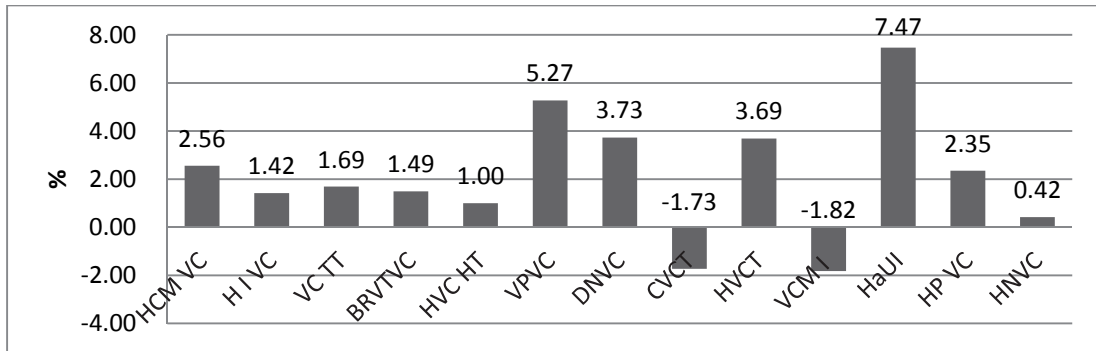
Figure 2-25 Growth Rate of Non-Current Asset Acquisition Cost

3) Profitability

To study profitability, we looked into ordinary profit ratio and school operation expense per student, where ordinary profit includes operation subsidy from government bodies etc.

Ordinary profit ratio (ordinary profit ÷ total revenue: the average of the last 3 years)

VCM I and CVCT saw ordinary loss. VCM I transformed into a public college in September 2012 and since it does not receive governmental subsidies, it is considered having enough profit. However, VCM I’s tuition fees are decreasing and its profitable business is not growing. On the other hand, the ordinary profit of CVCT appears to be improving consistently, since it has been profitable since 2013.

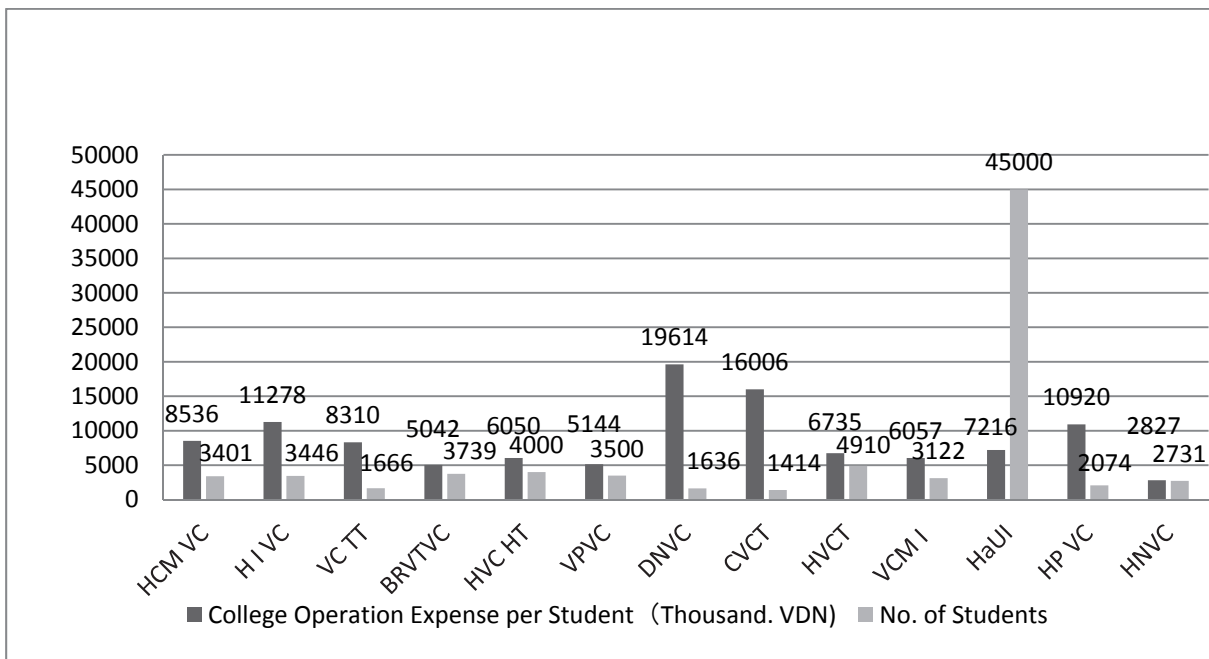


Source: prepared by the JST

Figure 2-26 Operating Profit Ratio
(Operating Profit / Operating Revenue: the Average of the Last 3 Years)

College operation expense per student (2013)

College operation expense per student is shown below. It seems large-scale colleges are cost effective. CVCT (1,414 students) and DNVC (1,636 students) are the smallest and second smallest regarding the number of students. The top 3 colleges regarding the number of students are HaUI (45,000 students in the entire college), HVCT (4,910 students), and HVC HT (4,000 students).



Source: prepared by the JST

Figure 2-27 College Operation Expense per Student

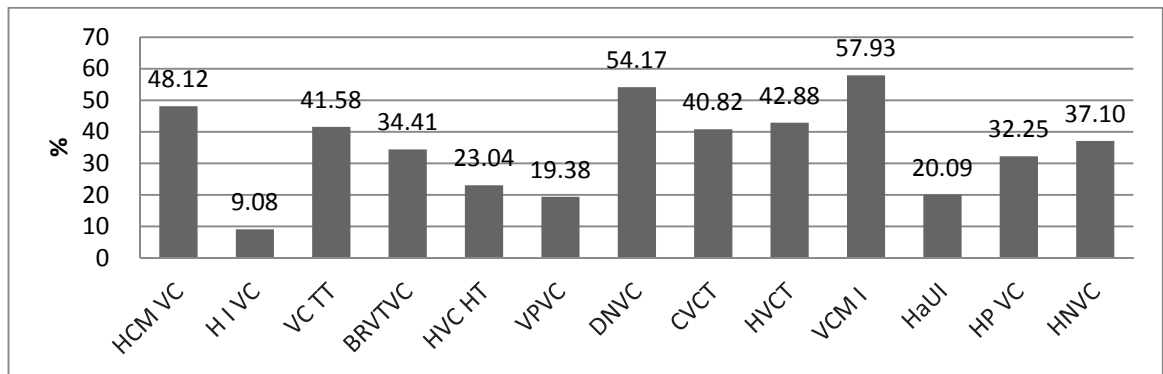
4) Soundness

Accumulated depreciation ratio is adopted to verify soundness. It is determined as the ratio of accumulated depreciation to non-current asset acquisition cost; the bigger the ratio, the more depreciated and the older the equipment is. The tax law of Vietnam defines that the lifetime of buildings are 25 to 50 years, machine tools 7 to 10 years, communication equipment and electric appliances 3 to 15 years, and electric and electronic measurement instruments 5 to 8

years. It is a characteristic of Vietnam’s tax system that tax payers can determine the lifetime of their assets within the ranges defined in the law.

Accumulated depreciation ratio (2013)

Colleges whose accumulated depreciation ratio is low, which means that their assets are new and deployment of new equipment may not be effective, are HVCHT (9.08%), DNVC (19.38%), and HaUI (20.09%). Considering that most of HIVC’s assets are buildings (the remaining value of machinery is less than 2% of buildings) and most of VPVC’s assets are motor vehicles and transport equipment, we concluded that the accumulated depreciation ratio would not affect the effectiveness of the deployment of new equipment.



Source: prepared by the JST

Figure 2-28 Accumulated Depreciation Ratio

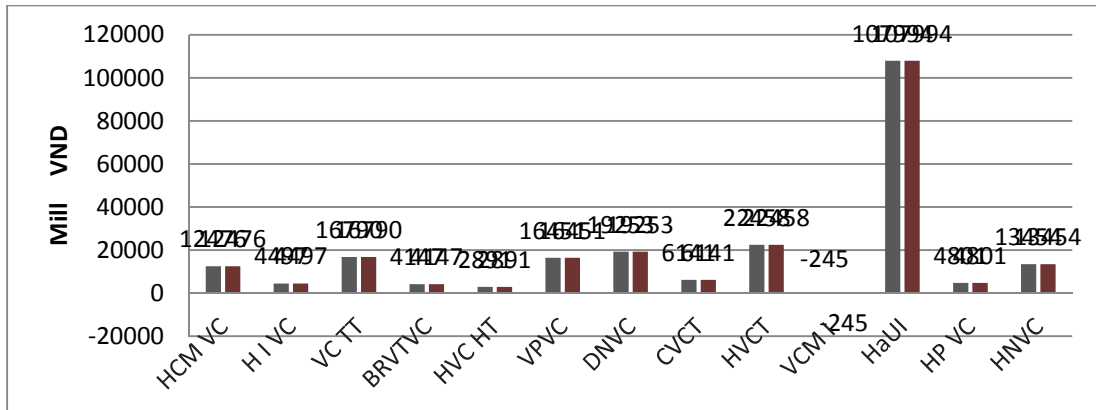
5) Feasibility of repayment for on-lending at 10%

Based on the consultation on a 10% on-lending, each VC’s current profitability was verified. Each VC’s profit before depreciation to determine whether they will be able to repay the first repayment in the 11th year after 10 years grace period was examined.

The precondition are as follow.

- Loan Amount: 100% of the equipment cost by each school
- Loan Interest: 0.3%
- Repayment: 40 years including 10 years grace period, interest principal equal payment
- On-lending: 10%, start from year 11

The graph below shows VCs’ profit before depreciation and we can see that all VCs except VCM I will be able to repay the on-lending. VCM I is the only VC that transformed from a private VC into a public VC, and that does not receive subsidies. It is second best of the 13 VCs following HaUI in terms of profit without subsidies. We should notice that it spent transient expenses between 2012 and 2013 such as clerical cost for the transformation. It is located at Dong Nai that is next to HCMC; there are many industrial parks and the growth rate of population is high, so that deployment of new equipment is expected to cause positive effects such as increase in the number of students. Repayment will start in the eleventh year, after ten years of grace period, and it seems that all the VCs will be able to repay the on-lending by making effort in management.



Source: prepared by the JST

Figure 2-29 Profit before Depreciation (including subsidies)

6) Finance after deployment of new equipment

As mentioned before, all the VCs will be able to repay the on-lending even if they stay the same. However, they will have to acquire more students and make use of the equipment after new equipment is deployed. Notice that increase in tuition fees due to increase in the number of students will be allotted for personnel expenses due to increase in the number of lecturers . The rate of allotment cannot be estimated because we do not have details of expenses that we collected from VCs. As a reference, the rate of personnel expenses of Japanese universities’ scientific courses is at around 55%.

7) Funds for equipment maintenance

As for large-scale investments, each VC applies to the supervisory agency and invests after their application is approved. For VCs other than VCMI, profit and loss before depreciation is in the black and ordinary maintenance expense is within depreciation.

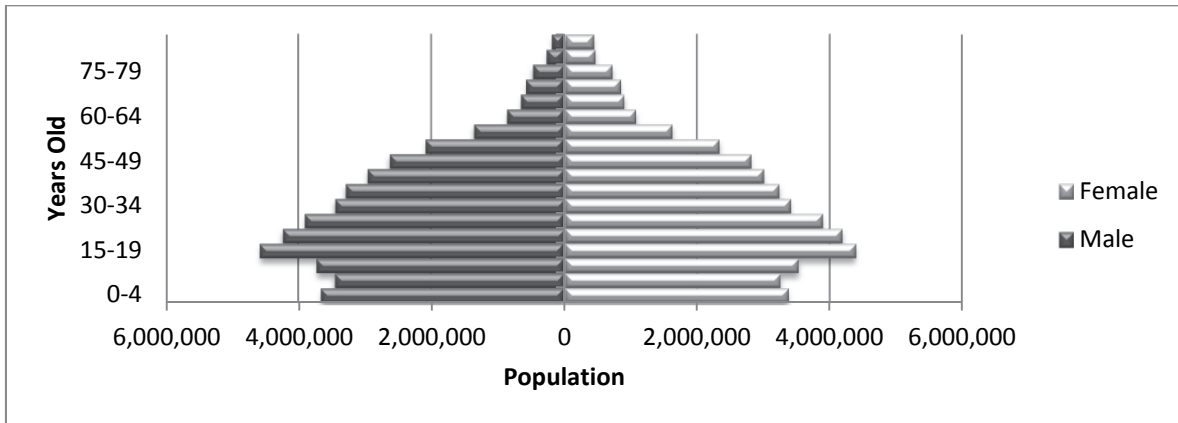
2.2.4. Demographic movement especially the vocational college age group at the target areas including the area of 2nd campus

Demographic composition in Vietnam

Figure 2-30 shows that 15-19 age group is the largest population group in 2009 and the population is decreasing for younger group. 5-9 age group, some of them will enter the vocational colleges in 2020, consists of 3.46 million male and 3.25 million female. 18-year-old population in 2020 (7-year-old as of 2009) is 654,894 male and 615,585 female

Total enrolment to the vocational colleges in 2012 is 84,151²⁰, 18-year-old population in 2012 (15-year-old as of 2009) is 1,717,996. Based on the condition that the enrolled student to vocational colleges is 18-year-old population only, the estimated enrolment ratio to vocational colleges is 4.9% of 18-year-old population.

²⁰ Vocational Training Report - Vietnam 2012, MOLISA GDVT

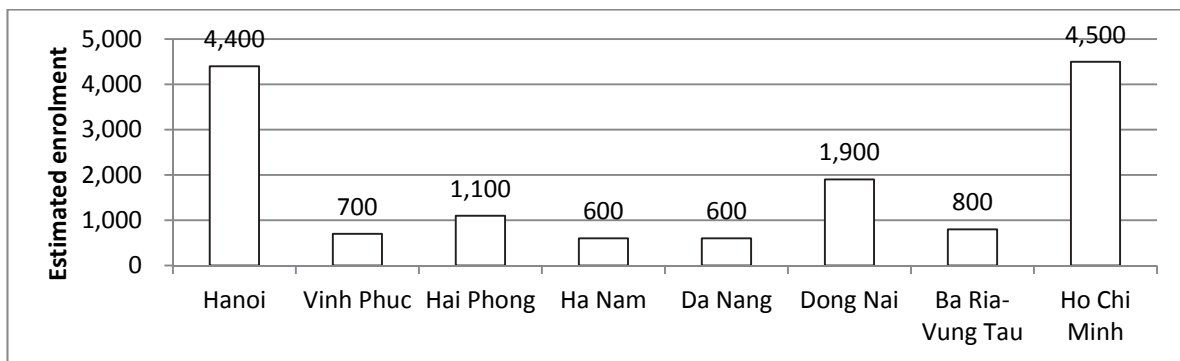


Source: 2009 Vietnam Population and Housing Census

Figure 2-30 Population Pyramid in 2009

Predicted population and VCs estimated enrolment in 2020 in each region

The estimated enrolment of VC in 2020 in each target region is as follows. The prediction is based on the condition that 4.9% of the 18-year old population enrol. In Hanoi and Ho Chi Minh, the enrolment is predicted to be around 4,500 students, whereas in Ha Nam and Da Nang 600 students.



Source: prepared by the JST

Figure 2-31 VCs Estimated Enrolment (2020)

Demographic movement of the target areas is shown in Annex-10 “Demographic in the Target Area”.

2.2.5. Industrial development as contemplated in the Master Plan by 2020, enrolment and instructors securing issues as well as human resource need forecast in machining, electrical and electronic fields

1) Industrial development

a. History of growth

Vietnam has been switching from a planned economy into a market economy since the adoption of the Doi Moi policy in 1986, through the accession to ASEAN in 1995 and the accession to WTO in 2007. Although Vietnam has seen periods of growth and recession, its annual average GDP growth rate is a little more than 6.5%. As a result, its GDP per capita in 2011 amounted to USD 1,386 and the fact shows Vietnam’s status in the international

community. This economic growth owes the success in attracting direct investment from foreign countries and increase in exports.

b. Industrialized nation by 2020

Vietnam's basic policies are "the Socio-Economic Development Strategy (SEDS) 2011-2020" following the previous ten-year strategy and "the Socio-Economic Development Plan (SEDP) 2011-15." In these policies, the Vietnam government aims at completing industrialization by 2020: its target for annual average growth rate of economy between 2010 and 2020 is 7 to 8%; its target for nominal GDP per capita in 2020 is USD 3,000 to 3,200; mining and manufacturing industry and services industry combined will occupy 85% of GDP in 2020.

As a concrete industrial policy in accordance with these fundamental plans, the Government of Vietnam focuses on 6 industries as priority development (electronics, agricultural machinery, processing of agricultural and fishery products, shipbuilding, environment and energy-saving and manufacturing of automobiles and auto parts) and aims at increasing the production of the 6 industries by at least 20% every year, which will occupy at least 35% of the total production of manufacturing. In addition, the government claims that the industries will be ranked among the top ten regarding the growth rate of labour productivity. The government focuses on the industrial policy among various actions of the fundamental plans because the government should strengthen international competitiveness immediately in order to cope with the coming competitive environment due to the tariff abolition with ASEAN by 2018 and other international agreements.

c. The status and issues of industrial development

When the fundamental plan started, the largest industry in terms of product was "foods and beverages," whose product occupied 19.07% in the total industrial product, followed by "textile and clothes" (8.36%), "non-metal and mining" (7.81%), and "metal products" (5.9%). The competitiveness of these products owes low labour cost, tax benefits, etc. and the possibility of long-term development is questionable. As for exports, which have been contributing to Vietnam's economic growth, telephone and its components, sewn products, computer and electronic products and their components, footwear, and crude oil are top items, each of which occupies 16.1%, 13.6%, 8.0%, 6.4%, and 5.5% of the total product in 2013; they are followed by processed products, primary products, and assemblies, whose added value is low. Imports of raw materials and components that cannot be procured within Vietnam increases in proportion to the increase in exports of processed products and assemblies. In contrast, countries that export high added-value products such as Thailand have developed supporting industries and thus, procurement in such countries is less dependent of imports than procurement in Vietnam. Considering such situation, we can conclude that an important issue in Vietnam is the low connection among domestic industries: upper-stream industries (petroleum and steel) as well as supporting industries are not developed. What have been contributed to Vietnam's economic growth until now are direct investments from foreign countries and increase in exports associated with the investments; the objective of such investments is to make use of low-cost and abundant labour in Vietnam. That framework has not changed a lot and it is still an issue to nurture domestic supporting industries.

d. Future prospects

The Japan government commits itself on continuous support for the Vietnam's strategy aiming at completing industrialization by 2020. The support focuses on development of supporting industries: the 6 industries as priority development that the Vietnam government focuses on, in particular. The fundamental technologies among the six industries concern machinery, electric and electronic fields. One of the three pillars in the fundamental policies is "to develop human

resources, especially talented people, and to focus on innovating the entire national education system.” In this way, the necessity for improving “technology” in accordance with the increase in labour cost are widely recognized and it is necessary to continue to carry out these action plans steadily.

e. Target of Gross Output of Industry in 2020

The Prime Minister’s Decision No.879/QD-TTG (June 6, 2014) “Approving the Strategy for Vietnam’s Industrial Development Through 2025, with a Vision toward 2035” defines processing and manufacturing industries, electronic and telecommunications industries and new energy and renewable energy industries as prioritized sectors for development. The Prime Minister’s Decision No.880/QD-TTG (June 6, 2014) “Approving the General Planning of Industrial Development in Vietnam by 2020 with a Vision towards 2030” states the emphasis on the manufacturing industry, the enhancement of competitiveness in the global market and the robust growth of supporting industries.

The general plan set the target of annual growth rate of industrial production value by 2020 and by 2030 as 12.5-13.0% and 11.0-12.0% respectively. Regarding the manufacturing industry, the targets of proportion in total industrial production value by 2020 and 2030 are 85-90% and 90-92% respectively.

With regard to the field of mechanical engineering and metallurgy, the target of annual growth rate of industrial production value by 2020 is 15-16% and the targets of proportion in total industrial production value by 2020 and by 2030 are 20-21% and 22-24% respectively. Regarding electronics and information technology industry, the targets of annual growth rate of industrial production value by 2020 and by 2030 are 17-18% and 19-21% respectively, and the targets of proportion in total industrial production value by 2020 and by 2030 are 9-10% and 12-13% respectively. Quantitative target for supporting industry is not defined in the general plan.

The total gross output of all industries in 2013 was 3,840,767 Billion VND and that in 2020 was projected to be 9,035,810 Billion VND based on the annual growth rate of 13%. The following table shows the target gross output of industry.

Table 2-35 Target of Gross Output of Industry in 2020

Industrial Production Value	Target in 2020		
	Annual Growth Rate	Gross Output of Industry (Billion VND)	Proportion in Total Industrial Production Value
Total	12.5-13.0%	9,035,810	100%
Manufacturing Industry	-	8,132,229	85-90%
The Field of Mechanical Engineering and Metallurgy	15-16%	1,897,520	20-21%
Electronics and Information Technology Industry	17-18%	903,581	9-10%

Source: prepared by the JST

Note: The gross output of industry was calculated based on the maximum proportion in total production value

2) Demographic movement, securing the enrolment and teachers/lecturers in the vocational training sector

Employment forecast by the production sector and employment forecast by the industry are shown in Chapter 2.1.2.

Getting the result of data given in 2.1, production sectors, especially skilled persons and related workers are the jobs the most highly expected for the year 2020. However, there is a high tendency to have high education background in Vietnam. Therefore, the degree of participation in the vocational training sector is low even if the labour demand degree is high.

There are other problems on the trainers' issue. In a report from GDVT and German Organization of GTZ about a survey in the vocational training front, it is stated that the current training is not aligned with labour market issues. Two of the reasons are the technical instruction method and the pedagogy of the instructors. Since this survey, there has been no evidence showing whether the situation is improved or not. However, MOLISA made the effort to secure high quality vocational training by giving pedagogical training on instruction for the Engineers who are new graduates. But the real problem is coming from the young degree holders; there is a high rate of tendency to select the career to be teachers in the current education sector than to become a training instructor at the workshop site as explained in 2.1.4 "Current status and Issues in the Vocational Training Sector (especially in the field of Machining, Electricity and Electronics) in Vietnam"

In order to address the above two points, efforts by MOLISA are needed to enhance the image of the importance of national skill education and promoting the importance and fun of "Monozukuri". Further, since career guidance is being carried out under the guidance of the Ministry of Education in the field of academic education (MOET), interagency cooperation regarding the importance of VC and the position and roles of its instructors need to be strongly promoted for both prospective students and teachers/lecturers of vocational education.

Employment Forecast in 2020

As shown in 2.1.2, the employment forecast of "skilled handicraft and related trades workers" and "plant and machines operators, and assemblers" in manufacturing industry is 6,270,000 in 2015 and 7,368,000 in 2020. The estimated newly created employment of these occupations in 2020 is 234,000 people based on the average annual growth rate of 3.28%.

On the other hand, the estimated number of the graduates from vocational colleges in 2020 is 61,000 people (calculation is based on the condition that 4.9% of 21-year-old population in 2020 enters vocational colleges and all of them graduate), but these students will only be enough to fill 26% of the newly created employment positions in 2020. The estimated number of the graduates from intermediate vocational schools in 2020 is 113,000 people (calculation is based on the condition that 8.9% of 18-year-old population in 2020 enters vocational schools and all of them graduate.)²¹, but these students will only be enough to fill 48% of the newly created employment positions in 2020. Graduates from both vocational colleges and intermediate vocational schools will still only be enough to fill 74% of the newly created employment positions. Therefore, the promotion of enrolment in vocational institutions is necessary.

2.3. Significance and Necessity of the Project

The development of industry is necessary for the domestic consumption after the constant growth of the export industry including manufacturing and assembly industry towards the national target "Industrialization by 2020" in the "Socio-Economic Development Plan 2011-

²¹ (Vocational Training Report – Vietnam 2012, MOLISA GDVT) The 8.9% is estimated based on the record of admission to intermediate vocational schools of 129,189 people in 2012 and 15-year-old population of 1,450,815 in 2012

2020". The "Vietnam's Industrialization Strategy" in the framework of the "Japan-Vietnam Extensive Strategic Partnership" defines 6 industries as priority development to be developed which are potentially superior in Vietnam and Japanese enterprises are interested to invest in. Therefore, the development of the supporting industry for these priority industries is urgently expected which leads the increase of labour demand according to the needs of industry.

However, the strengthening and improvement of the vocational training sector are inevitable in terms of both hardware and software in order to overcome challenges such as insufficient recognition of the skill demand of the industrial sector, insufficient experience and technique of vocational trainers, and inappropriate facilities and equipment. They are impediment to improve vocational training.

The Vietnam Government focuses on the development of industrial labour with international competitiveness, the strengthening of scientific and technological research and the development of human resources in accordance with international standards, based on "Human Resource Development Strategy 2011-2020" and "Human Resource Development Master Plan 2011-2020".

The Vietnam Government also focuses on the promotion and expansion of international cooperation for the vocational training development in accordance with the domestic industrial needs and establishment of international-level vocational institutions for the prioritized occupation.

The Vietnam Government has coordinated with international agencies for the high quality vocational training in accordance with the policy of the vocational training appropriate to the domestic industrial needs in "Vocational Training Development Strategy 2011-2020".

The Japanese Government has supported Vietnam to establish vocational training education system in line with the industrial needs, aiming to provide the Japanese Polytechnic College level vocational training for machining, electricity and electronics courses in HaUI through "Project for Strengthening Training Capability for Technical Workers Course in Hanoi Industrial College (2000.4 – 2005.3)" and "Project for Human Resource Development of Technicians at HaUI (2010.1 – 2013.1)". Consequently, HaUI is recognized as high quality university same level as Japanese polytechnic college by the Japanese and local enterprises which have the industry-university cooperation. However, the technique cultivated by the Japanese support is limited to "the training in HaUI." The technique, knowledge and experience of HaUI is strongly expected to be transferred to other vocational institutes, according to the JICA's report titled the "Study on Human Resource Development in Vietnam (September 2012)." HaUI is also recognized as a model institution that supplies high-quality human resources to Japanese enterprises in the Notification No.267/TB-OG by the Government Office.

Under the circumstances, the "Project for Strengthening TOT functions at Hanoi University of Industry (2013.6 - ongoing)" has been implemented to transfer the knowledge and experience of vocational training established in the machining, electricity and electronics course in HaUI. In order to complement the technical cooperation project, it is necessary to install the equipment to the target vocational colleges, which enable to conduct the vocational training in the same level as Japanese polytechnic college. After the completion of this technical cooperation project, a technical transfer project is planned continuously for the 13 target schools. In the areas where the target schools located, the industries related to the target occupation have been grown steadily, even there are difference in growth to some extent, and more human resource will be demanded towards "Industrialization by 2020". It is expected that the graduates from the target schools contribute to the growth of supporting industry, who

are trained with the Japanese polytechnic college level training and employed by the enterprises related to the supporting industry in the areas.

There are Japanese enterprises in the target areas and they are willing to employ the graduates trained with high quality vocational training. The result of the survey on human resources training targeted to Japanese enterprises conducted by JICA Vietnam in 2014 shows that occupations related to machinery, electricity and electronics are useful for enterprises, which is consistent with the target occupation of the project. The graduates from vocational training institutes are the backbone of the production in most of Japanese enterprises, according to the interview with Japanese enterprises²². 30-40% of the employees of the enterprises are the graduates according to the interview and the expectation from enterprises to vocational colleges seems large. Some Japanese enterprises recruit only the graduates from vocational colleges since they are highly appreciated, sometimes more than students from universities who are elitist.

Demographic trend shows that the target schools will have sufficient enrolment in future, even if there are differences in enrolment by area. High employment ratio through the high quality training will attract more young people to enter vocational colleges.

The Japanese Loan Project aims to provide the Japanese polytechnic level vocational training through the procurement of vocational training equipment for machining, electricity and electronics fields. The project will contribute to the improvement of Vietnam's vocational training, the development of supporting industry and the achievement of national goal, as well as the provision of high-skilled labourers in line with the needs from Japanese enterprises.

²² Conducted in November 2014, interviewed Takagi Vietnam Co., Ltd., Showa Denko Rare-Earth Vietnam Co.,Ltd., Nagatsu Vietnam Co.,Ltd., Toho Vietnam Co., Ltd.

3. Objective and Scope of the Loan Project

3.1. Objectives of the Loan Project

The objective of the Loan Project is to contribute to supply high-quality human resources through strengthening the vocational training sector in order to meet the needs of the industry in Vietnam.

The Loan Project is also expected to contribute to achieving the objective through the equipment procurement for machining, electricity and electronics occupations in order to provide the Japanese Polytechnic college level vocational training which is defined as "the Special Course" level of vocational training in the "Human Resources development Promotion Act", at Article 12 and its Table 6.

The beneficiaries of the Loan Project are expected as presented below:

Table 3-1 Targeted and Expected Beneficiaries of the Loan Project

Type of beneficiaries	Descriptions	Estimated number of people ²³
Direct beneficiaries	The number of students who belong to the targeted occupations: machining, electricity and electronics, in the candidate VCs	About 12,000
	The number of lecturers who conduct training for the targeted occupations: machining, electricity and electronics, in the candidate VCs	About 800
Indirect beneficiaries	The number of employees who work in the Japanese enterprises in the machining, electricity and electronics fields in the area where candidate vocational training institutions are located	About 238,000
	The number of people in age to get trained at a vocational training institution living in the area where candidate vocational training institutions are located	About 2,330,000

Source: prepared by the JST

3.2. Scope of the Loan Project

The scope of the Loan Project is defined below:

3.2.1. Equipment procurement for each target vocational training institution

The contents and scales of equipment to be procured by the Loan Project are shown in section 4. "Equipment Plan".

3.2.2. Consulting Services

The contents of consulting services currently planned are the following:

- Project management
- Equipment planning

²³ In this yen loan project of equipment provision, the effectiveness of the project could not be estimate before equipment is installed. The completion of this project is means the completion of equipment installation. Thus, the setting of beneficiary number during this project implementation term (2016-2019) is set as "annual number"

- Tender Assistance
- Supervision of equipment procurement and installation

3.3. Selection of the target Vocational Training Institutions for the Loan Project

3.3.1. Selection criteria

The target vocational training institutes are selected based on the following criteria, which were agreed upon by MOLISA/GDVT and JICA on July 11th, 2014.

Selection Criteria

- 1) To secure the consistency with the Vietnamese request/desire for cooperation with the Japanese cooperation, and listed in the 40 high-quality colleges are more preferable²⁴.
- 2) To secure the consistency with strong vocational Japanese fields: machining, electricity and electronics.
- 3) To meet the needs from the industry based on the situation of industrialization of the area where the candidate VCs are located.
- 4) To have enough abilities to sustaining operation of the VCs themselves, e.g. faculties/courses in fields that are already established, sufficient number of lecturers and staff, appropriate budget, sufficient space for equipment installation. In addition, the selection considers demographics of persons who are suitable for admission to the VCs in the areas where the target VCs are located, and the existence or non-existence of similar VCs in the neighbouring area.

Source: The TOR of the Study

Before starting the Survey, JICA selected 13 target VCs based on a screening against the above-mentioned criteria. The Survey is being performed on these 13 target VCs.

Table 3-2 List of Target VCs

	Candidate Vocational Training Institutions	Government body
01	Ho Chi Minh Vocational College (HCMVC)	Ho Chi Minh PC
02	Hanoi Industrial Vocational College (HIVC)	Hanoi PC
03	Vocational College of Technique and Technology (VCTT)	MOLISA
04	Ba Ria-Vung Tau Vocational College (BRVTVC)	Ba Ria-Vung Tau PPC
05	Hanoi Vocational College of High Technology (HVCHT)	Hanoi PC
06	Vinh Phuc Vocational College (VPVC)	Vinh Phuc PPC
07	Da Nang Vocational College (DNVC)	Da Nang PC
08	The Central Vocational College of Transport No.2 (CVCT)	MOT
09	Ho Chi Minh Vocational College of Technology (HVCT)	MOLISA
10	Vocational College of Machinery and Irrigation (VCMI)	MARD
11	Hanoi University of Industry (HaUI)	MOIT

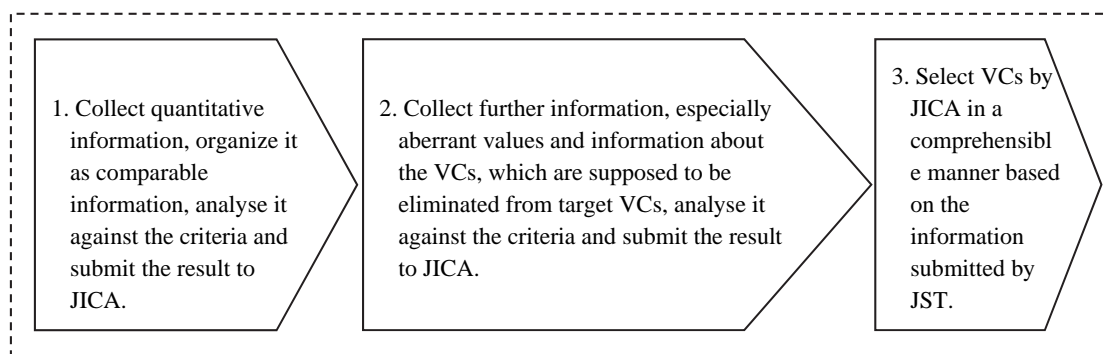
²⁴ It has been changed to "the 45 high-quality colleges".

	Candidate Vocational Training Institutions	Government body
12	Hai Phong Vocational College (HPVC)	Hai Phong PC
13	Ha Nam Vocational College (HNVC)	Ha Nam PPC

Source: prepared by the JST based on a document provided by JICA

3.3.2. Method of selection

Based on the above-mentioned criteria, target VCs were selected by the method shown below.



Source: prepared by the JST

Figure 3-1 Method to select target VCs

3.3.3. Situation of the selection

The JST established indicators in order to measure quantitatively the rating of the collected information against the criteria. These indicators, their quantitative values, and other characteristics that are not captured in the quantitative information but are useful for the selection are shown in Annex-9 “Summary of Information and supplement”²⁵.

Each VC’s major challenges on which the selection criteria is concerned, other information and circumstances as well as countermeasures are shown in Annex-11 “Result of Information Analysis on Criteria Satisfaction and Useful Information for Selection”. Based on the above annex, the risks in project implementation, challenges and countermeasures, and the future action are shown in Table 3-3 below.

Table 3-3 Major Risks/ Issues, Countermeasures and Future Actions

as of the end of January 2015

	VCs	Risks / Issues	Countermeasures / Future actions
1	Consistency with Japanese strong vocational fields (Machining, Electricity and Electronics) (Criteria No. 1) - Lack of establishment of target faculty/ course in the vocational colleges		
	04 BRVTVC	Electronics Faculty stopped accepting applicants in the last 3 years due to very few applicants.	Equipment procurement for Electronics Faculty will not be planned.
	07 DNVC	Metal Cutting Faculty will be established in Sept. 2015 with 35 students as the fixed number for the first 3 years. Although DNVC provides vocational training for machining	The request for establishment of the Metal Cutting Faculty was made to the GDVT by DNVC on Oct. 14, 2014 and has not been approved yet (as of June 2015). As the faculty is not ready yet, equipment for Machining Faculty will not be

²⁵ From 20 to 40 students in a class is deemed standard in Vietnam and more than 10% above or below number of the student in a class is deemed outlier. This is because that (1) most of the VCs operate the class based on the 40 students per class as a unit in Vietnam and (2) 20 students in a class is deemed standard in Japan.

	VCs	Risks / Issues	Countermeasures / Future actions
		under the Faculty of Refrigerator and Electricity Engineering, there is no Machining Faculty.	planned.
	08 CVCT	There is no faculty for electronics occupation and no plans to open either.	Equipment for Electronics Faculty will not be planned.
	10 VCMI	Although VCMI has Electricity and Electronics Faculty, there is no vocational training related to electronics.	Equipment for Electronics Faculty will not be planned.
	13 HNVC	Though Electricity Faculty has been started, there is no vocational training related to the target electronics occupation of the Loan Project. Similarly, there is only a Welding Course established under the Machining Faculty, but no course related to the target machining occupation.	As the Electricity Faculty is ready now, the equipment for the Electricity Faculty will be planned. However, equipment for Machining and Electronics Faculties will not be planned, because HNVC has not established the Machining Faculty yet. According to HNVC, they will request to establish the faculty the equipment for the future machining faculty is to be supported by the Loan Project. On the other hand, there is a risk of disapproval by the GDVT due to inappropriate conditions of instructors, equipment, and facilities. Note that it can take from 2 months to half a year for an application to be approved. If it is accepted, the new faculty can be established starting in the next academic year.
2	Sufficient capacity of facility (Criteria No. 7) - Unconfirmed location to install equipment to be procured under the Loan Project		
	01 HCMVC	Construction of the new buildings in the 2 nd campus will be started after the demolition of the existing buildings. The installation of equipment for the new campus will be conducted once it is decided that the Loan Project can support HCMVC. On the other hand, the plan has been agreed but not officially approved yet. It is supposed the construction is assumed to start in 2016 or 2017. In addition, JST studied the drawings and confirmed that there is enough space in the new buildings of the 2 nd campus to install the equipment.	(i) Renovation is planned as well as new construction work for the development of the 2 nd campus. (ii) The 1 st campus will provide trainings for the 1 st grade, and the 2 nd campus for the 2 nd and 3 rd grade. In order to realize the plan, the existing heavy equipment will be moved to the 2 nd campus by HCMVC, and the small or light equipment can stay in the 1 st campus. Demolition and commencement of construction work are expected to be done in the 1 st half of 2016, and equipment will be moved accordingly. The client of the development project of the 2 nd campus is DOLISA. According to DOLISA, design work will be completed by the end of 2015, and USD 15million is allocated as the budget of the development plan from year 2016 to 2018 ²⁶ . In addition, it was confirmed that vocational training for the 1 st grade in the 1 st campus is possible without heavy equipment by providing theoretical and practical training such as drawings, CAD, measurement, hand finishing, welding and so on which do not require to use heavy equipment ²⁷ . However, it is not feasible to install the equipment

²⁶ Ref. Annex-12 "Information from DOLISA (in Vietnamese and English) about New Construction Work for HCMVC"

²⁷ The total training hours for three years is 3,745 hours, which consist of 450 hours of general cultural training and 3,295 hours of special training (1,038 hours of special theory and 2,257 hours of special practice).

	VCS	Risks / Issues	Countermeasures / Future actions
			in the existing buildings of the 2 nd campus, because there are only stories for the Automobile Faculty and the Food processing Faculty. Thus, the equipment can be stored but cannot be installed under the appropriate condition for the vocational training.
	02 HIVC	HIVC has a plan to transfer all the existing functions to the new campus in the Dong Anh area. The transfer has been suspended because all B&T projects were put on hold from 2011 to 2012 due to the economic crisis. However, although the project has been selected by PPC as feasible and as a priority project for resuming, resuming the design and construction work has not been approved because the original location was defined as a historic zone in the Hanoi Development plan. On the other hand, this project was approved by the Prime Minister to commence the project in May 2011 and the developer and contractor have been selected. It is expected that design work will take 2 months and that construction work 2.5 years.	The equipment procured by this yen loan project was proposed to be installed in the new campus. However, the campus transfer plan was cancelled and will not be implemented during the implementation of this project. It was confirmed that equipment could be installed in the existing campus.
3	Sufficient capacity of facility (Criteria No. 7) - Feasibility of the necessary construction work to arrange the appropriate condition of location		
	03 VCTT	It seems that being 10cm thick, the slab of the machining faculty may not be sufficient after new equipment is installed.	The slab has to be strengthened.
	05 HVCHT	Inspection of the facilities was conducted in October 2014 as a response to the situation of the soil subsidence and other damages occurred. There is a concern of whether all the necessary repair and rehabilitation works are listed up or not, also whether such works are to be finished before commencement of the necessary construction to install equipment to be procured in the Loan Project or not.	As a result of JST's examination of the inspection report submitted on December 1, 2014 ²⁸ , it was confirmed that the decrepit conditions of the targeted rooms' building frames and defects needing repair were listed. In addition, there are two methods presented in order to fix the damages due to land subsidence. In April 2015, the proposal on repairing the damages due to land subsidence has been submitted by HVCHT to the People's Committee (81 billion VND). Following the revision in urban development regulation, the construction guideline for this project will also be changed, thus approval is planned to be issued after this revision. Completion of the repair work is planned to be finish by the end of 2016.

²⁸ Ref. Annex-13 "Summarization of Report on Rehabilitation of Subsidence Problem in HVCHT"

	VCS	Risks / Issues	Countermeasures / Future actions
4	Sufficient enrolment (Criteria No. 6) - Insufficient number of students		
	01 HCMVC	Due to competitors located within the neighbouring area, especially HVCT, the number of actual students of the 3 targeted occupations does not reach the fixed numbers.	HCMVC is aware of the situation and has plans to stimulate enrolment through (1) strengthening of public relations activities to enterprises and high schools, and (2) improvement of the equipment and facilities.
	07 DNVC	The enrolment was increased to twice the capacity in the electricity field.	Some of the numbers of students in a class are exceeding 50, though 3- shift class operation is adopted. It is recommended to improve the class operation by controlling enrolment, increasing the number of classrooms, improving the facilities especially for evening classes and so on in order to provide the appropriate environment for training.
	08 CVCT	The number of students in the machining field has been decreasing since 2012. There are less than 10 students enrolled in the metal cutting course for the past 3 years.	It is recommended to consider the operation of the class because providing the training for such a small scale of students may incur negative effects on the whole institution's operation.
4'	Sufficient enrolment (Criteria No. 6) and No similar course in the neighbouring school (Criteria No. 8) - Insufficient number of students in the future		
	03 VCTT	There is a possibility that a problem may arise on securing number of students, cooperation with enterprises and so on due to competitors, which are also expected to increase in the neighbouring area in the future.	The predicted issues including the sufficiency of the number of students and countermeasures have been considered in consideration of the situation of other neighbouring competitors. The predicted number of students of vocational college in the Dong Anh area is only expected to maintain the current number of students, and not by the minimum 50% of increase that is set in the Dong Anh development plan to 2020, to meet the needs of education of the growing population.
5	Other points to be considered - Duplication of supports from donors/existing development plans		
	02 HIVC	The "National Target Program" has been implemented since the end of 2013 to procure equipment for machining, electricity, industrial electricity, and industrial electronics. This project's amount is USD 2.35 million, financed by GDVT until 2015.	It was confirmed that there was no duplication of equipment between the National Target Program and the Loan Project. Thus, it can be understood that when the JST and HIVC confirmed the equipment list, the college took into consideration the national program.
	10 VCMI	VCMI is scheduled to receive EUR 6.5 million of support consists of building construction and equipment procurement from KfW based on the loan agreement dated November 27, 2014. There is a possibility for VCMI can receive an additional EUR 2-3 million under that project.	The content of support will be planned later. Although the targeted occupations are industrial electronics, mechatronics, air conditioning, cooling, sewage treatment according to the KfW, it has not been decided yet according to GDVT.

	VCs	Risks / Issues	Countermeasures / Future actions
	07 DNVC	Under ADB loan projects, DNVC received support through equipment procurement (equivalent to USD 1.9 million) and TOT from 2000 to 2006, and equipment procurement (equivalent to USD 4.2 million) and TOT from 2011 to 2015. These two ADB projects aimed to support 15 VCs in Vietnam through equipment procurement and TOT for instructors and managers. As part of the project, CNC will be procured and installed in April 2015 although this procurement is not planned under the Loan Project.	As a result of examination of ADB's equipment list, it was observed that there are some duplications on the equipment in the electricity field between procured under the ADB and this Japanese ODA Loan project ²⁹ . The duplicated equipment will not be planned in this Project.
	08 CVCT	CVCT has been supported by ADB loan project through equipment procurement in welding and industrial electricity occupations since 2009.	As a result of examination of the ADB's equipment list, it was observed that there are some duplications on the equipment in the electricity field between ADB and this Japanese ODA Loan project ³⁰ . The duplicated equipment will not be planned in this Project.

Source: prepared by the JST

3.3.4. Result of the Selection

Based on the above collected information, thorough consideration and analysis, JICA selected the target VCs for Japan's ODA Loan Project.

As a result, it was presented to Vietnam by Japan that the VCs which had been supported by ADB, 07 DNVC and 08 CVCT were excluded from Japan's ODA Loan Project, because it was difficult to coordinate the duplication especially on the technical cooperation, which was agreed by the General Director of GDVT in January 2015. However, eventually both 07 DNVC and 08 CVCT, which are supported by ADB are included as the target VC after another consultation with GDVT who has managed to solve the duplication issue.

This project include soft components such as "management training", "Vocational Teachers Development Program", "Develop Career Guidance Materials for the VCs and Prepare a Program and Train VC staff in the use of Transition-to-Work materials", for the target VCs and support was planned and implemented from August 2015 after consultants were hired. Due to the possibility of contents overlap with those of the Technical Cooperation scheduled after July 2016 for VCs of yen-loan, JST investigated and reviewed the contents of assistance in details. The results are as follow and it is necessary to proceed further detailed investigations as soon as the consultants are employed and reflect the results of investigations for the Technical Cooperation.

"Management training" consists of the following 2 components. Particularly component 2 directly affects the management system of VCs. Accordingly, it is necessary to conduct further

²⁹ Ref: Annex-14 "Duplication with ADB's support", the number of duplicate equipment is 5 in the equipment's categorization in the Japanese ODA Loan project, equivalent to 8 in the ADB project's categorization.

³⁰ Ref: Annex-14 "Duplication with ADB's support", the number of duplicate equipment is 3 in the equipment's categorization in the Japanese ODA Loan project, equivalent to 4 in the ADB project's categorization.

detailed investigations as soon as the consultants are employed and reflect the results to the Technical Cooperation.

1. System Level Training

To achieve the national objectives on information management, strategy development, monitoring/ evaluation of system performance.

2. Institutional Level Management

To support managers to improve the quality of training output, to support new information management and reporting systems and to help them in planning and monitoring in their institutions.

“Vocational Teachers Development Program” consist of the following 2 components and all of the component directly affect the performance of lecturers. Accordingly, it is necessary to conduct further detailed investigations as soon as the consultants are employed and reflect the results of investigations for the Technical Cooperation.

1. Training on method of developing learning materials and assessment tools for SEP training programs.

2. Training on methods of using (applying) newly developed materials in each occupation.

“Develop Career Guidance Materials for the VCs and Prepare a Program and Train VC staff in the use of Transition-to-Work materials” concerns for employment assistance consists of assistance for Career Guidance and preparation of support manuals and similar with the component of the Technical Cooperation. Accordingly, it is necessary to conduct further detailed investigations as soon as the consultants are employed and reflect the results of investigations for the Technical Cooperation.

"Training on Skill Testing and Certification" is believed to be NOSS-related assistance, The TOR of consultants is as follows.

The specialist will coordinate and assist in ensuring that the quality assurance, accreditation, testing and certification systems are being developed through the application of government policy and approved skills standards.

The technical cooperation plan also schedules a skill test / NOSS related support as part of the company / industry collaboration. There is a possibility that the support content overlaps. Again, there is a need to conduct further detailed investigations as soon as the consultants are employed and reflect the results of investigations for the Technical Cooperation.

Details about duplications between the Japanese ODA Loan Project and ADB's Project are shown in Annex-14 “Duplication with ADB's support”.

4. Equipment Plan

4.1. Background and preconditions of the plans

4.1.1. Background and preconditions

As mentioned in the fundamental policy, equipment plan necessary to achieve the purpose of this project was developed based on the equipment plan of Japanese Vocational Colleges (usually called as Polytechnic Colleges). The equipment is indispensable for vocational training following international standards. Therefore, it is decided to refer to the standards of Japanese Polytechnic Colleges.

Among these standards, the standards of vocational training are based on Article 19 of the Vocational Ability Development. In Article 9 of Execution Regulations of the same law, "Curriculum Standards", "Facilities Standards", "Techniques Verification Standards" of each major are set based on the "Professional Course of High Career Training" applied to college courses. Along with these, the "Curriculum Standards Details", "Facilities Standards Details" and "Techniques Verification Standards Details" are set based on the regulations of Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers (hereinafter referred to as "JEED").

As reference majors of the 3 supported fields by this project, equipment of Machining Department is selected by referring to the "Major of Producing Techniques of Japanese Polytechnic Colleges" in which students can learn basic techniques by using general-purpose machine and the basic of mechanical system by using numerically controlled machine, CAD/CAM and FA. Equipment of Electricity Department and Electronics Department are selected by referring to the "Major of Electricity Techniques" and the "Major of Electronics Techniques of Japanese Polytechnic Colleges" in which students can train from basic technics to applied technics. Moreover, as for the equipment selection, the "Particular Entries of the Equipment Standards" helps in keeping up with technology development, which is revised frequently. Therefore, the equipment needs to stay updated to the standards of today's industry and enterprises and keep those standards flexible.

4.1.2. Fundamental policies related to the number of planned equipment

The quantity of equipment used for training is decided based on the units of training practice (the number of students). However, in the "Equipment Standards" mentioned above, a unit of training practice is set to be 20 students and the quantity of equipment is set up according to this number.

About the equipment that are necessary for the students to achieve basic and fundamental knowledge, techniques and functions, for example, only need 1 lathe for every 2 students; but in order to achieve the knowledge, techniques and skills about application fields or all-purpose fields, the minimum required unit is regulated regardless of number of students.

In Vietnam, the training practical units are typically 18 students and theoretical units 35 students. However, since Vietnam requested to make the plan for practical unit to 20 students, we are planning to set this as the basic number following the "Equipment Standards" of Japan.

Moreover, tools or instruments that are necessary when using planned equipment such as measuring tools were confirmed to be extremely in shortage through our finding during the field survey. In the results of examining techniques of using lathes and millers assisted by Japan, the reason why the results relating to measuring were bad arise from insufficient

training of using equipment such as measuring tools. Therefore, we also included necessary tools and implements following each piece of equipment.

To set the quantity of equipment supplied to each target college, the present conditions of the equipment, the total number of the students, the training practice unit, the practice methods (according to two-shifts system or timetable etc.) and the situations of enterprises around the target college area (enterprises training needs etc.) to set appropriate quantities for each college.

4.1.3. Fundamental policies for grading planned equipment (quality of equipment) and their accuracy

In the Prime Minister Decree No.761/QĐ-TTg 2014/05/23 about high-quality VC development project, graduates of VCs are required to achieve the standards below.

“100% graduates from vocational schools shall qualify for level 2/5 and from vocational colleges shall qualify for level 3/5 of the national vocational skill standards”

The outline of NOSS is as mentioned in 2.1.10 “the needs of skill test in Vietnam”. Level 3 and 4 of NOSS nearly correspond to 3rd grade and 2nd grade of Japan’s Skill Test. The relationship between educational institutions/ vocational training institutions and NOSS level are as follow.

According to the “Human Resource Development Survey in Vietnam, Japanese enterprises think the appropriate level of Japan’s Skill Test is 3rd grade (23%), 2nd grade (44%) and 1st grade (27%) respectively.

Therefore, the grade and quality of the planned equipment shall be suitable for Level 4 of NOSS as the fundamental policy. The planned equipment is in accordance with the Japanese polytechnic college level since it is aimed at 2nd grade of Japan’s Skill Test. However, the specialized equipment for the limited use and the equipment for research and development shall be excluded. The equipment which is used generally in the industrial sector shall be planned.

The processing accuracy of the planned equipment shall be considered in light of the fact that Japan has supported the dissemination of Skill Test similar to NOSS in Vietnam. (In Japan, the planned equipment shall meet JEED requirement because the processing accuracy guarantee is necessary during procurement and after installation. The acceptance test to confirm the accuracy shall be stated in the bidding documents and only equipment that passes the test will be accepted.)

4.1.4. Handling the existing equipment

Handling policy shall be planned after confirming the conditions of the existing equipment. As indicators for this purpose, the standard of durable years in Japan (for example, 10-12 years for all-purpose lathe or milling machine; 12 years for equipment related to NC) shall be applied.

Table 4-1 Handling the Existing Equipment

College	Handling Plan
HCMVC	Equipment not suitable for the specification of the project and more than 12-year use will be used as the supplemental equipment for new equipment. New equipment will be installed at new campus which construction will start in 2016.
HIVC	Equipment not suitable for the specification of the project and more than 12-year use will be used for primary and intermediate level training. These equipment are also planned to be transferred to the Vocational Training Centre under Hanoi PC. Equipment which cannot be used for training will be put up for auction
VCTT	Equipment not suitable for the specification of the project and more than 12-year use will be used for college level training in case the condition is acceptable. Equipment with bad conditions will be used for intermediate level training. Installation of equipment will be at both new and old school buildings.
BRVTVC	Equipment not suitable for the specification of the project and more than 12-year use will be used at the existing building and new equipment will be installed at new building.
HVCHT	Equipment not suitable for the specification of the project and more than 12-year use will be used at new workshop and new campus if these are usable.
VPVC	Equipment not suitable for the specification of the project and more than 12-year use will be used for college and intermediate level in case the condition is acceptable.
DNVC	Equipment not suitable for the specification of the project and more than 12-year use will be used for college level in case the condition is acceptable.
CVCT	Equipment not suitable for the specification of the project and more than 12-year use will be used for primary and intermediate level training. There is enough space for equipment at new building. It is necessary to obtain an approval from MOT after the evaluation of school committee in case the equipment will be scrapped.
HVCT	Equipment not suitable for the specification of the project and more than 12-year use will be used for short training course in case the equipment is usable. If not, the equipment will be sold or scrapped. Basically new equipment will be installed in the new building and old equipment will be installed in the old building.
VCMi	Equipment not suitable for the specification of the project and more than 12-year use will be used for short training course in case the equipment is usable. Broken equipment will be stored for maintenance training.
HaUI	Equipment not suitable for the specification of the project and more than 12-year use will be removed and used in 3rd campus (Ha Nam campus). New equipment will be used in VJC.
HPVC	Equipment not suitable for the specification of the project and more than 12-year use will be used for college, intermediate or scrapped, depending on the evaluation by the schools' committee.
HNVC	Equipment not suitable for the specification of the project and more than 12-year use will be used for short training course. The school committee evaluates the condition of equipment every 5 years and the equipment which is not usable will be sold after an approval from Ha Nam PPC.

Source: Prepared by the JST

4.1.5. Policy on planned equipment in collaboration with technical cooperation

The equipment shall be planned consistent with the TOT's curriculum used in the ongoing "The Project for Strengthening TOT Functions at Hanoi University of Industry". In order for the lecturers to teach the lesson learned during the training effectively, it is necessary to procure the same equipment with the ones used in the training.

1) Machining Field

Japan's Skill Test system is used as an indicator for technical skill level in Vietnam,

The equipment performance must be ensured to not influence the examinee's performance.

2) Electricity and Electronics Field

1. Practical equipment categories

As basic skill is fundamental in vocational training, generally 1 equipment is considered sufficient for 2 students to use. However, for expensive equipment, only 1 equipment will be installed and training will be done in groups. For microcomputer of electronics field, 1 equipment will be installed for a student to ensure the student's understanding of the basic.

2. Measuring instrument categories

Although digital measuring instrument is the mainstream in the basic categories of measuring instruments (ampere meter of alternative current/ direct current etc.), analogue measuring instruments will be introduced as well in order to achieve the basic knowledge, skills and understanding of basic measuring method such as testing principles or rules.

3. Drawing tools and drawing equipment

Basic drawing equipment is planned to be co-used among the Machining, Electricity and Electronics department.

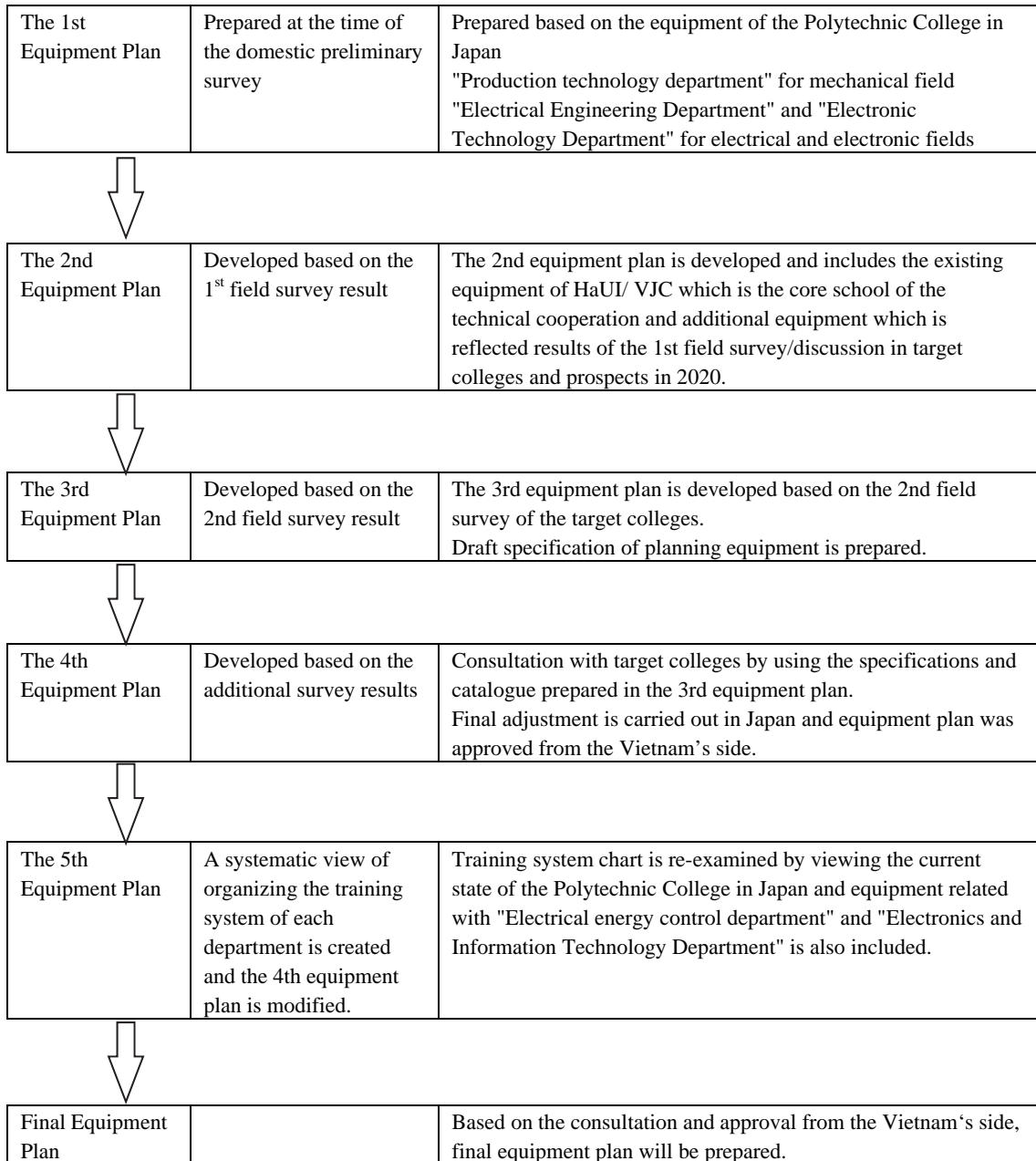
4. Software

Computing software language (MATLAB) and system developing software (LabVIEW) are planned to be the main software.

The warranty period of the equipment is 1 year after commissioning and handover.

4.2. Procedure flow of equipment planning

The equipment planning has been proceeded as follows.



Source: Prepared by the JST

5. Facility Plan

5.1. Background and Preconditions

The Project includes the construction and/or rehabilitation of facilities but is not covered by JICA fund. Therefore, the current situation and the availability of facilities at the time of equipment installation will be evaluated carefully. This evaluation will focus on characteristics of the equipment such as weight, vibration, noise and radio disturbance. The purpose of this evaluation is to clarify necessary improvement: construction and/or rehabilitation of facilities to install equipment, prepare outline design, and estimate costs that are to be implemented by Vietnam. In addition, the feasibility of these construction and/or rehabilitation works to be implemented by Vietnam will be examined. These are the objectives of the facility planning of the Survey.

5.2. Building Renovation Plan / Construction Work Plan

5.2.1. Site survey of the school building

Site survey of school buildings of the 13 target vocational colleges was conducted with a focus on the following consideration to verify building facilities environment for new equipment installation on the 1st and 2nd field investigations.

- Space for new equipment installation is secured (at the time of this report) in the existing or planned building,
- Building structure strength is sufficient for the additional load of new equipment,
- Current building utilities, i.e. electric power, water supply and drainage are appropriate for the proposed new equipment,
- Carry-in route for new equipment installation is secured,
- No specialized technique of electric work and plumbing work is required for new equipment installation,
- No required costly upkeep,
- No concern about air and water pollution issues, ambient noise, and vibration,
- No concern about settlement or adverse influences of existing buildings and facilities,
- Manpower, skill and budget for building operation and maintenance are expected to be secured.

Site surveys of building conditions and deterioration were conducted during the 1st field investigation and detailed site surveys of rooms where new equipment will be installed were conducted during the 2nd field investigation.

Whence it follows that;

- one (1) college (05HVCHT) has rooms where new equipment will be installed that are damaged by subsidence in the whole campus area,
- two (2) colleges (02HIVC, 03VCTT) have settlement damage, but the main structure of buildings with rooms where new equipment will be installed is not damaged,
- one (1) college (03VCTT) does not meet the required structural strength of the ground floor slab for the additional load of new large-size equipment.

It is possible to improve all of the above building facilities by strengthening work. From a technical standpoint, however, for 05HVCHT with rooms damaged by subsidence, it would

be difficult to provide sufficient future subsidence control. An inspection on the actual damages and deterioration of 05HVCHT was carried out by the Department of Construction, Hanoi People's Committee, in October 2014. According to the Inspection Report submitted to the Chairman of Hanoi People's Committee on 27th November 2014, the report suggests 2 options as follows; Option 1: repair work as a temporary solution, and Option 2: structural strengthening work to minimize future damage caused by subsidence.

7 of the 13 target colleges have school buildings and rooms under construction or to be built in the near future. Space for new equipment in all 13 colleges is confirmed to be secured as of the date of this report, either in existing buildings or in planned facilities (on drawings).

A list of the existing campus and new planned facilities drawings are shown in the following table. These existing facilities and the new planned facilities drawings were reviewed during the project survey.

Table 5-1 Existing Campus and New Planned Facilities Drawings

College	Existing Campus	Drawings for ongoing New Facilities	Drawings for future plan
01 HCMVC	Campus1 Campus 2	Construction on Campus 2	—
02 HIVC	Existing Campus	—	Relocation plan
03 VCTT	Campus 1 Campus2	—	—
04 BRVTVC	Campus 1 Campus 2 Committee College Campus	Construction on Committee College Campus, campus name changes to New Integrated Campus 2	—
05 HVCHT	Existing Campus	—	—
06 VPVC	Campus 1 Campus 2	—	—
07 DNVC	Existing Campus	—	Extension plan
08 CVCT	Existing Campus	Building under construction at existing campus	—
09 HVCT	Existing Campus	—	—
10 VCMI	Existing Campus	Construction plan	
11 HaUI	Campus 1 Campus 2 Campus 3	—	—
12 HPVC	Existing Campus	—	—
13 HNVC	Existing Campus	Construction plan	—

Note: Bold font indicates Campus for target school buildings and planned school buildings.

Source: prepared by the JST

It was confirmed that building facilities where new equipment installation is planned have possible solutions of repair work and renovation work at all 13 colleges. Besides, it was confirmed that new equipment installation will not have any impact to other buildings on campus and in the neighbouring area.

The summary of the target college building facilities conditions is as described below and detailed site survey results of existing building facilities conditions are given in Annex-15 “Facilities Verification Sheet”.

01 HCMVC/ Campus 1

- Building utilities: Electric power has 630kVA+100kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: No problem of building frame, no impact to new equipment installation although some mortar finish was peeling

01 HCMVC/ Campus 2

- No Machining, Electricity and Electronics course on Campus 2
- Building utilities: Electric power, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Need repair work of concrete cracks, metal rust, mortar peeling, and tile peeling for new equipment installation

01 HCMVC/ New Campus 2 plan

- Extension plan of a 5-story reinforce concrete (RC) building, construction work will start in 2016

02 HIVC

- Building utilities: Electric power has 560kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: Small settlement
- Building condition: Need repair work of concrete slab deflection on the ground floor, mortar peeling, and tile peeling for new equipment installation

03 VCTT/ Campus 1

- No Machining, Electricity and Electronics course on Campus 1

03 VCTT/ Campus 2

- Building utilities: Electric power has 1600kVA+250kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: Small settlement
- Building condition: Need strengthening work of the ground floor slab for additional load of new large-size equipment installation, repair work of concrete slab deflection on the ground floor, concrete cracks, mortar peeling, and tile peeling for new equipment installation

04 BRVTVC/ Campus 1

- Building utilities: Electric power has 400kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Need strengthening work of the ground floor slab for additional load of new large-size equipment installation

04 BRVTVC/ Campus 2

- No Machining, Electricity and Electronics courses on Campus 2

04 BRVTVC/ Existing Committee College Campus, name changes to New Integrated Campus 2

- Extension plan of 4-story concrete building, construction work will start in 2015

05 HVCHT

- Building utilities: Electric power has 1600kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: Major settlement
- Building condition: Need strengthening work of concrete slab deflection on the ground floor, mortar peeling, and tile peeling for new equipment installation

06 VPVC/ Campus A

- Building utilities: Electric power has 560kVA+560kVA with surplus power capacity; water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Need strengthening work of concrete slab deflection on the ground floor, mortar peeling, and tile peeling for new equipment installation

06 VPVC/ Campus A

- Building utilities: Electric power has 560kVA+560kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Need repair work of concrete slab and mortar peeling on the ground floor for new equipment installation

07 DNVC

- Building utilities: Electric power has 630kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Need repair work of mortar peeling and cracks for new equipment installation

08 CVCT

- Building utilities: Electric power has 630kVA+560kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Half of the school building is under construction, no problem of building frame, need finishing work and utilities work for new equipment installation

09 HVCT

- Building utilities: Electric power has 630kVA+400kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: No problem of building frame, need finishing work and utilities work for new equipment installation

10 VCM I

- Building utilities: Electric power has 630kVA+400kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: Need strengthening work of the ground floor slab for additional load of new large-size equipment installation need finishing work and utilities work for new equipment installation

10 VCM I/ New Building Construction Plan

- New construction of a 3-storey reinforce concrete structure building will start in 2016

11 HaUI/ Campus 1

- Building utilities: Electric power has 630kVA+560kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: No problem of building frame, need utilities work for new equipment installation

11 HaUI/ Campus 2

- No Machining, Electricity and Electronics course on Campus 2

11 HaUI/ Campus 3

- No Machining, Electricity and Electronics course on Campus 3, only basic courses for grade-1 students of university course, which does not require equipment

12 HPVC

- Building utilities: Electric power has 320kVA+320kVA with surplus power capacity; water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: No problem of building frame, need repair work of mortar peeling and cracks for new equipment installation

13 HNVC

- Building utilities: Electric power has 630kVA+560kVA with surplus power capacity, water supply and drainage are fully-equipped
- Land subsidence: No settlement
- Building condition: No problem of building frame, need repair work of floor tile for new equipment installation

5.2.2. Planning for repair and renovation work

The repair work and renovation work needed for existing or planned rooms where new equipment will be installed are described below (those not covered by this project):

- Structural strengthening work or repair work
- Interior renovation work
- Interior finishing repair work
- Power receiving system
- Electric installation
- Air-conditioning system
- Duct or Ventilation system
- Light fixtures for new equipment installation

Based on the results of the surveys and analyses, the repair work and renovation work described in the following table are necessary.

Table 5-2 Renovation / Repair work (as of December 11, 2014)

College/ Course	Structure strengthening or repair work	Interior renovation work	Interior finishing repair work	Power receiving	Electric installation	Air conditioning	Ventilating installation	Light fixtures
01 HCMVC / New Campus 2								
Machining								
Electricity/ Electronics								
02 HVC								
Machining	1		2, 3, 4		6	7		
Electricity/ Electronics			2, 4, 5				8	
03 VCTT / Campus 2								
Machining	10		2, 3, 5		6		8	
Electricity/ Electronics								

College/ Course	Structure strengthening or repair work	Interior renovation work	Interior finishing repair work	Power receiving	Electric installation	Air conditioning	Ventilating installation	Light fixtures
04 BRVTVC/New school building on Integrated Campus 2 (existing Community College)								
Machining								
Electricity								
05 HVCHT								
Machining			2, 3		6			
Electricity/ Electronics								
06 VPVC/Campus A, B								
Machining	1	13	2, 3		6	7	8	
Electricity/ Electronics			4, 5		9		8	
07 DNVC								
Electricity/ Electronics			4		9		8	
08 CVCT								
Machining		13	3		9	7	8	
Electricity		13	5		12	7	8	
09 HVCT								
Machining						7	8	
Electricity/ Electronics						7	8	
10 VCMI/ New Building								
Machining								
Electricity								
11 HaUI/Campus 1								
Machining						7	8	
Electricity/ Electronics						7	8	
12 HPVC								
Machining			2, 3, 4, 5			7		
Electricity/ Electronics			2, 4, 5			7	11	
13 HNVC								
Electricity			4					

- 1: Floor Levelling work
 2: Repair work for cracks of the floor, wall, column, ceiling
 3: Floor Dust-proof paint
 4: Floor tile repair work
 5: Interior painting
 6: Electrical cable system repair work
 7: Air conditioning installation
 8: Exhaust fan installation
 9: Electrical cable tray system installation
 10: Strengthening work for ground floor slab
 11: Air fan installation
 12: Additional electric outlet
 13: Partition wall installation
 14: Additional distribution board
 Source: prepared by the JST

The items listed below are recommended for specific rooms where the new school buildings will be built (out of the Japanese ODA Loan Project scope):

-	Machining Course/ NC room, Laboratory: Air conditioning, exhaust fan, air fan
-	Machining Course/ Measurement room: Air conditioning for 24 hours, exhaust fan, air fan
-	Machining Course/ Material processing room: High-strength concrete floor slab for impact and abrasion resistance improvement, dust-proof and oil-proof paint on the floor, exhaust fan, air fan
-	Machining, Electricity, Electronics Course/ CAD/CAM room: Air conditioning, exhaust fan, air fan
-	Electricity, Electronics Course/Classroom, workshop: Air conditioning, exhaust fan, air fan

5.2.3. Construction work plan

It should be absolutely guaranteed that all repair work and renovation work will be taking place and completed at each target college before equipment installation. Construction work should be planned with consideration to minimize the impacts to students and school staff. For example, works accompanied by noise, vibration, and odor will be taking place on weekends. In case of the building frame strengthening work, the work will be of relatively large scale and it needs consideration for the work to be taking place during school long-term holiday.

The cost and construction period for renovation and repair work were estimated and are shown below (as of December 11th, 2014). The estimation below does not include structural strengthening and repair work cost for 05HVCHT, but as a prerequisite for the estimation, necessary structural strengthening work will be implemented and completed before the new equipment installation.

Table 5-3 Renovation / Repair work cost and period (as of December 11th, 2014)

College	Work Cost (VND)	Work Period (month)	Campus
01 HCMVC	0	0	Construction on Campus 2
02 HIVC	857,002,000	2	Existing Campus
03 VCTT	796,855,000	2	Campus2
04 BRVTVC	0	0	Construction on Committee College Campus, campus name changes to New Integrated Campus 2
05 HVCHT	740,466,000	3	Existing Campus
06 VPVC	1,440,300,000	2	Campus 1 Campus 2
07 DNVC	845,818,000	1	Existing Campus
08 CVCT	1,213,298,000	3	Building under construction at existing campus
09 HVCT	920,355,000	0.5	Existing Campus
10 VCMi	0	0	New School Building
11 HaUI	983,743,000	0.5	Campus 1
12 HPVC	2,293,307,000	2	Existing Campus
13 HNVC	189,120,000	0.5	Existing Campus

Source: prepared by the JST

5.3. Outline Design Drawings

Rooms where new equipment will be installed are indicated on the general layout plan for the target 13 campuses.

1 college (03VCTT) does not have the required structural strength of the ground floor slab for additional load of new large-size equipment installation and strengthening works are proposed in the drawings. The drawings are in Annex-16 “Outline Design Drawings”.

The drawing list is as follows;

Drawing Number	College	Drawing Name
01 HCMVC- A	01 HCMVC	General layout plan
02 HIVC- A	02 HIVC	General layout plan
03 VCTT- A	03 VCTT	General layout plan
03 VCTT- B	03 VCTT	Strengthening work
04 BRVTVC- A	04 BRVTVC	General layout plan
05 HVCHT- A	05 HVCHT	General layout plan
06 VPVC- A	06 VPVC	General layout plan
07 DNVC- A	07 DNVC	General layout plan
08 CVCT- A	08 CVCT	General layout plan
09 HVCT- A	09 HVCT	General layout plan
10 VCMi- A	10 VCMi	General layout plan
11 HaUI- A	11 HaUI	General layout plan
12 HPVC- A	12 HPVC	General layout plan
13 HNVC- A	13 HNVC	General layout plan

Source: prepared by the JST

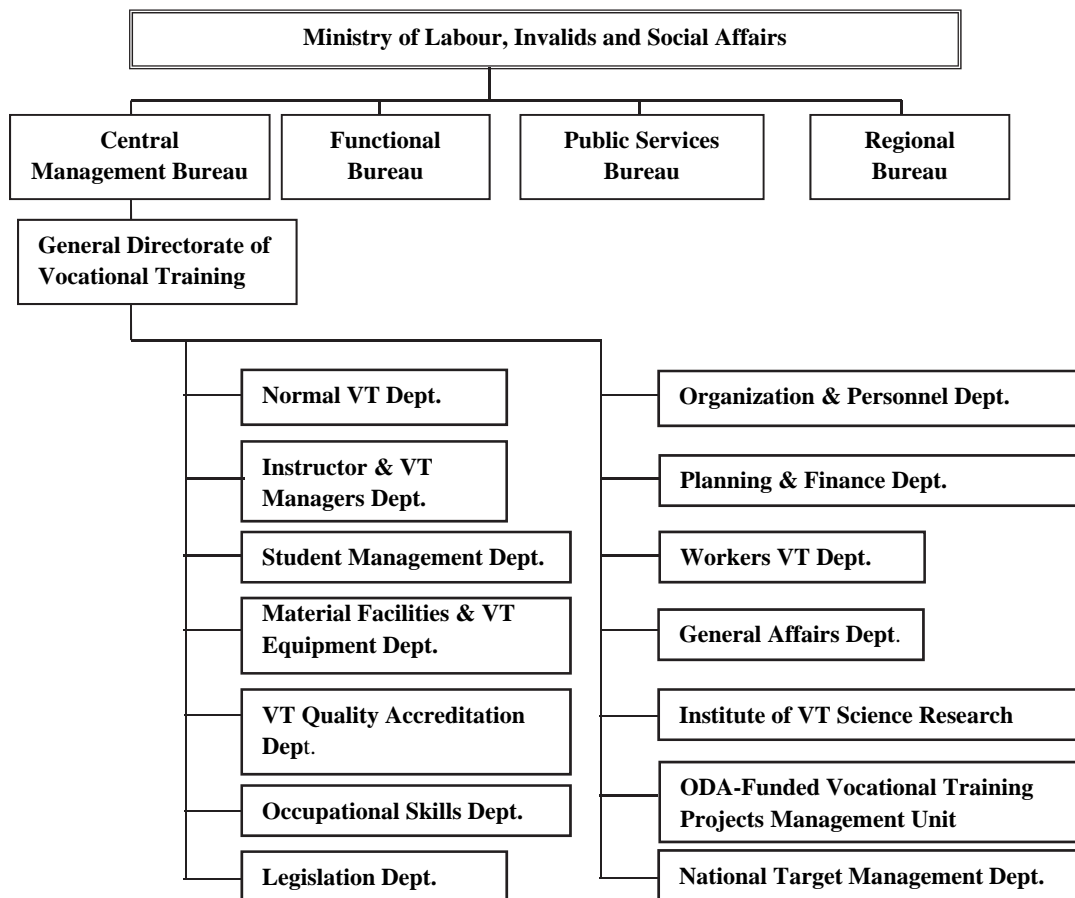
6. Implementation Structure, Operation and Management (O&M) Structure

6.1. Implementation Structure of the Loan Project

6.1.1. The Ministry of Labour, Invalids and Social Affairs (MOLISA)

1) Structure of MOLISA

The Ministry of Labour, Invalids and Social Affairs (MOLISA) consists of state management agencies, a functional unit, a public service organization and local departments as shown in the figure below. The General Directorate of Vocational Training (GDVT) manages the vocational training departments and including the ODA funded Vocational Training Project Management Unit (PMU) is responsible for the management of ODA projects.



Source: MOLISA and GDVT website

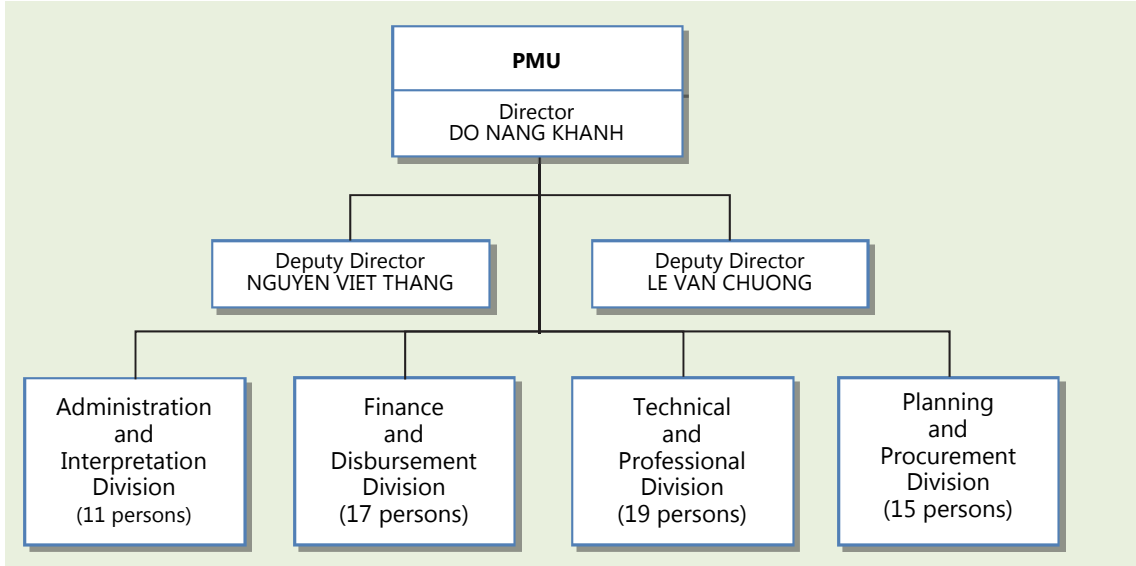
Figure 6-1 MOLISA/GDVT Organizational Chart

2) Structure of PMU

PMU was assigned as the implementation unit of the Loan Project for strengthening of vocational training sector by Decision No.:545/QD-TCDN (August 1, 2014) (Annex-17 “Decision on Duty Assignment for Preparation of ODA Loan Project”) which defined the tasks of PMU as follows.

- Preparation of Project Outline (PO)
- Preparation of Feasibility Study (F/S)

PMU is the project management board at the national level, which consists of an Administration and Interpretation Division, a Finance and Disbursement Division, a Technical and Professional Division, and a Planning and Procurement Division. PMU has experience with other donor projects for vocational training sector (ADB, KfW, AFD, etc.) as the implementation unit.



Source: prepared by the JST

Figure 6-2 PMU Organizational Chart for the Loan Project for Strengthening of Vocational Training Sector

The roles of the Director, Deputy Directors, and each division are as follows.

Table 6-1 Roles of PMU Divisions for the Loan Project for Strengthening of Vocational Training Sector

Position/Division	Roles
Director	<ol style="list-style-type: none"> 1. Approve working regulations of PMU, management regulations of experts, implementation plans of projects and PMU; 2. Assign division to train project staff, prepare final accounts; 3. Cooperate with related Departments, Units, donors, partners and have the attorney of the General Director sign the agreement; 4. Submit human resources-related documents, suggestion about project to General Director of GDVT; 5. Sign labour contract; manage specialist and PMU’s staff.
Deputy Director	<ol style="list-style-type: none"> 1. Assist the Director; 2. Assign divisions to develop plans, reports and conduct the contents of assigned projects; 3. Annually report to Director about the progress of projects.
Planning and Procurement Division	<ol style="list-style-type: none"> 1. Planning activities: <ol style="list-style-type: none"> a) Prepare draft documents and plan of projects, and report those to the Board of Director; b) Supervise and manage approved project implementation and propose solutions to any issues encountered (if any). 2. Procurement activities <ol style="list-style-type: none"> a) Prepare bidding plan for each project, organize bidding; b) Cooperate with the Technical and Professional Division to select and manage consulting experts; c) Instruct and supervise benefiting institutions

Position/Division	Roles
Finance and Disbursement Division	<ol style="list-style-type: none"> 1. Prepare and implement financial, capital, disbursement plan and balance sheet of projects and PMU; 2. Monitor, manage and provide suggestions to PMU's financial activities; 3. Organize the management and usage of PMU assets; 4. Consult the auditing tasks; supervise accounting and financial regime; 5. Handover project results and equipment at the end of project.
Technical and Professional Division	<ol style="list-style-type: none"> 1. Prepare technical plan for each project; 2. Prepare annual expenditure estimate for technical items of each project; 3. Manage mobilized consulting experts for each project; 4. Manage and supervise contracts related to technical items of projects; 5. Prepare payment request procedure for technical contract(s) of projects; 6. Organize seminars and training workshop for related technical field; 7. Guide and supervise institutions about technical issues; 8. Prepare report on technical contents of each projects;
Administration and Translation Division	<ol style="list-style-type: none"> 1. Manage organization and staff affairs 2. Perform administration, filling activities 3. Monitor and manage the schedule of other Divisions in implementing programs and plans 4. Act as translators when necessary 5. Manage facilities, means and general working conditions of PMU.

Source: Decision no. 280/QĐ-TCDN Decision on Promulgation of Organization and Operation Regulations of GDVT/PMU

The assigned tasks and projects of PMU staff are as follows. Enough employees will be assigned to the Japanese ODA project during the implementation since the deployment of staff is reviewed every year based on the progress of donor's projects.

Table 6-2 PMU Personnel

	Name	Position	Task	Assignment				
				JICA	ADB	Germany	France	Korea
Administration and Interpretation Division								
1	Nguyễn Thừa Thế Đức	Head	Administration					
2	Nguyen Thanh Mai	Deputy Head	Translation, Administration		✓			
3	Nguyễn Thị Doanh	Officer	Contract point		✓			
4	Nguyễn Ngọc Thắng	Officer	personnel					
5	Trần Thị Thu Hằng	Officer	Translation		✓			
6	Mai Sơn Vinh	Officer	Equipment and facilities					
7	Trịnh Văn Cường	Driver	Driver					
8	Đỗ Năng Trung	Driver	Driver					
9	Nguyễn Thị Khuyên	Odd staff	Services					
10	Nguyễn Hoàng Yến	Chef	Cooking					
11	Phùng Hoàng Anh	Officer	Translation					

	Name	Position	Assignment								
			Task	JICA	ADB	Germany	France	Korea			
Financial and Disbursement Division											
1	Lê Hồng Linh	Chief Accountant	Management								
2	Đỗ Thị Thanh An	Cashier	Cashier								
3	Nguyễn Anh Tuấn	Professional	Disbursement project			✓	✓				
4	Phạm Đức Toàn	Professional	Disbursement project								
5	Đỗ Thùy Hương	Professional	Disbursement project		✓						
6	Nguyễn Đăng Khoa	Professional	Disbursement project		✓						
7	Nguyễn Thu Hoài	Professional	Disbursement project		✓						
8	Trần Thị Thanh Hiền	Professional	Disbursement project						✓		
9	Hoàng Thị Huyền Trang	Professional	Disbursement project		✓						
10	Trần Thị Kim Dung	Professional	Balance project completion								
11	Nguyễn Xuân Tố Anh	Professional	Disbursement project	✓	✓						
12	Ngô Thùy Dương	Professional	Disbursement project								
13	Nguyễn Thị Thu Trang	Professional	Financial Accounting								
14	Phạm Phương Thúy	Professional	Disbursement project			✓	✓				
15	Nguyễn Hoàng Minh	Professional	Disbursement project						✓		
16	Nguyễn Thị Thúy	Professional	Financial Accounting								
17	Lê Thị Thùy	Accountant	Disbursement project								
Technical Division											
1	Phạm Đức Tiến	Chief	Management		✓	✓	✓	✓	✓		
2	Đỗ Ngọc Lan	Deputy chief	Management						✓		
3	Vương Bình	Deputy chief	Management				✓	✓			
4	Hoàng Thị Thanh Nga	Staff	human development staff		✓						
5	Lưu Mạnh Hùng	Staff	human development staff		✓				✓		
6	Trần Nhật Tân	Staff	equipment staff						✓		
7	Nguyễn Đức Anh	Staff	human development staff		✓						
8	Trần Duy Minh	Staff	skill staff		✓						
9	Lê Thị Minh Thúy	Staff	human development staff		✓						
10	Khúc Thị Huyền Trang	Staff	curriculum materials			✓			✓		
11	Trần Hoàng Diệu	Staff	human development staff		✓				✓		
12	Bùi Mạnh Thi	Staff	curriculum materials		✓						
13	Tạ Văn Phúc	Staff	equipment staff					✓			
14	Đào Mạnh Cường	Staff	equipment staff					✓			
15	Nguyễn Ngọc Vũ	Staff	construction staff						✓		
16	Nguyễn Thị Ngọc	Staff	construction staff						✓		
17	Trần Trung Hiếu	Staff	equipment staff		✓						
18	Đặng Văn Dẫn	Staff	curriculum materials			✓					
19	Nguyễn Thái Sơn Hà	Staff	equipment staff		✓						

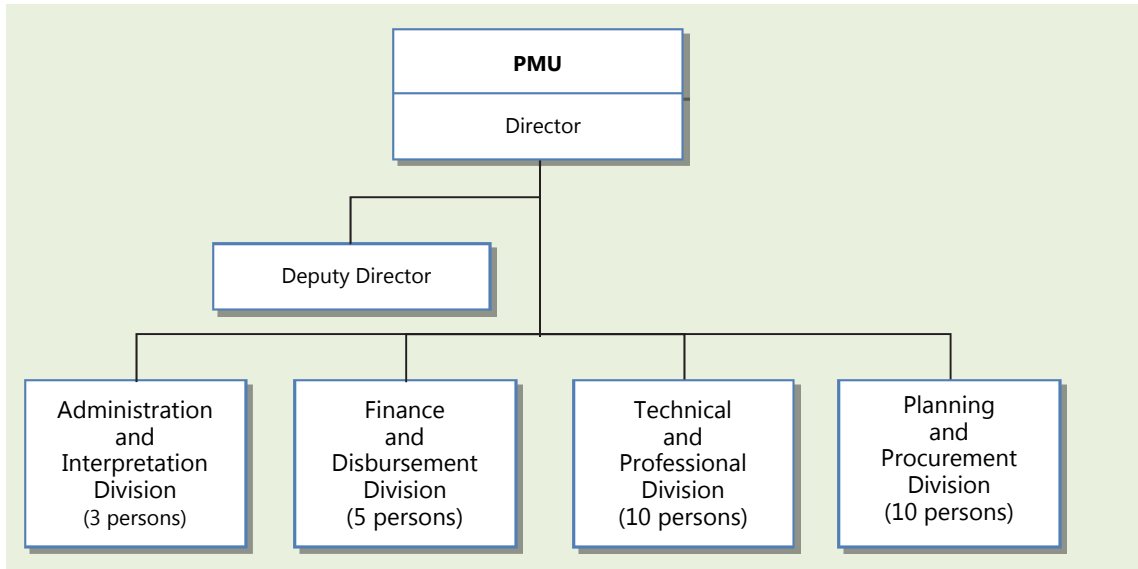
	Name	Position	Task	Assignment				
				JICA	ADB	Germany	France	Korea
Planning and Procurement Division								
1	Tran Lien Huong	Head	Management Procurement Planning	✓	✓	✓	✓	✓
2	Phan Kim Thu	Vice head	Management Procurement Planning			✓	✓	
3	Nguyen Phuong Thao	Staff	- Procurement - Planning		✓			✓
4	Bui Le Thanh Duy	Staff	Procurement	✓	✓			
5	Luong Van Khue	Staff	Procurement	✓	✓	✓	✓	✓
6	La Phuong Dzung	Staff	Procurement				✓	
7	Nguyen Phuong Dzung	Staff	Procurement					✓
8	Dinh Van Tung	Staff	Procurement				✓	
9	Ho Sy Hai	Staff	Procurement			✓		
10	Nguyen Phuong Trang	Staff	Procurement			✓		
11	Tran Thi Thu Ha	Staff	Procurement		✓			
12	Dang Tien Duy	Staff	Procurement	✓				
13	Ngo Thi Mai Phuong	Staff	Procurement					✓
14	Tri Duc Tai Anh	Staff	Procurement		✓			
15	Nguyen Thi Van Anh	Staff	Procurement	✓	✓			

Source: Prepared by the JST based on information from PMU. Shaded persons are permanent officers.

The Skill Enhancement Project by ADB has been significantly delayed. The reason of the delay is not due to the performance of PMU but the time consuming discussion with schools to finalize equipment lists, according to the ADB's consultant for the project. There was a problem on document management by PMU at the beginning of the project, but the performance of PMU was improved later through the capacity building by ADB. PMU has managed several projects of other donors as well. Therefore, PMU is able to manage the Japanese ODA Project with its current structure. In case there is a problem on performance, the capacity building of the staffs for the Japanese ODA Project will be conducted by JICA.

Assignment for Skill Enhancement Project, which project cost is USD 70 Million, is: 3 staff (all exclusive for the project) from the Administration and Interpretation Division; 5 staff (all exclusive for the project) from the Financial Division; 10 staff (7 staff exclusive for the project) from the Technical Division; and 7 staff (4 staff exclusive for the project) from the Planning and Procurement Division. With this manpower, PMU has managed the procurement of 20 packages of goods and works and 19 packages of technical assistance services. The Japanese ODA Project includes 6 packages of procurement of goods, which amount to more than USD 100 Million, and procurement of a consultant. The following number of staff was proposed to PMU for the Japanese ODA Project in May 2015 and was agreed. It may be necessary to request a replacement of staff due to low performance before the annual review of personnel.

- Project Director : 1 staff (concurrent post)
- Project Vice Director : 1 staff
- Administration and Interpretation Division : 3 staffs
- Financial Division : 5 staffs
- Technical Division : 10 staffs
- Planning and Procurement Division : 10 staffs



Source: Prepared by the JST

Figure 6-3 PMU Organizational Chart for this Loan Project

The consultant for detailed design and procurement management will be hired and the consultant will assist PMU of the consulting services such as preparation of bidding documents, biddings, and contract management. Therefore, the main tasks of PMU will be confirmation and approval of each work and the close coordination with GDVT will be expected for the smooth confirmation and approval.

Regarding the coordination with and the approvals related to other government agencies, GDVT is expected to be actively involved in the project more than PMU. The support from GDVT is expected also for the instruction to and the monitoring of other agencies in line with the implementation flow stipulated in the degree. Moreover, GDVT’s support is important for coordination with MPI, MOF and other sub-project governing agencies from the project formulation such as confirmation of the Project Outline (PO) and the feasibility study (F/S) as well as during the procurement period. Therefore, the regular meeting with GDVT is necessary in addition to the regular meeting with PMU. Additionally, regular meetings with GDVT, MPI, MOF and other governing agencies shall be conducted periodically.

6.1.2. Implementation structure of the Loan Project

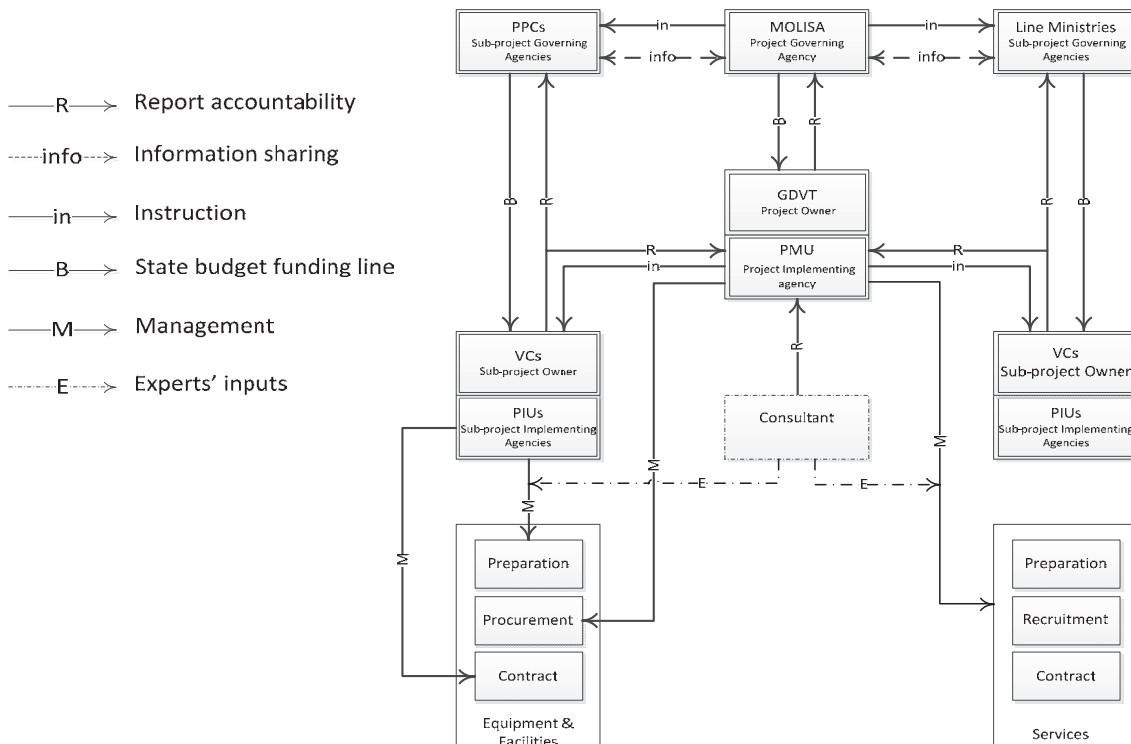
“Decree No. 38/2013/ND-CP” defines the management of ODA and donor’s loan project. The Ministry of Planning and Investment (MPI) is the prime responsible agency for the project at the national level, inter-sector and inter-locality and The People’s Committee (PPC) is responsible for the project at a local level.

MOLISA, as the Managing Agency, is responsible for the management and monitoring of the whole project including schedule and quality. MOLISA will have meetings with and give instructions to the Governing Agency of the sub-project when needed.

The project owner is assigned by the governing agency and is responsible for management and utilization of ODA and other project funds. PMU is responsible for supporting the project owner in managing and implementing the project. The vocational colleges are the sub-project owners which have their roles in Table 6-3. A Project Implementation Unit (PIU) is assigned by each sub-project owner and the members of the PIU consist of the rector/vice rector, person in charge of equipment, facility and finance, etc. and will execute the project.

The following shows the implementation structure of the Japanese ODA Project in accordance with this decree.

Prime Responsible Agency	: MPI
Responsible Agency for Loan	: Ministry of Finance (MOF)
Managing Agency	: MOLISA
Governing Agency (entire project)	: MOLISA
Project Owner (entire project)	: MOLISA GDVT
Governing Agency (sub-project)	: MOLISA, Ministry of Industry and Trade (MOIT), Ministry of Transport (MOT), Ministry of Agriculture and Rural Development (MARD) and People's Committee (PPC)
Project Owner (sub-project)	: Vocational College/University



Source: Document provided by PMU (May 2015)

Figure 6-4 Implementation Structure of the Loan Project

Table 6-3 Role of Agency in Procurement

	GDVT/PMU	Project Owner (Sub-project)
Preparation of Equipment List	Consolidate the equipment list into the procurement plan (PMU)	Prepare and approve the equipment list, specification and cost estimate in cooperation with the consultant
Procurement Management	Implement the following tasks with support from the consultant (PMU) <ul style="list-style-type: none"> - Preparation of procurement plan - Preparation of bidding documents - Bidding - Bid evaluation - Support on contract negotiation 	<ul style="list-style-type: none"> - Collaboration in bid evaluation - Contract negotiation - Contract signing (The contract management is under GDVT/PMU but the contract signing is under the project owner.)
Contract Management	<ul style="list-style-type: none"> - Equipment contract management (PMU) - Mobilize the consultant for contract management, equipment acceptance, approval of payment, etc. (PMU) - Manage the project fund in cooperation with donor, MOF, MPI, State Treasury (GDVT) 	<ul style="list-style-type: none"> - Procurement management - Equipment acceptance, issuance of receipt

Source: prepared by the JST

6.1.3. Management of current projects under other donor

1) Skill Enhancement project (ADB)

Although 70% of the project implementation period has passed, the loan disbursement ratio is about 27% of total amount as of September 2014. The delay of disbursement is caused by:

- Delay of finalization of equipment list: A discussion with each vocational college (not with PMU) was required to finalize the equipment list and it took longer than expected.
- Complicated approval procedure: Approval from each vocational college, PMU, GDVT, MOLISA and ADB is necessary to proceed with the project and the request for approval had to be revised several times.
- Inexperience of MOLISA in donor project: MOLISA is not as accustomed to donor projects as MOF and MOLISA's departments, with the exception of GDVT and PMU, did not perform as well as expected.
- Lack of document management in PMU: Some project documents were lost during the process. The contents on the project document needed to be explained to each division repeatedly due to the lack of coordination among divisions. However, the performance of PMU is improving after the capacity development by ADB.
- Duplication of tasks: Other department of GDVT did tasks assigned to the consultant and the consultant's output ended up in vain, for instance the skill assessment and the development of the Technical Labour Market Information System (TLMIS). The skill assessment package was purchased from Australia. GDVT does not always share activities with other departments.

2) Investment in Development of High Quality Vocational Training Schools in Vietnam (AFD)

Tasks under the responsibility of the Vietnam side (renovation of facilities) were completed earlier than the plan.

3) Vocational Training Program (VTP) Vietnam (KfW)

The feasibility study for “VTP 2008” has been conducted for 6 years since 2008 and the bidding documents are under preparation as of November 2014. This delay was mainly caused by the time-consuming procedures such as coordination among and approvals from MOLISA, MOF, MPI and each PPC.

6.2. Operation and Maintenance (O&M)

6.2.1. Operation and Maintenance Management System

The operation and maintenance management system for the equipment is divided in 2 categories as the equipment custody service like preparation of log book, store management operations and the equipment maintenance such as daily inspection, periodic inspection and repair. Both category are required to keep a close collaboration and to perform organizationally.

Each target college manages equipment under asset management to create a register of its own style.

On the other hand, for the maintenance work carried out by each college is classified into the following 3 systems.

- Specialized department for the maintenance of equipment is established and technical staff of this department is responsible for the maintenance, and vocational trainers who use the equipment are not involved in equipment maintenance.
- Specialized department for the maintenance of equipment is established, and technical staff of this department performed maintenance works in cooperation with vocational trainers.
- Specialty department for the maintenance of equipment is not established and vocational trainers who use the equipment perform maintenance work.

Through an interviews to the college, almost all the colleges conducted maintenance work systematically, and regular equipment maintenance, daily inspections have been implemented and as well as keeping inspection records. However, although both daily inspections and periodic inspection of equipment are reported to be carried out, some colleges only have visual inspection of the equipment whether it is running well or not. It is difficult to judge the conditions of equipment without operating the equipment and maintenance works cannot determine whether it is carried out appropriately. Therefore, some colleges are necessary to consider the improvement of maintenance method.

Currently, equipment operation and maintenance of each college are as follows, by any of the 3 ways of system, maintenance work of the equipment has been carried out.

Table 6-4 Condition of Equipment Operation and Maintenance in Each Vocational College

	Target VCs	Establish of special division	Number of staff	Assign maintenance staff	maintenance by teachers	Preparation of maintenance manual	Implement daily check	Implement periodical inspection	Recording	Compiling record	Development of annual maintenance plan
1	Ho Chi Minh VC	○	10	○	×	△ (not 100% equipped)	○		×	×	△ (Only equipment-wise maintenance plan)
2	Hanoi Industrial VC	○	7	○	×	○	○	○	×	×	△ (Only equipment-wise maintenance plan)
3	VC of Technique and Technology	○	Outsource	○	×	×	○	○	×	×	- (Partly planned)
4	Ba Ria-Vung Tau VC	△ (roll-sharing within college)	-	-	○	○	○	○	×	×	○
5	Hanoi VC of Hing Technology	×	×	△ (roll-sharing within teachers)	○	○	○	○	×	×	(developing now)
6	Vinh Phux (Vietnam-German) VC	○	5	○ (Special staff and teachers work jointly)	○	○ (focusing in important equipment such as NC-lathe)	○	○	×	×	○
7	Da Nang VC	○	20	○ (work jointly with teachers)	○	△ (Not fully equipped)	○	×	×	×	×
8	The Central VC of Transport No. 2	○	11	9	×	△ (Not fully equipped)	○	○	○	○	○
9	Ho Chi Minh VC of Technology	GENERAL ADMINISTRATIVE DEPT.	17	×	○	△(Not fully equipped)	○	△	○	○	×
10	VC of Mechanics and Irrigation	○	6<	○	×	○	○	○	○	○	○
11	HaUI	○ (General management division manages)	Total of 33 staff (incl. facility maintenance)	○ (assigned staff execute basic inspection)	○	○	○	○	○	○	○
12	Hai Phong Industrial VC	○	n.a	2(Machinery only)	○	○	○	○	○	○	○
13	Ha Nam VC	○	6	×	○	○	○	×	○	○	○

Source: JICA survey team, by inquiry survey and questionnaire survey
 Remark: Yes(○), No(x), Partly yes(△), (not available(n.a))

Source: prepared by the JST

Each college will continue the current maintenance system in the future. However, there are some colleges which lecturers who use the equipment daily and know well the maintenance of the equipment are not involved for the maintenance system. It adversely affect the precision maintenance and the equipment's lifetime without involving the lecturers who understand and are familiar with the equipment.

Thus, with respect to maintenance of the equipment it is necessary to improve the system that lecturers are involved actively. In addition, maintenance is necessary to reaffirm that it is the activities to prevent the failure of equipment. Accordingly, it is desirable that persons in charge of the equipment maintenance should attend HaUI TOT course for the equipment maintenance developed by the technical cooperation and, it is required to continue to develop and strengthen the operation and maintenance of equipment and taking advantage of its achievements.

Based on the above findings and considerations, HCMVC, HIVC, VCTT, CVCT and VCMI are necessary to change present equipment maintenance system which not involved the lecturers (above mentioned system No.1) to the system which involved the trainer (above mentioned system No.2 or No.3). In addition, under the vocational education law, which effectuated from July 2015, the lecturers are required to be involved in the operation and management of facilities, and maintenance of equipment as well as to ensure the creation and storage of maintenance record.

6.2.2. Timing of implementation of periodical inspection, its method, condition of maintenance tools and securement of spare parts.

VCs are not required to implement legal inspection because equipment of VCs will not cause any personal damages. As for the periodic inspection, the annual periodic check is generally recommended to be implemented during the end of the academic year, between July to August, varies of periodic inspection depending on the frequency of equipment operation.

As for the content of inspection, measuring and analytical instruments focuses in calibration and metalworking machines are targeted to implement static and dynamic inspection. Both static and dynamic inspection has aimed to process samples, which shape and size not usually processed, and to examine the state of trouble.

There are no additional tools required for operation and maintenance. Standard equipment and tools of each VC such as electric/electronic measuring devices and mechanical measuring devices like gauges and callipers are sufficient to implement the required inspection.

Spare parts will not deteriorate, therefore 1 set of spare parts is enough for training.

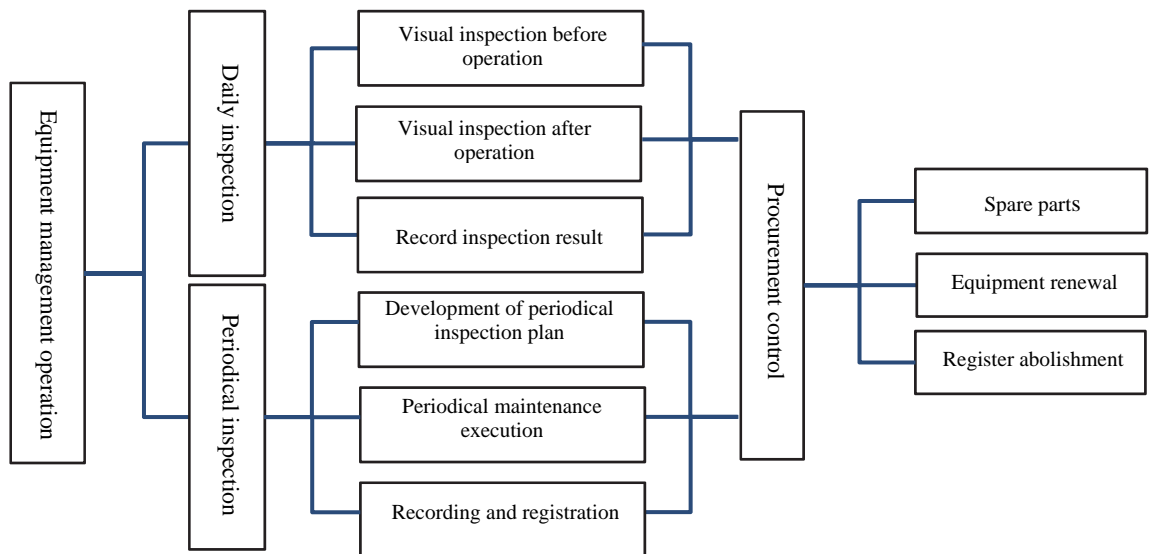
Standard quantity of spare parts are considered with the equipment procurement. If necessary, starting 2 years after the installation of equipment, it is estimated to require an annual budget equivalent to 3% of the total equipment cost for spare parts.

6.2.3. Organization for Operation and Maintenance Control

As mentioned above, the maintenance system of equipment differs by college. In general, an Equipment Management Department exists as an independent division apart from faculty and administration departments.

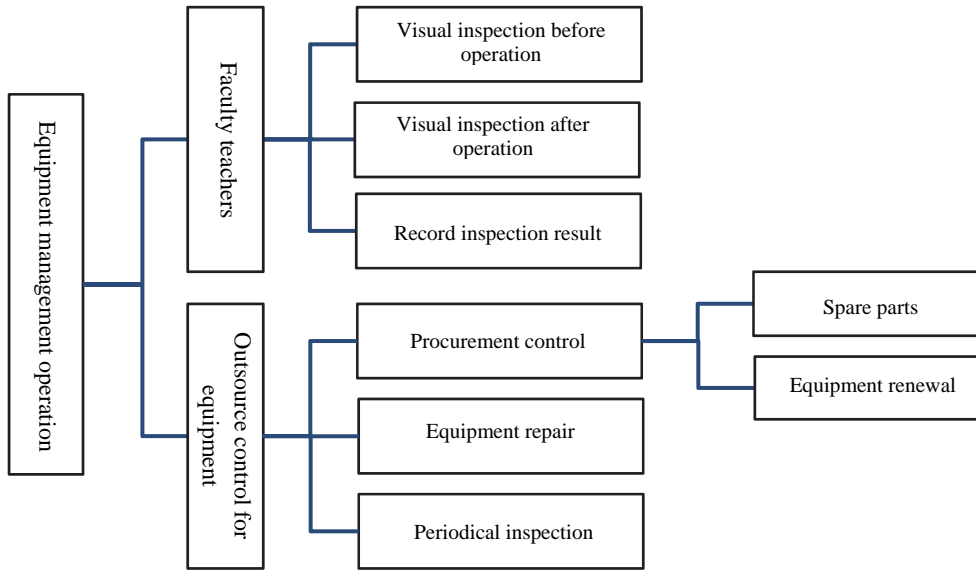
Job assignment and requirement of the departments differ from college to college. (i) Some colleges handle maintenance work by technical staff within the department, (ii) some colleges focus only on management work (i.e. they outsource the work), and (iii) some colleges work jointly with faculty lecturers depending on the technical difficulty.

The following figure illustrates the three typical maintenance and operational systems employed in the target vocational colleges.



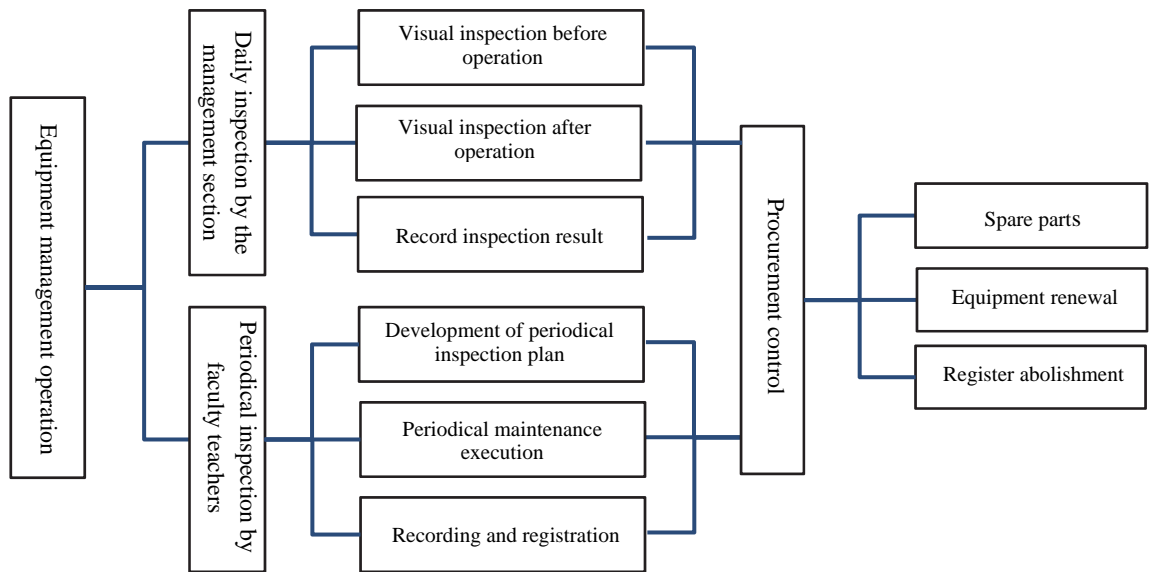
Source: prepared by the JST

Figure 6-5 Operation and Maintenance System (i) Completed exclusively by a specialized section



Source: prepared by the JST

**Figure 6-6 Operation and Maintenance System
(ii) Focused in outsource control)**



Source: prepared by the JST

**Figure 6-7 Operation and Maintenance System
(iii) Collaboration between a management section and faculties)**

6.2.4. Cost estimation for operation and maintenance work and securing of budgetary sources

The equipment list of the project has been produced based on and complying with the equipment in Japanese polytechnic colleges and the equipment used for “the Project for Strengthening Training of Trainers (TOT) Functions at Hanoi University of Industry (HaUI-JICA Project)”. Following the development of the proposed equipment list, the total equipment cost based on the equipment list as well as its cost collected from manufacturers were estimated.

Annual inspection/maintenance fees and costs for tools and accessories for maintenance work were calculated based on experience in Japanese polytechnic colleges.

It is appropriate to maintain the current operation and maintenance organization of each VC and no additional specialist is required.

6.2.5. Availability to Hire Outsourcing Agent for Operation and Maintenance of Equipment

Currently, all target vocational colleges except VCTT implement in-house operation and maintenance work. VCTT outsources maintenance work sometime facing a shortage of budget problem. VCTT's budgetary strain may cause bad effect on adequate maintenance work due to minimizing inspection items or reducing inspection frequency.

Other colleges, in general, inspect and maintain equipment in-house and outsource to manufacturer's technical support centres or service agents only in case of trouble. The outsourcing of maintenance of electricity and electronic equipment is not common to all the VCs. These VCs outsource only when equipment is broken, mainly for replacement of damaged parts and components or need calibration.

For some equipment, outsourcing of periodic inspections is necessary for a technical reason; that equipment is mainly large-scale metalworking equipment such as Numerical Control (NC) lathes. The periodic inspection by the manufacturer's technical support centre is indispensable to maintain machining accuracy. It has been understood that typically, Japanese manufacturers for NC machines establish a technical support centre in Vietnam for aftersales services corresponding especially to this occasional need.

On the other hand, the majority of Taiwanese manufacturers provide simple technical services by a salesperson of distributors or sales agents while only a few manufacturers run their own technical support centre in Vietnam. This can be understood as a difference of the business strategy among Japanese and Taiwanese or other Asian manufacturers. It can be empirically understood that Japanese manufacturers consider it is important to provide technical support properly to satisfy customer's satisfaction than to price differentiation, while manufacturers of competing countries generally consider price differentiation as an important sales strategy.

Now, foreign equipment is sold through manufacturer's retail chain and sales agents in Vietnam.

The number of equipment supply sources is large in response to the wide needs for the target equipment in terms of price and quality. In addition to the supply source situation, the equipment list has not been finalized yet; therefore, it is impossible to enumerate manufacturers which have a technical support centre in Vietnam. Nevertheless, the majority of Japanese manufacturers are providing reliable technical support in Vietnam based on interview survey. As for the metalworking machines which have a significant position in the project in terms of value, Japanese manufacturers visited provide professional aftersales services by Japanese engineers who are stationed in Vietnam.

6.2.6. Plan for Develop and Strengthen the Equipment Operation and Maintenance system in collaboration with Technical Cooperation being planned

The following conditions are required at the equipment procurement stage in order to strengthening the maintenance capacity of the relevant equipment of each college.

- The equipment supplier should be obliged to submit the equipment maintenance manuals, daily inspection checklist, necessary documents relating to the maintenance work of

regular inspection checklists, etc. upon the installation of equipment, and carried out the training of the maintenance with those submitted documents and checklists.

- For the newly introduced equipment and handling difficult equipment, an additional operational guidance is requested, measure maintenance guidance include in operational guidance.

In technical cooperation, the following cooperation is planned.

- Personnel (trainer and maintenance persons) to participate in the equipment maintenance system, to ensure operation and maintenance system and structure are functioning thorough preparation and storage of maintenance record.

Assistance for unifying and standardized the equipment maintenance format such as equipment log book that each school has its own format at present.

- The revision and improvement of TOT equipment maintenance course which have been developed in the previous technical cooperation, and implementation of training for equipment maintenance work to each college. It should be noted that this training is conducted before the equipment purchased by the loan is delivered to each college, to promote the development and strengthening of the equipment acceptance readiness of each college.

7. Operation and Effect Indicators

7.1. Background and Objectives

To evaluate the ODA Loan Project, the expected effects were classified as follows;

- 1) Quantitative effects
- 2) Qualitative effects.

For judging the quantitative effects, quantitative indices (Operation, Effect indicator) should be set up as much as possible, and the JST suggests setting up the target index at the target year, 2 years after completion of the Project, and suggests the available manners to get the data and monitoring method.

7.2. Draft operation and effect indicators, their baselines and goals, methods to collect the data, and methods for monitoring

The Operation and the Effect Indicators (Draft), their baseline year and value, target year and value, and their measurement/monitoring methodology are proposed as follows.

Table 7-1 Operation and Effect Indicators (Draft)

Operation and Effect Indicators (Draft)	Baseline Value* ¹	Target Value* ¹ * ⁵	Available means of data and Monitoring methodology
1. Quantitative Indicators			
1-1. Ratio of the employed number of graduates* ² who can utilize the trained skills at the employer's site. * ³	Machining: 96.5% Electricity: 90.7% Electronics: 88.2% (2014)	Machining: 100% Electricity: 100% Electronics: 100% (2024)	Collect data through Q&A at the target Vocational Training Institution (machinery, electrical, electronic), and summarize the data at the Project site of this loan Project.
1-2. Number of institutions as Qualification Certificate Testing Centres in the target Vocational Training Institution* ⁴	Machining: 2 Electricity: 0 Electronics:0 (2014)	Machining: 6 Electricity: 3 Electronics: 3 (2024)	Ditto
1-3. Prospective students number for the target Vocational Training Institutions. * ⁴	Machining: 1,565 Electricity: 1,757 Electronics: 819 (2014)	Machining: 1,893 Electricity: 2,125 Electronics: 990 (2024)	Ditto
2. Qualitative Indicators			
2-1. Evaluation by the companies who employ the graduates of target Vocational Training Institutions.	Generally, graduates are highly evaluated by the employers. However, some VCs worry about whether graduates meet the Japanese companies strict requirements* ⁵ . (2014)	Graduates are highly evaluated by all employers including Japanese companies. (2024)	Collect data through Q&A at the target Vocational Training Institution (machinery, electrical, electronic), and summarize the data at the Project site of this loan Project.
2-2. Roles and responsibilities given to the graduates of target Vocational training Institutions.	Mainly Products manufacturing labour Equipment maintenance technician, and so on* ⁵ (2014)	In addition to the tasks mentioned in the light column, management tasks are assigned. (2024)	Ditto
2-3 Satisfaction degree with lecturers' leadership and training equipment	Generally, trainees are satisfied with the lecturer s' leadership. On the other hand, it is pointed out that the training equipment is not enough. * ⁵ (2014)	Both lecturers' leadership and equipment are highly evaluated. (2024)	Collect data through Q&A at the target Vocational Training Institution (machinery, electrical, electronic), and summarize the data at the Project site of this loan Project.

Note*¹: Baseline value and target value are arranged through the negotiations with the authority of Vietnam side.

Note*²: Rather than permanent employees only, all employment with income are counted as "Employed students".

Note*³: Ratio based on employment within 6 months.

Note*⁴: After considering the increase of VC with few students, the increase in the students number in VC that has more students than its capacity, under the terms of GDVT, shall be considered as an increase in students number in all 13 target VCs by the target year in 2024

Note*⁵: Based on the interview to all 13 target VC conducted in November 2014 by the JST in the preparatory survey

Source: prepared by the JST

8. Proposal for collaboration with other projects

The status of assistance projects in Vietnam with regard to industrial human resource development under JICA is currently providing the following technical cooperation and grass roots grant assistance.

Table 8-1 Technical Cooperation

Project Name	Overall Goal	Project Purpose	Output	Remarks
Hanoi University of Industry Instructor Development Enhancement 2013/6 - 2016/6 Currently-implemented	There exist a certain number of vocational training schools that provide world-class vocational training.	The Hanoi University of Industry (HaUI), as a model of Japanese-level vocational training school, transferring technical skills in the machining, electricity, and electronics sectors to other vocational training schools.	<ol style="list-style-type: none"> 1. Establish a model for giving instructors a capacity building training scheme that is effective even for vocational training schools belonging to different ministries. 2. HaUI develops a new capacity building training program for serving instructors in the machinery, electricity, and electronics sectors that utilizes the process management method. 3. HaUI and Technique Technology College (TTC) shares knowledge, skills, and know-how through full-time collaboration on the project. 	<u>Cooperation details</u> <ul style="list-style-type: none"> • Share the achievements of the past technical transfers • Establish instructor development system • Establish instructor certification system • Incorporate industrial demands in an appropriate manner • Disseminate the national technical skill test system
Development of Human Resources for the heavy and chemical Industry of IUH 2013/10 - 2016/10	The Vietnamese government advancing the human resource development model for practical engineers toward industrialization by 2020 in Vietnam.	The Industrial University of Ho Chi Minh City (IUH) presents a human resource development model for practical engineers for promoting the heavy and chemical industries in Vietnam.	<ol style="list-style-type: none"> 1. IUH Thanh Hoa School develops more practical and creative human resources, especially for the oil production industry. 2. IUH builds a collaborative framework for human resource development with local industries or communities. 3. IUH enhances its relationship with relevant government organizations, educational training institutions, and regional societies for promoting the practical engineers human resource development model. 	

Source: prepared by the JST

Table 8-2 Grass-roots Technical Cooperation/Grant Assistance

Project Name	Objective(s)	Implementation Organization	Remarks
Human Resource Development for the Manufacturing Industry at Ho Chi Minh City Vocational College 2013/8 - 2016/7	Implement training programs that instruct on Japan's highly advanced and sophisticated manufacturing techniques to develop Vietnamese young engineering leaders at Ho Chi Minh City Vocational College.	Under the supervision of Ministry of Labour, Invalids and Social Affairs and JICA, project is implemented by Ho Chi Minh City Vocational College and Kawasaki Industrial Promotion Foundation.	Ho Chi Minh City Vocational College is a loan-based equipment training improvement program.
Improving Instruction Skills for Mechanical Engineer Skills Education 2013/6 - 2016/3	HIVC (Hanoi Industrial Vocational College) can offer vocational trainings and education that supports the mechanical skills examination (engine lathes and machinery inspection), which is equivalent in level to trainings in Japan in developing engineers who will satisfy the needs of the Vietnamese industrial world.	Japan: Chiba Education Committee Vietnam: Hanoi Industrial Vocational College	HIVC is a loan-based equipment training improvement program.
Promotional Support and Human Resources Development for Metal-related Supporting Industries in Ba Rịa-Vung Tau Province 2013/12 - 2016/3	<ol style="list-style-type: none"> 1. Vietnamese government policy planners learn about industrial history, the superiority of technical integration, and assistance measures for product/technical development in Sanjo City and acquire required know-how for promoting their local industries. 2. Managers of Vietnamese companies and the staff of vocational training schools learn methods for developing technical human resources, as well as about product development and design ability, and intellectual property and quality control in Sanjo City and acquire the required know-how for developing their business. 3. Small to medium-sized enterprises in Sanjo City help Vietnamese metal-related industries improve their ability to adapt to the expanding market in a response to globalization. 	Japan: Sanjo Chamber of Commerce and Industry, Sanjo City Vietnam: Ba Rịa-Vung Tau Province	Ba Ria-Vung Tau Vocational College is a loan-based equipment training improvement program.
Human Resources Development for Manufacturing Industry in Dong Nai Province 2014/6 - 2017/3	Establish a system that offers trainings appropriately and continuously based on the education curriculum that meet needs of Japanese companies at the model school in Dong Nai Province.	Japan: Pacific Resource Exchange Center (with the support of KANSAI Bureau of Economy, Trade and Industry) Vietnam: Dong Nai Province Industrial Complex Administration Office	
Educational Environment Enhancement for IT Human Resources Development in Hanoi 2014/2 - 2017/1	Establish an educational environment that enables the development of IT technicians who can become immediate players on a long-term basis	Japan: Sapporo IT Front Vietnam: Educational institutions in the Hoa Lac High Tech Park	

Source: prepared by the JST

Table 8-3 Dispatch of Experts

Project Name	Objective(s)	Implementation Organization	Remarks
Advisor for Organizing Skill Testing System in Vietnam 2013/9 - 2015/9	Planning the creation of an effective national skill test system, the establishment of a structure to implement and disseminate the system, and advice/support for improving conditions.	Vietnam: to conduct research and planning with the deputy chief of the Vocational Training General Office under MOLISA (Ministry of Labor, Invalids and Social Affairs) as the main C/P. Collaborate with the HaUI Engineers Development Project (with the trial skill test)	
Advisor on Vocational Training System 2013/8 - 2015/8	Implement activities, advice, or supports to improve vocational trainings and the national skill test, and help them appropriately meet industrial needs.	Vietnam: Implement activities with the Vocational Training General Office under MOLISA (Ministry of Labor, Invalids and Social Affairs) as the main C/P. Collaborate with the HaUI Engineers Development Project on upgrading the vocational training system and the trial skill test.	
Advisor on Vocational Training System 2015/8-2017/8	Collaboration with other technical cooperation in vocational training sector, installation of NOSS system, support for Vietnam's government activities such as formulation for implementation structure and improvement of social recognition, contribution for human resource development and advancement of manufacturing industry.	Collaborate with TOT implemented by 'Project for Strengthening TOT functions at Hanoi University of Industry' and equipment which is planned to be installed in 'Project for Strengthening Vocational Training Sector'	

Source: prepared by the JST

Additionally, the Japan Vocational Ability Development Association (JAVADA) has implemented the following activities in cooperation with the human resources development of ASEAN integration; Vietnam is one of the recipient countries.

- i. **Joint Training**
Japan and ASEAN developed countries provide joint trainings on vocational skills development measures to people in the public and private sectors of the CLMV (Cambodia, Laos, Myanmar, Vietnam) countries.
- ii. **Seminar by Country**
Seminar by Country is implemented in the CLMV countries to share joint training achievements with the relevant people and promote human resources development efforts. The program includes lectures delivered by Japanese instructors and joint training participants, as well as group presentation.
- iii. **Technical Meeting for Disseminating the Vocational Skill Test System**
This meeting aims to disseminate the Japanese vocational skill test standards in creating the ASEAN vocational skill test standards.

iv. Development and Dissemination of the ASEAN Vocational Training Instructors Manual

Develop the ASEAN Vocational Training Instructors Manual and disseminate it to ASEAN countries to set up training courses that appropriately meet business needs and facilitate improvement.

In the implementation of the project, it is necessary to conduct the activities in the manner to realize the multiplier effect in collaboration with each of aforesaid project: for example to select the target school, to improve the technical abilities of instructors for fostering the human resources of which those ability are required by the industry sector, to execute the effective training, and for these purposes to strengthening of the management method in the vocational training institutions, and to make up strong relations between industry sector and vocational training institutions through executing of the Trade Skills tests, with taking the above assistance situation in consideration and plan to supply the equipment available for technical skill test.

According to the steps above, based on the situation of former technical cooperation scheme and proposed technical cooperation plan, The ultimate goal of the project is that target schools receiving equipment installed through loans will be able to level up of the lecturers ability and the developing of the effective training and so on. To achieve the goal, it is necessary to make HaUI a core school among the target schools of loan, to make TTC and HVCT base schools in Hanoi and Ho Chi Minh, and to review the measures to enable each target school of each loan to have the skills transferred by cascade method from the core school and base schools. And the timing of installation of equipment requires the consistency of the following technical cooperation plan and then equipment shall be installed core school and base schools first, then the other schools will be installed with new machines and equipment.

Japan Vocational Ability and Development Association (JAVADA) had attempted the spreading out of the Japanese Vocational Ability Assessing Standard as a kind of human resources development cooperation scheme to the Vietnam's industry, so the procurement of the machines and equipment for the trial skills evaluation shall be consistently with the Trade Skills test schedule (Selection of trade occupation, setting up of the skills standard, training of the assessor, setting up the Skills test site, and etc.)

9. Study Tour to Japan

9.1. Objectives

As this Japanese ODA loan project aims at expanding the Japanese vocational training method in Vietnam, the study tour to Japan was held. The aims of study tour are to provide information which useful to consider STEP scheme by introduction of vocational training institutions and Japanese products manufactures in Japan.

9.2. Implementation Outline

9.2.1. Delegation members

Names, positions and organization of members are shown below.

Table 9-1 Delegation Member List

	Name	Position	Organization
1	Mr. Duong Duc Lan	General Director	GDVT
2	Mr. Dinh Van Son	Director of Personnel Dept.	GDVT
3	Mr. Nguyen Ngoc Tam	General Director of Facilities and Equipment Dept.	GDVT
4	Ms. Le Thi Khanh	Deputy General Director of Planning and Financing Dept.	MOLISA
5	Mr. Do Nang Khanh	Director of ODA PMU	GDVT
6	Mr. Nguyen Van Hung	Expert of Foreign Economic Relations Dept.	MPI
7	Ms. Nguyen Thu Van	Expert of Debt Management and External Finance Dept.	MOF
8	Ms. Tran Lien Huong	Head of Planning and Procurement Division of ODA PMU	GDVT
9	Mr. Pham Duc Tien	Head of Technical Division of ODA PMU	GDVT
10	Mr. Pham Xuan Khanh	Rector	HVCHT
11	Mr. Hoang Ngoc Chanh	Rector	VCMI
12	Mr. Pham Duc Vinh	Rector	HIVC
13	Mr. Le Quoc Binh	Rector	HCMVC
14	Mr. Le Duy Cau	Rector	BRVTVC

Source: prepared by the JST

9.2.2. Program contents

The study tour to Japan was a six-day program from 19th January to 24th 2015. The program is shown below.

Table 9-2 Study Tour Program


Date	Group A (Governmental Institutions) 7 persons	Group B (Vocational Training Institutions) 7 persons	
Jan. 19 (Mon)	07:00	Arrive in Japan (VN310)	
	07:30	Narita Airport >>>Hotel (by bus)	
	10:00	1-1 Orientation by JST/Hotel Hotel >>> Lunch, etc.	
	14:30	Hotel >>> OCG (by train)	
	15:00-16:00	Discussion with JICA-HQ/2F-3, OCG - for members from MOLISA, GDVT and PMU	
	15:00-16:00	Slide show about equipment/7F-2, OCG - for members from MOF, MPI and VCs	
	16:00-17:00	1-2 Project briefing by the PMU/2F-3, OCG.	
	17:00-17:30	OCG >>> Shinjuku (by train)	
	17:30-19:30	Welcome Dinner	
Jan. 20 (Tue)	09:00	Hotel >>> Shinjuku >>> Kasumigaseki (by train)	
	10:00-11:00	2-1 Ministry of Health, Labor and Welfare, Human Resource Development Bureau (Meeting with Chief of Bureau) Kasumigaseki >>> Shinjuku (by train)	
	14:20	Hotel >>> Shinjuku >>> Hino (by train) >>> joining to the Group B	
		<i>Same as Group B</i>	
	08:00-	Hotel >>> Factory (by bus)	
	10:30-14:00	2-2 Factory visit	
		15:30-17:00	2-3 Factory visit
		17:00-17:40	Factory >>> Hotel (by bus)
Jan. 21 (Wedne sday)	08:45-09:50	Hotel >>> Chiba (by bus)	
	10:00-11:00	3-1 JEED / Chiba	
	11:00-12:00	Chiba >>> Factory (by bus)	
	12:00-12:50	Lunch	
	13:00-14:30	3-2 Factory visit	
	14:30-15:00	Factory >>> Factory (by bus)	
	15:00-17:00	3-3 Factory visit	
	17:00-17:30	Factory >>> Hotel (by bus)	
Jan. 22 (Thu)	08:45	Hotel >>> Chiba-shi	
	10:00-11:30	4-1 Chiba Nokaidai/Polytechnic College Chiba (Two-year course)	
	11:30-12:00	Lunch	
	12:00-13:30	Chiba-shi >>> Narita-shi (by bus)	
	13:30-14:30	4-2 Chiba Nokaidai/Polytechnic College Narita (Two-year course)	
	14:30-16:00	Narita-shi >>> Noda-shi (by bus)	
	16:00-17:30	4-3 Factory Visit	
	17:30-19:00	Factory >>> Hotel (by bus)	
Jan. 23 (Fri)	08:15-10:30	Hotel >>> Oyama (by bus)	
	10:30-14:00	5-1 Kanto Nokaidai / Kanto Polytechnic College / Oyama	
	14:00-17:00	Oyama >>> Hatagaya (by bus)	
	17:00-18:30	5-2 JICA's Session Hatagaya >>> Hotel (by train)	
	19:30-21:00	Farewell Party	
Jan. 24 (Sat)	05:50	Check-out	
	06:10-08:00	Hotel >>> Narita Airport (by bus)	
	10:00	Departure from Japan (VN311)	

Source: prepared by the JST

9.2.3. Purpose and contents of each program, comments from delegation members and visiting images

Purpose and comments of each program, comments from delegation members and visiting images are shown in the table below.

Table 9-3 Purpose and Contents of each programs and Comments from delegation members.

Date	Purpose and contents of each program	Comments from delegation members
Governmental Institutions		
1/20	<p>2-1 Ministry of Health, Labour and Welfare, Human Resource Development Bureau</p> <p>To grasp the big picture of the responsibility of the governmental supervisory authority in the vocational training sector in Japan, the status of the vocational training sector in Japan, and future prospects of the vocational training sector in Japan.</p>	<ul style="list-style-type: none"> • It is good point for us that we had an explanation from MHLW and grasped the vocational training management especially for unemployment insurance in Japan.
1/21	<p>3-1 JEED</p> <p>To grasp the function of JEED which is a supervisory authority for vocational training in Japan and equivalent to GDVT in Vietnam, the status of vocational training and the way to train vocational training trainers in Japan.</p>	<ul style="list-style-type: none"> • We are interested in the relationship among MHLW, JEED and companies, the way to bring up high skilled worker and the difference between university/college graduates and vocational college graduates.
Vocational Training Institutions		
1/22	<p>4-1 Chiba Nokaidai/Polytechnic College Chiba</p> <p>To grasp the conditions of vocational training in Japan including equipment availability, workshop condition, teachers, students and text books as an example of a polytechnic college in Japan.</p> <p>4-2 Chiba Nokaidai/Polytechnic College Narita</p> <p>To grasp the conditions of vocational training in Japan including equipment availability, workshop condition, teachers, students and text books as an example of a polytechnic college in Japan.</p>	<ul style="list-style-type: none"> • As both education level and facility/equipment level are very high, we think high levelled worker can be brought up in these polytechnic colleges. • We think it is rational that educational program is reflected from company's needs and equipment in polytechnic college are same to equipment in company. • Substantial types of equipment are set. • There are not so many students. • The school buildings are kept clean. • We feel there is a high capacity teacher, because a teacher has first grade skills certification in four fields.
1/23	<p>5-1 Kanto Nokaidai / Kanto Polytechnic College / Oyama</p> <p>-To grasp the conditions of vocational training in Japan including equipment available, workshop condition, teachers, students and text books as an example of a polytechnic college. [Two-year specialized course + Two-year applied course]</p> <p>-Short lecture about various types of equipment such as electric car-related equipment, inverter experimental apparatus and wind electricity/solar electricity-related equipment from Showa Denryo which supplies this equipment to the polytechnic college.</p> <p>-To grasp the specialty and superiority of such equipment made in Japan.</p> <ul style="list-style-type: none"> • Check the products and manufacturing process to understand the merit of Japanese product. Fanuc is the only company which makes all products in Japan and has 60 % world market share. 	<p>I understand that polytechnic colleges are organized systematically as they archive high level employment rate by having a good relationship with companies and searching company's needs.</p> <ul style="list-style-type: none"> • It seems that graduates can work well immediately after getting job. • It is good educational system that company makes theme and students try to resolve it. On the other hand, as we don't have such a good facility like Japan, we have to formulate a program when we make same system in Vietnam.  <p>Student's presentation</p>

Date	Purpose and contents of each programs	Comments from delegation member
Others		
1/23	5-2 JICA's Session <ul style="list-style-type: none"> • Big picture of this project is explained by JICA, such as human resource development project in Vietnam and importance of bringing up the human resource which is required by companies, etc. • Selection result of supporting vocational college, project purpose, supporting fields and procurement process and structure are discussed. 	<ul style="list-style-type: none"> • Addition to the comments which is written above about this study tour, impression of Japan are told from Mr. Duong Duc Lan and rector. - Town is kept very clean - 5S activity is practiced in company. - Company strict about time and is orderliness. - Company and organization have prepared well for visit and discussion. - We want to imitate transportation system, especially for underground transportation system.

Source: Prepared by the JST

9.3. Comments from JST

As the study tour to Japan was held during preparation of DFR, JST could utilize this occasion for:

- making consensus on the result of the selection of VCs,
- promoting understanding and making consensus on the equipment selection, and
- promoting understanding and making consensus on setting operation and effect indicators and their measurement methods during project implementation.

Through the study tour, JST achieved the followings:

- reaching common understandings between Vietnamese and Japanese relatives,
- showing the situation that the Japanese products have superiority not only quality but also manufacturing process,
- showing disciplined and organized culture behind the Japanese vocational training system, and,
- showing Japanese products' durability and accuracy.

Additionally, it is a great accomplishment for the improvement of the relationship between Vietnam and Japan. In the future, with respect to the possible issues upon yen loan project formation, this experience shall be utilized with the aim of supporting project formation.

10. Project Outline (PO)

The Project Outline (PO) needs to be submitted from the managing agency to MPI as a first step for the formulation of the project in Vietnam. The following information shall be stated in the PO with the agreement on cost sharing from the related governing bodies.

Table 10-1 Contents of Project Outline (PO)

No.	Contents
I	Name of Project
II	Name of Donor
III	Governing Agency and Project Owner
IV	Implementation Period
V	Background and Necessity of Project
VI	Basis of Donor Selection
VII	Project Objectives
VIII	Beneficiaries of Project
IX	Major Result of Project
X	Total Amount of Project
XI	Proposal for Financial Mechanism for Project
XII	Organizational Management for Project Implementation
XIII	Brief Analysis on Effectiveness, Impact and Sustainability of Project
XIV	Activities to be completed in Advance

A Draft PO was prepared and submitted by the JST to PMU in February 2015. Upon finalization of the target schools and planned equipment, the PMU will prepare and submit the PO.

11. Technical Cooperation

11.1. Background of Review on Technical Cooperation Projects

In order to achieve the capacity building necessary for effective expression of the yen loan project, it is planned to carry out the implementation of technical cooperation. In consider with the on-going "Hanoi Industrial University instructor training enhancements project" and the model for instructor training that was made during the previously conducted technical cooperation is aimed to promote the capacity building of the target VCs in yen loan projects.

Because for Japanese expert to directly conduct skill transfer is not efficient, it was decided to transfer the model that was constructed within HaUI as the core school to the key schools in the northern area (Hanoi) and the southern area (Ho Chi Minh), a technical cooperation of training the lecturers of the targeted vocational institutions for Yen loan called "Horizontal Expansion".

Therefore, confirm the current results as well as the expected results of the on-going technical cooperation project, the capacity development scenario in Vietnam and accordingly organize and propose the content, schedule, implementation system and period of cooperation for VCs under yen loan project was planned. Mainly, this project was planned as a successor project of the on-going technical cooperation projects thus with thorough consultation with experts from the preparation survey conducted and project experts from other activities, change of the plan or approach in the on-going project might be proposed if necessary.

The following Table 11-1 shows the outline of technical cooperation projects for Vietnam including the on-going ones (project name, priority goals, project goals, and achievements).

Table 11-1 Outline of Technical Cooperation Projects for Vietnam in the field of Vocational Training

	Technical Cooperation Project name	Priority Goals	Project Goals	Achievements
P-1	Project for Strengthening the Training Capability of the Technical Workers Course at Hanoi Industrial College 2000/4 - 2005/3 The course installed by the project was established as "Vietnam-Japan Center (VJC)", and now as VC produces about 350 technicians annually, highly valued by Japanese enterprises.	To improve the technicians' skill in the field of machinery in Vietnam.	Improve mechanical technician training capability of the Hanoi Polytechnic College, machinery industry development in the corresponding under training course in Vietnam (machining, machinery sheet metal processing, electrical control) have been developed, and, it is properly implemented.	1. The facilities and equipment are properly managed and utilized. 2. Training Course (machining, sheet metal working machines, electric control) have been developed and implemented. 3. Competent instructors are trained. Hanoi Polytechnic College ability of the supervisor of the machine industrial fields can be improved. 4. Trainee recruitment major system is established. 5. The organization and budget are properly operated. 6. The VC with machinery system is planned
P-2	Project for Human Resource Development for Technicians at Hanoi University of Industry 2010/1 - 2013/1 Organic cooperation with	The Vietnamese technical and vocational education and training (TVET)	Hanoi University of Industry (HaUI) can develop its education and training programs to	1. HaUI is to autonomously enhance the management cycle that allows to improve its training in response to the needs of the industry.

	Technical Cooperation Project name	Priority Goals	Project Goals	Achievements
	Japanese companies (human resource development needs of information sharing, participation in the formulation and evaluation of curriculum, internships, skills test based on cooperation) has been performed.	system provides sufficient industrial human resources who meet the needs of the industrial sector in Vietnam.	meet the demands of the industrial sector in Vietnam.	2. HaUI is, based on the demand of policy and industry, to build a skill certification system. 3. HaUI is to provide an effective internship program for students.
P-3	Project for Strengthening TOT functions at Hanoi University of Industry (Yen-loan affiliated cooperation) 2013/6 - 2016/6 Currently-implemented	There are some VCs that provide world-class vocational trainings.	Hanoi University of Industry (HaUI), as a model of a Japanese-level vocational training school, can transfer technical skills in the machinery, electric, and electronics sectors to other vocational training schools.	1. Establish a model for providing instructors a capacity building training scheme that is effective even for vocational training schools belonging to different ministries. 2. HaUI develops a new capacity building training program for serving instructors in the machinery, electric, and electronics sectors utilizing the process management method. 3. HaUI and Technique Technology College (TTC) share knowledge, skills, and know-how through full-time collaboration on the project.
P-4	Human Resources Development for the heavy chemical Industry at the Industrial University of Ho Chi Minh City (IUH) 2013/10 - 2016/10	Toward the industrialization of Vietnam by 2020, the government is to promote human resource development model of practical engineer.	The Industrial University of Ho Chi Minh City (IUH) presents a human resource development model for practical engineers for promoting the heavy and chemical industries in Vietnam.	1. IUH Thanh Hoa School can develop more practical and creative human resources especially for the oil production industry. 2. IUH builds a collaborative framework for human resource development with local industries or communities. 3. IUH enhances its relationship with relevant government organizations, educational training institutions, and regional societies for promoting the human resource development model of practical engineers.

Source: prepared by the JST

Table 11-2 Activity Contents of Technical Cooperation Projects for Vietnam in the field of Vocational Training

	Technical Cooperation Project name	Activities
P-1	Project for Strengthening the Training Capability of the Technical Workers Course at Hanoi Industrial College 2000/4 - 2005/3 The course installed by the	1. Construct facilities and set equipment for vocational training. 2. Curriculum development based on the demand of mechanic industry and teaching material 3. Training of trainee 4. Establish an applicant eligibility and provision. 5. Establish an independent organisation structure.

	Technical Cooperation Project name	Activities
	<p>project was established as "Vietnam-Japan Center (VJC)", and now as VC produces about 350 technicians annually, highly valued by Japanese enterprises.</p>	<p>6. Review of existing training method of mechanical industry.</p>
<p>P-2</p>	<p>Project for Human Resource Development for Technicians at Hanoi University of Industry 2010/1 - 2013/1</p> <p>Organic cooperation with Japanese companies (human resource development needs of information sharing, participation in the formulation and evaluation of curriculum, internships, skills test based on cooperation) has been performed.</p>	<p>1-1. HaUI makes a working group for strengthening management cycle. 1-2. The WG reviews existing vocational training management method and divide it to 'Needs grasp and working field selection', 'Preparation and implementation', 'Evaluation and feedback' etc. 1-3. The WG makes strong and organized management cycle plan to archive efficient and effective cooperation with industry. 1-4. HaUI tries to grasp needs from industry at the model faculty/center based on the plan. 1-5. Model faculty/center in HaUI improves curriculum, training method and teaching material with company. 1-6. Model faculty/center in HaUI trains trainee in cooperation with company based on the plan. 1-7. Model faculty/center in HaUI analyses vocational training method in cooperation with company based on the plan and implements feedback for next cycle. 1-8. The WG analyses the plan and establishes policy to make new management cycle which has strong relationship with industry. 2-1. HaUI establishes a working group that is composed from a management sub-group and technical sub-group for the purpose of formulation of skill test system. 2-2. The working group makes related ministry's and industry's understandings for skill test system better through exchange of opinions. 2-3. The working group investigate existing skill test system in Vietnam. 2-4. The working group plans skill test system that is implemented in HaUI. 2-5. The technical sub-group develops contents to implement skill test. 2-6. The technical sub-group brings up examiner. 2-7. The technical sub-group prepares equipment that is need for skill test. 2-8. The technical sub-group implements a skill test. 2-9. The working group evaluates the skill test system and indicates an area for improvement. 2-10. The working group manages a skill competition to promote skill test system. 2-11. HaUI suggests a model of NOSS. 3-1. HaUI training department and related departments conduct a search to point out a task for the purpose of effective internship program preparation. 3-2. HaUI training department and related departments improve internship program based on the search. 3-3. LETCO improves internship information collecting / processing / management / provision. 3-4. HaUI training department and related departments strengthen an internship management capability and improve the quality of the service. 3-5. HaUI evaluates the revised internship program and indicates an area for improvement again.</p>

	Technical Cooperation Project name	Activities
P-3	<p>Project for Strengthening TOT functions at Hanoi University of Industry (Yen-loan affiliated cooperation) 2013/6 - 2016/6</p> <p>Currently-implemented</p>	<p>Goal 1. Activities about vocational training implementation corresponding to industrial needs</p> <p>1-1. HaUI establishes a working group that includes related institutions such as TTC for the purpose of strengthening TOT functions.</p> <p>1-2. The working group reviews an existing TOT scheme from administrative and institutional view to strengthen TOT which is conducted by VCs under different ministries.</p> <p>1-3. The working group plans desirable TOT scheme.</p> <p>1-4. The working group trials the plan.</p> <p>1-5. The working group makes a model of TOT scheme through activities mentioned above.</p> <p>1-6. The working group has a discussion with related ministries such as MOIT and MOLISA during 1-2 to 1-5 activities mentioned above.</p> <p>1-7. The working group shares the model with GDVT to improve an existing TOT scheme model.</p> <p>Goal 2. Activities for formulation of skill test institution</p> <p>2-1. HaUI evaluates trainer's ability including another school.</p> <p>2-2. HaUI selects candidates for TOT and indicates an area for improvement</p> <p>2-3. HaUI develops curriculum and study materials for TOT.</p> <p>2-4. HaUI brings up trainers for TOT scheme.</p> <p>2-5. HaUI implements TOT scheme by utilizing developed curriculum and study materials.</p> <p>2-6. HaUI formulates TOT scheme program by evaluating TOT.</p> <p>Goal 3. Activities for formulation of internship institution.</p> <p>3-1. TTC dispatch their trainer to HaUI as project member. HaUI accepts the trainer.</p> <p>3-2. HaUI sets work contents and objective and monitors status of the achievement with TTC.</p> <p>3-3. TTC holds a seminar or workshop regularly to enhance knowledge, technic and knowhow which the trainer gained at HaUI.</p> <p>3-4. TTC conducts trial TOT program with HaUI's support.</p>
P-4	<p>Human Resources Development for the heavy chemical Industry at the Industrial University of Ho Chi Minh City (IUH) 2013/10 - 2016/10</p>	<p>1-1. Thanh Hoa Basis of IUH examines vocational training status of their own and degree of contribution to local industry.</p> <p>1-2. Thanh Hoa Basis of IUH radicates safety education to heavy and chemical industry especially for oil production industry.</p> <p>1-3. Thanh Hoa Basis of IUH builds up laboratory education in the field of heavy and chemical industry especially for oil production industry.</p> <p>1-4. Thanh Hoa Basis of IUH builds up research development in the field of heavy and chemical industry especially for oil production industry.</p> <p>2-1. Thanh Hoa Basis of IUH sets management system to improvement cooperation structure for human resource development with local industry and community.</p> <p>2-2. Thanh Hoa Basis of IUH implements cooperation activities about human resource development with local industry and community.</p> <p>2-3. Thanh Hoa Basis of IUH tries to sustain cooperation structure for human resource development with local industry and community.</p> <p>3-1. Thanh Hoa Basis of IUH shares good lessons with related government agency and VCs regularly.</p> <p>3-2. MOIT and related government agency think of publication activities for desirable human resource development promotion.</p> <p>3-3. Thanh Hoa Basis of IUH suggests desirable model of human resource development for practical TOT to MOIT and related VCs</p>

Source: prepared by the JST

11.2. Cooperation content and schedule of the vocational training institutions by the yen loan

Training equipment is procured through yen loans for the machinery processing, electric, and electronic sectors to provide vocational trainings that are at the same level as Japanese Polytechnic Colleges in order to realize vocational training at international standards, with the purpose of improving the supply capacity for high potential technician engineers through enhanced development functions that meet the human resources needs of the Vietnamese industrial sphere.

With that in mind, a review will be carried out of the technical cooperation projects such as training for instructors and managers and the development of curriculums, syllabi, and materials so that the vocational training colleges that receive equipment through yen-loan finance will be able to effectively use the equipment and achieve initial goals.

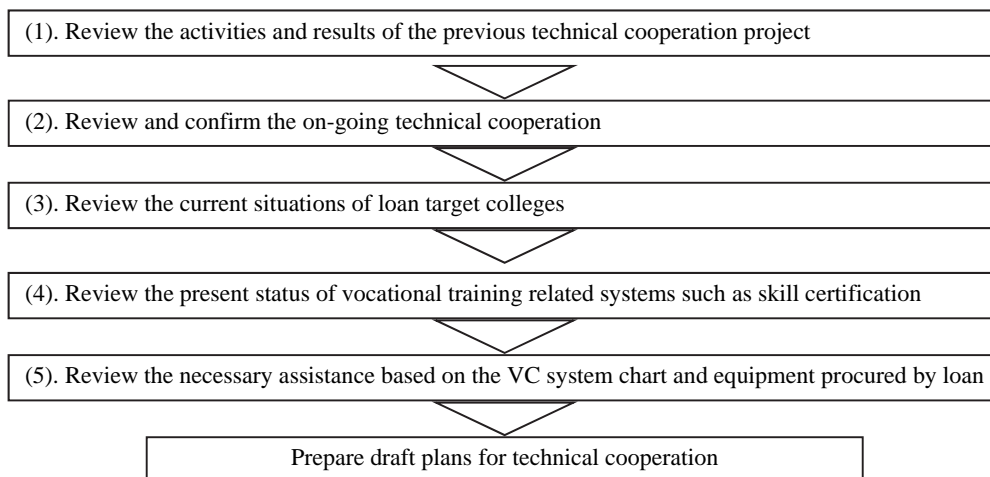
For the yen loan finance, exchange of notes and conclusion of loan agreement has been scheduled in March 2016, the installation of training equipment shall be completed, and is planned to start of use from the second half of 2019.

Technical cooperation, in light of this plan shall be carried out as follows.

- Technical cooperation by improving the skills of instructors needed to use, operate and maintain equipment procured by loan, as well as the installation of the equipment shall be done by the start of use which is planned to be in the second half of 2019 .
- After the second half of 2019, in cooperation with industry, it is planned to further improve the training level for effective use of the procured equipment, in order to continuously produce graduates that satisfy the needs of industry, for example upgrading of instructor technical knowledge and improvement of training content / curriculum.

11.3. Review Steps

The review steps are as follow.



Source: prepared by the JST

11.4. Review results

11.4.1. Activities and results of technical cooperation project

1) Process management of vocational training by PDCA

Process management method for vocational trainings by PDCA is shown in Table 11-3, whereas skill transfer of HaUI “core school” properly done through P-1 (The Project for Strengthening Training Capability for Technical Workers Course at Hanoi Industrial College 2000/4 - 2005/3) and P-2 (The Project for Human Resource Development of Technicians at Hanoi University of Industry 2010/1 - 2013/1), are described in Table 11-8.

Table 11-3 Process management of vocational training

Process - 1	Understanding training needs	P-2 Project for Human Resource Development of Technicians at Hanoi University of Industry
Process - 2	Selection of training areas	P-2 Project for Human Resource Development of Technicians at Hanoi University of Industry
Process - 3	Curriculum preparation	P-2 Project for Human Resource Development of Technicians at Hanoi University of Industry
Process - 4	Preliminary works for training implementation	P-1 Project for Strengthening Training Capability for Technical Workers Course at Hanoi Industrial College
Process - 5	Implementation of trainings	P-1 Project for Strengthening Training Capability for Technical Workers Course at Hanoi Industrial College
Process - 6	Assessment of trainings	P-2 Project for Human Resource Development of Technicians at Hanoi University of Industry
Process - 7	Examination and implementation of improvement measures	P-2 Project for Human Resource Development of Technicians at Hanoi University of Industry

Source: Prepared by the JST

In ongoing P-3 Project (The Project for Strengthening TOT functions at the Hanoi University of Industry (HaUI) 2013/6 - 2016/6), the skill transfer of the vocational training management method by using PDCA cycle to the key schools, Hanoi Technique Technology College (TTC) and Ho Chi Minh Vocational College of Technology (HVCT), from HaUI. Through the instructors from these 3 schools to play as the center role, the aim is to enhance the capability of the instructors to targeted colleges as well as other colleges.

Currently, the skill transfer from core school HaUI to key school TTC is going well. Addition to it, the skill transfer to key school HVCT and other schools is progressing already. On the other hand, process management is not done well yet and it must be improved.

2) Establishment of Skill Test System

Vietnam has set a NOSS, which examinations have been carried out by GDVT.

Because Japan has dispatched long-term experts continuously, Skills Test certification system is considered widespread in Vietnam

For more information refer to (3) and (4).

3) Development and establishment of Internship program

The initiatives of the target school are described in Table 11-9. Internship program mainly to Japanese companies have been gradually established. On the other hand, it is noted that cooperation system between education institute and industry is not developed. It is demanded that structure will be improved.

4) Industry collaboration

Mainly Japanese companies, HaUI has been collaborating with industry in conducting short-term seminars (training for the employees).

11.4.2. Activity plan and progress of the on-going technical cooperation projects

The on-going technical cooperation projects are carried out as follows.

As "HaUI Technical Model" organize and establish "expertise group (technical skills)" and "operation and management method based on corporate needs (soft skills)" in order to expand (horizontal expansion) VCs nationwide based on cascade method through technical cooperation project phase 1 (2000-2005) and phase 2 (2010-2013). It is also important to transfer the knowledge, skills, and know-how about the Japanese-style vocational training that has been accumulated in the "core school" HaUI, to the selected "key school" in the northern region (Hanoi) VCTT, the southern region (Ho Chi Minh City) HVCT in the on-going phase 3 (2013-2016), as well as the development and implementation of incumbent instructor training courses.

1) Specialized technical skills

Develop and implement skill transfer to "key school" as well as training course for VC's instructor in the suburb area.

For Machinery : 1. Machining centers, 2. Machine preservation, 3. 3 D-CAD, 4. CNC lathe (or die machining)

For Electric: 1. PLC network, 2. Electricity conservation, 3. PLC application, 4. Servo motor

For Electronics: 1. PIC microcontroller, 2. PLC Mitsubishi, 3. PLC application, 4. FPGA

2) Training operational management and collaboration with industry

Develop skill transfer to "key schools" and, in part, start VC instructor training course for other VCs.

1. 5S and safety activities: carried out as part of facility management, also, as awareness-raising activities for the "5S and safety" of students

2. Training operation, management, and collaboration with industry

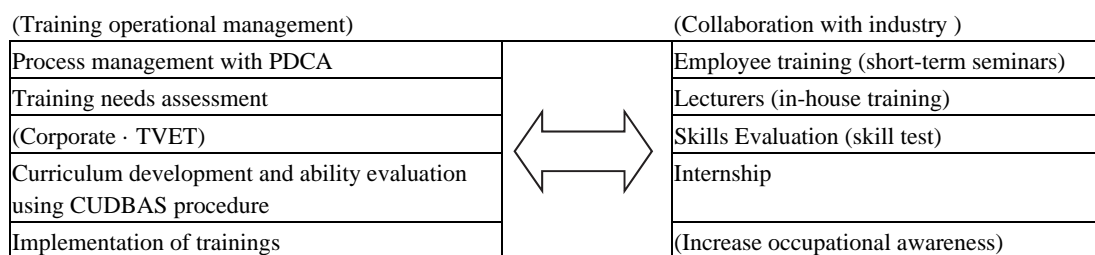


Figure 11-1 VC Operational & Management and Collaboration with Industry in the On-going Technical Cooperation P-3

3) Implementation status

Table 11-4 Technical Cooperation P-3 Activity Planning and Progress

Technology to be transferred as HaUI model	Technology transfer situation (HaUI ⇒ key college)	Technology transfer situation (HaUI / key college ⇒ Other VCs)	Instructor training (TOT) Development status	
Machinery	Machining Center	Performed/ on-going	On-going	Finished
	CNC lathe (or mold design)	Performed/ on-going		On-going
	Skills Test (CNC milling machine)	Performed/ on-going		Under consideration
	Machine maintenance of general-purpose machinery	Performed/ on-going	On-going	Finished
	3D-CAD	Performed in fiscal year 2015	On-going in fiscal year 2015	Finished
Electric	PLC application (Omron)	Performed/ on-going	On-going	Finished
	Air pressure technology	Performed / on-going		Under consideration
	Electrical maintenance of general-purpose machinery	Performed/ on-going	On-going	Finished
	PLC Network	Performed/ on-going	On-going	Finished
	Servomotor			On-going
Electronics	PIC microcontroller	Performed/ on-going	On-going	Finished
	PLC (Mitsubishi) and inverter technology	Performed/ on-going	On-going	Finished
	PIC application	2015 Performed	On-going in fiscal year 2015	Finished
	FPGA			On-going
Management	CUDBAS	2015 Performed	On-going in fiscal year 2015	Finished
	5S	Performed/ on-going		Under consideration
	Training Needs Assessment (company survey)	Performed/ on-going		No development in P-3
	PDCA	2015 Performed	On-going in fiscal year 2015	Finished
	Teaching techniques and teaching materials development			No development in P-3
	Training evaluation and improvement			No development in P-3
Industry cooperation	Short-term seminars	Performed/ on-going		No development in P-3
	Company training			No development in P-3
	Proficiency measurement			No development in P-3
	Internship			No development in P-3
	Employment support			No development in P-3

Source: Prepared by the JST

4) Other

In the next technical cooperation, in order for HaUI to perform and function as "core school" of VCs in Vietnam and conduct skill transfer properly to the "key schools" in Hanoi for the northern region and in Ho Chi Minh City for the southern region, and to other VCs with equipment installed from loan projects as well as other schools, a system that can independently conduct training to cultivate high-quality technicians to meet local business

needs is required. However, not only that the development of ToT model is expected to require approximately 8-10 months if led by HaUI as opposed to 6 months if led by Japanese experts, as described in (3) below, further development of is also necessary for the operation and management system of HaUI including company / industry collaboration since the current condition of the target VCs have not reached the desired result. Accordingly, the need to continue to provide support is high.

11.4.3. Examine current situations of Loan target colleges

In order to understand the current condition of equipment in the target colleges of the yen loan projects, the following 5 actions has been conducted:

1. Implementation condition of 5S activities
2. Training condition of the highly-demanded field by companies
3. Training process management approach that incorporates the company needs
4. Employment support system
5. Skills Test

With respect to the status of implementation of the above-mentioned five actions in VCs, each VC's status was evaluated.

The current status and the evaluation are as follows.

1. Implementation of 5S activities and its evaluation

A survey was conducted based on the activities in Table 11-5 as inspection items.

The findings are shown in Table 11-7.

Although the 5S activities have been implemented, there are variability in the achievement degree of this program, depending on the understanding of motives and goals of this program in each schools, which is not satisfying. Thus, continuation of this program is considered necessary.

Table 11-5 5S activities

5S Contents	Activities
“Seiri”= Arrangement Sort	Remove unnecessary items and dispose of them properly
	Make work easier by eliminating obstacles
	Reduce chance of being disturbed with unnecessary items
	Prevent accumulation of unnecessary items
	Evaluate necessary items with regard to cost or other factors
	Remove all parts not in use
	Segregate unwanted material from the workplace
“Seiton “= Orderliness Straighten Set in order Streamline	Arrange all necessary items so they can be easily selected for use
	Prevent loss and waste of time
	Make it easy to find and pick up necessary items
	Ensure first-come-first-served basis
	Make workflow smooth and easy

5S Contents	Activities
“Seisou”= Cleaning Shine Sweep Sanitize	Clean your workplace completely
	Use cleaning as inspection
	Prevent machinery and equipment deterioration
	Keep workplace safe and easy to work
“Seiketsu”=Cleanliness Standardize	Standardize the best practices in the work area
	Maintain high standards of housekeeping and workplace organization at all times
	Maintain orderliness.
	Maintain everything in order and according to its standard
	Everything in its right place (Chilled totes in chilled area, Dry totes in dry area)
“Shitsuke”=Upbringing Sustain	Every process has a standard
	To keep in working order
	Also it translates as "do without being told"
	Perform regular audits
	Training and Discipline

Source: Prepared by the JST

2. Training condition of the highly-demanded field by companies

Survey about fields of study which are predicted to be high in demand by companies has been conducted.

In the survey, based on the equipment and curriculum, each college was evaluated by comparing it to the situation of Polytechnic Colleges in Japan. There are some VCs that modified their training content following the demand of neighbouring companies, which shows that further improvement of the training content is possible.

3. Training process management approach that incorporates company needs

A survey that inspected the main initiatives items and the content of each process in the process management was conducted. The results are shown in Table 11-8.

PDCA-based training process management skill has already been transferred using technical cooperation P-1 and P-2 in HaUI, but the skill transfer to "key schools" is still in progress, and no progress has been done to other schools, thus other than HaUI, the condition of process management method is still unknown. Even though each school has its own management approach to manage its training, without systemization the goal to improve training content has not been successful.

In order to conduct vocational training effectively and efficiently, the need for skill transfer of training process management that incorporates the PDCA approach is extremely high.

Table 11-6 The Content of Each Process and Its Major Actions in Process Management

No.	Basic Process	Major Actions
1	Understanding training needs Analyse human resources needs using a variety of data (reports, survey data, surveys of groups or companies) and grasp the quality and quantity of needs properly in each region where training courses are set.	1-1 Understand the outline of local industries, etc. 1-2 Understand human resource needs 1-3 Understand job-seekers' needs (questionnaire, hearing) 1-4 Analyse those needs

No.	Basic Process	Major Actions
2	Selection of training areas Analyse occupations based on the grasped human resources needs, etc., and create a vocational skills system (occupational system). Select area or range of occupations that require training and decide training area considering the necessary equipment and competitiveness with other institutions.	2-1. Clarify jobs with human resource needs and their job descriptions 2-2. Select training jobs and their range of work 2-3. Listen to opinions from relevant institutions or experts in the region
3	Curriculum preparation For training courses in the selected areas, set training goals based on regional human resource needs, etc. and create a training curriculum.	3-1. Set training goals 3-2. Set achievement goals and standards for each occupation 3-3. Review training contents, training tasks, and the required training period 3-4. Review training methods
4	Preliminary work for training implementation Arrange equipment, textbooks, instructors, etc. appropriately before implementing trainings.	4-1. Prepare training implementation plan (draft) 4-2. Prepare for training course assessment 4-3. Prepare for information provision of training course 4-4. Prepare for training implementation (1) Create instruction draft (2) Review the instruction method focusing on practical learning and determine training problems (3) Utilize local human resources as instructors (lecturers) (4) Arrange business collaboration with relevant institutions and exchanges with local industrial sphere (5) Develop and prepare teaching materials, training aid, and teaching material usage plan (6) Develop implementation plan and documents for consultation support (7) Develop implementation plan and documents for career promotional activities (8) Develop implementation plan and documents for safety and health (9) Training for instructors (lecturers)
5	Implementation of trainings Implement trainings that effectively improve trainees' employability.	5-1. Training procedure 5-2. Confirm achievement level of trainees 5-3. Understand satisfaction level of trainees 5-4. Career support and promotion activities
6	Assessment of trainings Review the effects of the training course through questionnaires, hearings, etc., regarding satisfaction level, achievement level, graduates' applications for practical work, and extract problems or challenges.	6-1. Assess training courses 6-2. Conduct follow-up survey with graduates and their employers 6-3. Arrange and review problems, effects, and achievements 6-4. Review the business contributions
7	Examination and implementation of improvement measures Analyse the extracted problems/challenges, review, and implement solutions to improve training courses or plans to improve training curriculums and implementation system.	7-1. Examine and implement improvement measures 7-2. Announce results of improvement

Source: Prepared by the JST

4. Employment Support System

According to a questionnaire survey which results are shown in Table 11-9. Almost 100% of graduates will have jobs immediately after graduation, meeting the standards stipulated by the Prime Minister in the High Quality Vocational Training Development Project (No.761/QD-TTg)" At least 80% of graduates have a proper job within 6 months after graduation, in which at least 90% are the key occupations."

However, not only does employment support system in colleges vary but also according to a report regarding the needs of Japanese companies on human resource development in Vietnam (JICA Vietnam Office 2014/10/03) "Japanese companies have considerable interest in internship programs. However internships have not been realized due to insufficient information resulting from a lack of collaboration between companies and educational institutions" was confirmed, leaving plenty of rooms for improvement in employment support system such as further development and expansion of the internship system and corporate information, clear after-graduation route development, and provision of career support guidebook and counselling, all in conjunction with further strengthening in collaboration with companies.

⑤ Skill Test

There are 5 levels in National Vocational skill levels in Vietnam (National Occupational Skills Standard: NOSS) from level 1-5, and implementation of skill tests have been carried out by GDVT. However, the skills test is currently only implemented for limited subjects as it requires the selection and arrangement of test centres and equipment, as well as staff development.

Japan has provided technical assistance in conducting skill test by dispatching experts, etc. When the skills test complies with that of Japan, JAVADA will make notes and add a signature to the certificate given to successful candidates.

Among the target colleges, HIVC, HVCHT, and HaUI have been involved in skill test with Japan's standard, which is included in this survey. The rest of the target school will be surveyed by NOSS.

It has been determined that all schools recognise the necessity of a skills test, but have not yet pursued specific actions toward that end. In Japan, skills tests and vocational training are closely linked. For instance, students at Polytechnic Colleges must take the trade skill verification at graduation to check their skill level. This test is very similar to the level 3 of NOSS (almost the same level of training goals as the target schools).

Equipment that will be installed at target schools through loans are applicable to NOSS as well as trade skills verification in Japan, which means target schools can be qualified as a skills test centre. Therefore, they should play a more active role in disseminating the skills test system taking into consideration Japan's continuous assistance on the improvement of a skills test system.

11.4.4. Consideration on assistance in vocational training related systems (Skill Test)

For the purpose of supporting the dissemination of Skill Test, experts (vocational ability development system advisor) has been dispatched. The purposes, activities, expected outcomes, and the relationship between skill test with Japanese standard and NOSS implementation status are as follow.

<Purpose of dispatch>

To conduct, advice, and give assistance for the improvement of vocational training and national Skills Test as demanded by industry.

<Activities>

Give advice and assistance for the following.

1. Strengthen cooperation with activities of technical cooperation projects aimed to improve instructor training.
2. Toward strengthening instructors training system establishment, checks the relevant laws and institutions and if necessary, coordinate with relevant implementing agencies
3. Promote implementation of national Skill Test especially the supporting industries sector
4. Efforts towards the dissemination of Skill Test
5. Towards the improvement of vocational training and national Skill Test, establish and strengthen relationship with private sector, including Japanese companies and other related organizations

<Expected results>

1. By improving instructor training, the function of vocational training can be strengthened.
2. The implementation of national Skill Test especially in supporting industries sector is progressing.
3. Upon improving vocational training and national Skill Test, cooperation system with private companies is strengthened.

<Relationship of NOSS with Japan-standard Skill Test and the implementation status of NOSS>

1) Vietnam national skills standard in the field of machining

In Vietnam, national skills standard for about 190 occupations have been enacted.

Among them, national skills standard of "CNC metal processing" have been established in the machining field. However, this national skills standard of "CNC metal processing" is does not include general-purpose machine such as normal lathe, and milling machine, thus does not meet Japan's skill test standard in the field of "machining".

2) The implementation status of Skill Tests in Vietnam and Japan's assistance

In Vietnam, Skill Test of 16 out of about 190 occupations stated above including CNC metal processing have been implemented until 2013 . (Note: These 16 occupations supported by Japan do not include machining (normal lathe, milling machine) and information wiring construction

Currently, JICA in cooperation with JAVADA is supporting the introduction and implementation of Japan's Skill Test "machining (normal lathe, milling machine)" to Vietnam which have been carried out several times, with the issuance of i certificate from Vietnam Vocational Training Director and a note from JAVADA. However, as described above, national technical standard that corresponds to this job in Vietnam has not been established.

Table 11-7 Implementation of 5S Method

Item	1	2	3	4	5	6	7	8	9	10	11	12	13
	HCMVC	HVC	VCTT	BRVTC	HVCHT	VPVC	DNVC	CVCT	HVCT	VCMI	HaUI	HPVC	HNVC
1 Organize: Divide into essential and non-essential, and clear out items deemed the non-essential.	○	△	△	○	○	△	△	○	○	○	◎	◎	△
2 Organize: Have essential items ready at designated spots so that whenever necessary they are always available for anyone.	△	○	△	○	◎	△	△	○	△	○	◎	○	△
3 Clean: Eliminate any defective items from the essentials and make it so that defects are be easily detectable.	△	△	△	△	○	△	△	○	△	△	◎	○	△
4 Clean: Establish a system in which the 3Ss (Organize/Arrange/Clean) are repeatedly carried out with no defect detected.	○	△	△	○	○	△	△	○	△	△	◎	○	△
5 Manner: Make it a habit to follow defined rules.	△	△	△	○	○	△	△	◎	△	△	◎	◎	△
6 Other effective activities	note 1)												
Comment	While visible places like classrooms are kept clean, places such as laboratories, where equipment is disorganized and cutting debris is left in the machine, lack implementation of the 5S method. Further, basic work support should be given as some people are working without wearing working caps or protective glasses.	Began using the 5S method in 2013; currently in the test phase. Studying the methods of Panasonic or HaUI.	Began using the 5S method in 2013 has not seen wide adoption yet.	Began using the 5S method in 2013, such as 5S training for instructors. Already applied in the training context. While laboratories and classrooms are well organized, there are some rooms that could benefit from improvement in terms of environmental preservation and work security.	Began using the 5S method in March 2014 with instructions from Toyota. Work on improvements began in December. They are expected to work over a long span in order to acquire the genuine spirit of the 5S method.	Using the 5S method from now on by inviting instructors from HaUI, the National Technical University of Hanoi, the Technical University of Hanoi, or the Provincial Vocational College.	Will begin specific 5S activities from Dec 2014.	The junior college was developed mainly for shipping related trainings and is thus well organized. Systematic activities will depend on how much effort they make.	Began using the 5S method in 2012 but is not yet at a sufficient level. Better with the visible places but not good with the closed places like bathrooms.	Learned the 5S method at trainings held at other VC. Both the classrooms and laboratories were well organized. Cleaning of common places such as corridors was not complete. High level safety awareness as they offered helmets for our survey.	note 1) The effort to put 5S signs everywhere is highly evaluated. They are expected to develop a sense for 5S so that they can work on 5S without signs.	Started using the 5S method at a relatively early period with the instruction of the Kitakyushu International Techno-Cooperative Association (KITA).	Started using the 5S method but not well penetrated yet.

◎: Implemented (equal to Japanese Polytechnic Colleges)

○: Implemented (requires software integration)

△: Implemented (requires basic support)

×: Not Implemented

Source: Prepared by the JST

Table 11-8 Management Methods for a Training Process that incorporates company needs

Item	1	2	3	4	5	6	7	8	9	10	11	12	13
	HCMVC	HIVC	VCIT	BRVIVC	HVCHT	VPVC	DNVC	CVCT	HVCT	VCMI	HaUI	HPVC	HNVC
1 Grasp training needs	⊙	⊙	○	○	⊙	⊙	△	○	○	⊙	⊙	○	△
2 Determine training areas	⊙	⊙	○	○	○	⊙	△	○	○	○	⊙	○	△
3 Create a training curriculum	⊙	⊙	○	△	⊙	○	△	○	○	○	⊙	○	△
4 Prepare for training implementation	⊙	○	○	△	⊙	○	△	△	○	○	⊙	○	△
5 Implement training	⊙	⊙	○	△	⊙	○	△	△	○	○	⊙	○	△
6 Evaluate training	⊙	○	⊙	△	⊙	○	△	○	○	⊙	⊙	○	△
7 Examine and implement improvement measures	○	○	○	△	○	○	△	△	△	○	⊙	○	△
Comment	The machinery area is actively taking actions as they have a high need for NC processing training (e.g. the purchase of their own equipments to check NC program or simulate basic operations of NC processing machine). The electric and electronics area installed the solar electric generation system and the smart house model system, conducting trainings that benefit social needs.	Offers fulfilled trainings focusing on practical exercises. Passing the 3rd JAVADA Lathe Processing Test is a task for the certification test.	The Enterprise Relations Office (5 staff members) collects industrial needs together with the department. Training contents have been changed and class evaluations are conducted as required.	Conducting training needs research in conjunction with companies. While some changes/revision s are being made in training materials, implementation/organization methods need improvement.	Specific improvements are being made, such as dividing the NC lathe processing training into NC lathe training and machining center processing training. The process for training improvement is ready including the establishment of the Office of Training Quality Control.	The Center for Technology Application and Labor Export (school unit) collects training needs with the department. The Inspection, Quality, Assistance, and Skills Assessment Department (5 staff members) and the Skills Assessment Center (one of their two offices are in Hanoi) were established to conduct skills assessments for instructors and students in Hanoi. Please note that they are just renting the site.	Efforts are not at sufficient levels.	Training saw improvement according to the result of questionnaire survey. Conducts training evaluations with 7-9 evaluators including 1.Faculty, 2.Faculty of other schools, 3.Corporate representatives.	They have a database of companies they have visited. Review training materials every year based on corporate demands. Conducting research with the surrounding companies surrounding the skill level improvement of graduates, appropriate skill training for the company, evaluation of trainees, and evaluation of training materials.	Established a system in which the Assessment Committee evaluates improved trainings based on training needs and class evaluations. (The principal and the vice-principal included.)	The Enterprise Partnership and Vocational Skill Assessment, an organization in the school, gathers corporate needs. Teachers also make company visits to collect information.	The Curriculum Revision Committee discusses and proposes changes to the school if necessary. The school can decide for changes less than 30%, but needs to receive GDVT approval for further changes.	The Curriculum Evaluation Committee discusses at the department meeting and makes an evaluation at the DOLISA Council. The Center of Job recommendation (under the umbrella of DOLISA) also researches corporate needs.

⊙ : Implemented (equal to Japanese Polytechnic Colleges)

○ : Implemented (requires software integration)

△ : Implemented (requires basic support)

× : Not Implemented

Source: Prepared by the JST

Table 11-9 Career Support System

Item	1	2	3	4	5	6	7	8	9	10	11	12	13
	HCMVC	HVVC	VCTT	BRVTVC	HVCHT	VPVC	DNVC	CVCT	HVCT	VCMH	HaUI	HPVC	HNVC
1 Internship program	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎
2 Corporate visit, Graduate students' lectures	○	○	○	○	△	○	○	△	△	○	○	○	○
3 Acquire recruiting information and circulation system	○	△	○	○	◎	○	○	△	○	△	◎	○	△
4 Job fair/Career seminar by company	○	○	○	○	◎	○	○	○	○	○	◎	○	△
5 Career support guidebook	○	△	△	○	○	○	○	○	○	○	○	○	△
6 Career counseling	○	△	△	△	○	△	○	△	○	○	△	○	△
7 Recruiting status survey	○	△	○	○	◎	◎	○	○	○	○	○	○	△
8 Corporate database	○	○	◎	○	◎	◎	○	○	○	○	◎	○	△
9 Other effective actions	○ (note 1)			note 1)	note 1)				note 1)		note 1)		
Comment	(note 1)Signed the H	School has 20 partner companies in total, 11 of which apply to the department, including Japanese companies such as Canon, Panasonic, Denso, KOIC, etc. The Center for Manufacture and Training Service was established at the school to promote corporate partnership and job hunting.	All students participate in the internship program. (2nd year: 10 weeks, 3rd year: 8 weeks) Nearly 30-40% of 200 partner companies are Japanese companies, including Canon, Uniden, etc.	(note 1) Together with the faculty, the International Enterprise Department follows up on job hunting for students for 6 months after completing the course. Japanese companies YKK and KYOEI are located nearby.	In the machinery area, 150 students joined the internship program for 75 companies the 2013/2014 academic year. The electric and electronics areas offers exchange programs with the business world such as on-the-job training for companies mainly in the Tanron Industrial Complex such as Uniden, Canon, Panasonic, and Sony. note 1) 300 partner companies for the internship program includes 36 Japanese companies. Agreements signed with nearly 60 companies.	All 3rd-year students participate in the internship program for the 3 months leading up to graduation. 90% of them get employed by the same companies.	The Training Division conducts career support together with faculty. They do not have a specialized career support organization.	The internship program has been held every year with companies located in the surrounding industrial parks. The Center of Admission and Job Consultancy maintains a corporate database.	Arrange companies for all technical trainees and successfully get them employed. Japanese companies: Shiogai Seiki, KKKC, Hashimoto VN, etc. (note 1) Using the Job Market system, the Practice and Service Department (6 staff members) conducts on-the-job trainings or career consultation for corporate trainees. Recruitment information is constantly posted on the electric board at the gate.	Using the Dong Nai website, the Center of Supporting the Entrance Exam and Consulting Jobs offers a program lasting over one month (300H) for all students, as well as career counseling upon entrance to the school.	60-80% of all students participate in the internship program for 1-3 months. Most partner companies are Japanese companies (some Taiwanese companies). (note 1) The Enterprise Partner and Skill Assessment Center (established in Feb 2014, 7 staff members) offers career support.	Many trainees participate in the internship programs of companies such as Canon Vietnam (Tien Son IP), and YAZAKI (Nomura IP Hai Phong IP). The Training, Services and Employment Promotion Center manages career information.	Has a strong connection with DOLISA especially in job hunting area.

◎: Implemented (equal to Japanese Polytechnic Colleges)
 ○: Implemented (requires software integration)
 △: Implemented (requires basic support)
 ×: Not Implemented

Source: Prepared by the JST

11.5. Technical Cooperation Proposal, PDM and PO Draft

11.5.1. Basic policies

A proposal should be developed based on survey results with the ultimate goal that target schools receiving equipment installed through loans will be able to offer vocational training at an international standard in the machining processing, electric, and electronic areas, and to develop the human resource who could meet the requirements of the local companies including Japanese-affiliated firms.

The technical cooperation framework (draft) is shown in Figure 11-2 and the relationship between technical cooperation and yen loans is shown in Figure 11-3 in the following page.

Proposals should be developed based on the following points:

1. Horizontal expansion

Designate HaUI/VJC (Vietnam Japan Center) as the “core school” with TTC in the north (Hanoi) and HVCT in the south (Ho Chi Minh City) as “key schools”, through which vocational training of Japan’s Polytechnic Colleges are offered to the loan target schools in the area in the field of machinery, electric, and electronic.

2. Development of technical cooperation proposal in consideration with loan equipment installation schedule

Support of improving instructors skills needed to use and operate the procured equipment from loan as well as its maintenance shall be carried out after the installation is completed until the second half of year 2019 when the equipment is planned to be used.

From the second half of 2019, use the procured equipment effectively by collaborating with industry and further improve the training level in order to produce graduates who meet the need of industry, for example by conducting cooperation to deepen the expertise of the instructors or improving the curriculum.

3. Clarification of the technical cooperation contents

To implement advanced vocational training, it is necessary to improve the instructors’ skill, teaching and training management ability.

Moreover, in order to implement advanced vocational training, it is important to improve the maintenance ability (manage equipment log book, person in charge, maintenance system and implementation, etc.) of the supporting facility which are the target schools including keeping a data base of various operation and management indicator is necessary.

In addition, it is important not only to understand the need of training to train human resources that companies and industry are seeking, but also to improve the training content and strengthen collaboration with company/industry in supporting employment for graduates.

Based on these, the 3 results from technical cooperation are:

- 1) To improve the skill and teaching ability of instructors in core schools, key schools, and target schools.
- 2) To improve training course management and school management.
- 3) To strengthen companies / industry collaboration.

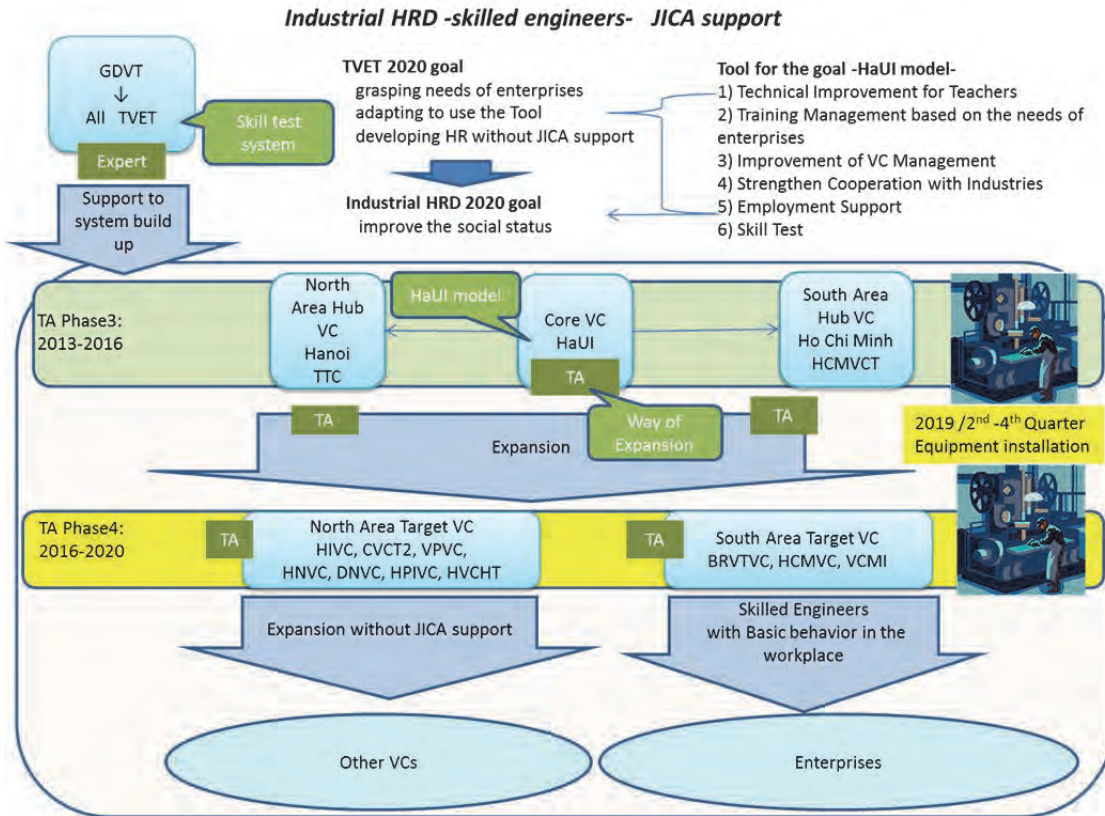


Figure 11-2 Technical cooperation Structure

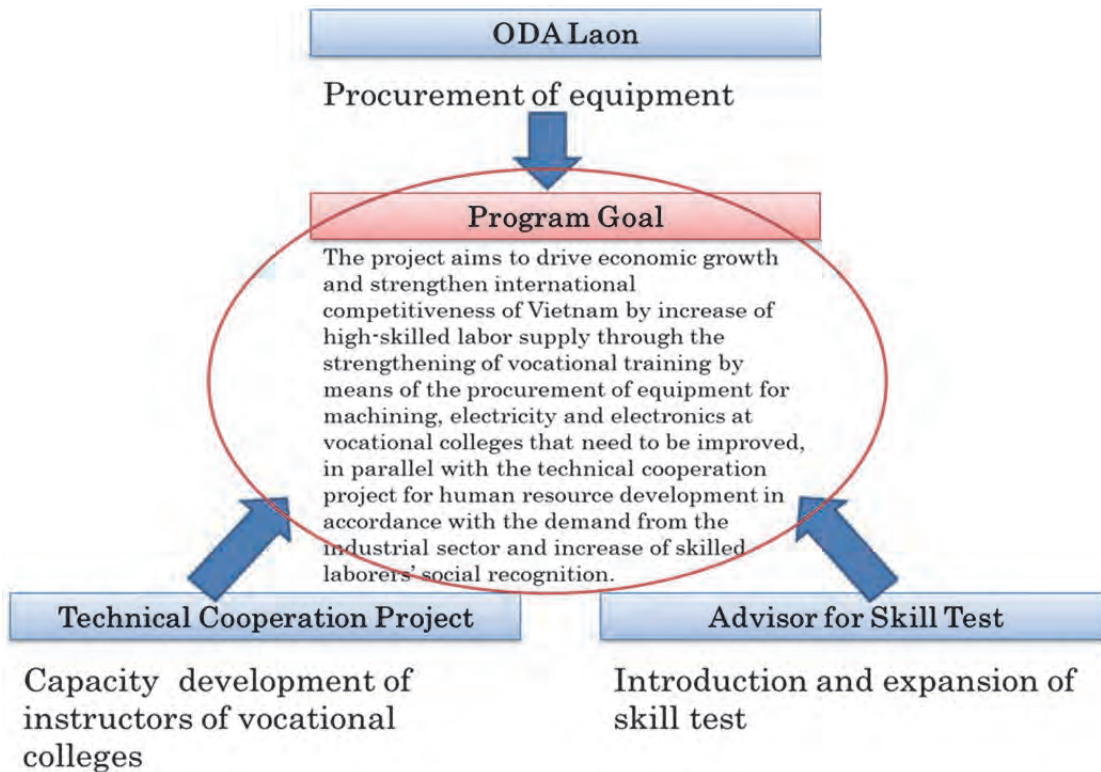


Figure 11-3 Correspondence relationship with the equipment maintenance through technical cooperation and yen loans

11.5.2. Technical cooperation proposal (ToT)

1) ToT for improving instructors' skill and teaching ability in Core schools, Key schools and target schools.

The ToT action plans for skill improvement are as follow.

(Machinery Department)

The relationship between the details of technical cooperation based on the mechanical department training framework from long-term experts are as follow.

Table 11-10 Indicator of Cooperation P-3 Implementation Status

Implementation status	Description
A	ToT has been conducted
B	ToT has not been conducted yet, but early implementation is possible (short or long-term technical cooperation P-1,2, and training in Japan have been conducted)
C	ToT is not conducted and need a little improvement. (with the skill learned in P-1 or from training conducted by Vietnam's side. Skill regarding new equipment can be trained by 3 months simple training)
D	ToT implementation is not feasible (skill improvement in the next Technical cooperation is necessary)
E	Although ToT is feasible, the training system framework is non-standard (Correspond with new skill and regional needs. Short and long term training and training in Japan in .P-2,3 have been conducted)
F	ToT implementation is not feasible; the training system framework is non-standard (Correspond with new skill and regional needs. Not yet conducted)

Source: Prepared by the JST

Table 11-11 Implementation Status of Technical Cooperation P-3 in the Machinery Department

Study course	Classes/ Training	Implementation status
Machinery Design Course	Basic drawing	B
	Mechanical drawing	B
	Mechanical design drafting	B
	Mechanical elements design	D
	Mechanical Engineering Experiment	D
	CAD training I	C
	CAD training II	A
	CAD / CAM training	B
	Mold design (basic)	E
	Mold design (application, slide mechanism, etc.)	F
Machinery Processing Course	Machining practice (hand-finished)	C
	Machining experiment	D
	Machining practice (lathe milling machine)	B
	Numerical control training I, II (MC)	A
	Numerical control training I, II (NC lathe)	B
	Numerical control training I, II (WEDM)	B
	Measurement training (basic measuring instrument)	B
	CAD / CAM training	B

Study course	Classes/ Training	Implementation status
	Precision machining practice (surface grinder)	D
	Precision measurement training (three-dimensional measuring instrument, other measuring instrument)	D
	5-axis machining	F
	Mold making training (basic)	E
	Mold making training (high-speed machining)	F
	Injection molding (injection molding machine)	F
Metal Processing Course	Machining practice (plastic processing, welding)	C
	Plastic processing training (NC brake)	C
	Plastic processing training (laser)	D
Factory Management and conservation	Sequence Control Education I	Will be supported by other departments
	Sequence Control Education II	Will be supported by other departments
	Conservation (oil pneumatic control training)	D
	Maintenance (electrical and electronic engineering training)	Will be supported by other departments
	Conservation (general purpose machine maintenance)	B

Source: Prepared by the JST

Based on this, implementation status of B, C, D, and F are considered as items to support in ToT for the next technical cooperation. Not only are these items (Mechatronic skill, CNC equipment, equipment operations and production methods, plastic & metal casting) the necessary skill demanded by Japanese companies according to a survey, but also meet the requirement when hiring personnel for machinery-related jobs based on a survey conducted in Japan.

In developing ToT, based on the on-going technical cooperation P-3 “HaUI Technical Model”, the time needed to develop a ToT model (6 months is necessary to develop and carry out 1 model under a Japanese expert, and 8-10 months under a Vietnamese expert), and putting into consideration the available time for instructors to participate in the ToT course (approximately 1 - 2 weeks top), it is desirable to group the items when developing ToT.

In addition, regarding ToT implementation order, basic and fundamental skills ToT including loan plan equipment ToT shall be prioritized and be conducted by 2019.

(Electricity Department)

The condition of technical cooperation ToT support up to now for electricity department is as described in 11.4.2 3).

Based on the training system framework ToT support plan is as follows.

Table 11-12 Specialized Technical Plan in Electricity Department

Assistance plan	Training contents
Power equipment management training	Power equipment management training
	Power equipment management training
Electrical Wiring Installation and Control panel fabrication	Indoor wiring work
	Factory wiring work
	Control panel fabrication training
	Electrical system maintenance
	Motor maintenance and inspection
PLC control	PLC application instruction
	Pneumatic control training
	Touch Panel
	AD/DA conversion technology (expand unit)
	Positioning control
	PLC Net-working (MELSEC/NET)
	CC-Link
	Inventor control
	Industrial Robot control
	FA system control
Electrical circuit design	CAD Operation training
	Electrical circuit design training
	Design estimation training
Micro Controller	“C” language programming
	PIC programming basic (I/O)
Power electronics	Power semiconductor element
	Power IC
	DC/AC conversion AC / DC conversion
	Power conversion training
Energy conservation technology	Environmental Energy Technology
	Regenerative energy practice
	Solar power training
	Refrigeration and air conditioning training)

Source: Prepared by the JST

Not only are these items the necessary skill (electrical control) and electricity-related occupations (electrical equipment assembling, electrical drawing, Printed circuit board manufacturing, etc.) demanded by Japanese companies according to a survey, but also meet the requirement when hiring personnel for electricity-related occupations based on a survey conducted in Japan.

(Electronic Department)

The condition of technical cooperation ToT support up to now for electricity department is as described in 11.4.2 3).

Based on the training system framework ToT support plan is as follows.

Table 11-13 Specialized Technical Plan in Electronic Department

Assistance plan	Training contents
Electronic circuit CAD	Electricity and electronic measurement
	Basic measurement and application measurement
	Analog electronic circuit training
	Digital electronic circuit training
	Electronic circuit CAD operational training
	PCB art work
	PCB making training
Microcontroller	Temperature measurement equipment making training
	Assembler programming
	C language programming
	PIC programming basis (I/O)
	PIC programming application (internal module)
FPGA	Electronic machine design using a PIC microcomputer
	Target board design and making
	Building of a development environment
	Circuit design by HDL
	Making of a sequential logical circuit
PLC • FA	Electronics design using an FPGA
	Reed relay control
	PLC basic command
	PLC application command
	Air pressure control
	Touch panel
	AD/DA converter (expansion unit)
	Positioning control (AC servo)
	PLC network(MELSEC/NET)
	CC-Link
	Inverter control
	Industrial robot control
	Control panel fabrication
FA system control	
Power Electronics	Power device
	Power IC
	DC/AC inverter AC/DC converter
	Electric power conversion training
Network Cabling System	Data communication
	LAN
	Optical communication
	Optical fiber fusion
	Network communication

Source: Prepared by the JST

Not only are these items the necessary skill (electrical control, FA) and electronic-related occupations (electronic equipment assembling, electronic circuit connection, etc.) demanded by Japanese companies according to a survey, but also meet the requirement when hiring personnel for electronics and IT-related occupations based on a survey conducted in Japan.

Considerations on developing ToT for skills improvement are as follow.

In addition, regarding ToT implementation order, basic and fundamental skills ToT including loan plan equipment ToT shall be prioritized and be conducted by 2019.

(Machinery Department)

In developing ToT, based on the on-going technical cooperation P-3 “HaUI Technical Model” , the time needed to develop a ToT model (6 months is necessary to develop and carry out 1 model under a Japanese expert, and 8-10 months under a Vietnamese expert) , and putting into consideration the available time for instructors to participate in the ToT course (approximately 1 - 2 weeks top), it is desirable to group the items when developing ToT.

(Electrical Department) (Electronic Department)

Since there are common items in electronic department and electrical department, such as FA related items, thus the ToT proposal shall be developed not as 2 independent departments but as collaboration for both departments for the common items. For FA-related items, utilize the information from support center of manufacturers to be put into ToT proposal.

Similar to machinery department, it is desirable to develop ToT proposal by taking into consideration the possible time for students to take ToT, group the items, and, develop the proposal accordingly.

2) ToT to improve training course management and school management

(Training course management and school management)

PDCA-based training process management skill has already been transferred using technical cooperation P-1 and P-2 in HaUI, but the skill transfer to "key schools" is still in progress, and no progress has been done to other schools, thus other than HaUI, the condition of process management method is still unknown.

In addition, even though each school is managing its training in a manner consistent with the corresponding process management technique, the situation does not meet the training content improvement of process management training, thus the need to transfer skill of training process management that incorporates PDCA method is very high.

Based on this, urgently implement PDCA training process management of ToT. The implementation should not be limited to instructors but also the site personnel and management department to work together, in order to create an effective and efficient vocational training.

In order to improve operation and administration, Polytechnic Colleges in Japan conduct inspection once a year using a unified form, and check the activities of operation and administration classified into 8 items as shown below. On the other hand, although each loan-supported school conduct review on its operational activities such as such as for annual

planning, not only does each school have its own review method and not a unified one, the result of the review has also been utilized to solve issues or identify existing problems.

Because school management improvement by conducting regular inspections problem identifications are essential, support the introduction of inspection system from Polytechnic College in Japan.

Note that the implementation should not be limited to instructors but also the site personnel and management department to work together, in order to create an effective and efficient vocational training.

Table 11-14 8 Kinds of Polytechnic College Management and Administration Major Inspection Items

Classification	Major Inspection Items
1. Understanding of the training needs	<ul style="list-style-type: none"> • Company’s industrial needs, technology trends • Training needs
2. Confirmation of the structure and validity of the curriculum	<ul style="list-style-type: none"> • Collaboration with industry, establishment and operation of Council • Status of cooperation with private training institutions
3. Preparation of training implementation	<ul style="list-style-type: none"> • Initiatives directed to improve the quality of vocational training instructors • Environment, teaching materials, and teaching techniques of vocational training instructor
4. Training implementation	<ul style="list-style-type: none"> • Teaching situation in vocational training • Internship implementation
5. Training evaluation and improvement	<ul style="list-style-type: none"> • Implementation of lesson evaluation • Implementation of follow-up surveys
6. Students recruitment and selection	<ul style="list-style-type: none"> • Public relations activities for students recruitment (use of the Internet) • Hold open campus
7. Employment promotion activities	<ul style="list-style-type: none"> • Jobs information analysis and sharing • Career guidance
8. Operational management	<ul style="list-style-type: none"> • Health and safety management • Harassment prevention, attention to gender

Source: Prepared by the JST

(Equipment operation and maintenance)

For more information about operation and maintenance status of the equipment, refer to 6.2 - “Operation and maintenance system”.

Work regarding equipment can be divided into maintenance work of equipment log book and storage, and maintenance work of daily and periodic inspections. Taking a close collaboration of these activities and conducting an organized equipment management and maintenance are necessary.

Each school create its own equipment management log book which is carried out as part of the asset management.

On the other hand, for the maintenance of each school, the implementation structure is classified into the following 3 methods:

a. Method 1: Specialized department for equipment maintenance is established. The technical staffs of this department are responsible for the maintenance, but the instructors of each department who actually use the equipment are not involved.

b. Method 2: Specialized department for equipment maintenance is established. Both the technical staffs of this department and the instructors from each department who actually use the equipment cooperate and perform the equipment maintenance.

c. Method 3: There is no specialized department for equipment maintenance. The instructors of each department who actually use the equipment are the ones who perform equipment maintenance.

In order to extend the system maintenance and the life of the equipment itself as well as to ensure equipment maintenance, the instructors who are familiar with equipment condition and use it on a daily basis is essential to be held responsible for the maintenance. The fact that the instructors who are familiar with the equipment condition and use it on a daily basis are not responsible for the equipment maintenance are causing negative effect on the precision and life of the equipment itself. Thus, it is necessary to improve to the system where the instructors are actively involved in the equipment maintenance. As a result, VCs with equipment maintenance method 1: HCMVC , HIVC , VCTT , CVCT , VCMi need to be changed to method 2 or 3 that involve the instructors.. In Vocational Education Act that took effect in July 2015, since instructors are expected to be involved in equipment operational management, it is important to build a system in which the instructors can actively maintain the equipment as well as creating maintenance and storage record.

In addition, it is necessary to reaffirm that the activity of maintenance is to prevent equipment failure. For this purpose, instructors are required to learn about equipment of maintenance through the TOT equipment maintenance course developed by technical cooperation for HaUI are expected to utilize the knowledge to develop and strengthen the operation and maintenance of equipment.

Plans in technical cooperation are as follow.

It should be noted that these cooperation and support were carried out before the delivery of equipment to each school in order to prepare the schools in receiving the equipment.

1. Cooperation in helping the instructors to actively build and establish system of equipment maintenance, and ensure thorough preparations, storage maintenance record.
2. Cooperation in creating a standardized format for equipment log book and other format necessary for equipment management.
3. Cooperation in revising TOT equipment maintenance course in the previously developed technical cooperation and to conduct training in equipment maintenance for instructors in each school. It should be noted that this training is conducted before the delivery of equipment to each school in order to prepare the schools in receiving the equipment.

3) ToT to strengthen collaboration with companies and industry

In the past technical cooperation P-2, skill transfer regarding collaboration with industry has been carried out in HaUI, resulting in a deeper cooperation with industry focused in Japanese companies in implementing incumbent training. In addition, although both VCs and companies / industry are actively working in developing their cooperation, skill transfer from HaUI has not been properly conducted leaving a condition of each school carrying it independently.

In order to improve and strengthen cooperation with the industry, the skill and know-how transferred to HaUI need to be shared to other target schools thus in technical cooperation, the following cooperation are planned:

1. Career guidance, development and strengthening of corporate/ employment support system
2. Development and strengthening of internship program
3. System development and strengthening of training for incumbents (short-term seminars and corporate education, etc.)

11.5.3. PDM draft based on Technical Cooperation Proposal

Based on technical cooperation draft, the draft PDM is Figure 11-4 as par attached.

Draft Project Design Matrix/ PDM			
Project Title :			
Project Period :			
Target Area : Vietnam (whole)			
Target Group :			
Narrative Summary		Objectively Verifiable Indicators	Means of Verification
Overall Goal: Vocational Colleges in Vietnam provide vocational training which meets demand of industries in machining, electricity and electronics.			
Project Purpose: Target Vocational Colleges provide vocational training which meets demand of industries in machining, electricity and electronics.		1. Graduates from Core VC, Key VCs and target VCs get a job in local companies and get third degree of satisfaction of five rating scale at least. 2. International level vocational training is implemented in machining, electricity and electronics faculties in target VCs 3. A curriculum shall be reviewed consistently based on vocational training process management in target VCs. 4. Indicator of management and activity condition shall be established in target VCs. 5. The number of applicant and enrollment will be decreased in target VCs.	1. Questionary survey to local companies. 2. The number of training course in target course. 3. The record and result of curriculum revision by vocational training process management. 4. The record and result of management system and activities in target VC. 5. The data of applicants and enrollments.
Output: Output 1 Technical skill and capacity to conduct high quality practical training of instructors in HaUI, TTC, HVCT and target Vocational Colleges is improved. Development of TOT program / Training of TOT trainers / Conducting TOT program Output 2 Management of training courses and management of colleges are improved. CUDBAS & PDCA, 5S KAIZEN, system for maintenance of equipment Output 3 Partnership with private sector is strengthened. Career guidance, internship, in-service training		The number of TOT programs which was reviewed in core VC. The number of TOT programs which is newly developed in core VC. The number of TOT course which is conducted in key VC. Report for TOT course including evaluation by students. The number of TOT programs which was reviewed in key VC. The executing rate of NOSS third level training in target VCs. The achievement rate of trainee's training in target VCs. The number and the contents of TOT program improvements in core VC. The number and the contents of training program improvements in key and target VCs. The formulation of equipment management implementation system. The condition of equipment management system shall be reviewed. Improvement of employment support system. The executing rate of 5S and KAIZEN. The formulation condition of cooperation structure with companies. The execution condition of cooperation agreement with companies and industries. The execution rate of internship. The execution condition of training for duty status.	Report for TOT execution condition in core and key VCs. Report for TOT improvement condition in core and key VCs. Report for training execution in target VCs. Report for curriculum improvement in target VCs. Report for TOT course improvement in core VCs. Report for training course improvement in key and target VCs. Report for equipment management system. Report for the condition of equipment management system Report for improvement of employment support system. Report for executing rate of 5S and KAIZEN.
Activities Establish Working Group (WG) consisted of HaUI, TTC and HVCT for reviewing present TOT programs, management of training courses and management of VCs <Technical skill and capacity to conduct high quality practical training of instructors in HaUI, TTC, HVCT and target Vocational Colleges is improved.> (Development of TOT programs/Training of TOT Trainers conducting TOT programs) 1-1. WG confirms and evaluates skill level, knowledge and present activities of instructors who received TOT implemented by Phase-3 1-2. Based on the results of above 1-1, WG reviews present TOT programs and amends them and/or adds new TOT programs for effective use of newly procured equipment based on revised curricula. (e.g.: Design and manufacturing for Mold, 5-axe Machining Center and Mold injection machine etc) 1-3.HaUI proceeds technical transfer for TOT Trainers of TTC and HVCT for implementing TOT programs prepared in activity 1-2above. 1-4.TOT Trainers of HaUI, CCT and HVCT evaluate capacity of instructors of target VCs. (pre-evaluation) 1-5.TOT Trainers of HaUI, TTC and HVCT conduct TOT programs prepared in activity 1-2 above for instructors of target VCs. 1-6. TOT Trainers of HaUI, TTC and HVCT evaluate the results of above 1-5 through follow-up visit to targeted VCs. (post-evaluation) 1-7.WG evaluates the results of 1-5 and 1-6 above and feed back to TOT programs. <Capacity for Training Course Management and VCs Management is improved.> KEYWORD *PDCA, *CUDBAS, *Equipment Maintenance, *5S/KAIZEN, *Occupation Safety etc. 2-1. WG review TOT programs for Training Course Management such as PDCA and CUDBAS) and revise it upon necessity. (PDCA/CUDBAS were finished. Needs survey ,Pedagogy and Materials development incl Text, Evaluation and Improvement, 5S/ KAIZEN, Industrial safety and health will be developed) 2-2. HaUI proceeds technical transfer to TOT trainers of TTC and HVCT for implementing TOT programs developed by 2-1 above. 2-3. TOT Trainers of HaUI, TTC and HVCT evaluate capabilities and abilities of Trainers of target VCs. (pre-evaluation) 2-4. TOT Trainers of HaUI, CCT and HVCT implement TOT programs developed in activity 2-2 above for instructors of target VCs. 2-5. TOT Trainers of HaUI, TTC and HVCT evaluate the results of 2-4 above. (post-evaluation). 2-6.WG evaluates the results of 2-4 and 2-5 above and feed back to TOT programs. < Equipment management system> 2-7. Check and confirm present Equipment Management and Control System (Directory of equipment, instructors responsible for management of each equipment, implementation of daily and periodical inspection/check, budget allocation for equipment maintenance and operation etc.). 2-8 .WG prepares Improved Equipment Management and Control System based on 2-7 above and introduce to HaUI, TTC and HVCT. 2-9. WG members conduct seminars on Equipment Management and Control System for target VCs. 2-10. WG members visit target VCs to monitor progress on introduction of Equipment Management and Control System and provide advice. < Partnership with private sector is strengthened.> KEYWORD *Career Guidance, *Internship, *Support for job placement and entrepreneurship. *In-service training system (Short course and seminar) etc. 3-1. WG reviews the current state of job placement and entrepreneurship support activities of HaUI and update seminar material on Promoting Partnership with Private Sector. 3-2. HaUI conducts seminars and transfers its experience and knowledge on Partnership with private sector to TTC and HVCT. 3-3. TTC and HVCT introduce new service based on 3-1 and 3-2 above. 3-4. HaUI monitors activities of TTC and HVCT and provide technical advice 3-5. HaUI, TTC and HVCT conducts seminars for target VCs. 3-6. Target VCs introduce new service based on 3-5 above. 3-7. HaUI, TTC and HVCT monitor activities of target VCs and provide technical advice.		Input <u>Japanese Side</u> Dispatching experts Chief Advisor / VTIs Management Machining Electricity and Electronics Partnership with Private Sectors / Coordinator Other experts based on necessity Provision of training(s) for Vietnamese trainees in Japan and in third country(s) Providing machinery and equipment Equipment necessary for the implementation of the Project, if any Supporting local costs <u>Vietnamese Side</u> Arrangement of counterparts (C/Ps) personnel Project director Project manager WG composed of related agencies Technical counterparts including TTC staff and HVCT staff as full-time Project members Coordinating staff Preparation of facilities Office spaces and facilities necessary for the Japanese experts Bearing of the local cost Personnel expenses of C/Ps including TTC staff and HVCT staff as Project members Costs to implement TOTs Other operation and management costs	

Figure 11-4 PDM

Annexes

Annex-1

Member of the JICA Survey Team

Annex-1 Member of the JICA Survey Team

○ First Survey (from October 1 to 18, 2014)

Wong Kuok Hung	Team Leader/ Project Planning Specialist-1/Vocational Training Specialist-1	Oriental Consultants Global
Tomoki MIYANO	Deputy Team Leader/ Project Planning-2	Oriental Consultants Global
Hiroshi KUSUNOKI	Equipment Specialist (Machining)	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Takeshi MIYAGI	Equipment Specialist (Electricity)	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Noboru KAKISU	Equipment Specialist (Electronics)	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Raimei NAKANO	Training of Trainers/ Operational Management/Vocational Training Specialist-2	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Masako YORITA	Facility Specialist	Oriental Consultants Global
Rie SAWASHITA	Procurement Planning/Cost Estimates Specialist (Facility)	Oriental Consultants Global
Masayuki MATSUMURA	Economical and Financial Analysis Specialist	Oriental Consultants Global/ World Business Associates Co., Ltd.
Masahiro WATANABE	Coordinator/Facility Planning Assistant	Oriental Consultants Global

○ Second Survey (from November 9 to December 24, 2014)

Wong Kuok Hung	Team Leader/ Project Planning Specialist-1/Vocational Training Specialist-1	Oriental Consultants Global
Tomoki MIYANO	Deputy Team Leader/ Project Planning-2	Oriental Consultants Global
Hiroshi KUSUNOKI	Equipment Specialist (Machining)	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Takeshi MIYAGI	Equipment Specialist (Electricity)	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Etsuo FUKUMOTO	Equipment Specialist (Electronics)	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Raimei NAKANO	Training of Trainers/ Operational Management/Vocational Training Specialist-2	OVERSEAS VOCATIONAL TRAINING ASSOCIATION
Masako YORITA	Facility Specialist	Oriental Consultants Global
Hirofumi YAMAUCHI	Procurement Planning/Cost Estimates Specialist (Equipment)	UNICO International Cooperation
Rie SAWASHITA	Procurement Planning/Cost Estimates Specialist (Facility)	Oriental Consultants Global
Masayuki MATSUMURA	Economical and Financial Analysis Specialist	Oriental Consultants Global/ World Business Associates Co., Ltd.
Masahiro WATANABE	Coordinator/Facility Planning Assistant	Oriental Consultants Global

Annex-2

Schedules of the Field Surveys

Annex-2 Schedule of the Field Surveys

○ The 1st Survey (from October 1 to 18, 2014)

		Team Leader	Team A	Team B		
Oct. 1	Wed		Japan >>> Ha Noi	Same as Group A		
Oct. 2	Thu		9:00-10:00: JICA-Vietnam office	Same as Group A		
			11:00 : GDVT MOLISA JICA Expert Mr. Furuta			
			13:30 : GDVT MOLISA			
			14:45 : ODA funded Vocational Training Project Management Unit (PMU)			
Oct. 3	Fri		8:30: Hanoi University of Industry (site survey for 1 st and 2 nd campuses)	Same as Group A		
			14:00: Vocational College of Technique and Technology (site survey)			
Oct. 4	Sat		'Internal Mtg	'Internal Mtg		
Oct. 5	Sun		'Internal Mtg	12:25 Ha Noi→HCM 14:30 (VN239)		
Oct. 6	Mon		8:30: Hanoi Vocational College of High Technology (site survey)	8:00 : Ba Ria Vung Tau Vocational College (site survey for 2 campuses)	10:00: The Peoples Committee of Ba Ria-Vung Tau/Japan Desk	
			14:00: Hanoi Industrial Vocational College (site survey)	Vung Tau 13:00 – Dong Nai 14:30 (by car)	14:30: Vocational College of Mechanics and Irrigation (site survey)	
			17:00: Japan Business Association in Vietnam			
Oct. 7	Tue	Japan >>> Ha Noi	8:30: Ha Nam Vocational College (site survey)	8:30: Ho Chi Minh Vocational College (site survey for 1 st and 2 nd campuses)	09:00 : Industrial University of HCMC JICA Expert Mr. Hayashida	
			14:00: Hanoi University of Industry (site survey for 3 rd campus)	14:00: Ho Chi Minh Vocational College of Technology (site survey)	15:00 : MOPI Foreign Investment Agency Investment Promotion Center-South Vietnam Japan Desk JICA Expert Mr. Kikuchi	
Oct. 8	Wed	9:00: Vietnam- German Vocational College (site survey)	PM: Discussion with JICA Vietnam office	08:00 :HCM→Da Nang 09:15 (VN104)		
				10:00:Da Nang Vocational College (site survey)		
				17:40 Da Nang→Ha Noi 18:55 (VN172)		
Oct. 9	Thu	Discussion with PMU and Preparation Presentation of IC/R	9:00: The Central Vocational College of Transport No.2 (site survey)	14:00: Hai Phong Vocational College (site survey)		
			PS-F, EFA same as Team Leader Hanoi>>> Japan (PS-F)			
Oct. 10	Fri	Presentation of IC/R with attendance of MOLISA, JICA-Vietnam office and other related organizations	DTL, VTS, CR same as Team Leader Hanoi >>> Japan (EP-M, EP-Ey, FS, EFA, CR) *DTL and VTS will continue the Survey with Team Leader in Vietnam.			
Oct. 11	Sat	'Internal Mtg	DTL, VTS same as Team Leader Hanoi >>> Japan (EP-En)			
Oct. 12	Sun	'Internal Mtg				
Oct. 13	Mon	10:30-12:00 Meeting with ADB consultants 14:00-15:00 Discussion with PMU 15:00-16:00 Meeting with AFD consultants				
Oct. 14	Tue		Hanoi >>> Japan (DTL)			
Oct. 15	Wed	14:00 Meeting with PMU and JICA				
Oct. 16	Thu					
Oct. 17	Fri	Report to JICA-Vietnam office Hanoi >>> Japan				
Oct. 18	Sat	Hanoi >>> Japan	Hanoi >>> Japan			

Team A: Deputy Team Leader (DTL), Equipment Specialist (Electricity) (EP-Ey), Vocational Training Specialist (VTS), Procurement Specialist (Facility) (PS-F)

Team B: Equipment Specialist (Machining) (EP-M), Equipment Specialist (Electronics) (EP-En), Facility Specialist (FS), Economics and Financial Analysis (EFA), Coordinator (CR)

The Preparatory Survey on the Project
for Strengthening Vocational Training Sector in Vietnam

Annex-2 Schedule of the Field Surveys

○ The 2nd Field Survey (from November 9 to December 24, 2014)

No. Day	Date	Team Leader	Deputy Team Leader	Equipment Specialist (Machining)	Equipment Specialist (Electricity)	Equipment Specialist (Electronics)	Vocational Training Specialist	Facility Specialist	Procurement Specialist (Equipment)	Procurement Specialist (Facility)	Economics and Financial Analysis	Coordinator
		Wong Kuok Hung	Tomoki MIYANO	Hiroshi KUSUNOKI	Ken MIYAGI	Etsuo FUKUMOTO	Raimei NAKANO	Masako YORITA	Hirofumi YAMAUCHI	Rie SAWASHITA	Masayuki MATSUMURA	Masahiro WATANABE
8	11/16	Sun			- Survey analysis	- Survey analysis		Tokyo>>>Hanoi	- Survey analysis	- Survey analysis	Tokyo>>>Hanoi	- Survey analysis
9	11/17	Mon		- 10:30 VCTT (Equipment, training)	- 10:30 VCTT (Equipment, training)	- 10:30 VCTT (Equipment, training)		- 10:30 VCTT (Facility)	- 10:30 VCTT (Procurement)	- 10:30 VCTT (Management)	- 10:30 VCTT (Finance)	- 10:30 VCTT (Facility)
10	11/18	Tue		- 09:00 Hanoi VC of High Technology (Equipment, training)	- 09:00 Hanoi VC of High Technology (Equipment, training)	- 09:00 Hanoi VC of High Technology (Equipment, training)		- 09:00 Hanoi VC of High Technology (Facility)	- 11:15 Mtg w/Fanuc (equipment maintenance)	- 09:00 Hanoi VC of High Technology (general)	- 09:00 Takagi Vietnam Co.,Ltd. (Industrial needs)	- 09:00 Hanoi VC of High Technology (Facility)
11	11/19	Wed		- 09:00 Ha Nam VC (Equipment, Training)	- 09:00 Ha Nam VC (Equipment, Training)	- 09:00 Ha Nam VC (Equipment, Training)		- 09:00 Ha Nam VC (Facility)	- 09:00 Ha Nam VC (Procurement)	- 09:00 Ha Nam VC (Management, finance)	- 09:00 Toho Vietnam (Industrial needs) 14:00 Nagatsu Vietnam (Industrial needs) 16:00 HaUI(Finance)	- 09:00 Ha Nam VC (Facility)
12	11/20	Thu		- Survey analysis	- Survey analysis	- Survey analysis		- Survey analysis	- 10:30 Mtg w/HUNGVIET Consultant JSC	- Survey analysis	- 09:00 Vietnam Precision Mechanical, Sservice& Trading Co.,Ltd(Industrial needs) 16:00 HR-Link Vietnam Co.,Ltd (Industrial needs)	- Survey analysis
13	11/21	Fri		- 09:00 Vietnam-German VC (Equipment, Training)	- 09:00 Vietnam-German VC (Equipment, Training)	- 09:00 Vietnam-German VC (Equipment, Training)		- 09:00 Vietnam-German VC (Facility) - 19:10 Hanoi→Da Nang 20:25 (VN175)	- 09:00 Vietnam-German VC (Procurement) - 19:10 Hanoi→Da Nang 20:25 (VN175)	- 09:00 Vietnam-German VC (Management) - 19:10 Hanoi→Da Nang 20:25 (VN175)	- 10:00 Ha Nam VC (Finance) PM:Vietnam-German VC (Finance) - 19:10 Hanoi→Da Nang 20:25 (VN175)	- 09:00 Vietnam-German VC (Facility) - 19:10 Hanoi→Da Nang 20:25 (VN175)
14	11/22	Sat		- Survey analysis	- 09:00 Da Nang VC (Equipment, Training) - 19:15 Da Nang→20:30 Hanoi (VN174)	- 09:00 Da Nang VC (Equipment, Training) - 19:15 Da Nang→20:30 Hanoi (VN174)		- Survey analysis	- 09:00 Da Nang VC (Procurement) - 19:15 Da Nang→20:30 Hanoi (VN174)	- 09:00 Da Nang VC (Management) - 19:15 Da Nang→20:30 Hanoi (VN174)	- 09:00 Da Nang VC (Finance) - 19:15 Da Nang→20:30 Hanoi (VN174)	- 09:00 Da Nang VC (Facility) - 19:15 Da Nang→20:30 Hanoi (VN174)
15	11/23	Sun	Tokyo>>>Hanoi	Tokyo>>>Hanoi	- Survey analysis	- Survey analysis	Tokyo>>>Hanoi	- Survey analysis	- Survey analysis	- Survey analysis	- Survey analysis	- Survey analysis
16	11/24	Mon	- 08:30 Mtg w/JICA-Vietnam - Survey on Organization Structure	- 08:30 Mtg w/JICA-Vietnam - Survey on Organization Structure	- 09:00 Hanoi Industrial VC (Equipment, Training)	- 09:00 Hanoi Industrial VC (Equipment, Training)	- 08:30 Mtg w/JICA-Vietnam - Survey on Organization Structure	- 09:00 Hanoi Industrial VC (Facility)	- 09:00 Hanoi Industrial VC (Procurement)	- 09:00 Hanoi Industrial VC (Management)	- 09:00 Hanoi Industrial VC (Finance)	- 09:00 Hanoi Industrial VC (Facility)
17	11/25	Tue	- 09:00 Mtg w/MOF - 15:00 Mtg w/GDVT - Survey on Organization Structure	- 09:00 Mtg w/MOF - 15:00 Mtg w/GDVT - Survey on Organization Structure	- 09:00 The Central VC of Transportation No.2 (Equipment) - 14:00 Hai Phong Industrial VC (Equipment)	- 09:00 The Central VC of Transportation No.2 (Equipment) - 14:00 Hai Phong Industrial VC (Equipment)	- 09:00 The Central VC of Transportation No.2 (Equipment) - 15:00 Mtg w/GDVT - 17:30 Mtg w/JICA technical cooperation experts for HaUI	- 09:00 The Central VC of Transportation No.2 (Facility) - 14:00 Hai Phong Industrial VC (Facility)	- 09:00 The Central VC of Transportation No.2 (procurement) - 14:00 Hai Phong PPC (procurement)	- 09:00 The Central VC of Transportation No.2 (Management) - 14:00 Hai Phong Industrial VC (Management)	- Financial and Economic Survey	- 09:00 The Central VC of Transportation No.2 (Facility) - 14:00 Hai Phong Industrial VC (Facility)
18	11/26	Wed	- 09:00-15:00 On-lending workshop - 16:30 Mtg. w/KfW	- 09:00-15:00 On-lending workshop - 16:30 Mtg. w/KfW	ITR Preparation	ITR Preparation	ITR Preparation	ITR Preparation	ITR Preparation	ITR Preparation	- 09:00-15:00 On-lending workshop	ITR Preparation
19	11/27	Thu	- 14:00 Mtg w/MPI - 17:00 Report to JICA	- 14:00 Mtg w/MPI - 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA	- 17:00 Report to JICA
20	11/28	Fri	Hanoi>>>Tokyo	Preparation of ITR	Preparation of ITR	Preparation of ITR	- Meeting w/JICA about the technical cooperation Hanoi>>>Tokyo	Preparation of ITR	Preparation of ITR	Preparation of ITR - Meeting w/JICA about the technical cooperation	Preparation of ITR	Preparation of ITR
21	11/29	Sat		Internal Mtg	Internal Mtg	Internal Mtg		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg
22	11/30	Sun		Internal Mtg	Internal Mtg	Internal Mtg		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg
23	12/1	Mon		- Discuss on project component	- Prepare of Outline Specification	- Prepare of Outline Specification		- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component

The Preparatory Survey on the Project
for Strengthening Vocational Training Sector in Vietnam

Annex-2 Schedule of the Field Surveys

No. Day	Date		Team Leader	Deputy Team Leader	Equipment Specialist (Machining)	Equipment Specialist (Electricity)	Equipment Specialist (Electronics)	Vocational Training Specialist	Facility Specialist	Procurement Specialist (Equipment)	Procurement Specialist (Facility)	Economics and Financial Analysis	Coordinator
			Wong Kuok Hung	Tomoki MIYANO	Hiroshi KUSUNOKI	Ken MIYAGI	Etsuo FUKUMOTO	Raimeji NAKANO	Masako YORITA	Hirofumi YAMAUCHI	Rie SAWASHITA	Masayuki MATSUMURA	Masahiro WATANABE
24	12/2	Tue		- Discuss on project component	- Prepare of Outline Specification	- Prepare of Outline Specification	- Prepare of Outline Specification		- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component
25	12/3	Wed		- Discuss on project component	- 14:00 Meeting w/Mori seiki - Prepare of Outline Specification	- Prepare of Outline Specification	- Prepare of Outline Specification		- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component
26	12/4	Thu		- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component		- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component	- 15:30 Meeting w/JICA - Discuss on project component
27	12/5	Fri		- 13:30 Meeting w/JETRO - Financial and Economic Survey	- Prepare of Outline Specification	- Prepare of Outline Specification	- Prepare of Outline Specification		- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- 13:30 Meeting w/JETRO - Financial and Economic Survey	- Facility component
28	12/6	Sat		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg
29	12/7	Sun		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Tokyo>>>Hanoi	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg
30	12/8	Mon	Tokyo>>>Hanoi	- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component
31	12/9	Tue		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component
32	12/10	Wed		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component
33	12/11	Thu		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)	- Procurement and Cost Estimation (Facility)	- Financial and Economic Survey	- Facility component
34	12/12	Fri		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)	Hanoi>>>Tokyo	- Financial and Economic Survey	- Facility component
35	12/13	Sat		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg
36	12/14	Sun		Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg	Internal Mtg
37	12/15	Mon		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)		Hanoi>>>Tokyo	- Facility component
38	12/16	Tue		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)			- Facility component
39	12/17	Wed		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)			- Facility component
40	12/18	Thu		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)			- Facility component
41	12/19	Fri		- Discuss on project component	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Equipment list and specification with Vietnam side	- Discuss on Training and O&M	- Facility component	- Procurement and Cost estimation (equipment)			- Facility component
42	12/20	Sat		Internal Mtg	Internal Mtg	Hanoi>>>Tokyo	Hanoi>>>Tokyo	Hanoi>>>Tokyo	Internal Mtg	Hanoi>>>Tokyo	Hanoi>>>Tokyo		Internal Mtg
43	12/21	Sun		Internal Mtg	Internal Mtg				Internal Mtg				Internal Mtg
44	12/22	Mon		- Discuss on project component	- Discuss on project component				- Discuss on Training and O&M				- project coordination
45	12/23	Tue		- Discuss on project component	- Discuss on project component				- Discuss on Training and O&M				- project coordination
46	12/24	Wed	Hanoi>>>Tokyo	Hanoi>>>Tokyo					Hanoi>>>Tokyo				Hanoi>>>Tokyo

Annex-3

List of Participants

Annex - 3 List of Participants

1. JICA Vietnam
Ken YAMAMOTO : Deputy Chief Representative PPP Specialist
Fumihiko OKIURA : Senior Representative
Takashi MATSUSHITA : Senior Project Formulation
Nguyen Thi Thu HUONG : Program Officer
Pham Thi Viet HOA : Program Officer
2. MOLISA-GDVT
Duong Duc LAN, Asso.Prof.Dr. : Director General
Do Nang KHANH, PhD : Director of ODA funded Vocational Training Project
FURUTA Isao : JICA Advisor on Vocational Training System
3. PMU
Do Nang Khanh, PhD : Director
Tran Lien Huong : Head of Planning Division
Phan Minh Hien : Manager
4. Ho Chi Minh City Vocational College
Tran Thi NU : Vice Rector
Do Thanh VAN : Head of Organizational – Administrative Dept.
Hoang Thi Thu SUONG : Head of Quality Assurance Dept.
Nguyen Tho CHAN : Head of Finance - Accounting Dept.
Tran Kim HUONG : Deputy head of Finance - Accounting Dept.
Tran Kim TUYEN : Head of Training Dept.
Le Duc BINH : Head of Training Dept.
Tran Tien DUC : Head of Equipment Management Dept.
Tran Quan QUOC : Deputy head of Mechanic Faculty
Nguyen Thai BINH : Head of Industrial Electricity Faculty
Nguyen Minh TUYEN : Head of admission and job support center
Tran Thu HANG : Deputy head of Enrollment - Job supporting center
Huynh Quoc TUAN : Head of International Cooperation Office
Nguyen Thi Bich VAN : International Cooperation Dept.
Trac Hong SUONG : International Cooperation Dept.
Tran Tan LOC : International Cooperation Dept.
5. Hanoi Industrial Vocational College
Pham Duc VINH : Rector
Le Dinh BINH : Vice Rector
Nguyen Sy MINH : Head of Administration Dept.
Le Thi NHUNG : Head of Accounting Dept.
Nguyen Quoc THANH : Head of Infrastructure Management Dept.
Nguyen Duc THINH : Deputy Head of Infrastructure Management Dept.
Nguyen Quang TUYEN : Head of Center for Manufacture and Training Service
Pham Thi Thu HUONG : Head of Quality Assurance Dept.
Nguyen Truong LAM : Head of Machining Faculty
Vu Quang VINH : Deputy Head of Electricity-Electronics Faculty
Dau Le BINH : International Cooperation Team of Machining Faculty
6. Vocational College of Technique and Technology
Nguyen Duc THO : Vice Rector
Dang An BINH : Vice Rector
Nguyen Thi QUYEN : Vice Rector

- Le Vu HOANG : Head of Financial Dept.
Nguyen Van DAI : Vice head of Personnel and Administration Dept.
Pham Thi Mai HUONG : Head of Training Dept.
Tran Van QUYEN : Head of Quality Assurance Dept.
Nguyen Cong HUNG : Head of Enterprise Partnership Dept.
Pham Kim THU : Head of Production and Service Practice Dept.
Nguyen Anh TUAN : Vice Head of Electricity Faculty
Pham Minh VY : Vice Head of Industrial Electronics Faculty
Bui Minh NGOC : Machining Faculty
Le Son CUONG : Machining Faculty
7. Ba Ria - Vung Tau Vocational College
Le Duy CAU : Rector
Ngo Xuan KHOAT : Vice Rector
Truong Huynh NHU : Vice Rector
Hoang Duc THIEN : Head of Financial Dept.
Nguyen Cong TAM : Head of Equipment Management Dept.
Le Phuoc TRIEU : Deputy of Training and Student Affair Dept.
Vy Manh DUC : Head of International Cooperation and Enterprise Partner
Dept.
Tran Van NHAM : Head of Electricity Faculty
Nguyen Quang THU : Head of Machining Faculty
Le Van MINH : Head of Dynamic Mechanical Faculty
Hiroshi ISHIDA : Mold & Dies Advisor
Tsutomu KOBAYASHI : Mold & Dies Advisor
Sumio MURAOKA : Japanese Teacher
Masako OKABE : Japanese Teacher
Emi MIYASHITA : Japanese Teacher
8. Hanoi Vocational College of High Technology
Pham Xuan KHANH, PhD : Rector
Tran Xuan Ngoc : Vice Rector
Truong Thị PHUONG : Head of Financial Accounting Dept.
Vu Hong PHONG : Head of Equipment Dept.
Phạm Thị HUONG : Equipment Dept.
Tran Xuan DUNG : Vice Head of Machining Faculty
Nguyen Duc THUAN : Vice Head of Machining Faculty
Dang Van CHUYET : Head of Electricity- Electronics faculty
Nguyen Thị HONG : Electricity- Electronics faculty
9. Vietnam - Germany Vocational College (Vinh Phuc)
Nguyen Van HIEN : Rector
Nguyen Trung THIEN : Vice Rector
Le Thi THU : Head of Accounting- Financing Dept.
Hoang Tien DUNG : Head of Equipment-Management Dept.
Nguyen Manh THANG : Head of Training Dept.
Tran BANG : Deputy Head of Administration Dept.
Vu Van DUC : Head of Inspection, Evaluation and Quality Control Dept.
Le Quang CHAT : Head of Scientific Research and International Cooperation
Dept.
Pham Thi Thanh HIEN : Scientific Research and International Cooperation Dept.
Do Cao THINH : Head of Mechanical Engineering Faculty
Le Thanh CHUNG : Deputy Head of Mechanical Engineering Faculty

Hoang Van TRUNG	: Head of Electricity Faculty
Phung Van TU	: Electricity Faculty
Phi Huu NGHIA	: Electronics Faculty
Do The HUAN	: Head of Technical and Technology Application and Labour Export Center

10. Da Nang Vocational College

Nguyen Be	: Rector
Thai Thi HOA	: Vice Rector
Ngo Ngoc BOI	: Vice Rector
Phan Van SON	: Vice Rector
Ngo Van SAU	: Head of Finance Dept.
Le NHO	: Vice Head of Administration Dept.
Nguyen Huu XUAN	: Head of Students Affairs Dept.
Ho Viet HA	: Head of Training Dept.
Ngo Ngoc TRA	: Head of Administration Dept.
Dao Huu DUNG	: Head of Equipment Management Dept.
Tran Phuoc PHU	: Vice Head of Inspection and Development Support Dept.
Nguyen Van VAN	: Head of Machining Faculty
Nguyen Van HOS	: Head of Industrial Electronics Faculty

11. The Central Vocational College of Transport No.2

Hoang Van DZUNG	: Rector
To Xuan PHUNG	: Vice Rector
Dang Van PHI	: Vice Rector
Pham Tien THAI	: Head of Organization Dept.
Hoang Hong DIEP	: Deputy Head of Science Administration & Foreign Collaboration Dept.
Doan Van BINH	: Chief Accountant
Nguyen Thi Hong MINH	: Vice Head of Financial & Accounting Dept.
Hoang Anh THANG	: Director of PMU
Nguyen Thi Kien CHINH	: Vice Director of PMU
Nguyen Van TUAN	: Head of Training Dept.
Tong Duy TIEN	: Head of Plan & Technique Dept.
Nguyen Dinh TUAT	: Head of Mechanical Engineering Faculty
Nguyen Van PHUONG	: Vice Head of Mechanical Engineering Faculty
Do Van TUAN	: Head of Electricity- Electronics Faculty
Nguyen Dinh TAN	: Head of Enrolment and Job consultancy Centre

12. Ho Chi Minh Vocational College of Technology

Nguyen Thi HANG	: Rector
Tran Viet PHU	: Vice Rector
Nguyen Thi SANG	: Head of General Administration Dept.
Bui Van TUAN	: General Administration Dept.
Nguyen Van TOAN	: Head of Finance & Accounting
Bui Van HUNG	: Head of Training Dept.
Pham Hong THANG	: Head of Science and International Cooperation Office
Nguyen Thi VAN	: Science and International Cooperation Office
Phan The NHAN	: Head of Metal Cutting Faculty
Nguyen Van HIEU	: Metal Cutting Faculty
Do Ngoc MINH	: Head of Electrical - Electronic Faculty
To Minh TRUC	: Electrical - Electronic Faculty
Tran Hoai NAM	: Head of Mechatronic Subject

13. Vocational College of Mechanics & Irrigation

Hoang Ngoc CHANH	: Rector
Nguyen Van CHUONG	: Vice Rector
Pham Van HOAI	: Vice Rector
Nguyen Van SAM	: Deputy Head of Administrative Organization Dept.
Bui Ngoc CHAU	: Head of Finance Dept.
Pham Duy DONG	: Head of Training Dept.
Le Minh NGUYET	: Deputy Head of Training Dept.
Pham Ngoc TUYEN	: Head of Student Affairs and Service Dept.
Bui Manh HUNG	: Head of Machining Faculty
Duong Canh TOAN	: Head of Electricity - Electronics Faculty
Tran Thi Thuy HUONG	: Deputy Head of Electricity - Electronics Faculty
Le Thi DAO	: Head of Economics Faculty

14. Hanoi University of Industry (HaUI)

Tran Duc QUY	: Rector
Ha Xuan QUANG	: Vice Rector
Nguyen Anh TUAN	: Vice Rector
Bui Thi NGAN	: Vice Rector
Vu Dinh TUAN	: Director of Finance and Accounting Dept.
Nguyen Thi Mai LAN	: Vice Director of Finance and Accounting Dept.
Do Nguyen HUNG	: Vice Director of Training Dept.
Nguyen Van HUNG	: Director of Assets Management Dept.
Le Viet ANH	: Director of International Cooperation Dept.
Vu Dinh THOM	: Director of Vietnam Japan Center
Vu Thai GIANG	: Vice Director of Vietnam - Japan Center
Nguyen Thanh HA	: Vietnam - Japan Center
Nguyen Van THIEN	: Vice Head of Faculty of Mechanical Engineering
Nhu Quy THO	: Vice Head of Faculty of Mechanical Engineering
Tran Minh DUONG	: Head of Electrical Engineering Faculty
Vu Trung KIEN	: Vice Head of Electronic Engineering Faculty
Vu Huu THICH	: Vice Head of Electronic Engineering Faculty
Pham Van MINH	: Head of Electrical Engineer Faculty
Le Van THAI	: Head of Electronic Engineering Faculty
Le Hong QUAN	: Head of Automobile Technology Faculty
Nguyen Hong SON	: Vice Head of Vietnam-Korea Center for Mechanics
Nguyen Van THANH	: Head of CPA
Yoshiaki URABE	: JICA Expert on Machining
Kouji KANEMARU	: Network Formulation Coordinator

15. Haiphong Industrial Vocational College

Vu Duc HUAN	: Rector
Cao Anh TUAN	: Vice Rector
Ngo Ngoc BOI	: Vice Rector
Nguyen Van DUONG	: Head of Accounting Dept.
Pham Thanh SON	: Head of Administrative Organization Dept.
Le Van VAN	: Head of the Machining Faculty
Vu Minh TUAN	: Deputy Head of the Machining Faculty
Tran Huu DUONG	: Head of the CNC Subjects Group
Vu Kim TRONG	: Head of the Electrics and Electronics Faculty
Tran Cao PHI	: Deputy Head of the Electrics and Electronics Faculty
Nguyen Thi HUONG	: Head of the Electronics Subjects group

- Nguyen Thi Hai BINH : Japanese language teacher
16. Ha Nam Vocational College
Do Quang TRIEU : Rector
Pham Minh THANH : Vice Rector
Pham Van QUYET : Vice Rector
Hoang Duc MAN : Vice Rector
Lai Thi Mai LAN : Head of Financial Dept.
Nguyen Van HANH : Head of Equipment Management & Logistic Dept.
Dao Anh TUAN : Head of Training Dept.
Dao Van HIEP : Head of Machining Faculty
Nguyen The CUONG : Head of Electricity Faculty
Nguyen Quang KHANG : Staff of Japan Desk
17. The Japan Business Association in Vietnam
Kengo ANDO : Secretary General
18. THE PEOPLE'S COMMITTEE OF BRVT JAPAN DESK
Kenyuu KAZAMA : Adviser
Narihito YABUSHITA : Assistant
19. Industrial University of Ho Chi Minh City
Takayuki HAYASHIDA : Chief Advisor/JICA Expert
20. MOPI Foreign Investment Agency : Investment Promotion Center- South Vietnam Japan Desk
Tasashi KIKUCHI : JICA Expert
21. SOFRECO/AFD
Stephan VERAN : International Expert in TVET
22. SMEC/ADB Skills Enhancement Project(ADB Loan 2652)
Tom NORTON : Team Leader
23. DOLISA Ho Chi Minh
Ma Huong LE : Head of General Vocational Training Dept.
Vo Phuoc NGUYEN : Deputy of General Vocational Training Dept.
24. H & Friends GTL Vietnam Co., Ltd.
KHOA : Domestic manager
Clare LEE : Assistant manager
DIEU : Import manager
25. Yamazaki Mazak Vietnam Co., Ltd.
Takato OTSU : General Manager
26. Shibusawa Logistics Vietnam Co., Ltd.
Takuya KOIKE : General Manager
Fujiyoshi KANDA : General Director
27. Mitsutoyo Vietnam Co., Ltd.
Akira NAKANISHI : General Manager
Masayuki ARAI : Assistant manager
28. FANUC VIETNAM CO.,LTD
Hideto ISHIKAWA : General Director

- Sousuke ONOZUKA : Technical Manager
29. Takagi Vietnam Co., Ltd
Kenji TAKANAMI : Manager
Daisuke GOTO : Chief
30. Showa Denko Rare-Earth Vietnam Co.,Ltd
HAO : Chief
31. NAGATSU VIETNAM CO.,LTD.
Yoshiyuki IKEDA : General Director
32. TOHO VIET NAM Co.,LTD.
Yoshikazu ASAKURA : General Director
33. Ministry of Finance.
Nguyen Ngoc HUNG : Director of Bilateral Division II
Dinh Thao OANH : Bilateral Division II
34. KfW
Rainer U. Reidenbach : Team Leader
Nguyen Tri DUNG : Managing Director
Sebastian Jacobi : Senior Project Manager
Eberhard Knapp : Senior Technical Advisor
35. GIZ
Beate Dippmar : Senior Technical Advisor

Annex-4

Decision on the name changing
of Vietnam-German Vocational College
to VPVC

Annex-4

**MINISTRY OF LABOUR – INVALIDS
AND SOCIAL AFFAIRS**

No. 1335/QĐ-LĐTBXH

**SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom – Happiness**

Hanoi, October 15, 2014

DECISION

**ON THE NAME CHANGING OF VIETNAM- GERMAN VOCATIONAL COLLEGE
TO VĨNH PHÚC VOCATIONAL COLLEGE**

Pursuant to Law on Vocational Training dated November 29, 2006;

Pursuant to Decree No. 36/2012/NĐ-CP dated April 18, 2012 of the Government defining the functions, tasks and organizational structures of ministries and ministerial-level agencies;

Pursuant to Decree No. 106/2012/NĐ-CP dated December 20, 2012 of the Government defining the functions, tasks, powers and organizational structure of the Ministry of Labor, Invalids and Social Affairs;

Pursuant to Decision No. 51/2008/QĐ-BLĐTBXH dated May 5, 2008 of Minister of Labor, Invalids and Social Affairs providing the sample charter of vocational education colleges;

Pursuant to Decision No. 922/QĐ-BLĐTBXH dated July 3, 2007 of Minister of Labor, Invalids and Social Affairs establishing Vietnam – German Vocational College of Vĩnh Phúc Province;

Pursuant to Official Letter No. 5878/UBND-VX3 dated October 7, 2014 of Vĩnh Phúc People’s Committee proposing for name changing of Vietnam – German Vocational College into Vĩnh Phúc Vocational College;

According to the proposal of Director General of General Directorate of Vocational Training,

DECIDES:

Article 1: Change the name of Vietnam – German Vocational College, which is established under Decision No. 922/QĐ-BLĐTBXH dated July 3, 2007 of Minister of Labor, Invalids and Social Affairs (MOLISA) establishing Vietnam – German Vocational College of Vĩnh Phúc Province, into Vĩnh Phúc Vocational College.

Main campus: Liên Bảo ward, Vĩnh Yên city, Vĩnh Phúc province.

The Vĩnh Phúc Vocational College is located in the management area of Vĩnh Phúc People's Committee (VPPC); under the governing of MOLISA; operated under the sample charter of vocational education colleges.

Article 2: Function and mission of Vĩnh Phúc Vocational College is followed Article 2 in Decision No. 922/QĐ-BLĐTBXH dated July 3, 2007 of MOLISA establishing Vietnam – German Vocational College of Vĩnh Phúc Province.

Article 3: This Decision as well as unrevised articles in Decision No. 922/QĐ-BLĐTBXH dated July 3, 2007 of Minister of Labor, Invalids and Social Affairs should be followed.

Article 4: Chairman of VPPC, Chief of the Ministry Office, Director General of General Directorate of Vocational Training, Leaders of related agencies, Rector of Vĩnh Phúc Vocational College are responsible to implement this Decision./.

Recipients:

- As in Article 4;
- Ministries, ministerial-level agencies, Governmental agencies;
- People's Committee of Province, City directly under the Central;
- Vĩnh Phúc DOLISA;
- Filling.

**PP Minister
Deputy Minister**

(signed and sealed)

Nguyễn Ngọc Phi

BỘ LAO ĐỘNG - THƯƠNG BINH VÀ XÃ HỘI **CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM**
VÀ XÃ HỘI **Độc lập - Tự do - Hạnh phúc**

Số: **1335**/QĐ-LĐTBXH

Hà Nội, ngày **15** tháng **10** năm 2014

Handwritten notes:
Số: 1335/QĐ-LĐTBXH
- 12/10/2014
K. Văn Đức
Signature:
K. Văn Đức

QUYẾT ĐỊNH

Về việc đổi tên Trường Cao đẳng nghề Việt-Đức Vinh Phúc **17 - 10 - 2014**
thành Trường Cao đẳng nghề Vinh Phúc

BỘ TRƯỞNG BỘ LAO ĐỘNG - THƯƠNG BINH VÀ XÃ HỘI

Căn cứ Luật Dạy nghề ngày 29 tháng 11 năm 2006;

Căn cứ Nghị định số 36/2012/NĐ-CP ngày 18/4/2012 của Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ, cơ quan ngang Bộ;

Căn cứ Nghị định số 106/2012/NĐ-CP ngày 20/12/2012 của Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ Lao động - Thương binh và Xã hội;

Căn cứ Quyết định số 51/2008/QĐ-BLĐTBXH ngày 05/5/2008 của Bộ trưởng Bộ Lao động - Thương binh và Xã hội ban hành Điều lệ mẫu trường cao đẳng nghề;

Căn cứ Quyết định số 922/QĐ-BLĐTBXH ngày 03/7/2007 của Bộ trưởng Bộ Lao động - Thương binh và Xã hội về việc thành lập Trường Cao đẳng nghề Việt-Đức Vinh Phúc;

Căn cứ văn bản số 5878/UBND-VX3 ngày 07/10/2014 của Ủy ban nhân dân tỉnh Vinh Phúc về việc đổi tên trường Cao đẳng nghề Việt-Đức Vinh Phúc thành trường Cao đẳng nghề Vinh Phúc;

Xét đề nghị của Tổng cục trưởng Tổng cục Dạy nghề,

QUYẾT ĐỊNH:

Điều 1. Đổi tên Trường Cao đẳng nghề Việt-Đức Vinh Phúc được thành lập theo Quyết định số 922/QĐ-BLĐTBXH ngày 03/7/2007 của Bộ trưởng Bộ Lao động - Thương binh và Xã hội thành Trường Cao đẳng nghề Vinh Phúc.

Trụ sở chính: phường Liên Bảo, thành phố Vinh Yên, tỉnh Vinh Phúc.

Trường Cao đẳng nghề Vinh Phúc thuộc Ủy ban nhân dân tỉnh Vinh Phúc, chịu sự quản lý nhà nước về dạy nghề của Bộ Lao động - Thương binh và Xã hội; chịu sự quản lý theo lãnh thổ của Ủy ban nhân dân tỉnh Vinh Phúc; hoạt động theo Điều lệ mẫu trường cao đẳng nghề và quy định của pháp luật về dạy nghề.

Điều 2. Chức năng, nhiệm vụ của Trường Cao đẳng nghề Vinh Phúc thực hiện theo quy định tại Điều 2 Quyết định số 922/QĐ-BLĐTBXH ngày 03/7/2007 của Bộ trưởng Bộ Lao động - Thương binh và Xã hội về việc thành lập Trường Cao đẳng nghề Việt-Đức Vinh Phúc.

Điều 3. Quyết định này và những điểm không đổi tại Quyết định số 922/QĐ-BLĐTBXH ngày 03/7/2007 của Bộ trưởng Bộ Lao động - Thương binh và Xã hội có hiệu lực thi hành.

Điều 4. Chủ tịch Ủy ban nhân tỉnh Vĩnh Phúc, Chánh Văn phòng Bộ, Tổng cục trưởng Tổng cục Dạy nghề, Thủ trưởng các đơn vị có liên quan, Hiệu trưởng Trường Cao đẳng nghề Vĩnh Phúc chịu trách nhiệm thi hành Quyết định này. *Me*

Nơi nhận:

- Như điều 4;
- Các Bộ, cơ quan ngang Bộ, cơ quan thuộc Chính phủ;
- UBND các tỉnh, thành phố trực thuộc TW;
- Sở LĐTBXH tỉnh Vĩnh Phúc;
- Lưu: VT, TCDN.

**KT. BỘ TRƯỞNG
THỨ TRƯỞNG**



nh

Nguyễn Ngọc Phi

Annex-5

The Law on Vocational Education

THE PRESIDENT

THE SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom – Happiness

No. 34/2014/L-CTN

Hanoi, December 9, 2014

ORDER
On the promulgation of law¹

THE PRESIDENT OF
THE SOCIALIST REPUBLIC OF VIETNAM

Pursuant to Articles 88 and 91 of the Constitution of the Socialist Republic of Vietnam;

Pursuant to Article 91 of the Law on Organization of the National Assembly;

Pursuant to Article 57 of the Law on Promulgation of Legal Documents,

PROMULGATES

The Law on Vocational Education,

which was passed on November 27, 2014, by the XIIIth National Assembly of the Socialist Republic of Vietnam at its 8th session.

President of
the Socialist Republic of Vietnam
TRUONG TAN SANG

¹ Công Báo Nos 1179-1180 (31/12/2014)

**THE NATIONAL
ASSEMBLY**

**THE SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness**

No. 74/2014/QH13

LAW

On Vocational Education²

*Pursuant to the Constitution of the Socialist Republic of Vietnam;
The National Assembly promulgates the Law on Vocational Education.*

Chapter I

GENERAL PROVISIONS

Article 1. Scope of regulation

This Law provides the vocational education system; organization and operation of vocational education institutions; and rights and obligations of organizations and persons engaged in vocational education activities.

Article 2. Subjects of application

This Law applies to vocational education centers, intermediate vocational schools and colleges; enterprises, agencies, organizations and persons involved in vocational education activities in Vietnam.

Article 3. Interpretation of terms

In this Law, the terms and phrases below are construed as follows:

1. *Vocational education* means an educational level of the national education system which aims to provide vocational training at elementary, intermediate and collegial levels and other vocational training programs for workers to meet the demand for direct workforce for production, business and services. Vocational education shall be provided in the forms of formal training and continuing training.

² Công Báo Nos 1179-1180 (31/12/2014)

2. *Vocational training* means teaching and learning activities which aim to equip students with necessary vocational knowledge, skills and attitude so that they can find jobs or self-employ after completing their training courses, or raise their vocational qualifications.

3. *Module* means a unit of study completely combining expertise knowledge, practicing skills and vocational attitude aiming to help students have the capacity to accomplish one or more than one task of a trade.

4. *Credit* means a unit used to measure the amount of knowledge and skills and learning outcomes accumulated in a certain period of time.

5. *Formal training* means a form of training through full-time courses at elementary, intermediate and collegial levels provided by vocational education institutions, higher education institutions and enterprises having registered for vocational education (below collectively referred to as vocational education institutions).

6. *Continuing training* means a form of in-service, distance or self-instructed vocational training at elementary, intermediate and collegial levels and other vocational training programs provided in a flexible manner in terms of curriculum, time, methods and places of training to meet students' needs.

7. *Private and foreign-invested non-profit vocational education institutions* means private and foreign-invested vocational education institutions whose annual profits constitute a common asset which is not divided but used for re-investment to develop the institutions, and their shareholders or capital contributors do not receive any yields or receive annual yields at a level not exceeding the interest rate of government bonds.

8. *Enterprises* include enterprises established and operating under the Enterprise Law, cooperatives established and operating under the Law on Cooperatives, and other economic organizations having the legal person status as prescribed by the Civil Code.

Article 4. Objectives of vocational education

1. The goals of vocational education are to train direct workforce for production, business and services who possess vocational capacity corresponding to their training levels; moral qualities and good health; a sense of vocational responsibility; and creativity and adaptability to the working environment in the context of international integration; to ensure working productivity and quality; and to create conditions for graduates to find jobs, self-employ or study at higher levels.

2. Specific objectives for each vocational education level are as follows:

a/ Elementary vocational training aims to equip students with the capacity to perform simple tasks of a trade;

b/ Intermediate vocational training aims to equip students with the capacity to perform tasks at the elementary level and some complicated tasks of a discipline or trade; and the ability to apply techniques and technology to their job, and work independently or work in a team;

c/ Collegial vocational training aims to equip students with the capacity to perform tasks at the intermediate level and handle complicated tasks of a discipline or trade; the ability to create and apply modern techniques and technology to their job, and to guide and supervise others in their teams to perform tasks.

Article 5. Vocational education institutions

1. Vocational education institutions include:

a/ Vocational education centers;

b/ Intermediate vocational schools;

c/ Colleges.

2. Vocational education institutions shall be organized as:

a/ Public vocational education institutions, which are owned, and whose physical foundations are invested and built, by the State;

b/ Private vocational education institutions, which are owned, and whose physical foundations are invested and built, by social organizations, socio-professional organizations, private economic organizations or individuals;

c/ Foreign-invested vocational education institutions, which include wholly foreign-owned vocational education institutions and vocational education joint ventures between domestic and foreign investors.

Article 6. State policies on vocational education development

1. To develop the vocational education system in an open, flexible and diversified manner toward standardization, modernization, democratization, socialization, international integration, and transferability among vocational education levels and with other training levels.

2. To prioritize investment in vocational education in socio-economic development and human resource development plans. To prioritize budget for vocational education in the total state budget expenditures for education and training, and distribute such budget in a public, transparent and timely manner.

3. To invest in improving training quality and developing the network of vocational education institutions under planning; to focus investment in forming a number of key quality vocational education institutions to meet the labor market's human resource demand and workers' learning needs and incrementally universalize vocational training for the young.

4. To stream lower and upper secondary education graduates into vocational education suitable to each socio-economic development period.

5. To prioritize synchronous investment for training human resources in national key sectors and trades and in those reaching regional and international advanced levels; to attach importance to developing vocational education in areas with exceptionally difficult socio-economic conditions and ethnic minority, border, island and coastal areas; to invest in training in trades required by the labor market but difficult to be socialized.

6. The State shall apply the bidding or order-placing mechanism for training in specific disciplines and trades; in trades of spearhead economic sectors; and trades required by the labor market but difficult to be socialized. Vocational education institutions, regardless of their types, may all participate in the bidding or order-placing mechanism prescribed in this Clause.

7. To support beneficiaries of the policy on preferential treatment for people with meritorious services to the revolution, demobilized army men, ethnic minority people, members of poor households and households living near the poverty line, people with disabilities, helpless orphans, offshore fishing farmers, rural workers who are direct laborers in agricultural households whose farm land is recovered, and other social-policy beneficiaries with a view to creating opportunities for them to learn in order to find jobs or self-employ, or set themselves up in their own business; to ensure gender equity in vocational education.

8. The State shall create conditions for vocational education institutions to conduct scientific and technological research and application and combine training with scientific research and production, business and services in order to raise training quality.

Article 7. Socialization of vocational education

1. To diversify types of vocational education institutions and forms of vocational training; to encourage and create conditions for enterprises, socio-political organizations, social organizations, socio-professional organizations, other organizations, Vietnamese citizens, foreign organizations and individuals and overseas Vietnamese to establish vocational education institutions and participate in vocational training activities.

2. Organizations and individuals that contribute to and invest in the construction of vocational education institutions are entitled to socialization incentives according to the Government's regulations. Private and foreign-invested non-profit vocational education institutions shall be given land, tax and credit incentives and prioritized in training of teachers and administrators and lease of physical foundations and equipment.

3. Artisans and skilled persons shall be encouraged to participate in vocational training; training in traditional craft and rural trades shall be encouraged and supported.

4. Socio-political organizations, social organizations and socio-professional organizations shall, within the ambit of their tasks and powers, join competent state agencies in developing strategies, plans, master plans and policies on vocational education development; and in supervising the implementation of policies and laws on vocational education in accordance with law.

5. The Vietnam Chamber of Commerce and Industry, business associations and socio-professional organizations shall participate in the development and appraisal of vocational training programs; and advocate and create conditions for enterprises to exercise their rights and perform their responsibilities in vocational education.

Article 8. Planning of the vocational education institution network

1. The planning of the vocational education institution network must adhere to the following principles:

a/ Conformity with socio-economic development strategies and master plans and human resource development master plans of the country, sectors and localities, the State's investment capacity and the capacity to mobilize the society's resources;

b/ Assurance of the structure of training disciplines and levels and structure of regions and areas; diversity and synchronicity of the vocational education system, linking of training with production, business and services; incremental improvement of training quality to serve industrialization, modernization and international integration.

2. The planning of the vocational education institution network must cover:

a/ The structure of the vocational education institution network and scale of training by discipline, trade and level of training and type of vocational education institutions;

b/ Region- and locality-based arrangement of vocational education institutions;

c/ Development of the contingent of teachers and administrators of vocational education;

d/ Investment in training physical foundations and equipment.

3. Responsibilities for organizing the implementation of the master plan on the vocational education institution network are prescribed as follows:

a/ The central state management agency of vocational education shall assume the prime responsibility for, and coordinate with related ministries and sectors and provincial-level People's Committees in, elaborating a master plan on Vietnam's vocational education institution network and submitting it to the Prime Minister for approval; inspect and examine the implementation of the master plan;

b/ Ministries, sectors and provincial-level People's Committees shall, based on the master plan on Vietnam's vocational education institution network, elaborate and approve their master plans on vocational education institutions and direct their implementation.

Article 9. Transfer in training

1. Transfer in training shall be implemented based on training programs. Students are not required to learn again the contents they have learned when following higher-level training in the same discipline or trade or shifting to learn another discipline or trade.

2. Rectors of intermediate vocational schools and colleges shall base themselves on training programs to decide on modules, credits, subjects or contents which students are not required to learn again.

3. Transfer among vocational education levels must comply with regulations of the head of the central state management agency of vocational education; transfer between training levels of vocational education and those of higher education must comply with the Prime Minister's regulations.

Chapter II

VOCATIONAL EDUCATION INSTITUTIONS

Section 1

ORGANIZATION OF VOCATIONAL EDUCATION INSTITUTIONS

Article 10. Organizational structure of vocational education institutions

1. The organizational structure of a public or private intermediate vocational school or college must comprise:

a/ The school council, for public intermediate vocational schools and colleges; the board of directors, for private intermediate vocational schools and colleges;

b/ Rector and vice rectors;

c/ Professional divisions or sections;

d/ Faculties, subject departments;

dd/ Advisory councils;

e/ Branches; scientific and technological research organizations; organizations serving training and scientific research and application; production, business and service establishments (if any).

2. The organizational structure of a public or private vocational education center must comprise:

a/ Director, deputy directors;

b/ Professional divisions or sections;

c/ Subject divisions;

d/ Advisory councils;

dd/ Units serving training; production, business and service establishments (if any).

3. Foreign-invested vocational education institutions may themselves decide on their organizational structures.

Article 11. School councils

1. A school council shall be set up in a public intermediate vocational school or college.

2. The school council is an administration organization representing the ownership of the school, having the following tasks and powers:

a/ To resolve on development orientations, goals, strategies, master plans and plans and the organization and operation regulation of the school;

b/ To resolve on orientations for training and international cooperation;

c/ To resolve on policies on use of finance, assets and development investment orientations of the school in accordance with law;

d/ To resolve on the organizational structure of the school; the establishment, merger, division, split-up and dissolution of organizations of the school; and the proposal on relief of duty of the rector;

dd/ To supervise the implementation of its resolutions and the democracy regulation in school activities.

3. School council members must include:

a/ The rector, vice rectors, secretary of the grassroots Party organization, trade union chairperson, Ho Chi Minh Communist Youth Union secretary, representatives of teachers and a number of divisions, faculties and production, business and service establishments (if any) of the school;

b/ Representatives of the managing agency or related production, business and service establishments.

4. The school council chairperson shall be appointed, relieved of duty and dismissed by the head of a competent state agency. The criteria for school council chairpersons are the same as those for rectors prescribed in Clause 2, Article 14 of this Law.

5. The term of a school council must be 5 years and follow the term of the rector. The school council shall work on the collegial principle and make decisions by a vote of majority.

6. The competence and procedures to establish, the number and structure of members and tasks and powers of, the school council; tasks and powers of the chairperson and secretary of the school council; and appointment, relief of duty and dismissal of the chairperson and members of the school council shall be provided in the charter of the intermediate vocational school or college or in the regulation on organization and operation of the vocational education institution.

Article 12. Board of directors

1. Boards of directors shall be set up in private intermediate vocational schools and colleges.

2. The board of directors is the single organization representing the school owner, having the following tasks and powers:

a/ To organize the implementation of resolutions of the shareholders' general meeting;

b/ To resolve on development orientations, goals, strategy, master plan and plans and the regulation on organization and operation of the school;

c/ To resolve on the organizational structure of the school; the establishment, merger, division, split-up and dissolution of organizations of the school; and appointment and relief of duty of the rector and the proposal to the competent state agency to recognize or not to recognize the rector;

d/ To resolve on orientations for training and international cooperation;

dd/ To resolve on matters on the organization, personnel, finance and assets of, and development investment orientations for, the school;

e/ To supervise the implementation of its resolutions, resolutions of the shareholders' general meeting, and the democracy regulation in school activities.

3. Members of the board of directors must include:

a/ Representatives of organizations and individuals holding a number of shares at the required level;

b/ Rector; representative of the managing agency of the locality in which the vocational education institution is based or representatives of related production, business and service establishments;

c/ Representatives of Party and mass organizations; representatives of teachers.

4. The chairperson of a board of directors shall be elected by the board on the principle of majority and secret ballot.

The chairperson of a board of directors must be the account owner and shall take responsibility before law for the management of finance and assets of the school. The chairperson of the board of directors may authorize the rector to be the representative of the account owner and exercise the rights and perform the obligations as the account owner within the scope of authorization.

5. The term of a board of directors must be 5 years. The board of directors shall work on the collegial principle and make decision by a vote of majority.

6. The establishment procedures, number and structure of members; tasks and powers of the board of directors; criteria for and tasks and powers of the chairperson and secretary shall be provided in the charter of the intermediate vocational school or college or in the regulation on organization and operation of the vocational education institution.

Article 13. Directors of vocational education centers

1. The director of a vocational education center is the head of the center who shall represent the vocational education center before law and take responsibility for managing its activities.

The term of office of the director of a vocational education center must be 5 years.

2. The director of a vocational education center must fully satisfy the following criteria:

a/ Possessing moral qualities;

b/ Holding a collegial or higher degree;

c/ Having been trained in vocational education administration;

d/ Being physically fit.

3. The director of a vocational education center has the following tasks and powers:

a/ To issue regulations and rules of the vocational education center;

b/ To decide on the establishment, merger, division, split-up and dissolution of organizations of the vocational education center; to appoint, relieve of duty and dismiss heads and deputy heads of organizations of the center;

c/ To plan and develop the contingent of teachers and administrators; to decide on the structure and number of employees and salary payment based on their performance effectiveness and quality; to recruit public and other employees according to the needs of the vocational education center; to sign work or labor contracts with and manage and employ public and other employees and terminate these contracts in accordance with law;

d/ To organize training, international cooperation and vocational education quality accreditation activities and coordinate with enterprises in organizing vocational training; to organize career orientation for pupils of general education;

dd/ To manage the physical foundations, assets and finance of the vocational training center and organize effective exploitation and use of resources mobilized to serve its training activities in accordance with law;

e/ To implement information and reporting regulations and submit to supervision, inspection and examination in accordance with law;

g/ To develop and implement the regulation on grassroots democracy; to submit to the supervision by individuals, organizations and mass organizations in the vocational education center;

h/ To annually report on the performance of tasks and exercise of powers to the direct managing agency;

i/ Other tasks and powers as prescribed by law.

4. The competence to appoint, recognize, relieve of duty and dismiss directors of vocational education centers is prescribed as follows:

a/ The person competent to decide on the establishment of a public vocational education center shall appoint, relieve of duty and dismiss the director of that center;

b/ The chairperson of the provincial-level People's Committee shall recognize or not recognize the director of a private vocational education

center in the locality at the proposal of capital contributors or the owner of that center.

5. The procedures to appoint, recognize, relieve of duty and dismiss directors of vocational education centers shall be provided in the charters of vocational education centers.

Article 14. Rectors of intermediate vocational schools and colleges

1. The rector of an intermediate vocational school or a college is the head of the school or college who shall represent the school or college before law and manage its activities. The term of a rector must be 5 years. A rector shall be appointed and re-appointed by term, but for no more than two consecutive terms.

The rector of an intermediate vocational school or a college must be the account owner of the school or college, and shall take responsibility before law for the management of its finance and assets.

2. The rector of an intermediate vocational school or a college must fully satisfy the following criteria:

a/ Possessing moral qualities, having worked as trainers or participated in vocational education administration for at least 5 years;

b/ Holding a university or higher degree, for rectors of intermediate vocational schools, or a master's or higher degree, for rectors of colleges;

c/ Having been trained in vocational education administration;

d/ Being physically fit; being at an age to be able to hold at least one office term, for appointment of rectors of public intermediate vocational schools and colleges.

3. The rector of an intermediate vocational school or a college has the following tasks and powers:

a/ To issue regulations and rules of the school or college in accordance with resolutions of the school council or the board of directors;

b/ To organize the implementation of resolutions of the school council or the board of directors;

c/ To decide on the establishment, merger, division, split-up and dissolution of organizations of the school or college in accordance with resolutions of the school council or the board of directors; to appoint, relieve of duty and dismiss heads and deputy heads of organizations of the school or college;

d/ To plan and develop the contingent of teachers and administrators; to decide on the structure and number of employees and salary payment based

on their performance effectiveness and quality; to recruit public and other employees according to the needs of the school or college; to sign work or labor contracts with and manage and employ public and other employees, and terminate these contracts in accordance with law;

dd/ To organize training, international cooperation and vocational education quality accreditation activities and coordinate with enterprises in organizing training;

e/ To manage physical foundations, assets and finance of the school or college and organize effective exploitation and use of resources mobilized to serve its training activities in accordance with law;

g/ To implement information and reporting regulations and submit to supervision, inspection and examination in accordance with law;

h/ To develop and implement the regulation on grassroots democracy; to submit to the supervision by individuals, organizations and mass organizations in the school or college;

i/ To annually report on the performance of tasks and exercise of powers of the rector and the school management board to the school council or board of directors;

k/ Other tasks and powers as prescribed by law.

4. The competence to appoint, recognize, relieve of duty and dismiss rectors of intermediate vocational schools or colleges is prescribed as follows:

a/ Ministers, heads of ministerial-level agencies, heads of government-attached agencies, chairpersons of provincial-level People's Committees or heads of socio-political organizations shall appoint, relieve of duty and dismiss rectors of public intermediate vocational schools or colleges under their management;

b/ Chairpersons of provincial-level People's Committees shall recognize or not recognize rectors of private intermediate vocational schools at the proposal of their boards of directors;

c/ The heads of the central state management agency of vocational education shall recognize or not recognize rectors of private colleges at the proposal of the boards of directors.

5. The procedures to appoint, recognize, relieve of duty and dismiss rectors of intermediate vocational schools or colleges shall be provided in their charters.

Article 15. Advisory councils

1. The advisory council of a vocational education institution shall be established by the head of the institution to advise the latter in performing certain tasks and exercising certain powers within his/her competence.

2. The organization, operation, tasks and powers of the advisory council shall be stipulated by the head of the vocational education institution.

Article 16. Branches of intermediate vocational schools or colleges

1. A branch of an intermediate vocational school or a college is within the organizational structure of the school or college, and must submit to the management and administration by its rector. A branch of an intermediate vocational school or a college must have no independent legal entity status, shall be based in a province or centrally run city other than the locality in which the school or college is located, and must submit to the territory-based state management by the local administration of the locality where the branch is based in accordance with law.

2. A branch of an intermediate vocational school or a college shall perform tasks under the administration of the rector, report to the head of the school or college on its activities, and to the competent state agency of the locality in which it is based on activities subject to local management.

3. The conditions for establishment or permission for establishment; the competence and procedures for establishment or permission for establishment and registration of vocational education activities, of branches of intermediate vocational schools or colleges must comply Articles 18 and 19 of this Law.

Article 17. Organizations of the Communist Party of Vietnam, mass organizations and social organizations in vocational education institutions

1. Organizations of the Communist Party of Vietnam, mass organizations and social organizations in vocational education institutions shall be established and operate in accordance with their statutes, the Constitution and law.

2. Vocational education institutions shall create conditions for the establishment and operation of Party organizations, mass organizations and social organizations as prescribed in Clause 1 of this Article.

Article 18. Establishment, merger, division and split-up or permission for establishment, merger, division and split-up of vocational education institutions

1. A vocational education institution may be established or permitted for establishment when it has an establishment plan fully satisfying the conditions stipulated by the head of the central state management agency of

vocational education and conforming with the approved master plan on the vocational education institution network.

2. A foreign-invested vocational education institution must fully satisfy the conditions prescribed in Clause 1 of this Article and other conditions prescribed by the investment law.

3. A vocational education institution for people with disabilities must fully satisfy the conditions prescribed in Clauses 1 and 2 of this Article and the following conditions:

a/ Having training physical foundations and equipment, course books, and training methods and schedules suitable to people with disabilities. Construction works for students with disabilities must satisfy standards and technical regulations prescribed by the construction law;

b/ Having teachers with expertise and skills to teach people with disabilities.

4. The merger, division or split-up of a vocational education institution must ensure:

a/ Conformity with the vocational education institution network master plan and satisfaction of socio-economic development requirements;

b/ Benefits of its teachers, public and other employees and students; contribution to improving the quality and effectiveness of vocational education.

5. The head of the central state management agency of vocational education shall specify conditions and requirements for the establishment, merger, division and split-up or permission for the establishment, merger, division and split-up of vocational education institutions.

6. The competence to establish, merge, divide, split or permit the establishment, merger, division or split-up of vocational education institutions is prescribed as follows:

a/ Chairpersons of provincial-level People's Committees shall decide on the establishment of public provincial-level vocational education centers and intermediate vocational schools; and permit the establishment of private and foreign-invested vocational education centers and intermediate vocational schools in their localities;

b/ Ministers, heads of ministerial-level agencies and heads of central agencies of socio-political organizations shall decide on the establishment of public vocational education centers and intermediate vocational schools under their management;

c/ The head of the central state management agency of vocational education shall decide on the establishment of public colleges; and permit the establishment of private and foreign-invested colleges;

d/ The person competent to establish or permit the establishment of a vocational education institution may merge, divide or split, or permit the establishment, merger, division or split-up of, that institution.

7. The procedures for the establishment, merger, division and split-up or for permission for the establishment, merger, division and split-up of public and private vocational education centers, intermediate vocational schools and colleges shall be stipulated by the head of the central state management agency of vocational education.

The procedures for the establishment, merger, division and split-up or for permission for the establishment, merger, division and split-up of foreign-invested vocational education institutions must comply with the Government's regulations.

Article 19. Registration of vocational education activities

1. A vocational education institution or higher education institution or an enterprise may obtain a registration certificate of vocational education activities when it fully satisfies the following conditions:

a/ Having a decision on its establishment or permission for its establishment;

b/ Having land, physical foundations and equipment meeting training requirements as committed;

c/ Having all training programs, course books, teaching and learning materials as required;

d/ Having a contingent of qualified teachers and administrators of vocational education sufficient in number and synchronous in structure;

dd/ Having sufficient financial resources as required to ensure maintenance and development of vocational education activities;

e/ Having its charter and regulation on organization and operation.

2. An institution operating in vocational education may conduct enrollment and training only when it is granted a registration certificate of vocational education activities.

3. A vocational education institution that has any change compared to the contents written in its registration certificate of vocational education activities shall additionally register such change with a competent state agency.

4. The head of the central state management agency of vocational education shall specify the conditions, competence and procedures for the grant and revocation of registration certificates of vocational education activities or certificates of additional registration of vocational education activities.

Article 20. Suspension of vocational education activities

1. A vocational education institution shall be suspended from vocational education activities when:

a/ It committed frauds in order to be established or permitted for establishment or in order to obtain a registration certificate of vocational education activities;

b/ It fails to satisfy any of the conditions prescribed in Clause 1, Article 19 of this Law;

c/ It organizes vocational education activities without a registration certificate of vocational education activities;

d/ It violates the vocational education law and is administratively sanctioned in the form of operation suspension; or

e/ It falls into another case prescribed by law.

2. A decision on vocational education activity suspension must clearly state the reason for and duration of the suspension and measures to ensure the lawful interests of teachers, public employees, other employees and students. This decision shall be publicized in the mass media.

3. A person competent to grant registration certificates of vocational education activities may suspend vocational education activities. The head of the central state management agency of vocational education shall stipulate procedures for vocational education activity suspension.

4. After the vocational education activity suspension period, if the problem leading to the suspension is solved, the person competent to issue the suspension decision shall issue a decision to permit the resumption of vocational education activities.

Article 21. Dissolution of vocational education institutions

1. A vocational education institution shall be dissolved when:

a/ It commits illegal acts causing serious consequences;

b/ Past the suspension period of its training activities, it fails to solve the problem leading to such suspension;

c/ It fails to obtain a registration certificate of vocational education activities within 36 months, for colleges and intermediate vocational schools,

or 24 months, for vocational education centers, after the decision on its establishment or permitting its establishment takes effect;

d/ It fails to carry out training activities within 24 months after obtaining a registration certificate of vocational education activities.

2. A vocational education institution may be dissolved at the proposal of the organization or person establishing that vocational education institution.

3. A decision to dissolve a vocational education institution must clearly state the reason for the dissolution and measures to ensure the lawful interests of teachers, public employees, students and other employees. This decision shall be publicized in the mass media.

4. A person competent to establish or permit the establishment of a vocational education institution may dissolve or permit the dissolution of that institution. The head of the central state management agency of vocational education shall establish procedures for dissolution or permission for dissolution of vocational education institutions.

Article 22. Charters of vocational education institutions

1. The charters of vocational education institutions shall be issued by the head of the central state management agency of vocational education, which include the charter of vocational education centers, charter of intermediate vocational schools and charter of colleges.

2. The charter of vocational education institutions must contain the following principal contents:

a/ Goals and mission;

b/ Tasks and powers of vocational education institutions;

c/ Organization of training activities;

d/ Duties and rights of teachers and administrators;

dd/ Duties and rights of students;

e/ Organization and management of vocational education institutions;

g/ Finance and assets;

h/ Relations between vocational education institutions, enterprises, families and the society.

3. Based on the charter of vocational education institutions, vocational education institutions shall develop regulations on their organization and operation and publicize them at vocational education institutions.

Article 23. Tasks and powers of public and private vocational education institutions

1. To work out their development strategies and plans.
2. To organize vocational training of different levels according to the following provisions:
 - a/ Vocational education centers may organize elementary-level and general vocational training and provide career counseling for pupils according to the general education program;
 - b/ Intermediate vocational schools may organize intermediate- and elementary-level vocational training;
 - c/ Colleges may organize collegial-, intermediate- and elementary-level vocational training.
3. To organize continuing training in accordance with Section 2, Chapter III of this Law.
4. To decide on and take responsibility for the enrollment and management of students.
5. To publicize their training objectives and programs; conditions to ensure teaching and learning quality; tuition fees and exemption and reduction regulations; training quality accreditation results; system of diplomas and certificates; working positions after graduation and measures to examine and supervise training quality.
6. To organize teaching and learning according to their training objectives and programs; to award vocational education diplomas and certificates to students; to organize learning, practice and apprenticeship at enterprises for students under contracts with enterprises.
7. To use foreign training programs recognized by accredited foreign or international education or training institutions in performing their training tasks in accordance with law.
8. To participate in joint training with domestic and foreign parties in accordance with this Law and relevant laws.
9. To mobilize, manage and use resources in accordance with law.
10. To build and invest in training physical foundations and equipment to meet standardization and modernization requirements.
11. To recruit, employ and manage teachers, administrators, public employees and other employees; to organize production practice at enterprises for teachers to update and improve their vocational skills; to organize social activities for teachers, public employees, other employees and students.
12. To accredit and guarantee training quality under regulations.

13. To provide free training and employment counseling for students.
14. To establish enterprises, to organize science and technology, production, business and service activities in accordance with law.
15. To incorporate the teaching of languages, customs and practices and relevant laws of host countries and relevant laws of Vietnam in training programs for guest workers.
16. To conduct scientific research to serve training and improve training quality; to apply research outcomes and transfer technology to production, business and services.
17. To implement the regulation on grassroots democracy at their institutions.
18. To adopt mechanisms allowing students, teachers and the society to participate in the evaluation of vocational training quality.
19. To implement information and reporting regulations and submit to supervision, inspection and examination in accordance with law.
20. Other tasks and powers as prescribed by law.

Article 24. Tasks and powers of foreign-invested vocational education institutions

1. To have their lawful rights and interests protected in accordance with Vietnamese law and treaties to which the Socialist Republic of Vietnam is a contracting party.
2. To ensure lawful rights and interests of teachers, students and other employees even when they are suspended from operation or dissolved or are forced to terminate operation or dissolve ahead of schedule.
3. To respect the law, customs and practices of Vietnam.
4. Other tasks and powers prescribed in Article 23 of this Law.

Article 25. Autonomy of vocational education institutions

1. Vocational education institutions are entitled to autonomy in activities related to organization and personnel, finance and assets, training and technology, international cooperation and training quality assurance in accordance with law; and shall explain the organization and management of their activities and training quality to competent state agencies, students and the society.
2. Public vocational education institutions that can ensure by themselves all funds for their regular activities and investment activities are entitled to comprehensive autonomy and accountability according to the Government's regulations.

3. Vocational education institutions that are incapable of assuming accountability or violate the law in the course of exercising their autonomy shall, depending on the level of their incapability or seriousness of their violation, have their autonomy restricted and be handled in accordance with law.

Section 2

POLICIES FOR VOCATIONAL EDUCATION INSTITUTIONS

Article 26. Policies for vocational education institutions

1. Vocational education institutions are entitled to the following policies:

a/ To be allocated or leased land and physical foundations by the State; to enjoy credit incentives for investment in physical foundations or training quality improvement; to enjoy tax incentives in accordance with the tax law; to enjoy tax exemption for undistributed incomes from their socialized vocational education activities which are used for development investment; to enjoy tax exemption and reduction under regulations for profits earned from products and services created through training activities; to enjoy tax incentives for production, business and services relevant to training activities, publication of course books and teaching materials, manufacture and supply of training equipment, and import of training books, newspapers, materials and equipment;

b/ To participate in bidding for training activities and receive training orders placed by the State in accordance with the laws on bidding and placement of orders for public services funded with the state budget;

c/ To borrow concessional loans from domestic and foreign programs and projects;

d/ To participate in state-funded refresher training programs for teachers and administrators of vocational education at home and overseas;

dd/ To receive investment support for ensuring conditions to admit ethnic minority boarding school graduates;

e/ To receive support for developing training in disciplines and trades meeting learning needs of guest workers;

g/ Socialization promotion policies prescribed by law.

2. People's Committees of all levels shall create favorable conditions for vocational education institutions in their localities to carry out training activities, popularize scientific and technical advances and transfer technology.

Article 27. Policies for vocational education institutions for people with disabilities

1. The State shall encourage vocational education institutions to admit people with disabilities for integrated learning; and encourage organizations and individuals to establish vocational education institutions for people with disabilities.

2. Vocational education institutions for people with disabilities are entitled to the policies prescribed in Article 26 of this Law and the State's financial support for investment in training physical foundations and equipment; and allocation or lease of land for construction of non-business facilities in places convenient for the learning by people with disabilities.

Section 3

FINANCE AND ASSETS OF VOCATIONAL EDUCATION INSTITUTIONS

Article 28. Financial sources of vocational education institutions

1. State budget (if any).
2. Investment of domestic and foreign organizations and individuals.
3. Tuition fees and admission fees.
4. Revenues from training cooperation, science and technology, production, business and service activities;
5. Funds, aid, gifts, presents and donations from domestic and foreign organizations and individuals.
6. Other lawful revenues as prescribed by law.

Article 29. Tuition fees and enrollment fees

1. Tuition fees and admission fees are amounts payable by students to vocational education institutions to cover training and enrollment expenses.

2. Training expenses include expenses with lawful documents for trainers, learning materials, material and fuel for practice and apprenticeship; depreciation of physical foundations and equipment and other necessary expenses for training.

3. Public vocational education institutions entitled to comprehensive autonomy and accountability may themselves determine and decide on tuition fees and enrollment fees in accordance with regulations applicable to public education institutions entitled to comprehensive autonomy.

Other public vocational education institutions shall determine and decide on tuition fees and enrollment fees for each discipline or trade on the

basis of contents and methods of determining tuition fees and enrollment fees and brackets of tuition fees and enrollment fees stipulated by the Government.

4. Private and foreign-invested vocational education institutions may determine and decide by themselves on their tuition fees and enrollment fees.

5. Tuition fees and enrollment fees shall be publicly notified at the time of notification of enrollment.

6. Vocational education institutions providing high quality training programs may collect tuition fees corresponding to their training quality.

The head of the central state management agency of vocational education shall stipulate indicators of high quality training programs; and manage and supervise the collection of tuition fees corresponding to training quality.

Article 30. Training physical foundations and equipment

Vocational education institutions shall ensure training equipment according to the list of minimum training equipment and physical foundations stipulated by the head of the central state management agency of vocational education.

Article 31. Management of finance and assets of vocational education institutions

1. Vocational education institutions shall implement regulations on finance, accounting, audit, taxes and financial publicity in accordance with law.

2. State budget-funded vocational education institutions shall manage and use state budget funds in accordance with the law on the state budget.

Public vocational education institutions may decide on the raising and use of funds and use of assets associated with their assigned tasks to expand training scale and improve training quality according to regulations of the head of the central state management agency of vocational education.

3. Vocational education institutions shall manage and use assets created from the state budget in accordance with the law on management and use of state assets; and are entitled to autonomy in and shall take responsibility for managing and using assets created from non-state budget sources.

4. Assets and land allocated by the State to private vocational education institutions for management and assets financed, donated and granted to private vocational education institutions shall be used for proper purposes and may neither have their use purpose changed nor come under private ownership in any forms.

5. The central state management agency of vocational education, ministries, ministerial-level agencies and provincial-level People's Committees shall examine and inspect vocational education institutions in properly managing and using their financial sources and in managing and using state assets according to the Government's regulations.

Chapter III

TRAINING ACTIVITIES AND INTERNATIONAL COOPERATION IN VOCATIONAL EDUCATION

Section 1

FORMAL TRAINING

Article 32. Enrollment

1. Vocational education institutions are entitled to determine by themselves their own enrollment quotas on the basis of their conditions regarding number and quality of teachers and training physical foundations and equipment and in conformity with socio-economic development requirements and human resource development planning.

2. Enrollment shall be organized as follows:

a/ Vocational education institutions shall enroll students once or many times in a year according to their determined enrollment quotas;

b/ Selection-based enrollment must apply to elementary-level training;

c/ Selection-based enrollment, entrance exam or combination of entrance exam and selection-based enrollment must apply to intermediate- and collegial-level training. Based on specific needs of disciplines or trades, rectors of intermediate vocational schools or colleges may decide to hold preliminary screening before conducting selection-based enrollment or organizing entrance exams.

3. Cases entitled to automatic admission to collegial-level training include:

a/ Holders of higher secondary education diplomas or those having studied the amount of knowledge and passed all exams required for upper secondary education, holding intermediate-level vocational training diplomas of distinction or higher class and registering to learn the same discipline or trade;

b/ Holders of higher secondary education diplomas or those having studied the amount of knowledge and passed all exams required for upper secondary education, holding intermediate-level vocational training diplomas

of good class and, having at least 2 years working in their trained discipline or trade and registering to learn the same discipline or trade;

c/ The cases prescribed in Clause 2, Article 64 of this Law.

4. The head of the central state management agency of vocational education shall stipulate the determination of enrollment quotas by vocational education institutions and promulgate the enrollment regulation.

Article 33. Training duration

1. The elementary-level training duration must last between 3 months and less than 1 school year but be at least 300 learning hours for students with educational level suitable to the trades they need to learn.

2. The intermediate-level training duration for school year-based programs must last between 1 and 2 years depending on the disciplines or trades.

The duration for module- or credit-based intermediate-level training is the duration for sufficiently accumulating the number of modules or credits required for each training program.

Holders of lower secondary education diplomas who wish to further study at the collegial level shall study the amount of knowledge and pass exams required for upper secondary education.

3. The collegial-level training duration for school year-based programs must last between 2 and 3 school years depending on the disciplines or trades, for holders of upper secondary education diplomas; or between 1 and 2 years, depending on the disciplines or trades, for holders of intermediate-level vocational education diplomas in the same disciplines or trades who possess upper secondary education diplomas or have studied the amount of knowledge and passed all exams required for upper secondary education.

The duration for module- or credit-based collegial-level training is the duration for sufficiently accumulating the number of modules or credits required for each training program, for holders of upper secondary education diplomas or those having studied the amount of knowledge and passed all exams required for upper secondary education.

4. The Minister of Education and Training shall stipulate the amount of knowledge of upper secondary education to be accumulated by students in order to study at the collegial level.

Article 34. Training programs

1. A vocational training program must meet the following requirements:

a/ To show the objectives of elementary-, intermediate- and collegial-level training; to provide standard knowledge and skills for graduates; scope and structure of training contents, methods and forms; and methods of evaluating learning performance for each module, credit, subject, discipline or trade and each training level;

b/ To ensure scientificity, modernity, systematicity, practicality and flexibility in response to labor market changes; to reasonably allocate time between vocational knowledge and skills, to ensure transferability between vocational education levels and other training levels in the national education system;

c/ To be periodically reviewed, updated and supplemented to suit techniques and technologies in production, business and services.

2. The head of a vocational education institution may decide on and shall take responsibility for developing or selecting and approving vocational training programs of all levels.

3. A foreign-invested vocational education institution may decide on and shall take responsibility for developing and implementing training programs according to regulations of the head of the central state management agency of vocational education.

4. The head of the central state management agency of vocational education shall stipulate the minimum knowledge amount and required capacity that students must acquire after completing each training level of vocational education; and the process to develop, appraise and issue training programs of elementary, intermediate and collegial levels.

Article 35. Course books

1. Course books for elementary-, intermediate- and collegial-level training must concretize the requirements for knowledge and skills for each module, credit and subject in the training program and facilitate the application of active teaching methods. Heads of vocational education institutions shall decide on the formation of course book appraisal councils, organize the compilation or selection of course books and approve course books for use as official materials for teaching and learning.

2. The head of the central state management agency of vocational education shall stipulate the compilation, selection, appraisal, approval and use of course books of vocational education.

Article 36. Requirements on training methods

1. Elementary-level training methods must attach importance to exercising practicing skills and promoting the activeness and self-awareness of students.

2. Intermediate- and collegial-level training methods must combine exercising practicing capacity with equipping vocational knowledge; promote the activeness, self-awareness, dynamism, and the capacity to work independently and organize teamwork; use teaching software and increasingly apply information and communication technologies to teaching and learning.

Article 37. Organization and management of training

1. Training programs shall be conducted based on school year or module or credit accumulation. Vocational education institutions may decide on and shall take responsibility for organizing training programs based on school year or module or credit accumulation, depending on their conditions but must ensure quality required for each training program.

2. Students who accumulate a sufficient number of modules or credits required for a training program shall be recognized to have completed the program; the accumulated modules or credits of students shall be recognized and students are not required to learn them again when following other training programs.

3. The head of the central state management agency of vocational education shall stipulate the organization of training programs based on school year and module or credit accumulation and organization of joint training.

Article 38. Vocational education diplomas and certificates

1. Vocational education diplomas and certificates shall be awarded to graduates of a certain training level. The award of vocational education diplomas and certificates is prescribed as follows:

a/ A student who has finished an elementary-level training program and satisfies set criteria may take a course completion test or exam and, if passing the test or exam, shall be awarded an elementary-level training certificate by the head of the vocational education institution or enterprise licensed for vocational training;

b/ A student who has finished a school year-based intermediate-level training program and satisfies set criteria may take a graduation exam, and, if passing the exam, or a student who has accumulated all modules or credits required for such training program, shall be considered for graduation recognition and awarded an intermediate-level vocational education diploma by the rector of the intermediate vocational school or college;

c/ A student who has finished a school year-based collegial-level training program and satisfies set criteria may take a graduation exam or defends his/her dissertation for graduation, and if meeting the requirements, or a student who has accumulated all modules or credits required for such training program, shall be considered for graduation recognition and awarded a collegial diploma by the rector of the intermediate vocational school or college and be recognized as bachelor of practice or engineer of practice.

2. Vocational education institutions may print blank diplomas and certificates and award diplomas and certificates to students; and publish diploma- and certificate-related information on their websites.

3. The head of the central state management agency of vocational education shall promulgate regulations on tests, exams and recognition of graduation; issue forms of diplomas and certificates; and stipulate the printing, management, issuance, award, withdrawal and cancellation of diplomas and certificates; responsibilities of foreign-invested vocational education institutions for awarding diplomas and certificates in Vietnam; equivalence recognition for graduates of vocational training levels overseas; and the order and procedures for recognition of vocational education diplomas and certificates awarded by foreign vocational education institutions.

Section 2

CONTINUING TRAINING

Article 39. Training contracts

1. Training contract means the verbal or written agreement on the rights and obligations between the head of a vocational education institution, a vocational training class, an organization or an individual and a student of a continuing training program prescribed at Point a, b, c or d, Clause 1, Article 40 of this Law and in case an enterprise recruits people for training to work for the enterprise.

2. A training contract must contain the following details:

a/ The name of the trade to be trained in, vocational skills to be acquired;

b/ Training location;

c/ The completion time of the training course;

d/ The tuition fee and method of payment;

dd/ Each contracting party's liabilities to pay damages due to contractual breaches;

e/ Contract liquidation;

g/ Other agreements not contrary to the law and social ethics.

3. If an enterprise recruits people for training to work for the enterprise, in addition to the contents prescribed in Clause 2 of this Article, a training contract must also contain the following contents:

a/ The student's commitment on the duration of working for the enterprise;

b/ The enterprise's commitment on labor employment after completing the training;

c/ Agreements on the time and the level of remuneration paid to the student who directly turns out or participates in turning out products for the enterprise during his/her training.

4. A contract on hands-on training at an enterprise must, in addition to the contents prescribed in Clause 2 of this Article, contain agreements on the time of commencing payment of remuneration and the level of remuneration to the student according to each period of time.

Article 40. Continuing training programs

1. Continuing training shall be carried out through the following programs:

a/ Continuing training programs at students' request; programs on refresher training in, updating and raising vocational knowledge and skills;

b/ Training programs in forms of hands-on training, hand-down of trades, and apprenticeship;

c/ Programs on technology transfer;

d/ Other training programs with a training duration of under three months;

dd/ Training programs to obtain collegial- or intermediate-level diplomas and elementary-level certificates through continuing training.

2. Continuing training programs must meet the following requirements:

a/ Training programs prescribed at Points a, b, c and d, Clause 1 of this Article must be practical and help students acquire capabilities to accomplish tasks of a trade, raise their working capacity and labor productivity or change their trades. The heads of vocational education institutions, enterprises and vocational training classes providing training programs prescribed at Points a, b, c and d, Clause 1 of this Article may decide on and shall take responsibility for developing or selecting their own training programs.

b/ Training programs prescribed at Point dd, Clause 1 of this Article must meet the requirements prescribed in Article 34 of this Law.

Article 41. Continuing training duration and methods

1. The training duration for programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law must conform to the requirements of each program, ensuring flexibility and suitability to each category of students.

2. The school year-based training duration for programs prescribed at Point dd, Clause 1, Article 40 of this Law may be longer than the duration prescribed in Article 33 of this Law.

3. The methods of continuing training must promote students' activeness, self-learning ability and experiences; use modern facilities, information and communication technology to raise the teaching and learning quality and effectiveness.

Article 42. Teachers of continuing training programs

1. Teachers of training programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law must be teachers, scientists, engineers, technicians, artisans, skilled persons and best farmers.

2. Teachers of training programs prescribed at Point dd, Clause 1, Article 40 of this Law must be teachers who meet the criteria and standards prescribed in Articles 53 and 54 of this Law.

Article 43. Organization and management of continuing training

1. The organization and management of continuing training must comply with Article 37 of this Law.

2. Vocational education institutions, enterprises and vocational training classes may organize training for programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law.

3. Vocational education institutions and higher education institutions having registered for collegial-level training may organize training for programs prescribed at Point dd, Clause 1, Article 40 of this Law after guaranteeing the performance of their formal training task and obtaining the permission of a competent state management agency of training.

4. The head of the central state management agency of vocational education shall stipulate in detail continuing training.

Article 44. Diplomas and certificates of continuing training

1. Continuing vocational training programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law must apply tests or exams upon completion of modules, subjects or programs depending on each program as

decided by heads of vocational education institutions, enterprises, heads of organizations or individuals opening vocational training classes.

2. Tests, exams and the award of vocational education diplomas and certificates for training programs prescribed at Point dd, Clause 1, Article 40 of this Law must comply with Article 38 of this Law.

3. Students finishing continuing training programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law shall be awarded training certificates by heads of vocational education institutions, enterprises or vocational training classes. A training certificate must indicate the contents and duration of the training course.

Article 45. Vocational training classes

1. Vocational training classes may be established by organizations or individuals to implement training programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law.

The organization or individual opening a vocational training class under an order placed by the State must fully satisfy the conditions stipulated by the head of the central state management agency of vocational education.

2. If fully meeting the conditions prescribed in Clause 3 of this Article, organizations and individuals opening vocational training classes are entitled to the following incentive policies:

a/ To have expenses for activities of vocational training classes deducted from taxable income in accordance with the tax law;

b/ To take part in the State's vocational training programs and schemes if satisfying conditions prescribed by law;

c/ To award training certificates to students;

d/ To send vocational trainers to pedagogical refresher training classes and refresher training classes to update and raise technology knowledge in specialized fields;

dd/ Students are entitled to training support if their vocational training classes are covered by the State's vocational training programs and schemes.

1. Vocational training classes are entitled to the State's incentive policies if meeting the following conditions:

a/ Having physical foundations, equipment, teachers and training programs suitable to the trades to be trained in;

b/ Having a written report on vocational training activities to the People's Committee of the commune, ward or township where vocational training classes are opened.

Section 3

INTERNATIONAL COOPERATION IN VOCATIONAL EDUCATION

Article 46. Objectives of international cooperation in vocational education

1. To raise the quality of vocational education toward modernity and approach to advanced regional and global vocational education.
2. To create conditions for vocational education institutions to develop sustainably and train human resources of high qualifications and quality to serve national industrialization and modernization.

Article 47. Forms of international cooperation in vocational education

1. Joint training.
2. Establishment of representative offices of foreign vocational education institutions in Vietnam.
3. Cooperation in scientific research, technology transfer and organization of symposiums and seminars.
4. Refresher training and exchange of vocational education teachers, vocational education administrators and students.
5. Information exchange to serve training activities; supply of training programs; exchange of publications, documents and outcomes of training activities.
6. Participation in regional and international education organizations and professional associations.
7. Establishment of overseas representative offices of Vietnamese vocational education institutions.
8. Other lawful forms of cooperation.

Article 48. Joint training with foreign partners

1. Joint training with a foreign partner means the development and implementation of a training cooperation program between a Vietnamese vocational education institution and a foreign education and training institution without forming a new legal entity in order to implement training programs to award vocational training diplomas or certificates.
2. Training program used in joint training with foreign partners may be a foreign training program or a program jointly developed by both parties, which can be implemented wholly in Vietnam or partly in Vietnam and partly overseas. Heads of vocational education institutions shall approve training programs used in joint training with foreign partners.

3. Vocational education institutions that implement joint training with foreign partners must possess a registration certificate of joint training and satisfy requirements on teaching staffs, training physical foundations and equipment, and training programs and contents.

Foreign education and training institutions that implement joint training with domestic vocational education institutions must possess a vocational education quality accreditation certificate granted by a foreign quality accreditation agency or recognized under regulations of the head of the central state management agency of vocational education.

Specific conditions, competence, the order and procedures for grant of a certificate of registration of joint training with foreign partners must comply with the Government's regulations.

4. When a joint training program is suspended from enrollment or is terminated for failing to maintain the conditions prescribed in Clause 3 of this Article, the vocational education institution shall reimburse tuition fees to students, pay teaching remunerations, and ensure lawful rights and interests of its students, teachers, public employees and other employees under signed labor contracts or the collective labor agreement, and pay tax arrears and other debts (if any).

Article 49. Representative offices

1. A representative office of a foreign vocational education institution shall function to represent the foreign vocational education institution.

2. A representative office has the following tasks and powers:

a/ To boost cooperation with Vietnamese vocational education institutions through promoting the development of vocational education cooperation programs and projects;

b/ To organize exchange and counseling activities, information exchange, seminars and exhibitions on vocational education in order to introduce foreign vocational education organizations and institutions;

c/ To urge and supervise the implementation of vocational education cooperation agreements signed between foreign and Vietnamese vocational education institutions;

d/ To neither carry out vocational education activities directly generating profits in Vietnam nor establish its branches in Vietnam.

3. A foreign vocational education institution may obtain a license for establishing a Vietnam-based representative office when fully meeting the following conditions:

a. It has the legal entity status;

b/ It has operation guidelines and objectives;

c/ It has operated in vocational education for at least 5 years in the host country;

d/ It has an organization and operation regulation for its representative office to be established in Vietnam which conforms to Vietnamese law.

4. The head of the central state management agency of vocational education shall grant licenses for establishment in Vietnam of representative offices to foreign vocational education institutions.

5. A representative office of a foreign vocational education institution may terminate its operation at the request of the foreign vocational education institution or its operation shall be terminated when:

a/ The operation term indicated in its license expires;

b/ Its license is revoked because it fails to operate within six months after obtaining the license or within three months after obtaining an extended license;

c/ Its license application dossier contains forged document(s);

d/ It carries out activities in contravention of its license;

dd/ It violates other provisions of Vietnamese law.

Article 50. Policies on development of international cooperation in vocational education

1. The State shall expand and develop international cooperation in the field of vocational education on the principles of respect for national independence and sovereignty and mutual benefit.

2. The Vietnamese State shall encourage and create conditions for foreign organizations and individuals, international organizations and overseas Vietnamese to participate in teaching, research, investment in, financing of, cooperation on, science application or technology transfer to, vocational education in Vietnam; and protect their lawful rights and interests in accordance with Vietnamese law and treaties to which the Socialist Republic of Vietnam is a contracting party.

3. The Government shall stipulate in detail international cooperation on vocational education.

Chapter IV

RIGHTS AND RESPONSIBILITIES OF ENTERPRISES IN VOCATIONAL EDUCATION

Article 51. Rights of enterprises in vocational education

1. To establish vocational education institutions for training the workforce directly for their production, business and service activities and for the society.
2. To register vocational education activities to organize elementary-level training and continuing training programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law for their workers and other workers; to receive the State's funding support for training people with disabilities who will work for the enterprises.
3. To cooperate with other vocational education institutions to organize elementary-, intermediate- and collegial-level training and continuing training programs.
4. To participate in developing training programs and course books; to organize teaching, instruct practice and assess learning results of students at vocational education institutions.
5. To have expenses for their vocational education activities deducted from taxable income in accordance with the tax law.

Article 52. Responsibilities of enterprises in vocational education

1. To provide information on their training and employment demands according to disciplines and trades and their annual recruitment demands to state management agencies in charge of vocational education.
2. To organize training or place orders with vocational education institutions to train people to work for enterprises.
3. To fulfill responsibilities agreed upon in joint training contracts with vocational education institutions.
3. To participate in developing training programs and course books; to organize teaching, instruct practice and assess learning results of students at vocational education institutions; to admit students and teachers who make study visits, practice or work on apprenticeship to raise their vocational skills under contracts signed with vocational education institutions.
5. To pay wages and remuneration to students and teachers who directly turn out or participate in turning out proper products during the latter's training practice or apprenticeship at enterprises at levels agreed upon by the parties.
6. To coordinate with vocational education institutions in organizing training and refresher training to raise vocational skills and vocational retraining for their workers.

7. To create conditions for their workers to take on-the-job training in order to raise their vocational knowledge and skills in accordance with the labor law.

8. To employ only trained workers or those having national vocational skills certificates for trades on the list prescribed by the Minister of Labor, War Invalids and Social Affairs.

9. The Government shall stipulate in detail rights and responsibilities of enterprises in vocational education.

Chapter V

TEACHERS AND STUDENTS

Section 1

TEACHERS

Article 53. Teachers at vocational education institutions

1. Teachers at vocational education institutions include teachers who teach theories, teachers who teach practice or teachers who teach both theories and practice.

2. Teachers at vocational education centers and intermediate schools shall be called teachers, and at colleges, called lecturers.

3. Teacher titles in vocational education institutions include teacher, principal teacher and senior teacher; lecturer, principal lecturer and senior lecturer.

4. Teachers at vocational education institutions must satisfy the following criteria:

a/ Having good moral qualities;

b/ Having obtained the standardized professional qualifications;

c/ Having good health as required by the profession;

d/ Having a clear background.

Article 54. Teachers' trained standard qualifications

1. Elementary-level teachers must possess intermediate-level or higher degrees or vocational skills certificates for teaching at the elementary level.

2. Intermediate-level theory teachers must possess university or higher degrees; intermediate-level practice teachers must possess vocational skills certificates for teaching intermediate-level practice.

3. Collegial-level theory teachers must possess university or higher degrees; collegial-level practice teachers must possess vocational skills certificates for teaching collegial-level practice.

4. Teachers who teach both intermediate- and collegial-level theories and practice must meet the standards of theory teachers and practice teachers prescribed in Clauses 2 and 3 of this Article.

5. Teachers who have neither pedagogical college diplomas or technical pedagogical college diplomas nor pedagogical university diplomas or technical teachers' training university diplomas must possess pedagogy certificates.

6. The head of the central state management agency of vocational education shall stipulate the contents of vocational skills training and refresher training programs and vocational skills certificates for teaching practice at different levels; and stipulate the contents of pedagogical refresher training programs for teachers at vocational education institutions.

Article 55. Tasks and powers of teachers

1. To give full and quality teaching according to training objectives and programs.

2. To regularly study and improve their professional qualifications and teaching methodologies.

3. To be exemplary in the implementation of civic duties, laws, and charters and organization and operation regulations vocational education of vocational education institutions.

4. To preserve their quality, prestige and honor; to respect students, fairly treat students and protect their lawful rights and interests.

5. To participate in the management and supervision of vocational education institutions; and in the work of the Party and mass organizations and other social activities.

6. To use teaching documents, facilities and aids and equipment and physical foundations of vocational education institutions for the performance of their assigned tasks.

7. To sign contracts with other vocational education institutions to work as guest lecturers in accordance with law.

8. To contribute opinions on policies and plans of vocational education institutions concerning teaching programs, course books and teaching methodology and matters related to their interests.

9. To spare time and be arranged by vocational education institutions to work as apprentices at enterprises to update and improve their practicing skills and access new technologies under regulations.

10. To have other tasks and powers prescribed by law.

Article 56. Recruitment, assessment and refresher training of teachers

1. Recruitment of teachers must ensure the criteria and standardized trained qualifications prescribed in Clause 4, Article 53, and Article 54, of this Law and comply with the laws on labor and public employees. To prioritize the recruitment of persons who have practical production, business or service experiences relevant to the disciplines and trades they are expected to teach.

2. Teachers shall be assessed and classified annually in accordance with law.

3. Refresher training for standardization, refresher training to raise professional and pedagogical qualifications, vocational skills, information technology skills and foreign languages; and apprenticeship at enterprises for teachers must comply with regulations of the head of the central state management agency of vocational education.

Article 57. Guest lecturing

1. Vocational education institutions may invite persons who fully satisfy the criteria and standardized trained qualifications prescribed in Clause 4, Article 53, and Article 54, of this Law to give lectures under the guest lecturing regime.

2. Guest lecturers shall perform the tasks and powers prescribed in Article 55 of this Law.

3. Guest lecturers who are cadres, civil servants or public employees in other agencies and organizations shall guarantee fulfillment of their tasks at their workplaces.

Article 58. Policies toward teachers

1. Teachers at public vocational education institutions are entitled to the following policies:

a/ Salaries according to their titles prescribed in Clause 3, Article 53 of this Law; profession-based allowance, seniority-based allowance for teachers and special allowance for teachers who teach both theories and practice, teachers being artisans, persons with high vocational skills who teach practice, teachers of practice in heavy, hazardous or dangerous jobs, teachers for persons with disabilities, according to the Government's regulations;

b/ Policies for teachers working in specialized schools, areas meeting with extremely difficult socio-economic conditions and other policies according to the Government's regulations.

2. To be sent to training courses to raise their professional qualifications and skills according to the Government's regulations.

3. The State shall adopt policies to encourage teachers to work at vocational education institutions in areas with extremely difficult socio-economic conditions; and create favorable conditions for teachers who are seconded to work at vocational education institutions in areas with difficult socio-economic conditions or extremely difficult socio-economic conditions.

4. Teachers, administrators and scientific researchers of vocational education who meet the criteria set by law shall be awarded the titles of "People's Teacher" or "Outstanding Teacher" by the State.

5. Teachers who are doctors, artisans or possess high vocational skills working at public vocational education institutions may retire at an older age to perform professional work in accordance with the labor law provided that they have good health and voluntarily work longer and at the same time, the vocational education institutions need them.

6. The State shall adopt policies on investment in training and refresher training in professional knowledge and skills and teaching methodology for teachers of trades for people with disabilities.

Section 2

STUDENTS

Article 59. Students

Students are those studying vocational education programs at vocational education institutions, including students of collegial-level training programs, students of intermediate- and elementary-level training programs; and students of continuing training programs prescribed at Points a, b, c and d, Clause 1, Article 40 of this Law.

Article 60. Tasks and rights of a student

1. To study and practice under regulations of vocational education institutions.

2. To respect teachers, administrators, public employees and other staffs of vocational education institutions; to unite with and help others in study and practice.

3. To participate in labor and social activities, environmental protection, security and order protection, and crime and social evil prevention and combat.

4. To be respected and treated equally without discrimination based on gender, ethnicity, religion and family background, to be provided with full information on their study and practice.

5. To be helped in study and participation in production, business and service activities as well as cultural, physical training and sports activities.

6. To enjoy relevant policies, if they are beneficiaries of priority and social policies.

7. To have other tasks and rights prescribed by law.

Article 61. Students' obligation to work for a definite term

1. Graduates from selection-based training courses according to the selection-based enrollment regime, training courses under state-ordered programs, or with state-awarded scholarships or state-covered training costs or foreign financing under agreements signed with the Socialist Republic of Vietnam shall comply with definite-term job placements by competent state agencies; in case of non-compliance, they shall reimburse scholarships or training costs.

2. Graduates from training courses who are awarded scholarships or have training costs paid by employers shall work for the latter for a duration committed in their training contracts; if failing to fulfill their commitment, they shall reimburse scholarships or training costs.

Article 62. Policies toward students

1. Students are entitled to scholarships, social relief, the selection-based enrollment regime, education credit policy, public service charge reduction and exemption policies applicable to pupils and students prescribed in Articles 89, 90, 91, and 92 of the Education Law.

2. Students are entitled to tuition fee exemption by the State in the following cases:

a/ Students of intermediate and collegial levels being people and relatives of people with meritorious service to the revolution according to the law on preferential treatment of people with meritorious service to the revolution; ethnic people of poor households or households living just above the poverty line; people of very small ethnic groups in areas with difficult or extremely difficult socio-economic conditions; helpless orphans;

b/ Graduates from lower secondary schools who follow intermediate-level training;

c/ Students of intermediate- or collegial-level training courses on disciplines and trades that have enrollment difficulties but are demanded by the society according to the list prescribed by the head of the central state management agency of vocational education; students of particular disciplines and trades to meet socio-economic development, national defense or security requirements according to the Government's regulations.

3. Students being women and rural laborers when following elementary-level training programs and under three-month training programs shall be supported in training costs according to the Government's regulations.

4. Graduates from boarding ethnic lower secondary schools or upper secondary schools, including boarding schools financed by people, are entitled to be automatically admitted to public intermediate vocational schools or colleges.

5. Students being ethnic people of poor households and households living just above the poverty line and people with disabilities; Kinh people of poor households and households living just above the poverty line or people with disabilities who permanently reside in areas with extremely difficult socio-economic conditions, ethnic minority areas, border areas and on islands; boarding general education school pupils when following intermediate- or collegial-level training programs are entitled to boarding policy according to the Prime Minister's regulations.

6. In the course of study, if students cannot continue their study due to the performance of military service, sickness, accidents, maternity or difficulties met by their families, they are entitled to reserve their learning results and resume their study to complete the training courses. The time for reserving learning results must not exceed five years.

7. Knowledge and skills that students have accumulated in the working process and the results of modules, credits and subjects that students have accumulated in the learning process at different vocational education levels shall be recognized and they are not required to learn them again when following other training programs.

8. Graduates are entitled to the following policies:

a/ To be employed by state agencies, socio-political organizations, public non-business units or armed forces under regulations; to prioritize graduates with diplomas of distinction or higher class;

b/ To receive salaries under agreements with employers based on working positions and working capacity and results, which must not be lower than the basic wage, minimum wage or entry-level wages for jobs

occupations or titles requiring intermediate or collegial degrees in accordance with law.

Article 63. Policies toward students to work as guest workers

1. The State shall adopt policies to organize vocational training for to-be-guest workers under contracts.

2. If students at vocational education institutions leave to work overseas under contracts, they are entitled to reserve their learning results. The time for reserving learning results must not exceed five years.

Article 64. Policies toward prize winners at skills contests

1. The State shall encourage students to participate in skills contests. Prize winners at national, ASEAN or international skills contests shall be commended in accordance with the law on emulation and commendation.

2. First-, second- or third-prize winners at national skills contests who have intermediate vocational training diplomas and upper secondary education diplomas or learnt the amount of knowledge and passed exams required for upper secondary education in accordance with law, shall be automatically admitted to colleges for learning disciplines or trades compatible with trades on which they have won prizes.

3. First-, second- or third-prize winners at ASEAN or international skills contests who possess upper secondary education diplomas or intermediate vocational training diplomas and learnt the amount of knowledge and passed exams required for upper secondary education in accordance with law, shall be automatically admitted to universities for learning disciplines or trades compatible with trades on which they have won prizes.

Chapter VI

VOCATIONAL EDUCATION QUALITY ACCREDITATION

Article 65. Objectives, subjects and principles of vocational education quality accreditation

1. Objectives of vocational education quality accreditation include:

a/ To ensure and raise vocational education quality;

b/ To certify the level of achievement of vocational education objectives in each certain period by vocational education institutions or programs.

2. Subject to vocational education quality accreditation are:

a/ Vocational education institutions;

b/ Training programs of all vocational education levels.

3. Vocational education quality accreditation must comply with the following principles:

a/ Independence, objectivity and lawfulness;

b/ Honesty, publicity and transparency;

c/ Fairness and periodicity;

d/ Compulsoriness for vocational education institutions and training programs on national, regional and international key disciplines, specialties or trades; vocational education institutions and training programs on disciplines and trades to meet the requirements of state management work.

Article 66. Organization and management of vocational education quality accreditation

1. A vocational education quality accreditation institution shall be tasked to assess and recognize vocational education institutions and vocational education programs as reaching vocational education quality standards.

2. Vocational education quality accreditation institutions include:

a/ Vocational education quality accreditation institutions founded by the State;

b/ Vocational education quality accreditation institutions founded by organizations or individuals.

3. A vocational education quality accreditation institution may be established when having a plan to meet the following conditions:

a/ Having physical foundations, equipment and finance meeting operation requirements of vocational education quality accreditation institutions.

b/ Having administrators and accreditors who meet requirements of vocational education quality accreditation activities.

4. A vocational education quality accreditation institution must have the legal entity status and shall take responsibility before law for its vocational education quality accreditation activities; and may collect accreditation charges in accordance with law.

5. The head of the central state management agency of vocational education shall stipulate in detail criteria, standards, process and cycle for vocational education quality accreditation; conditions and competence to establish, permit the establishment, dissolve vocational education quality accreditation institutions; tasks and powers of vocational education quality accreditation institutions; and recognize accreditation results of vocational education quality accreditation institutions; the grant and revocation of

certificates of satisfaction of vocational education quality accreditation standards; criteria for, and tasks and powers of accreditors; and management and grant of vocational education quality accreditor cards.

Article 67. Tasks and powers of vocational education institutions in vocational education quality accreditation

1. To formulate and implement long-term and annual plans to raise vocational education quality.

2. To organize self-accreditation of vocational education quality according to vocational education quality accreditation standards and procedures.

3. To provide information and documents for vocational education quality accreditation activities.

4. To submit to vocational education quality accreditation at the request of competent state agencies.

5. To pay quality accreditation charges to vocational education quality accreditation institutions.

6. To select a vocational education quality accreditation institution to conduct quality accreditation for them and their vocational training programs.

7. To lodge complaints and denunciations with competent agencies about illegal decisions, conclusions or acts of vocational education quality accreditation institutions or persons.

Article 68. Recognition of attainment of vocational education quality accreditation standards

1. If quality-accredited vocational education institutions or training programs satisfy the requirements, they shall be granted certificates of satisfaction of vocational education quality accreditation standards. Such a certificate must be valid for five years.

2. If vocational education institutions or training programs fail to maintain their quality according to vocational education quality accreditation standards, their certificates of satisfaction of vocational education quality accreditation standards shall be revoked.

Article 69. Tasks and powers of vocational education institutions recognized to have attained vocational education quality accreditation standards

1. To maintain and further raise vocational education quality.

2. To annually report on the self-assessment to state management agencies of vocational education.

3. To enjoy policies on investment support for raising vocational education quality and participate in bidding for performance of vocational education norms under orders placed by the State.

Article 70. Use of vocational education quality accreditation results

Results of vocational education quality accreditation may be used as a basis for:

1. Assessing the training quality of vocational education institutions;
2. Students to select vocational education institutions and training programs of all vocational education levels;
3. Employers to employ workers;
4. The State to invest, organize bidding for, place orders for and assign training tasks to vocational education institutions.

Chapter VII

STATE MANAGEMENT OF VOCATIONAL EDUCATION

Article 71. Responsibilities of state management of vocational education

1. The Government shall perform the unified state management of vocational education.

2. The central state management agency of vocational education shall take responsibility before the Government to perform state management of vocational education, having the following tasks and powers:

a/ To formulate and submit to competent authorities for promulgation or promulgate according to its competence, and organize the implementation of, strategies, master plans, plans and policies on vocational education development;

b/ To formulate and submit to competent authorities for promulgation or promulgate according to its competence, and organize the implementation of, legal documents on vocational education;

c/ To identify training objectives, contents and methods; teacher standards; list of trades of different levels; standards of training physical foundations and equipment; and to promulgate regulations on enrollment, tests, exams and recognition of graduation and award of diplomas and certificates in vocational education;

d/ To stipulate the registration of and grant of registration certificates of for vocational education activities;

dd/ To manage and organize the accreditation of vocational education quality;

e/ To perform statistical and information work on vocational education organization and operation;

g/ To organize the vocational education management apparatus;

h/ To manage and organize the training and refresher training for vocational education teachers and administrators, and teachers of continuing training programs;

i/ To mobilize, manage and use resources for vocational education development;

k/ To manage and organize scientific and technological research and application; production, business and services on vocational education;

l/ To manage and organize international cooperation on vocational education;

m/ To inspect and examine the observance of law on vocational education; to settle complaints and denunciations and handle violations of the law on vocational education.

3. Ministries and ministerial-level agencies shall coordinate with the central state management agency of vocational education in performing the state management of vocational education according to their competence, and directly manage vocational education institutions of their ministries and sectors (if any) according to their assigned functions and tasks.

4. Provincial-level People's Committees shall, within the ambit of their tasks and powers, perform the state management of vocational education under the Government's decentralization; formulate, and organize the implementation of, vocational education plans to meet local human resources needs; examine the observance of the law on vocational education by vocational education institutions, organizations and individuals involved in vocational education in their localities according to their competence; socialize vocational education; and raise the quality and effectiveness of vocational education in their localities.

5. The Government shall stipulate in detail the competence and contents of state management of vocational education.

Article 72. Vocational education inspection

1. Agencies assigned to perform the state management of vocational education shall perform specialized inspection of vocational education.

2. Vocational education inspectorates have the following tasks and powers:

a/ To inspect the observance of laws and policies on vocational education;

b/ To detect, prevent and handle according to competence or propose competent state agencies to handle violations of the law on vocational education;

c/ To verify, and propose competent state agencies to settle, vocational education-related complaints and denunciations;

d/ Other tasks and powers prescribed by the inspection law.

3. The organization and activities of vocational education inspectorates must comply with the inspection law.

Article 73. Handling of violations

1. A person who commits any of the following acts shall, depending on the nature and seriousness of the violation, be disciplined, administratively sanctioned or examined for penal liability; if causing damage, he/she shall pay compensations therefor in accordance with law:

a/ Establishing a vocational education institution or organizing vocational education activities in contravention of law;

b/ Violating regulations on organization or activities of vocational education institutions;

c/ Publishing, printing and distributing documents in contravention of law;

d/ Forging dossiers; violating regulations on enrollment, tests, exams and recognition of graduation and award of diplomas and certificates;

dd/ Infringing upon the body or dignity of vocational education teachers and administrators; maltreating and persecuting students;

e/ Violating regulations on vocational education quality accreditation;

g/ Causing insecurity and disorder in vocational education institutions;

h/ Causing losses of education funds, abusing vocational education activities to earn money illegally or for self-seeking purposes;

i/ Causing material damage to vocational education institutions;

k/ Other acts in violation of the law on vocational education.

2. The Government shall stipulate in detail the sanctioning of administrative violations related to vocational education.

Article 74. Complaints, denunciations and settlement of complaints and denunciations

Complaints and denunciations about vocational education activities and the settlement thereof must comply with the provisions of law.

Chapter VIII

IMPLEMENTATION PROVISIONS

Article 75. Effect

1. This Law takes effect on July 1, 2015.
2. Law No. 76/2006/QH11 on Vocational Training ceases to be effective on the effective date of this Law.

Article 76. To amend and supplement a number of articles of the Education Law

To amend, supplement and annul a number of articles of Education Law No. 38/2005/QH11, which was amended and supplemented under Law No. 44/2009/QH12, as follows:

1. To amend and supplement Points c and d, Clause 2, Article 4 as follows:

“c/ Vocational education at elementary, intermediate and collegial levels and other vocational training programs;

d/ Undergraduate and postgraduate education (below referred to as higher education), training of university, master and doctoral levels.”;

2. To amend and supplement Point d, Clause 1, Article 51 as follows:

“d/ The Minister of Education and Training shall make decisions for pre-university schools; the head of the central state management agency of vocational education shall make decisions for colleges;”;

3. To amend and supplement Clause 3, Article 70 as follows:

“3. Teachers working at pre-school education, general education and elementary- and intermediate-level vocational education institutions shall be called teachers. Teachers working at colleges and higher education institutions shall be called lecturers.”;

4. To replace some phrases in a number of articles as follows:

a/ To replace “vocational training centers” with “vocational education centers” at Point b, Clause 1, Article 83;

b/ To replace “vocational teaching classes” with “vocational training classes” at Point a, Clause 1, Article 69, and Point b, Clause 1, Article 83;

c/ To replace “the head of the state management agency of vocational training” with “the head of the central state management agency of vocational education” in Articles 45, 50, 51, 52, 54, 77, 105 and 113;

d/ To replace “vocational training institutions” with “vocational education institutions” in Clause 3, Article 54;

dd/ To replace “vocational training schools” with “vocational education institutions” in Clause 1, Article 89;

5. To remove some phrases in a number of articles as follows:

a/ To remove “collegial level” in Clause 2, Article 40 and Clause 1, Article 41;

b/ To remove “colleges” in Article 41, at Point d, Clause 1, Article 51 and Article 79;

c/ To remove “colleges and” in paragraph 3, Clause 2, Article 41;

d/ To remove “and professional secondary education classes” at Point a, and “centers for general technical education and vocational orientation; vocational training centers” at Point b, Clause 1, Article 69;

6. To remove Section 3, Chapter II - Vocational education, comprising Articles 32, 33, 34, 35, 36, and 37; to annul Clause 5 of Article 30, Clause 1 of Article 38, Clause 2 of Article 39, paragraph 2, Clause 1 of Article 40, Point a, Clause 1 of Article 42, Clause 1 of Article 43, and Points d and dd, Clause 1, Article 77.

Article 77. To amend and supplement a number of articles of the Law on Higher Education

To amend, supplement and annul a number of articles of Law No. 08/2012/QH13 on Higher Education as follows:

1. To replace “professional secondary schools” with “intermediate schools” in Clause 3, Article 37.

2. To remove some phrases in a number of articles as follows:

a/ To remove “college” in Clause 2 of Article 4, Clause 2 of Article 5, Article 33, Point a, Clause 1, and Clause 3 of Article 36, and Clause 4 of Article 45;

b/ To remove “collegial level” in Clause 1, Article 6;

c/ To remove “colleges” in Article 2, Clause 8 of Article 4, Clause 1 of Article 11, Article 14, Clause 1 of Article 16, Clause 1 of Article 17, Clause 1 of Article 19, Clause 1 of Article 20, Clause 4 of Article 27, and Article 28;

d/ To remove “The Minister of Education and Training shall recognize the ranks of colleges” in Clause 5, Article 9;

dd/ To remove “holding a master’s or higher degree for rectors of colleges” at Point b, Clause 2, Article 20;

e/ To remove “college diploma” in Clause 1, Article 38;

g/ To remove “collegial-level training programs” in Article 59;

3. To annul Point a, Clause 2, Article 5; Point a, Clause 1, Article 7; paragraph 2, Clause 1, Article 27, paragraph 2, Clause 2, Article 27, and Point a, Clause 1, Article 38.

Article 78. Transitional provision

Vocational education institutions and higher education institutions that have organized enrollment before the effective date of this Law may continue organizing training and awarding diplomas and certificates to students in accordance with Education Law No. 38/2005/QH11, which was amended and supplemented under Law No. 44/2009/QH12; Law No. 76/2006/QH11 on Vocational Training and Law No. 08/2012/QH13 on Higher Education until completion of the courses.

Article 79. Detailing provision

The Government and competent agencies shall detail the articles and clauses as assigned in this Law.

This Law was passed on November 27, 2014, by the XIIIth National Assembly of the Socialist Republic of Vietnam at its 8th session.-

Chairman of the National Assembly
NGUYEN SINH HUNG

Annex-6

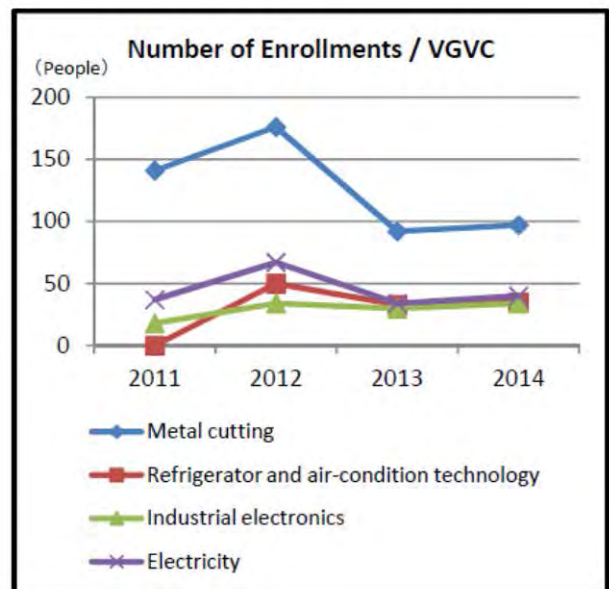
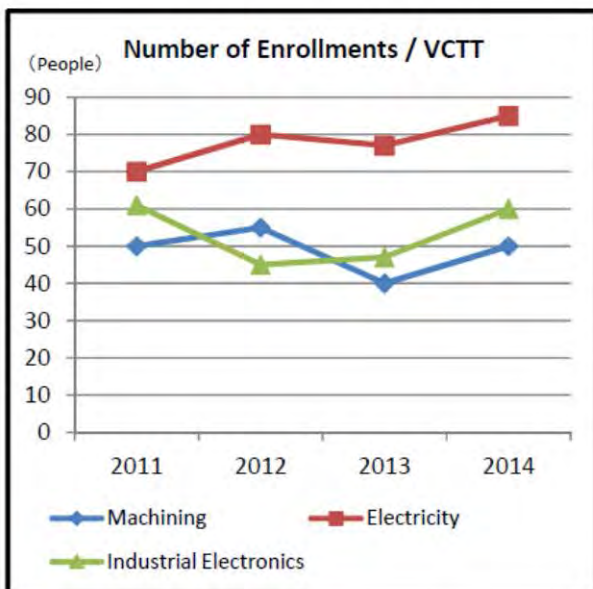
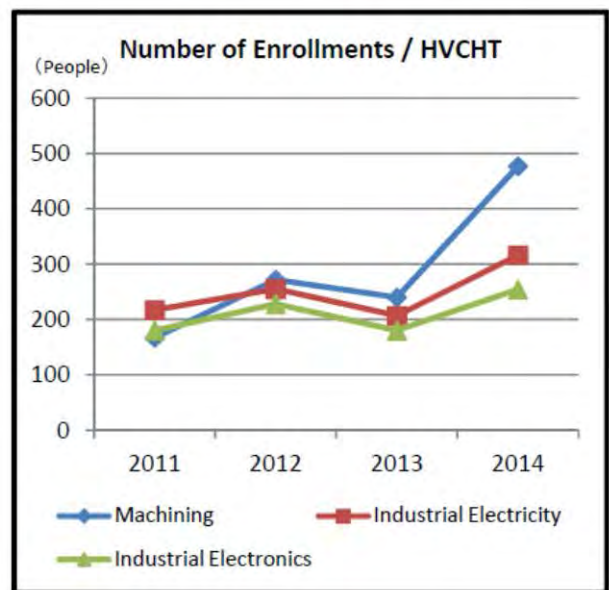
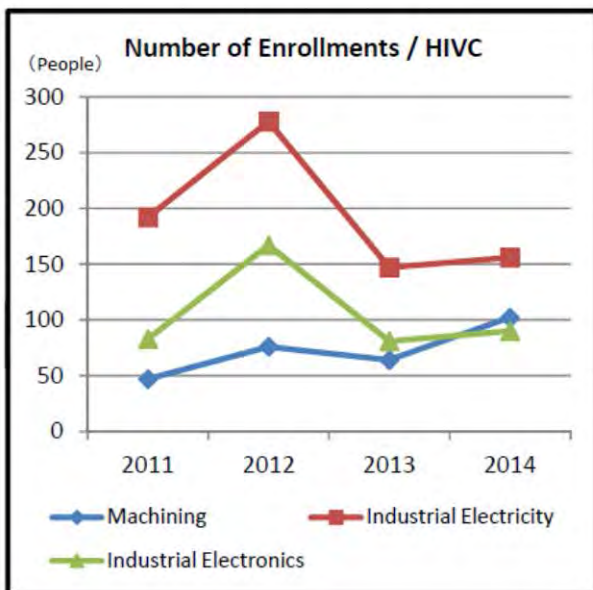
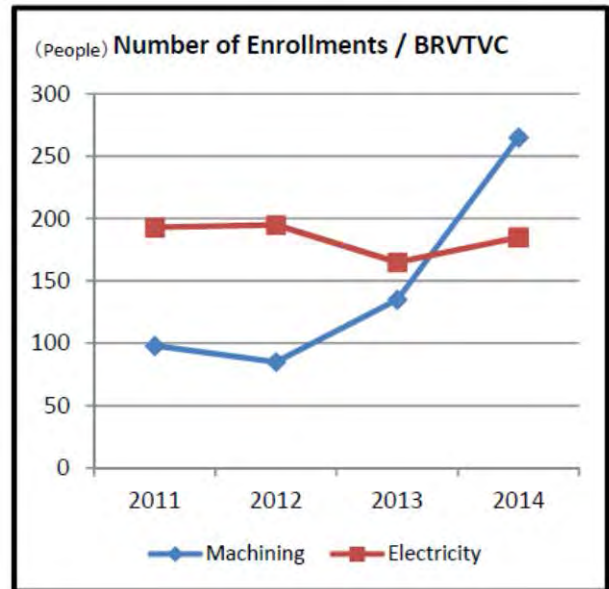
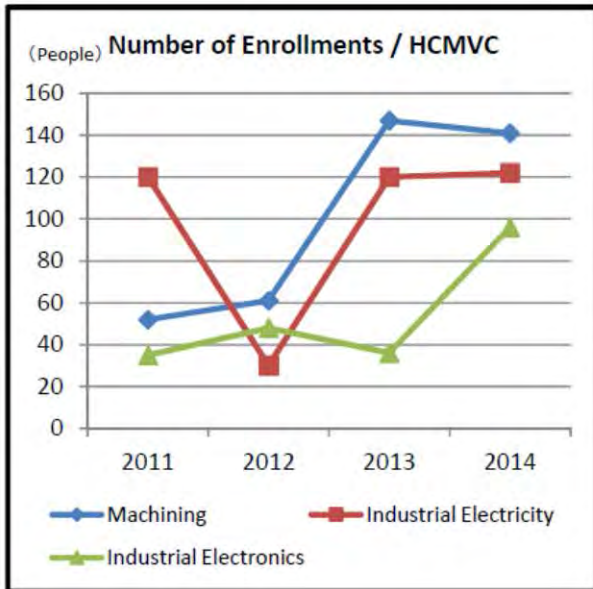
Transition of the Number of Enrolments,
Graduates and Employed Graduates by VCs

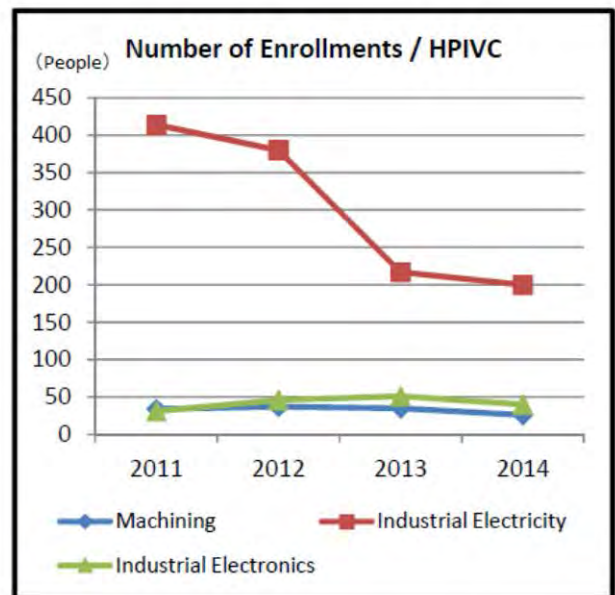
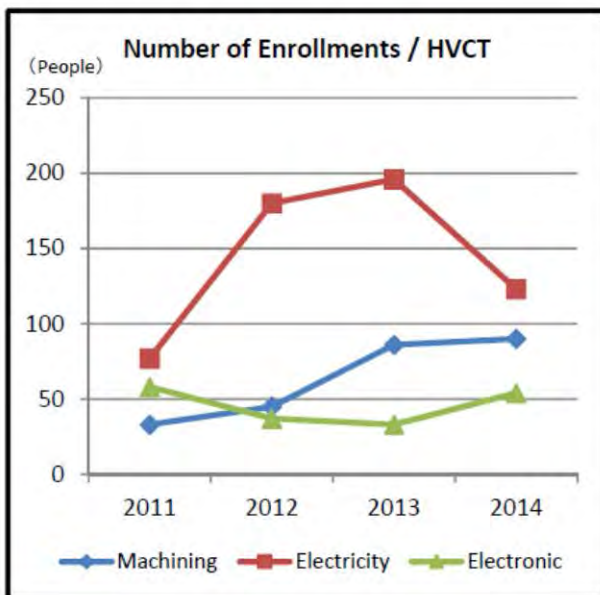
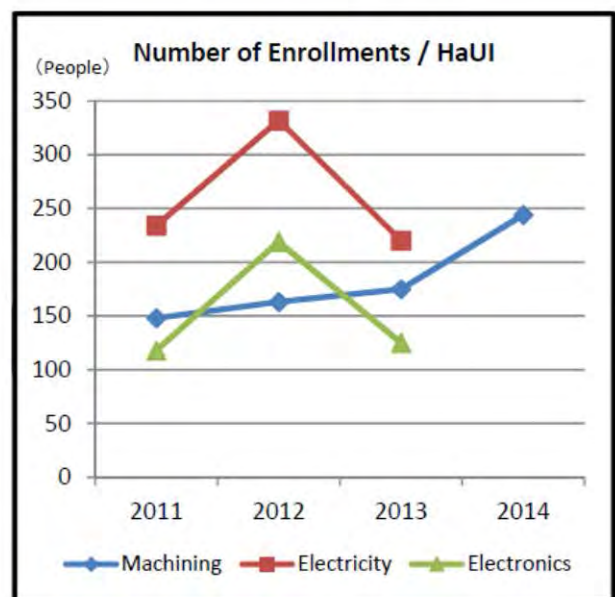
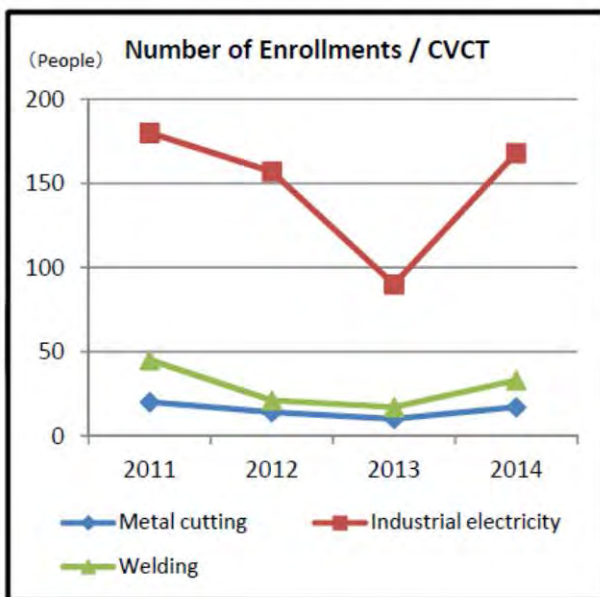
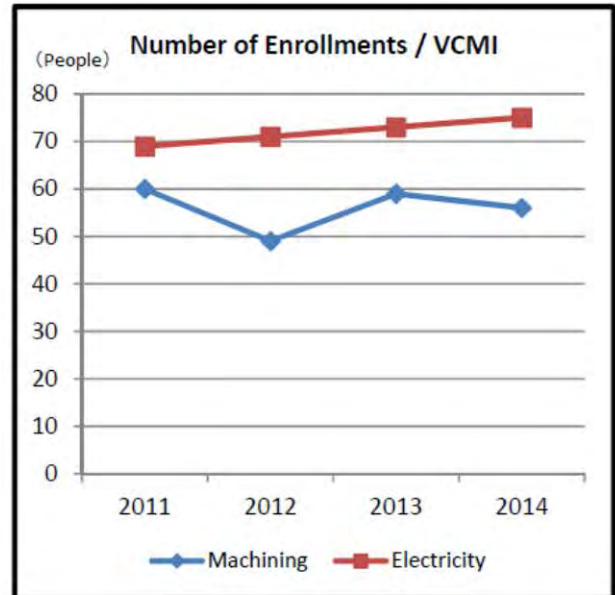
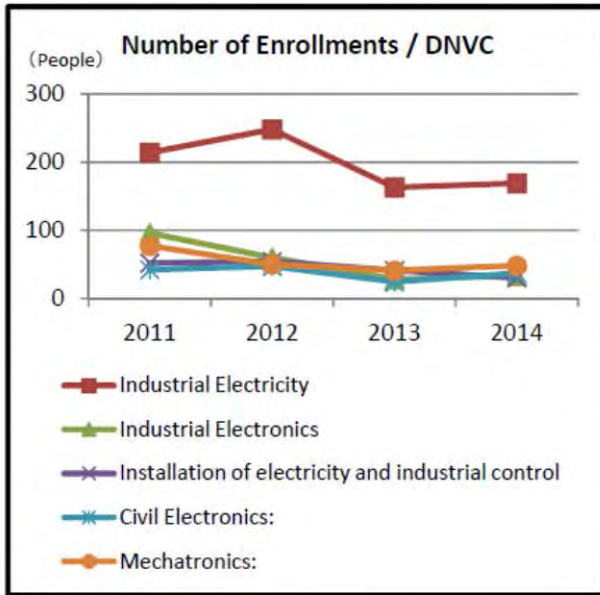
The Preparatory Survey on the Project
for Strengthening Vocational Training Sector in Vietnam

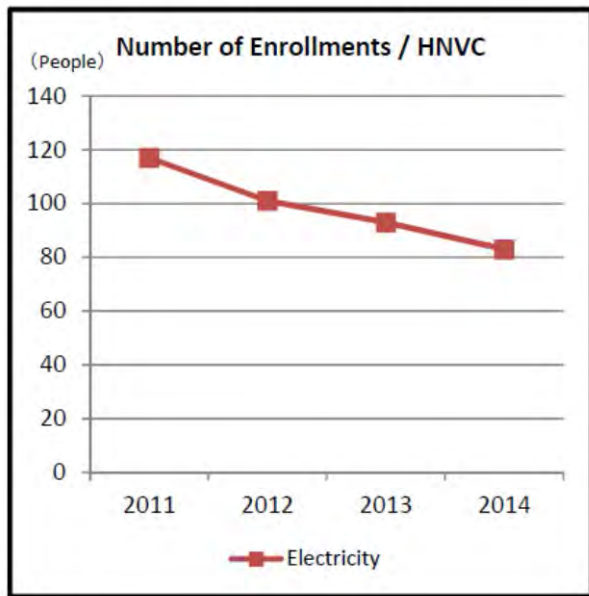
Annex-6 Transition of the Number of Enrollments,
Graduates and Employed Graduates by VCs

2. Number of Students by Department	1 Ho Chi Minh VC			2 Hanoi Industrial VC			3 VC of Technique and			4 Ba Ria-Vung Tap VC			5 Hanoi VC of High Technology			6 Vinh Phuc VC			7 Da Nang VC			8 The Central VC of Transport No.2			9 Ho Chi Minh VC of Technology			10 VC of Mechanics and Irrigation			11 Hat 1			12 Hai Phong Industrial VC			13 Ha Nam VC		
	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)	Number of students (A)	Number of classes (B)	Number of students per class (A/B)						
Name of the Department	Electricity															Installation of electricity and industrial control																							
2-4a. Current Number of Students by grade																																							
Aug. 2014	Grade 1																																						
	Grade 2																																						
	Grade 3																																						
	Total																																						
2-4b. Number of Students/Graduates by year																																							
2011																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2012	Employed graduates (within six months after graduation)																																						
2012																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2013	Employed graduates (within six months after graduation)																																						
2013																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2014	Employed graduates (within six months after graduation)																																						
2014																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2015	Employed graduates (within six months after graduation)																																						
Discrepancy between 2-4a and 2-4b ¹⁾																																							
nothing															highly-mismatched																								
Name of the Department	Civil Electronics:																																						
2-5a. Current Number of Students by grade																																							
Aug. 2014	Grade 1																																						
	Grade 2																																						
	Grade 3																																						
	Total																																						
2-5b. Number of Students/Graduates by year																																							
2011																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2012	Employed graduates (within six months after graduation)																																						
2012																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2013	Employed graduates (within six months after graduation)																																						
2013																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2014	Employed graduates (within six months after graduation)																																						
2014																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2015	Employed graduates (within six months after graduation)																																						
Discrepancy between 2-5a and 2-5b ¹⁾																																							
nothing															highly-mismatched																								
Name of the Department	Mechatronics:																																						
2-6a. Current Number of Students by grade																																							
Aug. 2014	Grade 1																																						
	Grade 2																																						
	Grade 3																																						
	Total																																						
2-6b. Number of Students/Graduates by year																																							
2011																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2012	Employed graduates (within six months after graduation)																																						
2012																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2013	Employed graduates (within six months after graduation)																																						
2013																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2014	Employed graduates (within six months after graduation)																																						
2014																																							
Sept.	Enrollments																																						
Aug.	Graduates																																						
Jan. 2015	Employed graduates (within six months after graduation)																																						
Discrepancy between 2-6a and 2-6b ¹⁾																																							
nothing															highly-mismatched																								

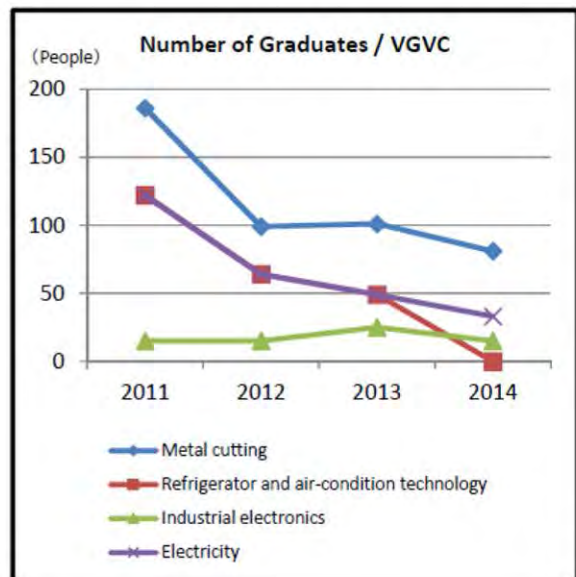
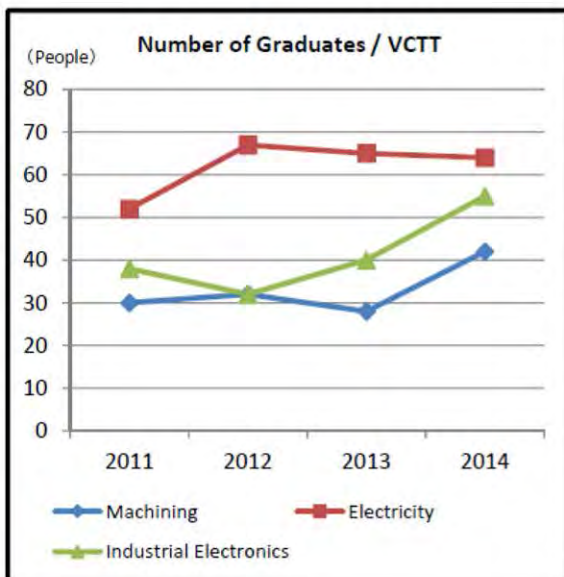
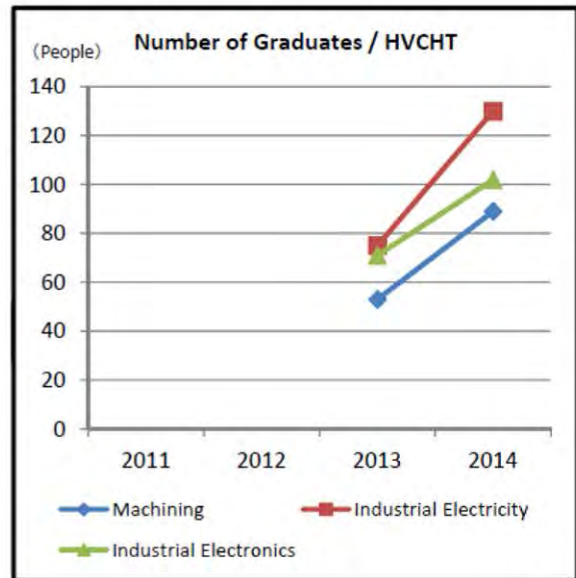
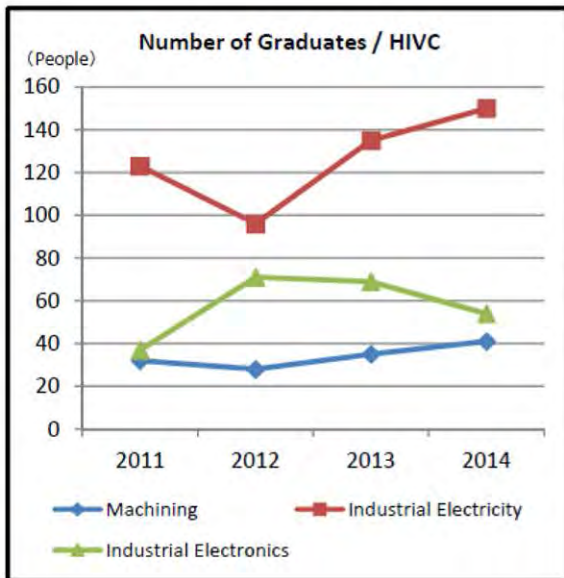
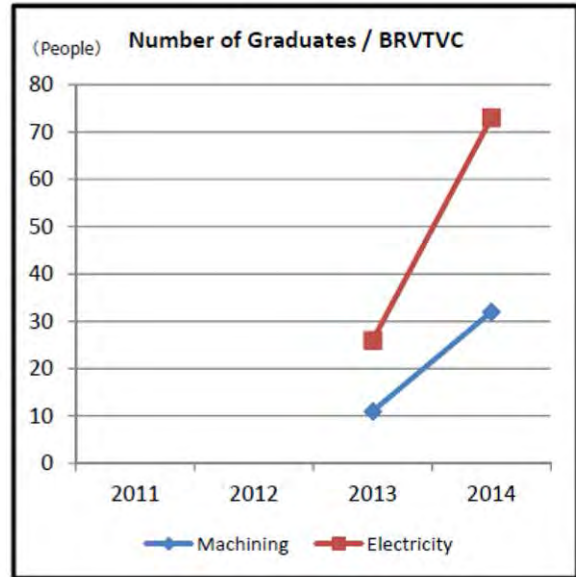
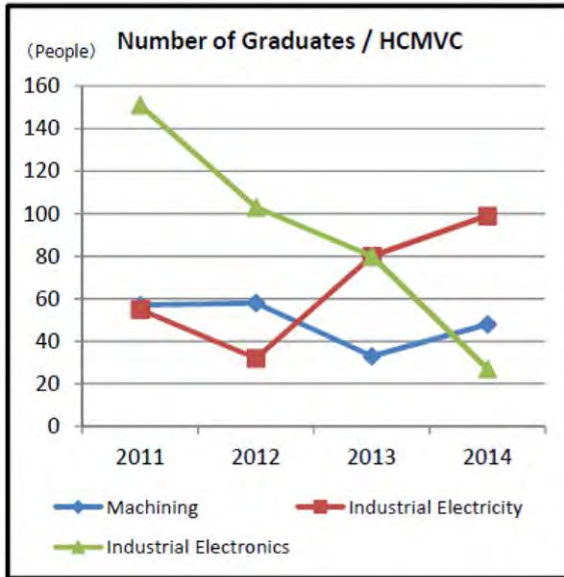
Number of Enrollments

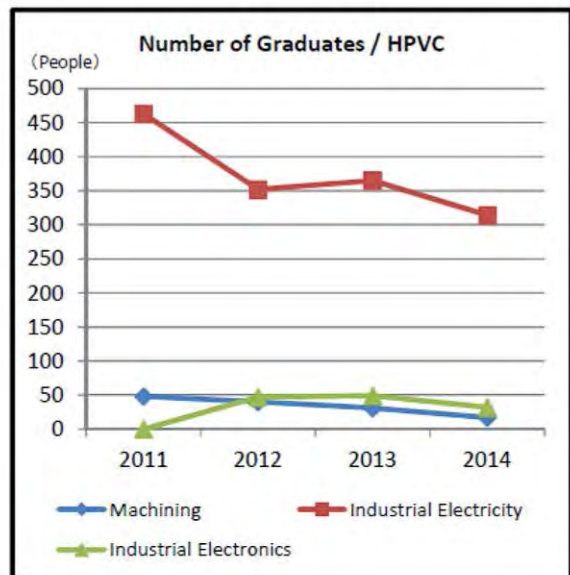
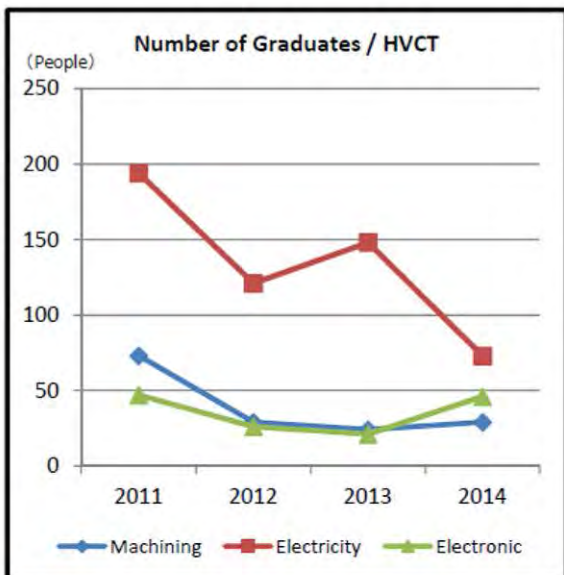
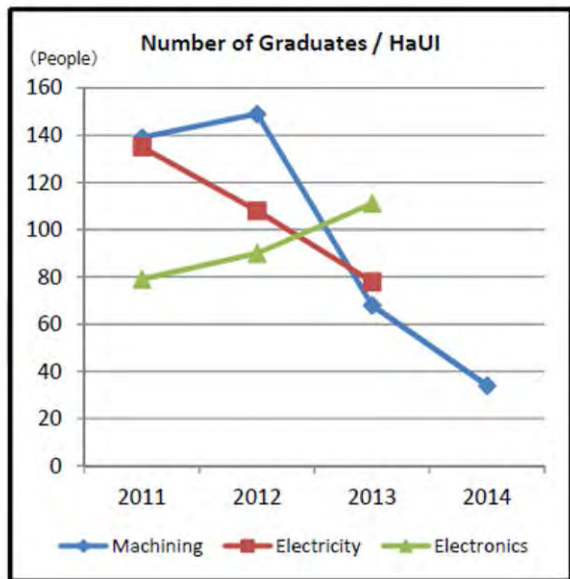
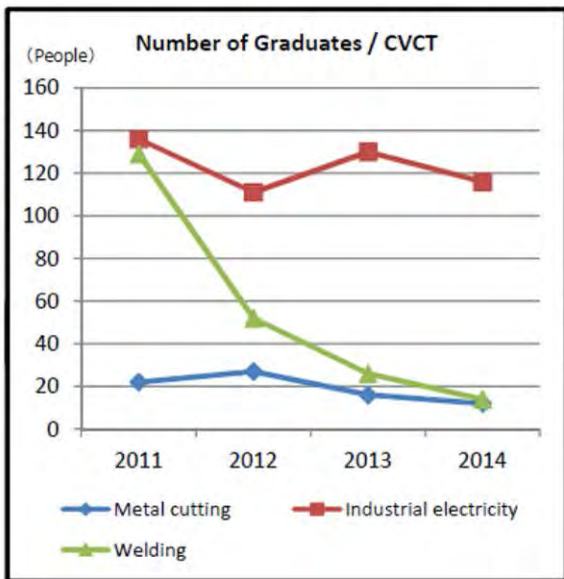
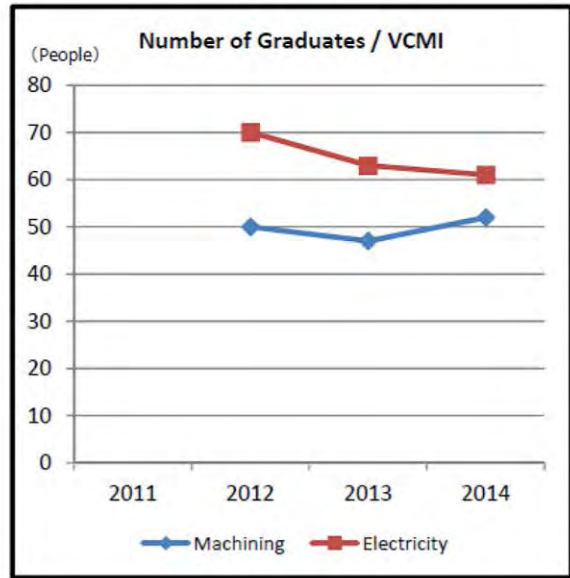
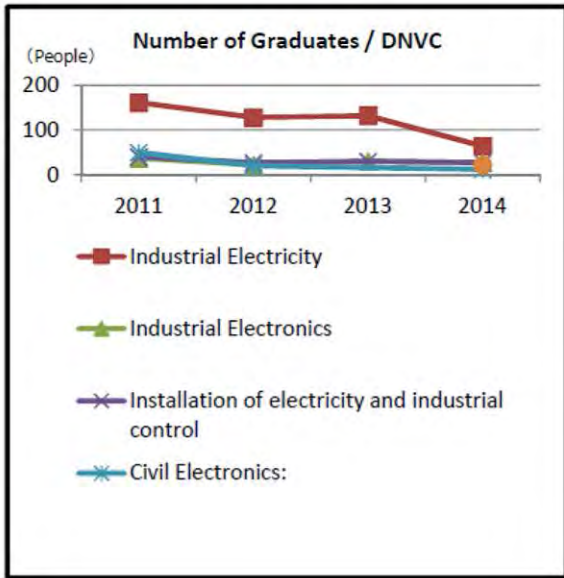


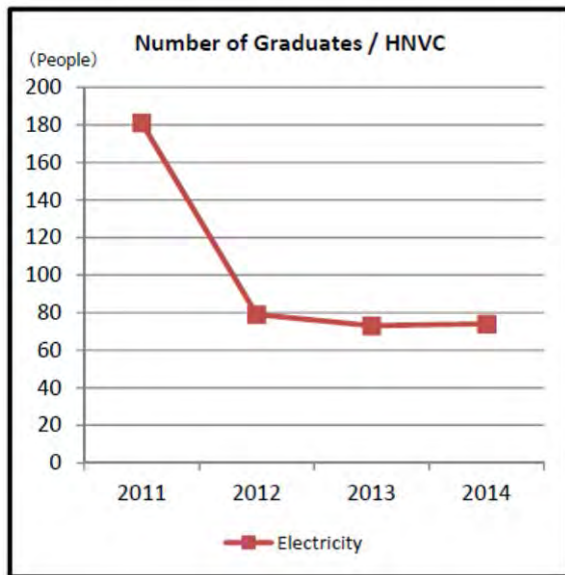




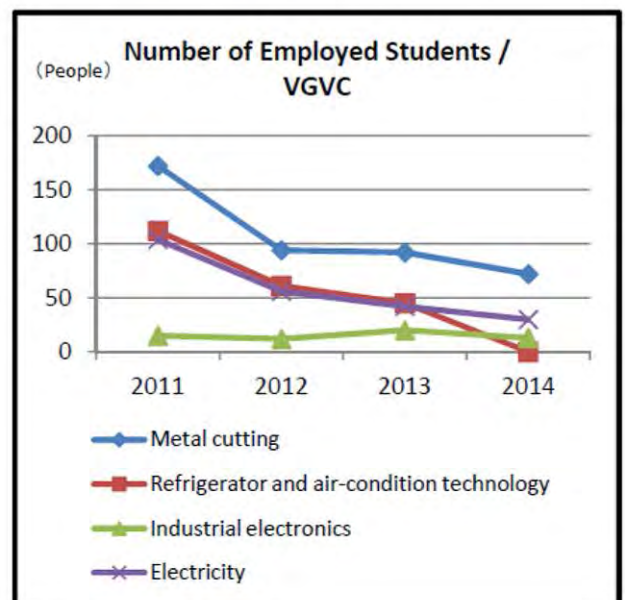
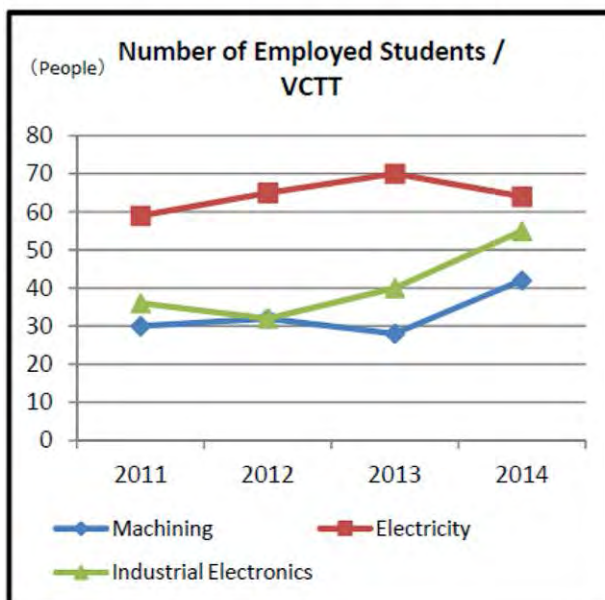
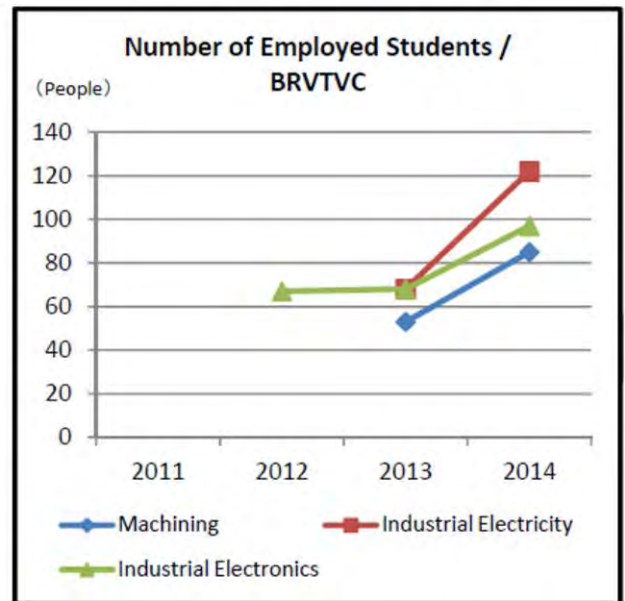
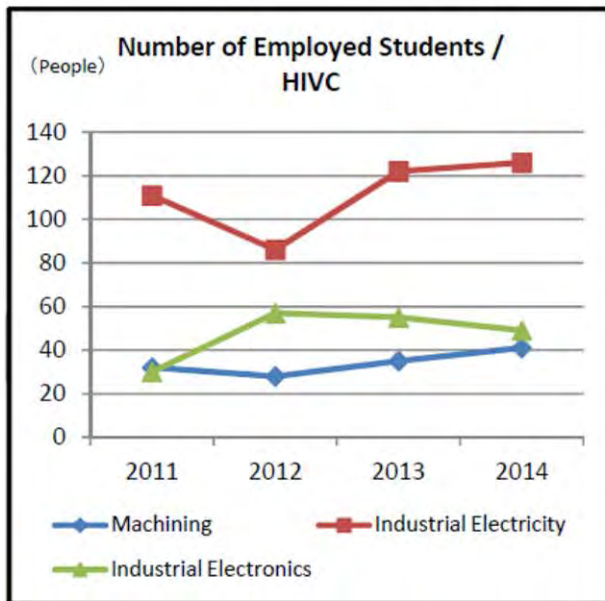
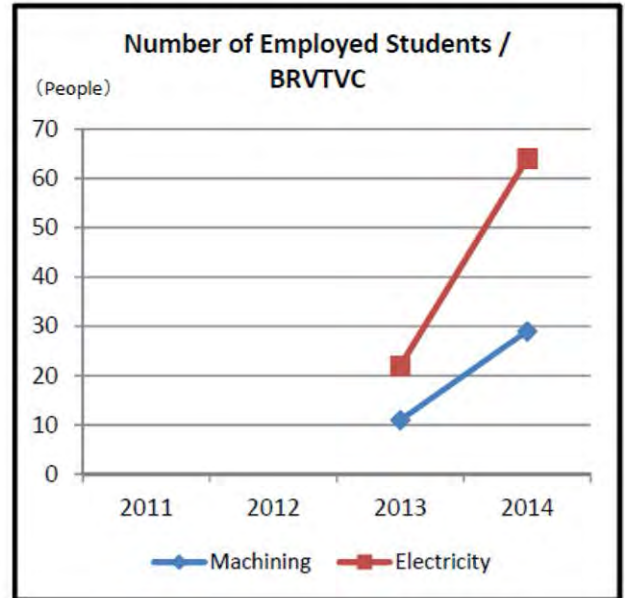
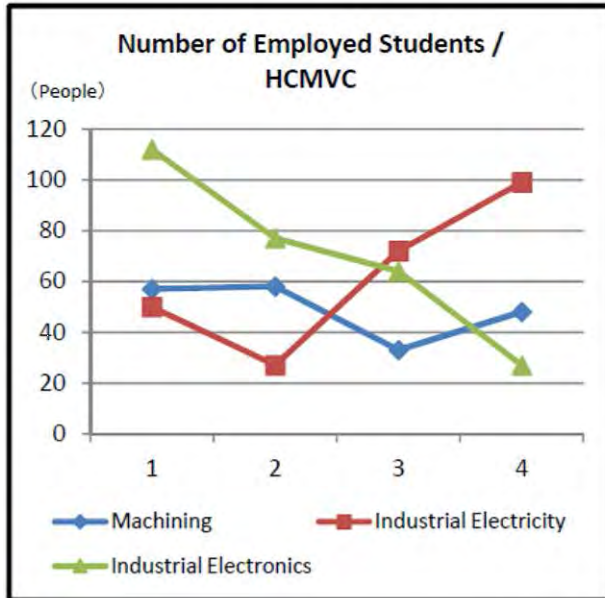
Number of Graduates

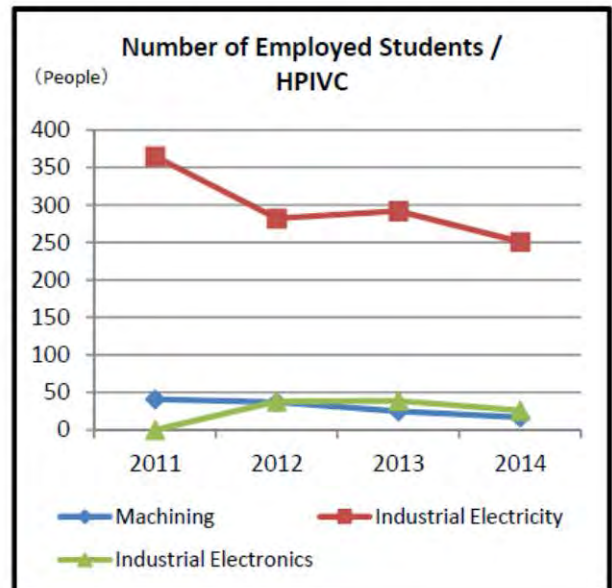
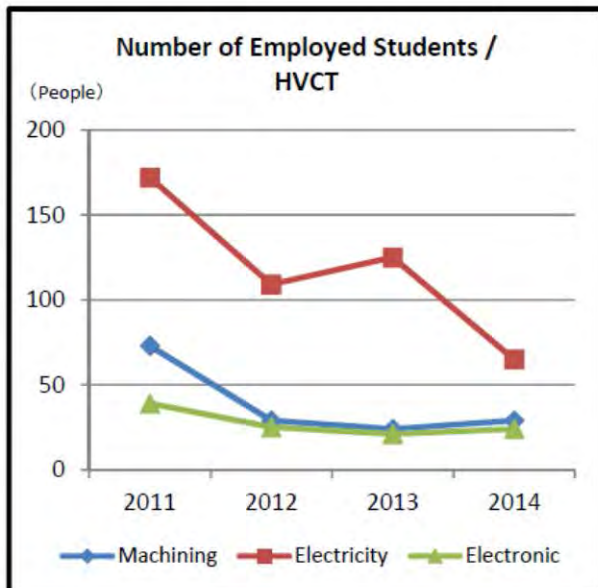
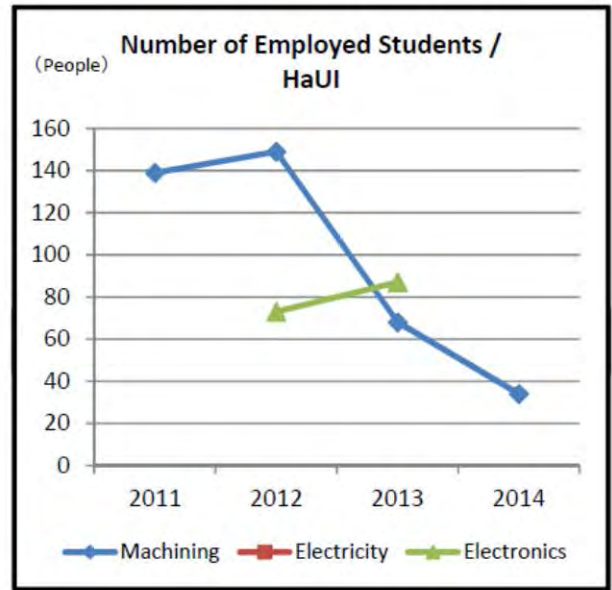
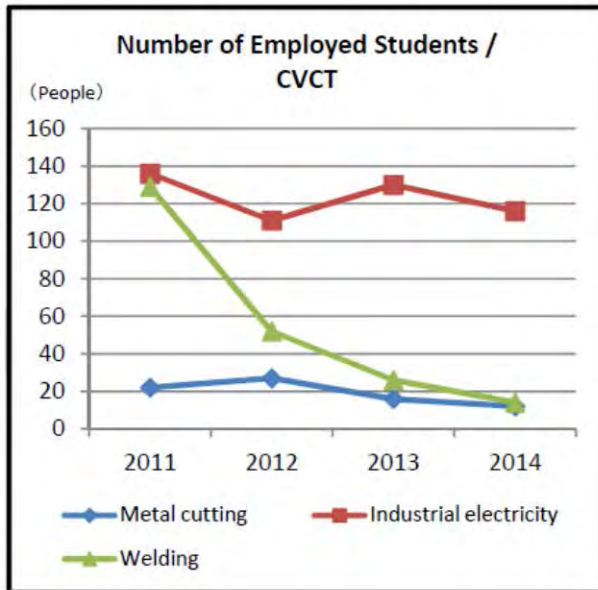
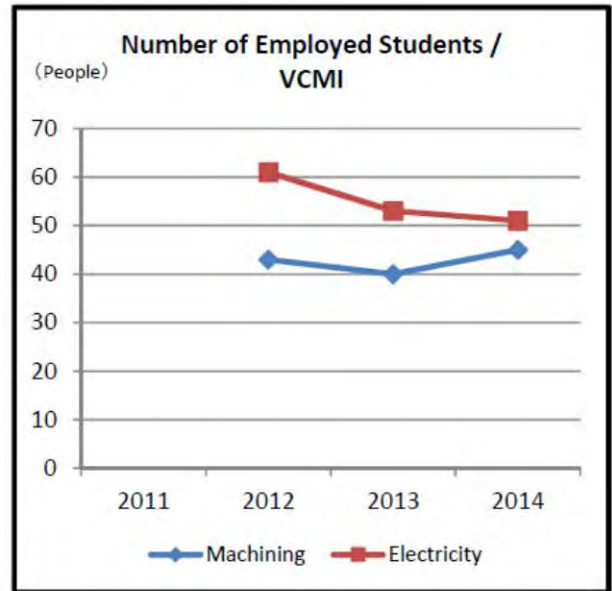
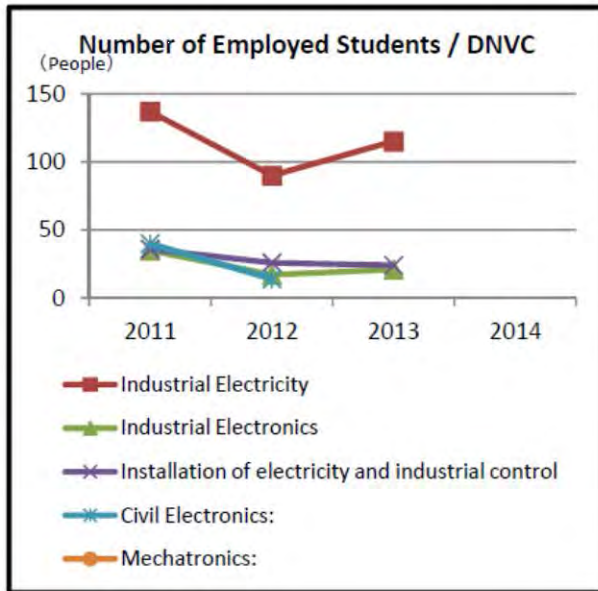


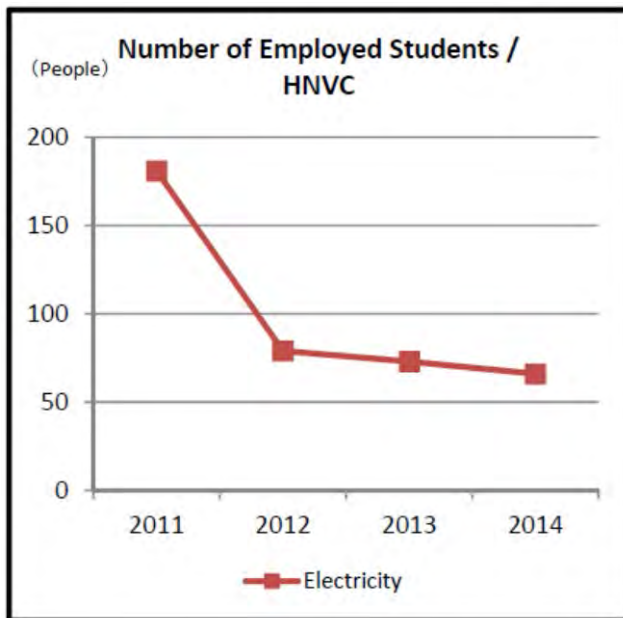




Number of Employed Students







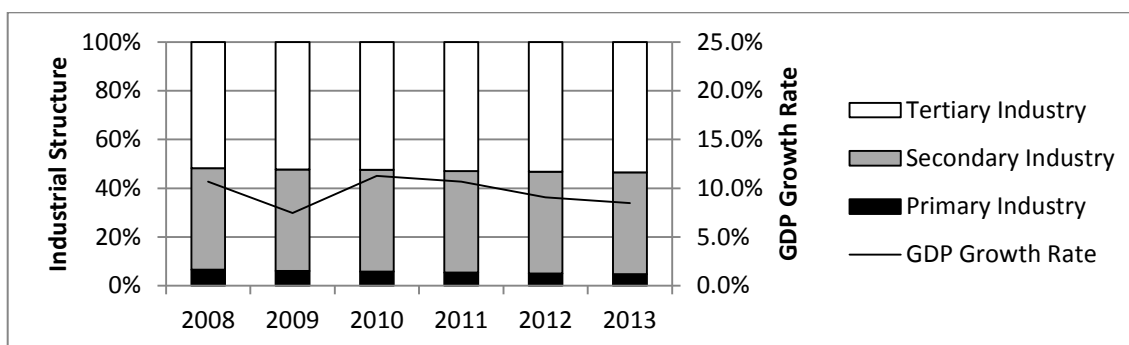
Annex-7

GDP Growth Rate, Industrial Structure,
and
Manufacturing Output Transition
in
the target area, FDI

Annex-7_GDP Growth Rate, Industrial Structure, and Manufacturing Output Transition in the target area, FDI

Hanoi City

The industrial structure of Hanoi City in 2013 is composed of primary industry (4.8%), secondary industry (41.7%) and tertiary industry (53.5%) which shows that the proportion of the primary industry is smaller than the national average. The GDP growth rate is about 10%, while the national average is 5-6%.



Source: Hanoi Statistical Yearbook 2013

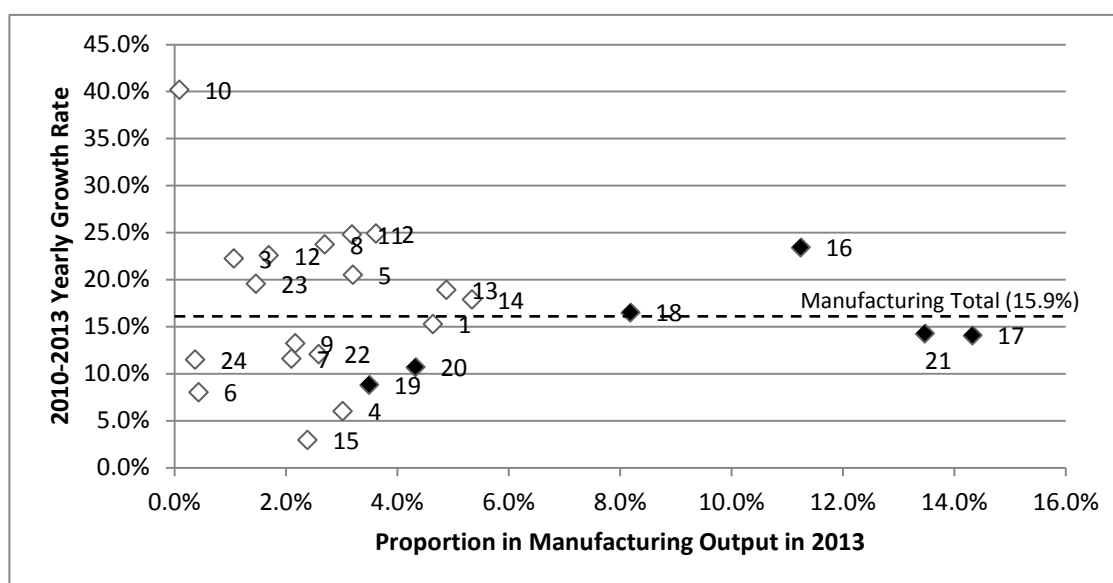
Figure A7-1 GDP Growth Rate and Industrial Structure (Hanoi City)

The breakdown of gross output of manufacturing industry in 2013 in the following table shows that “Metal product (except machinery)”, “Computer, electronic and optical product”, “Machinery” and “Other transport equipment” account for a large portion of the manufacturing industry. The average annual growth rate (2010-2013) of these industries was more than 14% and close to that of the whole manufacturing sector (15.9%) which means that these industries lead the manufacturing sector in Hanoi City.

Table A7-1 Gross Output of Manufacturing Industry (Hanoi City)

Category		2010	2013		Average Annual Growth Rate 2010-2013 (%)
		Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1	Food product	12,189	18,657	4.6%	15.2%
2	Beverage	7,471	14,555	3.6%	24.9%
3	Cigarette	2,349	4,291	1.1%	22.2%
4	Textile product	10,213	12,159	3.0%	6.0%
5	Wearing apparel	7,367	12,892	3.2%	20.5%
6	Leather and related product	1,389	1,750	0.4%	8.0%
7	Wood and wood product	6,082	8,445	2.1%	11.6%
8	Paper and paper products	5,733	10,858	2.7%	23.7%
9	Printing and reproduction of recorded media	6,015	8,724	2.2%	13.2%
10	Refined petroleum	134	369	0.1%	40.2%
11	Chemical and chemical product	6,592	12,809	3.2%	24.8%
12	Pharmaceutical, medical chemical and botanical product	3,698	6,808	1.7%	22.6%
13	Rubber and plastic	11,685	19,631	4.9%	18.9%
14	Non-metallic product	13,123	21,493	5.3%	17.9%
15	Metal	8,806	9,603	2.4%	2.9%

16	Metal product (except machinery)	24,018	45,185	11.2%	23.4%
17	Computer, electronic and optical product	38,776	57,584	14.3%	14.1%
18	Electric product	20,791	32,893	8.2%	16.5%
19	Machinery	10,891	14,041	3.5%	8.8%
20	Motor vehicle, trailer and semi-trailer	12,806	17,381	4.3%	10.7%
21	Other transport equipment	36,266	54,142	13.5%	14.3%
22	Furniture	7,407	10,422	2.6%	12.1%
23	Other manufacturing	3,446	5,886	1.5%	19.5%
24	Repair and installation of machinery and equipment	1,084	1,501	0.4%	11.5%
Manufacturing Total		258,331	402,079	100.0%	15.9%



Source: Hanoi Statistical Yearbook 2013

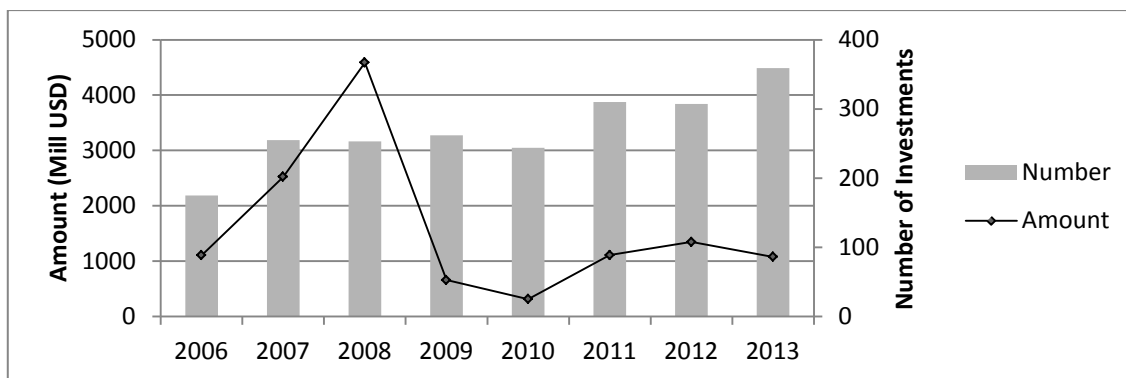
Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

Foreign Direct Investment (FDI) to Hanoi City has been around USD 1,000 Million after the decline in 2009 and there were 359 cases of FDI in 2013. The investment from Japan in 2014 (as of November 20) amounts USD 104.1 Million (84 cases), including USD 54 Million (6 cases) in the manufacturing sector.

In Thai Nguyen Province, on the north next to Hanoi City, a smartphone factory of Samsung Electronics Co., Ltd. started operation in March 2014 with an investment of USD 2,000 Million, which plans to employ 10,000 people in the first year and expand to 30,000 people later. Another factory with an investment of USD 3,000 Million is planned to be constructed in this province as well.

¹ FDI in 2014 is based on the hearing from JETRO Hanoi Office, as well as other provinces/cities.

² http://news.searchchina.ne.jp/disp.cgi?y=2013&d=0327&f=stockname_0327_088.shtml



Source: “2014 Vietnam General Situation” JETRO Hanoi Office

Figure A7-2 Foreign Direct Investment (New and Expansion, Hanoi City)

570 Japanese enterprises operate in the city of which 185 enterprises (34%) are related to machining, electricity and electronics and will be possible employers of the students graduating from the target vocational colleges. The estimated number of employees of these enterprises is 105,000 in total calculated based on the average number of employees³.

154 Japanese enterprises operate in 12 industrial parks⁴ that were developed. Most of the Japanese enterprises are in Thang Long Industrial Park⁴. The development of 9 additional industrial parks is planned for 2015, according to Hanoi PPC.

As mentioned above, Hanoi City maintained a GDP growth rate of about 10% from 2008 to 2013. The average growth rate of the manufacturing industry related to the project such as “Metal products (except machinery)”, “Computer, electronic and optical products”, “Machinery” and “Other transport equipment” was 14% from 2010 to 2013. It is concluded that the industry and economy of Hanoi City have a tendency to grow with support of the related policies.

<Dong Anh District>

Vocational College of Technique and Technology and Vietnam-Korea Vocational College are situated in Dong Anh District, and Hanoi Industrial Vocational College is planning to transfer to this district.

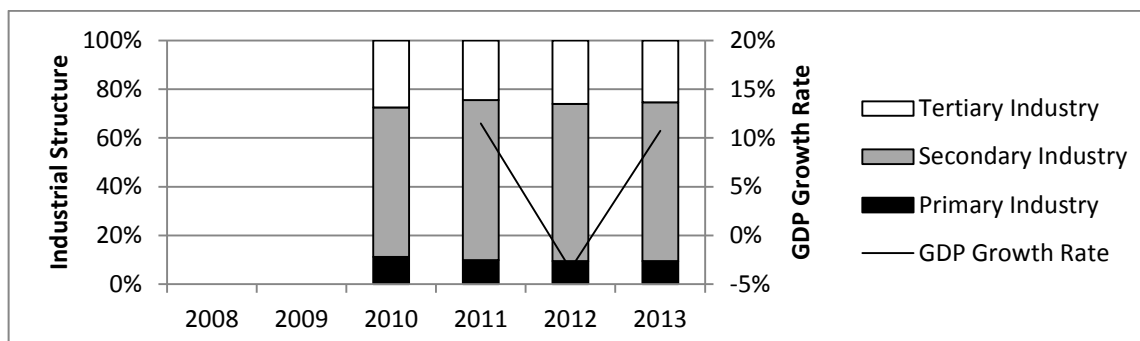
There are 80 Japanese enterprises operating in this district, 60 of which are related to the machining, electricity and electronics sectors. There are also 12 Japanese enterprises related to these sectors in Noi Bai Industrial Zone and 7 Japanese enterprises of these sectors in Quang Minh Industrial Zone. Both these zones are located near Dong Anh district. In this district and the two zones mentioned, the estimated number of employees of Japanese enterprises related to these sectors is 45,000 in total.

³ The average employ was estimated based on the number of employee reported in “Japanese enterprises in Vietnam (COMM BANGKOK CO., LTD)” except for the enterprises with no date, as well as other provinces/cities.

⁴ Number of industrial parks and Japanese enterprises are based on “Industrial Park Data in northern and central area of Vietnam (July 2013)”, JETRO Hanoi Office and “Industrial Park Data in southern area of Vietnam (March 2014)”, JETRO Ho Chi Minh Office as well as other provinces/cities except Ba Ria-Vung Tau Province.

Vinh Phuc Province

There are 6 industrial parks in the province and the proportion of the secondary industry is 65.1% of the total industry. The GDP growth rate was negative in 2012. Vinh Phuc is the only one province which recorded negative GDP growth rate among the target areas between 2008 and 2013.



Source: Vinh Phuc Statistical Yearbook 2013, data in 2008 and 2009 is not available.

Figure A7-3 GDP Growth Rate and Industrial Structure (Vinh Phuc Province)

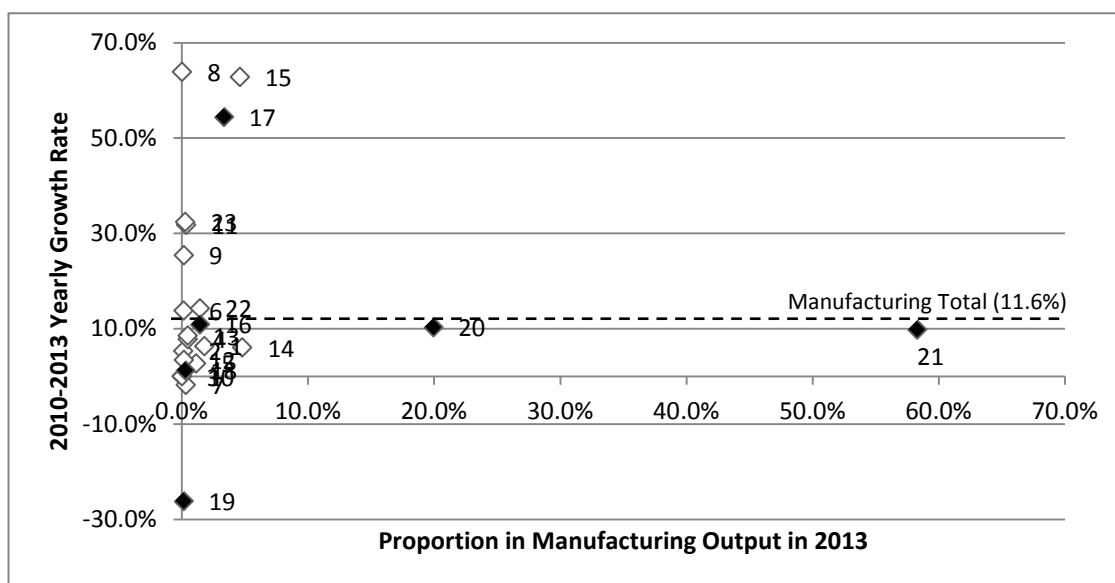
The breakdown of gross output of the manufacturing industry in 2013 in the following table shows that “Motor vehicle, trailer and semi-trailer” and “Other transport equipment” account for 78.2% of total output, which means that the industry related to transport equipment is the leading industry of the province. The average annual growth rate (2010-2013) of these industries was about 10% but less than the average of manufacturing industry of 11.6%. The average annual growth rate of “Machinery” is notably low because the output of motor vehicles decreased due to the economic crisis in 2012 and the output of parts for motor vehicle decreased as well. The output of motor vehicles increased in 2013 but the output of parts did not increase due to large stock⁵.

**Table A7-2 Gross Output of Manufacturing Industry
(constant 2010 price, Vinh Phuc Province)**

Category	2010	2013		Average Annual Growth Rate 2010-2013 (%)
	Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1 Food product	1,660	1,994	1.8%	6.3%
2 Beverage	123	143	0.1%	5.3%
3 Cigarette	0	0	0.0%	-
4 Textile product	434	544	0.5%	7.8%
5 Wearing apparel	1,176	1,276	1.2%	2.7%
6 Leather and related product	126	186	0.2%	13.8%
7 Wood and wood product	406	384	0.3%	-1.8%
8 Paper and paper products	12	53	0.0%	63.9%
9 Printing and reproduction of recorded media	104	205	0.2%	25.4%
10 Refined petroleum	0	43	0.0%	-
11 Chemical and chemical product	172	395	0.4%	31.8%
12 Pharmaceutical, medical chemical	179	199	0.2%	3.5%

⁵ Based on interview with VPVC

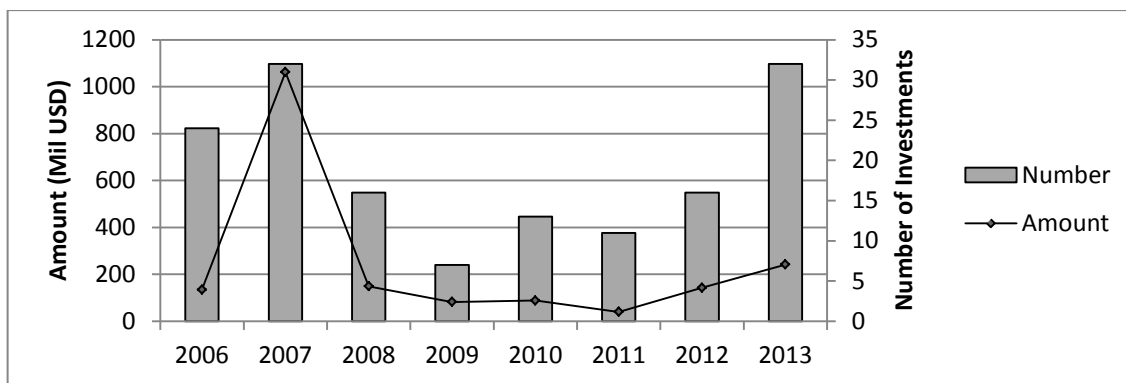
	and botanical product				
13	Rubber and plastic	432	552	0.5%	8.6%
14	Non-metallic product	4,462	5,322	4.8%	6.0%
15	Metal	1,182	5,103	4.6%	62.8%
16	Metal product (except machinery)	1,156	1,579	1.4%	10.9%
17	Computer, electronic and optical product	1,001	3,690	3.3%	54.5%
18	Electric product	293	305	0.3%	1.3%
19	Machinery	395	159	0.1%	-26.1%
20	Motor vehicle, trailer and semi-trailer	16,406	22,033	19.9%	10.3%
21	Other transport equipment	48,591	64,389	58.3%	9.8%
22	Furniture	1,074	1,604	1.5%	14.3%
23	Other manufacturing	143	332	0.3%	32.4%
24	Repair and installation of machinery and equipment	0	11	0.0%	629.2%
Manufacturing Total		79,528	110,498	100.0%	11.6%



Source: Vinh Phuc Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The number on the scatter plot correspond to the category of manufacturing industry in the above table.

The number of FDIs to Vinh Phuc Province was 32 cases in 2013, the highest number since the 2009 global crisis. However, the total investment amount in 2013 was only about USD 200 Million. The investment from Japanese enterprises in 2014 (as of November 20) is only 1 case for manufacturing industry which amounts to USD 0.86 Million.



Source: “2014 Vietnam General Situation” JETRO Hanoi Office

Figure A7-4 Foreign Direct Investment (New and Expansion, Vinh Phuc Province)

There are 15 Japanese enterprises in the province and 6 of them are in industrial parks. 12 Japanese enterprises are related to the machining, electricity and electronics industry and the estimated total number of employees of these enterprises is 6,000.

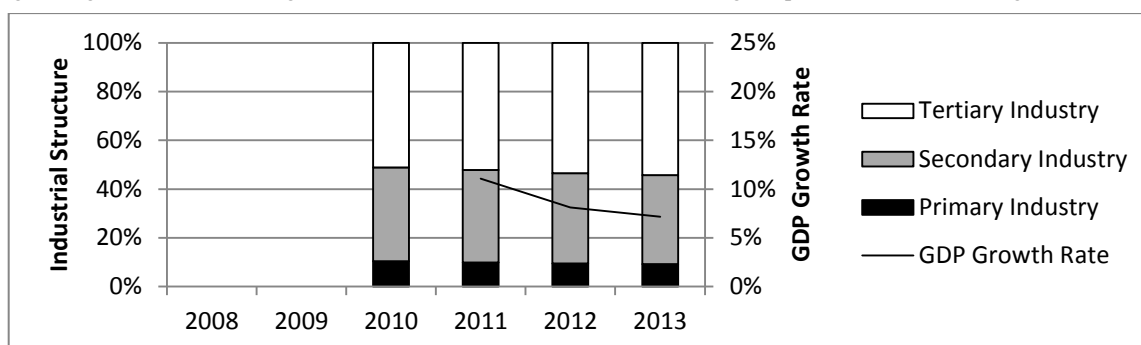
Vinh Phuc people’s committee Decision No. 1588/QD-UBND (June 24, 2013) “Approval of Development Planning for Supporting Industry of Vinh Phuc Province to 2020, Orientation to 2030” states that the supporting industry, especially automobile manufacturing and assembling, informatics-electronics and machinery, becomes a part of the international and domestic supply chain. The target by 2020 is to become a modern and developed industry to supply components, spare parts, maintenance services and repair. The target by 2030 is to become an important link in the global supply chain.

The plan also states the specific targets by 2015, which will be able to supply some moulds for parts for automobile manufacturing, to process the metal parts (cast, press, surface treatment, etc.) and manufacture moulds for machinery, and to produce peripheral devices for computer and mobile communication devices. The specific targets by 2030 are to increase automobile output, to be able to manufacture more precision spare parts and design mechanical products for machinery, and to manufacture high-precision moulds.

Toyota and Honda are located in Vinh Phuc Province and there are many subcontractors around. The province focuses on the industries related to automobiles as stated in their plan and the average annual growth rate of this industry was 10% from 2010 to 2013. The industry related to electronics had high annual growth rate of 54.5% (2010-2013) even though its share is low compared to automobile industry. The economy of Vinh Phuc Province is expected to grow following the development of the automobile industry.

Hai Phong City

The gross output of industry of Hai Phong City is about VND 100,000 Billion, which is similar to the output of Vinh Phuc Province. However, the industrial structure is different from that of Vinh Phuc Province, which consists of the secondary industry (40%) and the tertiary industry (50%). The GDP growth rate has declined since 2011.



Source: Hai Phong Statistical Yearbook 2013, data in 2008 and 2009 is not available

Figure A7-5 GDP Growth Rate and Industrial Structure (Hai Phong City)

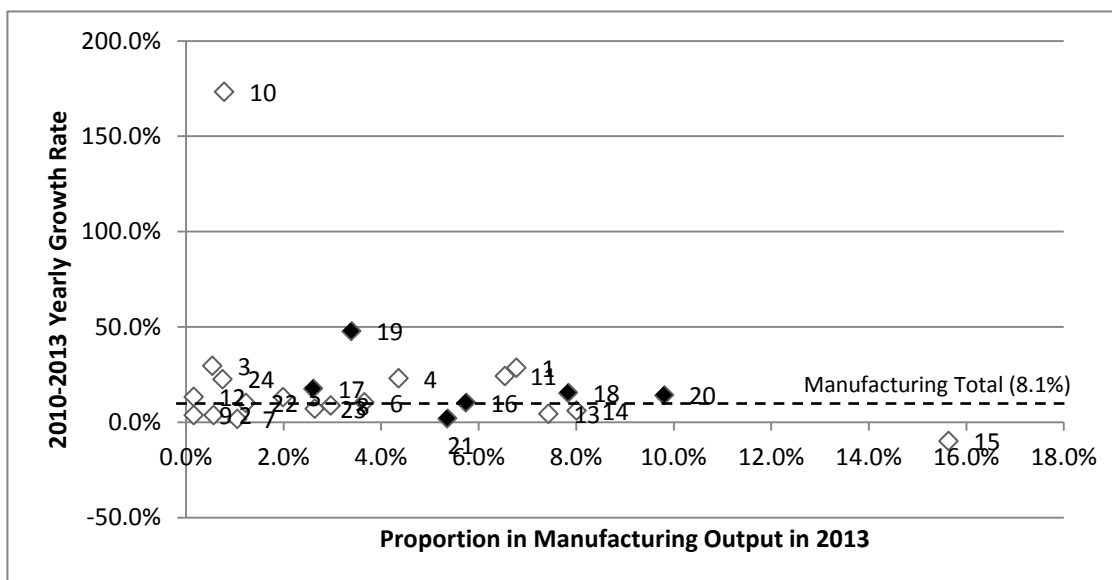
The breakdown of gross output of the manufacturing industry in 2013 in the following table shows that the proportions of output were less than 10% except “Metal” which means the manufacturing industry of Hai Phong consists of a variety of sectors of similar output. “Refined petroleum” has grown largely from 2010 with a higher growth rate.

Among the industries related to the target occupation, “Metal product (except machinery)”, “Electric product” and “Motor vehicle, trailer and semi-trailer” account for 5-10% with the annual growth rate higher than the average of the manufacturing industry. Even the proportion of “Machinery” was small, the annual growth rate (2010-2013) was as high as 47.9%

Table A7-3 Gross Output of Manufacturing Industry (Hai Phong City)

Category		2010	2013		Average Annual Growth Rate 2010-2013 (%)
		Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1	Food product	3,305	7,038	6.8%	28.7%
2	Beverage	530	592	0.6%	3.8%
3	Cigarette	259	565	0.5%	29.7%
4	Textile product	2,436	4,530	4.4%	23.0%
5	Wearing apparel	1,431	2,069	2.0%	13.1%
6	Leather and related product	2,826	3,801	3.7%	10.4%
7	Wood and wood product	1,037	1,092	1.1%	1.7%
8	Paper and paper products	2,399	3,084	3.0%	8.7%
9	Printing and reproduction of recorded media	152	170	0.2%	3.7%
10	Refined petroleum	40	817	0.8%	173.4%
11	Chemical and chemical product	3,537	6,793	6.5%	24.3%
12	Pharmaceutical, medical chemical and botanical product	116	169	0.2%	13.3%
13	Rubber and plastic	6,775	7,722	7.4%	4.5%
14	Non-metallic product	6,955	8,320	8.0%	6.2%
15	Metal	22,220	16,238	15.6%	-9.9%
16	Metal product (except machinery)	4,424	5,958	5.7%	10.4%
17	Computer, electronic and optical product	1,655	2,703	2.6%	17.8%
18	Electric product	5,269	8,133	7.8%	15.6%
19	Machinery	1,088	3,519	3.4%	47.9%
20	Motor vehicle, trailer and semi-trailer	6,815	10,179	9.8%	14.3%
21	Other transport equipment	5,225	5,561	5.4%	2.1%
22	Furniture	958	1,281	1.2%	10.2%

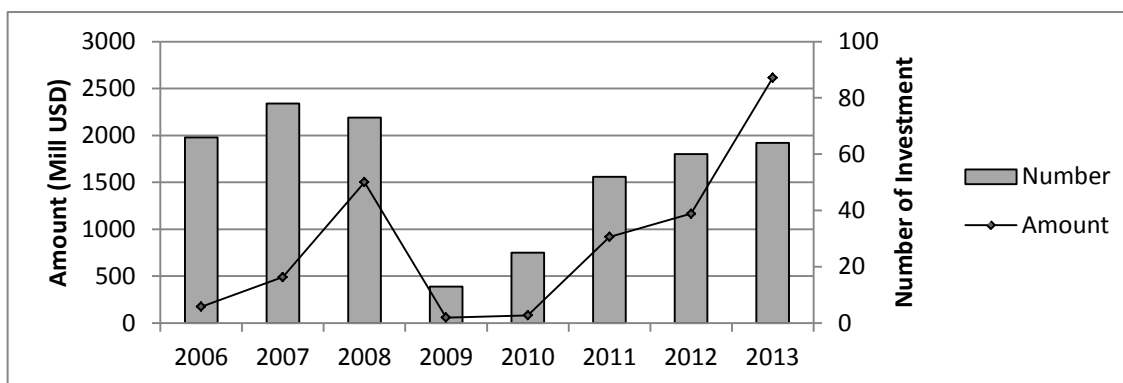
23	Other manufacturing	2,236	2,745	2.6%	7.1%
24	Repair and installation of machinery and equipment	423	780	0.8%	22.6%
Manufacturing Total		82,111	103,860	100.0%	8.1%



Source: Hai Phong Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

FDIs to Hai Phong City have been increasing since 2009 in terms of number and amount and reached USD 2,614 Million for 64 cases in 2013, which are the largest amount and number of the target areas. Japanese FDIs in 2014 amounts to USD 147 Million (9 cases) including USD 14 Million (6 cases) for the manufacturing industry.



Source: "2014 Vietnam General Situation" JETRO Hanoi Office

Figure A7-6 Foreign Direct Investment (New and Expansion, Hai Phong)

There are 93 Japanese enterprises in the city, 75 of them are situated in industrial parks and 54 of them are in Nomura Hai Phong Industrial Zone. The number of Japanese enterprises in the machining, electricity and electronics sectors is 32 with an estimated number of employees of 9,500. According to Hai Phong Economic Zone Authority (HEZA), the development of 19 industrial parks is planned in the future.

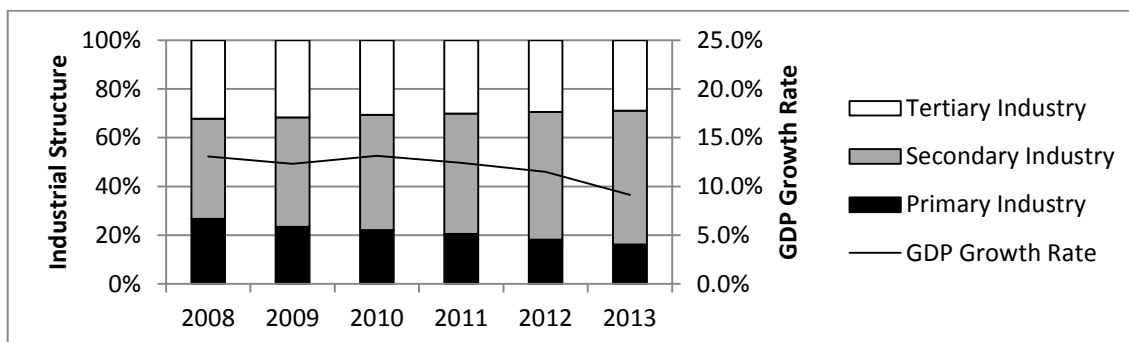
According to the “Haiphong Industrial Development Planning for the Period 2011 - 2020, With a Vision up to 2025⁶” by Hai Phong Economic Zone Authority (HEZA), the prioritized industries are the mechanical and electronic industries. It states the investment promotion up to 2020 focusing on Japanese enterprises and other countries. The development plan for the following industrial parks is as follows.

- Industrial parks inside Dinh Vu-Cat Hai Economic Zone: To accelerate the infrastructure construction
- Industrial parks outside Dinh Vu-Cat Hai Economic Zone: to complete the infrastructure of Nam Cau Kien, to attract investment for An Duong Industrial Parks, to expand Nomura Hai Phong Industrial Park (Phase 2), etc.

The economy of Hai Phong City is expected to grow consistently due to the constant increase of GDP, the output of supporting industry and FDI, existence of many Japanese enterprises related to supporting industry, and the preferential policy for development of supporting industry.

Ha Nam Province

The gross industry output of Ha Nam Province is about VND 50,000 Billion, which is the smallest among target areas. The GDP growth rate is around 12%. The percentage of the primary and tertiary industries has decreased, meanwhile that of the secondary industry has increased, which means the secondary industry is leading the economy of the province.



Source: Ha Nam Statistical Yearbook 2013

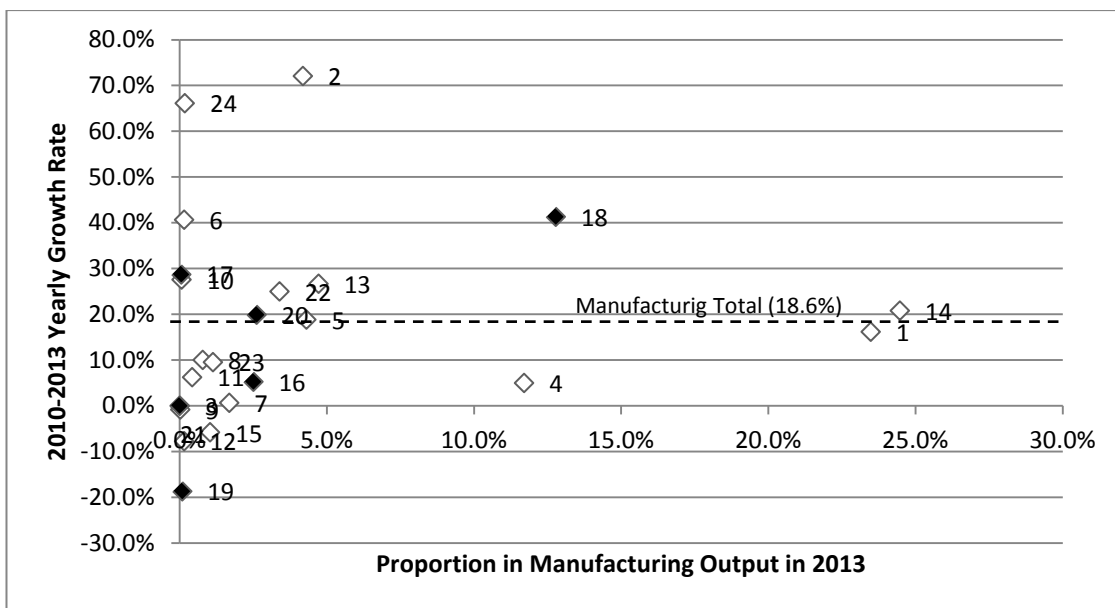
Figure A7-7 GDP Growth Rate and Industrial Structure (Ha Nam Province)

The breakdown of gross output of manufacturing industry in 2013 in the following table indicates that “Food product”, “Textile product”, “Non-metallic product” and “Electric product” are the major industries in the province. Especially, the annual growth rate of “Electric product”, the industry related to the target occupation, was 41.3% from 2010 to 2013. Therefore, constant growth of “Electric product” is expected. The proportion of “Motor vehicle, trailer and semi-trailer” was as small as 2.6% but the annual growth rate was 19.9% so that this industry is also expected to grow in the future. On the other hand, “Computer, electronic and optical product”, “Machinery” and “Other transport equipment” account for less than 1% of total manufacturing industry.

⁶ <http://heza.gov.vn/Portal/Detail.aspx?Organization=HEZATA&MenuID=4268&ContentID=2045>

**Table A7-4 Gross Output of Manufacturing Industry
(Ha Nam Province)**

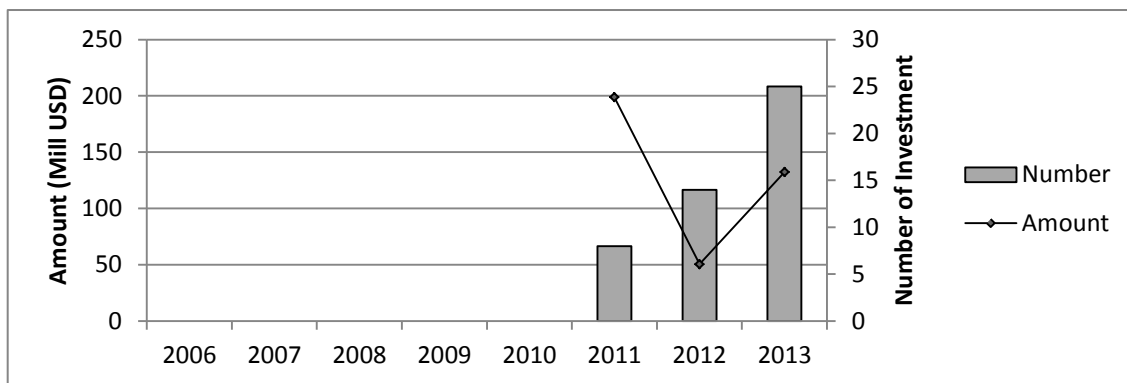
Category		2010	2013		Average Annual Growth Rate 2010-2013 (%)
		Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1	Food product	4,025	6,302	23.5%	16.1%
2	Beverage	221	1,124	4.2%	72.0%
3	Cigarette	0	0	0.0%	-
4	Textile product	2,722	3,143	11.7%	4.9%
5	Wearing apparel	691	1,157	4.3%	18.8%
6	Leather and related product	15	42	0.2%	40.6%
7	Wood and wood product	445	452	1.7%	0.6%
8	Paper and paper products	159	212	0.8%	10.0%
9	Printing and reproduction of recorded media	8	8	0.0%	-0.9%
10	Refined petroleum	9	19	0.1%	27.6%
11	Chemical and chemical product	96	115	0.4%	6.2%
12	Pharmaceutical, medical chemical and botanical product	56	44	0.2%	-7.8%
13	Rubber and plastic	625	1,269	4.7%	26.6%
14	Non-metallic product	3,731	6,568	24.5%	20.7%
15	Metal	335	280	1.0%	-5.9%
16	Metal product (except machinery)	576	672	2.5%	5.3%
17	Computer, electronic and optical product	7	15	0.1%	28.7%
18	Electric product	1,215	3,429	12.8%	41.3%
19	Machinery	44	24	0.1%	-18.7%
20	Motor vehicle, trailer and semi- trailer	407	701	2.6%	19.9%
21	Other transport equipment	0	0	0.0%	-
22	Furniture	467	911	3.4%	24.9%
23	Other manufacturing	233	306	1.1%	9.5%
24	Repair and installation of machinery and equipment	11	48	0.2%	66.1%
Manufacturing Total		16,096	26,838	100.0%	18.6%



Source: Ha Nam Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

According to the data of FDI to Ha Nam Province after 2011, the number of investments is increasing and the total investment amount was USD 200 Million in 2013. The investment from Japanese enterprises in 2014 (as of November 20) is USD 32 Million (5 cases) including USD 14 Million (4 cases) in the manufacturing industry.



Source: “2014 Vietnam General Situation” JETRO Hanoi Office

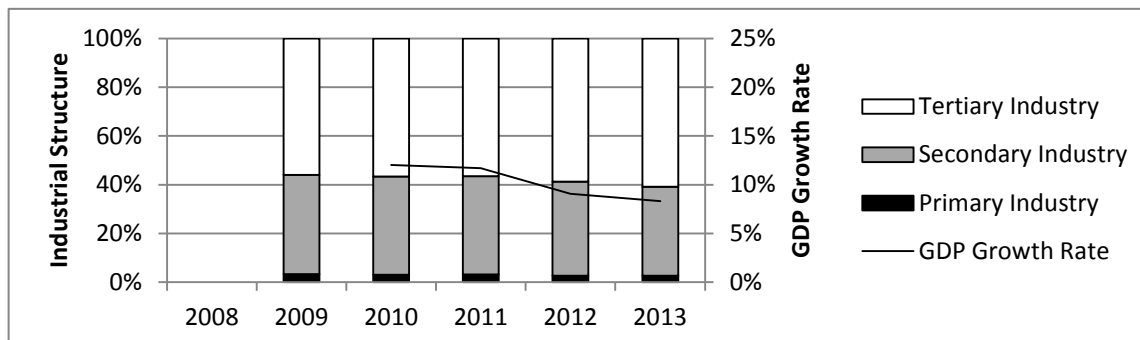
Figure A7-8 Foreign Direct Investment (New and Expansion, Ha Nam Province)

Five industrial parks are under operation in the province. According to the “Industrial Park Data in northern and central areas of Vietnam,” 24 Japanese enterprises are in the province, but according to Ha Nam PPC, this number is 33. Of these, 10 Japanese enterprises are related to the machining, electricity and electronics sectors and the number of their employees is estimated at 9,000, calculated based on the average number of employees. Ha Nam Province is actively promoting its industrial parks to attract Japanese enterprises and 3 industrial parks will be developed in the near future.

The GDP growth rate of Ha Nam Province was around 12% from 2008 to 2013 even though the size of economy is smaller compared to the other areas. The future economic growth of Ha Nam Province depends on the industry related to electronics as a main industry.

Da Nang City

The gross industry output of Da Nang City is in the smallest group (VND 50,000 Billion) of the target areas, together with Ha Nam Province. The secondary (45.5%) and the tertiary (52%) industries account for most of the industry in the city, and the primary industry is only 2.5%.



Source: Da Nang Statistical Yearbook 2013, data in 2008 is not available

Figure A7-9 GDP Growth Rate and Industrial Structure (Da Nang City)

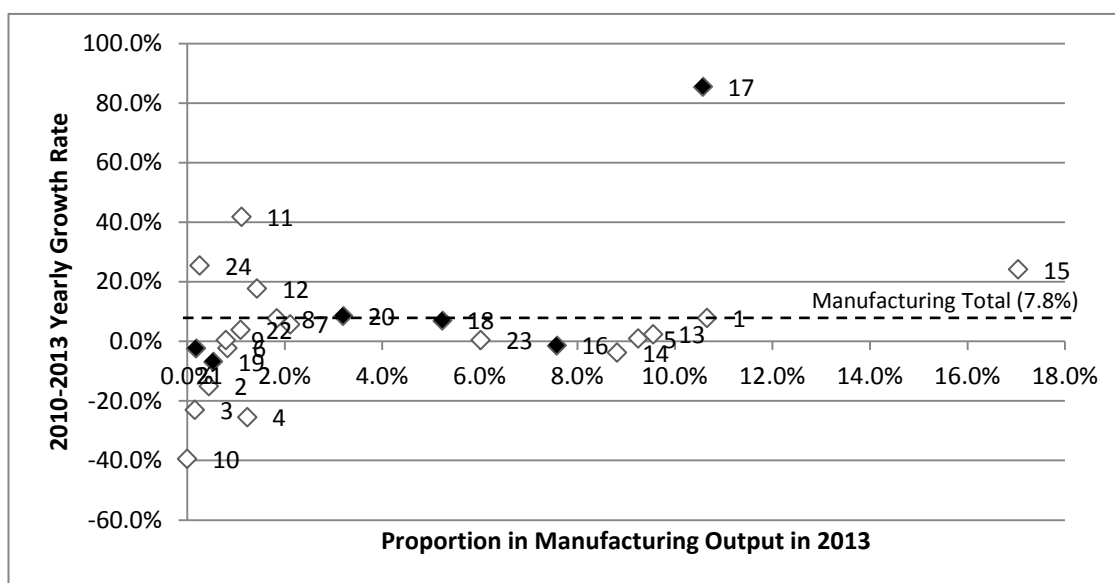
The breakdown of gross output of manufacturing industry in 2013 in the following table shows that “Metal” accounts for 17.0% of total output with a high annual growth rate as 24.1% and it is the leading industry of the province. The further growth of “Computer, electronic and optical products”, the industry related to the target occupation, is expected since its growth rate is 85.5%. This outstanding rate is due to the increase of computer peripheral devices output by enterprises at Da Nang High-Tech Park which was opened in 2012⁷. “Electric product” and “Motor vehicle, trailer and semi-trailer” are also expected to grow relatively among the related industries.

**Table A7-5 Gross Output of Manufacturing Industry
(constant 2010 price, Da Nang City)**

Category	2010	2013		Average Annual Growth Rate 2010-2013 (%)
	Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1 Food product	2,627	3,292	10.7%	7.8%
2 Beverage	227	139	0.5%	-15.1%
3 Cigarette	112	51	0.2%	-23.1%
4 Textile product	922	382	1.2%	-25.5%
5 Wearing apparel	2,775	2,855	9.2%	1.0%
6 Leather and related product	274	256	0.8%	-2.2%
7 Wood and wood product	553	653	2.1%	5.7%
8 Paper and paper products	455	568	1.8%	7.7%
9 Printing and reproduction of recorded media	244	247	0.8%	0.4%
10 Refined petroleum	9	2	0.0%	-39.4%
11 Chemical and chemical product	121	345	1.1%	41.8%
12 Pharmaceutical, medical chemical and botanical product	272	444	1.4%	17.7%

⁷ Based on interview with DNVC

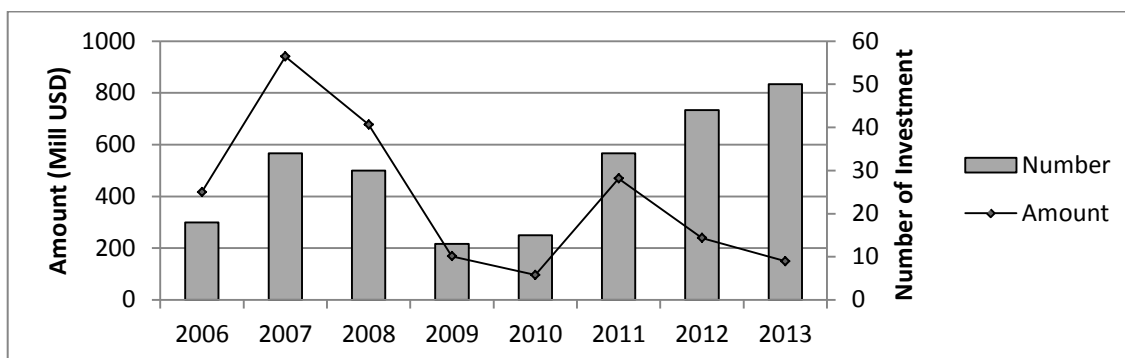
13	Rubber and plastic	2,753	2,951	9.6%	2.3%
14	Non-metallic product	3,055	2,722	8.8%	-3.8%
15	Metal	2,753	5,261	17.0%	24.1%
16	Metal product (except machinery)	2,435	2,338	7.6%	-1.3%
17	Computer, electronic and optical product	511	3,263	10.6%	85.5%
18	Electric product	1,316	1,614	5.2%	7.0%
19	Machinery	201	163	0.5%	-6.7%
20	Motor vehicle, trailer and semi-trailer	770	986	3.2%	8.6%
21	Other transport equipment	59	55	0.2%	-2.3%
22	Furniture	303	339	1.1%	3.8%
23	Other manufacturing	1,834	1,859	6.0%	0.5%
24	Repair and installation of machinery and equipment	41	81	0.3%	25.5%
Manufacturing Total		24,622	30,866	100.0%	7.8%



Source: Da Nang Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

The number of FDIs to Da Nang Province tends to increase, however the amount of investment decreases which indicates that the size of investments is becoming smaller. FDIs by Japanese enterprises in 2014 (as of November 20) amount to USD 0.75 Million with 6 cases and there is no investment in the manufacturing industry so far.



Source: "2014 Vietnam General Situation" JETRO Hanoi Office

Figure A7-10 Foreign Direct Investment (New and Expansion, Da Nang City)

62 Japanese enterprises operate in the city (7 of which in industrial parks) and 21 of them are in the machining, electricity and electronics industries. The estimated number of employees of Japanese enterprises in these industries is 14,000, calculated based on the average number of employees.

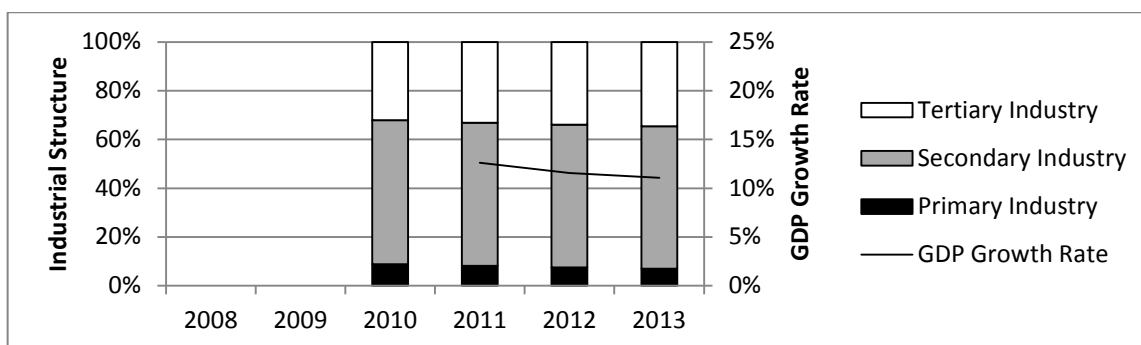
The Da Nang City People’s Committee Decision No.5503/QD-UBND (July 20, 2009) “Approval of Industrial Development Planning Da Nang 2020” was issued from the viewpoint of the importance of supporting industries and high-value added manufacturing industry. Its objectives are to promote the investment for high-tech industry, clean technology, biotechnology and information technology, and to develop and improve the high-tech and information technology industrial park. The priority industries to be developed are “industrial electronics and information technology”, “agro-forestry-fisheries and food”, “mechanical industry”, “industrial chemical, rubber and plastic”, “industrial textile and footwear” and “building material”. Regarding the industries related to the project, the key industrial products by 2015 is electrical equipment and the key industrial products by 2020 are electronics, precision industry and CNC machines.

According to the Da Nang City Representative Office of the Vietnam Economic Research Institute, the priority industrial sectors for investment are high-tech industry, supporting industry, processing industry, etc, and the priority service sectors are tourism, real estate, etc.

The tertiary industry is leading the economy of Da Nang City according to the industrial structure. Among manufacturing industries, the steel industry has a relatively large share. The further growth of the electronics and electrical industries will support the economy of the city in future.

Dong Nai Province

The range of Dong Nai Province’s gross industry output is VND 500,000 Billion, similar to that of Hanoi City. The GDP growth rate has been varying around 12% in the past 3 years.



Source: Dong Nai Statistical Yearbook 2013, data in 2008 and 2009 is not available

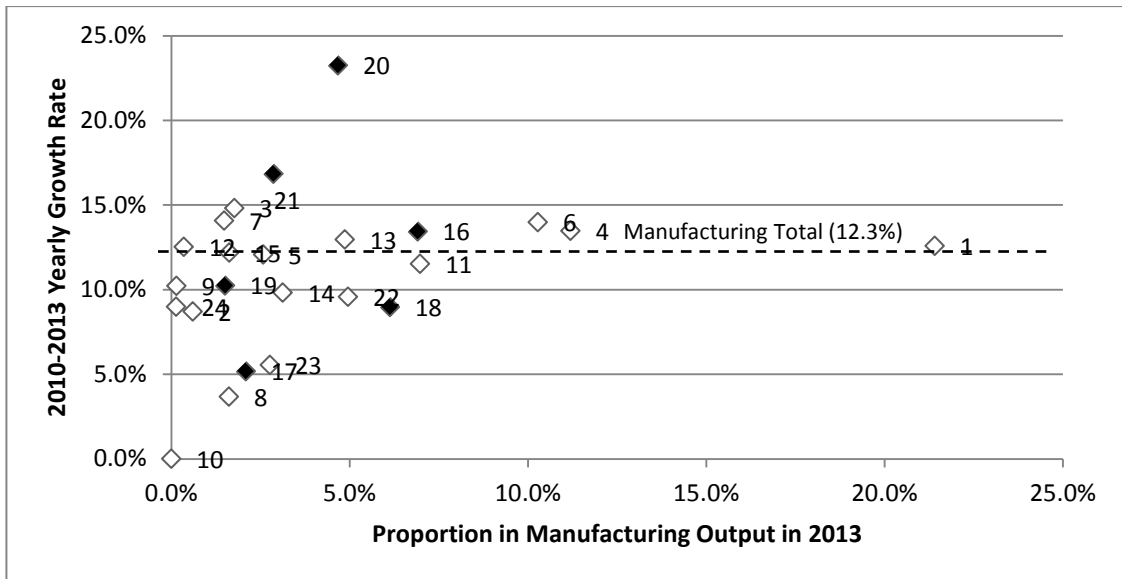
Figure A7-11 GDP Growth Rate and Industrial Structure (Dong Nai Province)

The breakdown of the gross output of the manufacturing industry in 2013 in the following table shows that “Food product”, “Textile product” and “Leather and related product” account for a large portion of the overall gross output with a high annual growth rate of more than 10% and it means these industries are the major industries in the province. As for the industry related to the target occupation, “Motor vehicle, trailer and semi-trailer” and “Other transport

equipment” had relatively high growth rate so the transport equipment industry is expected to grow in the future.

**Table A7-6 Gross Output of Manufacturing Industry
(constant 2010 price, Dong Nai Province)**

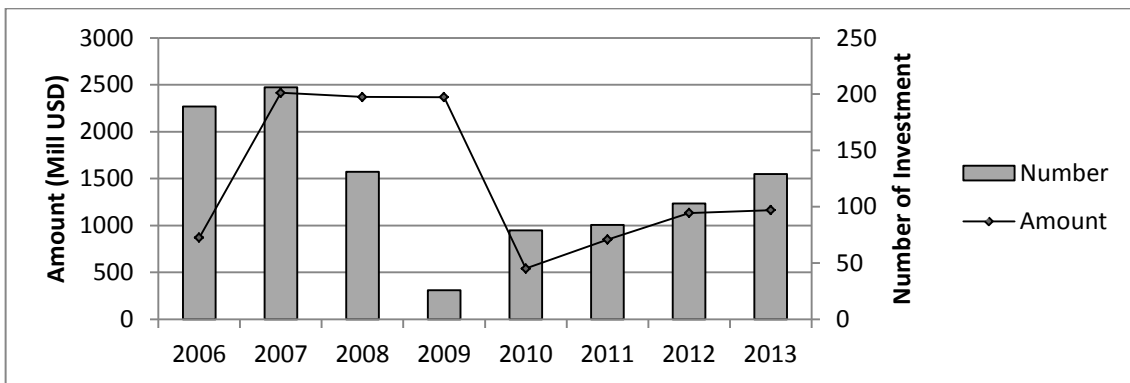
Category		2010	2013		Average Annual Growth Rate 2010-2013 (%)
		Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1	Food product	67,599	96,431	21.4%	12.6%
2	Beverage	2,116	2,718	0.6%	8.7%
3	Cigarette	5,256	7,954	1.8%	14.8%
4	Textile product	34,513	50,413	11.2%	13.5%
5	Wearing apparel	8,248	11,608	2.6%	12.1%
6	Leather and related product	31,253	46,273	10.3%	14.0%
7	Wood and wood product	4,489	6,662	1.5%	14.1%
8	Paper and paper products	6,514	7,258	1.6%	3.7%
9	Printing and reproduction of recorded media	490	656	0.1%	10.2%
10	Refined petroleum	0	0	0.0%	-
11	Chemical and chemical product	22,657	31,414	7.0%	11.5%
12	Pharmaceutical, medical chemical and botanical product	1,115	1,588	0.4%	12.5%
13	Rubber and plastic	15,197	21,902	4.9%	13.0%
14	Non-metallic product	10,622	14,065	3.1%	9.8%
15	Metal	5,175	7,305	1.6%	12.2%
16	Metal product (except machinery)	21,309	31,111	6.9%	13.4%
17	Computer, electronic and optical product	8,080	9,403	2.1%	5.2%
18	Electric product	21,328	27,604	6.1%	9.0%
19	Machinery	5,054	6,773	1.5%	10.3%
20	Motor vehicle, trailer and semi-trailer	11,233	21,035	4.7%	23.3%
21	Other transport equipment	8,079	12,890	2.9%	16.9%
22	Furniture	16,965	22,313	5.0%	9.6%
23	Other manufacturing	10,578	12,434	2.8%	5.5%
24	Repair and installation of machinery and equipment	479	620	0.1%	9.0%
Manufacturing Total		318,349	450,430	100.0%	12.3%



Source: Dong Nai Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

FDIs to Dong Nai Province in 2013 amount to USD 1,000 Million (129 cases) similar to FDIs to Hanoi City, including the investment of USD 89 Million from Japanese enterprise Terumo Corporation for the factory of blood transfusion equipment. The Japanese FDI in 2014 (as of November 20) is USD 199 Million (26 cases), of which USD 173 (21 cases) are for the manufacturing sector, including USD 112 Million from SMC Corporation, a manufacturer of automated control systems.



Source: "2014 Vietnam General Situation" JETRO Hanoi Office

Figure A7-12 Foreign Direct Investment (New and Expansion, Dong Nai City)

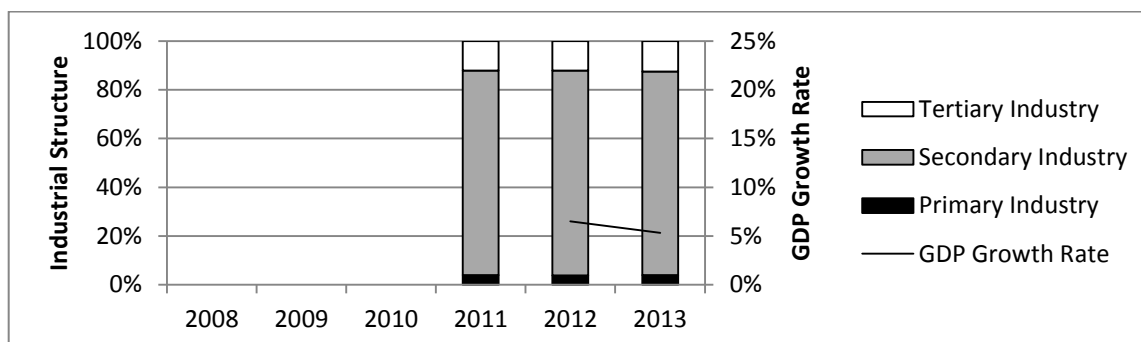
There are 121 Japanese enterprises in the province, 57 of which are related to the machining, electricity and electronics industries. The total number of employees of Japanese enterprises for these industries is estimated to 34,000, calculated based on the average number of employees. The number of industrial parks is 31, the highest among target areas, with 118 Japanese enterprises operating in these parks.

As stated above, GDP, the output of the manufacturing industry and FDI increased constantly and there are many Japanese enterprises related to supporting industry. Therefore, the economy of Dong Nai Province is expected to grow consistently as well as supporting industry due to the preferential policy for the development of industrial parks, prioritization of small

and medium-size mechanical manufacturing industry, agricultural machines, small dynamics machine, the domestic spare parts for cars and the electronics industry.

Ba Ria-VungTau Province

Ba Ria-Vung Tau's gross output of industry (VND 500,000 Billion) is almost the same as that of Hanoi city. However, the GDP growth rate was relatively low at 5% compared to other target areas. The proportion of the secondary industry was 83.6% and this is the largest proportion among the target areas.



Source: Ba Ria-Vung Tau Statistical Yearbook 2013, data from 2008 to 2010 is not available

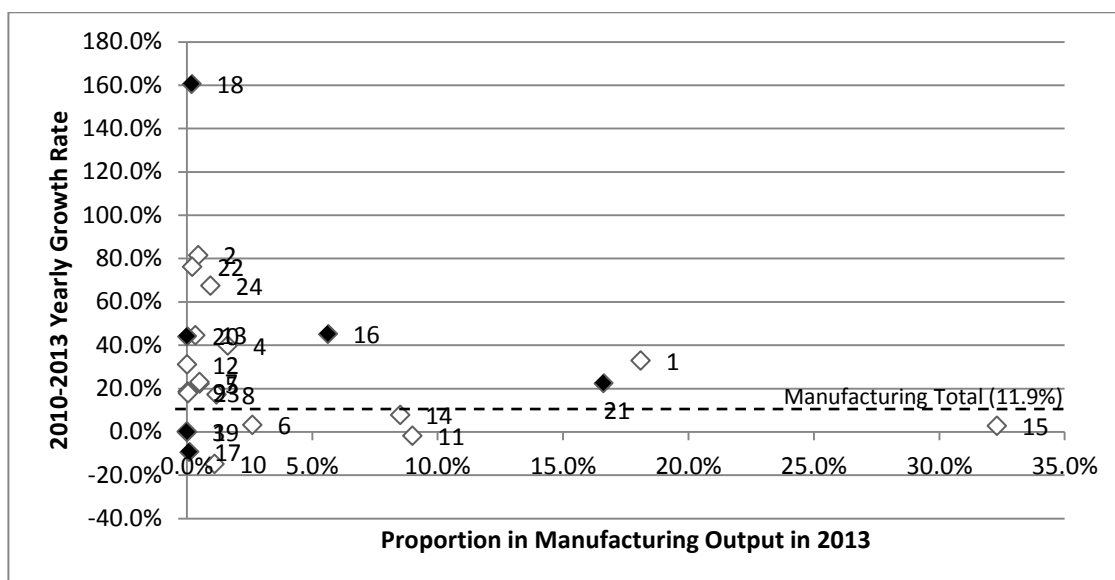
Figure A7-13 GDP Growth Rate and Industrial Structure (Ba-Ria-Vung Tau Province)

The breakdown of the gross output of manufacturing industry in 2013 in the following table shows that the proportion of “Metal” is very high as 32.3% followed by “Food product” and “Other transport equipment”. “Electric product” had a high growth rate among the related industry but the proportion was only 0.2%. “Metal product (except machinery)” and “Other transport equipment” are expected to grow in consideration of the proportion and the growth rate.

**Table A7-7 Gross Output of Manufacturing Industry
(constant 2010 price, Ba Ria-Vung Tau Province)**

Category		2010	2013		Average Annual Growth Rate 2010-2013 (%)
		Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1	Food product	10,209	23,919	18.1%	32.8%
2	Beverage	101	603	0.5%	81.4%
3	Cigarette	0	0	0.0%	-
4	Textile product	790	2,159	1.6%	39.8%
5	Wearing apparel	371	677	0.5%	22.2%
6	Leather and related product	3,149	3,460	2.6%	3.2%
7	Wood and wood product	358	666	0.5%	23.0%
8	Paper and paper products	968	1,557	1.2%	17.2%
9	Printing and reproduction of recorded media	24	40	0.0%	18.6%
10	Refined petroleum	2,360	1,454	1.1%	-14.9%
11	Chemical and chemical product	12,610	11,893	9.0%	-1.9%
12	Pharmaceutical, medical chemical and botanical product	4	9	0.0%	31.0%
13	Rubber and plastic	151	456	0.3%	44.5%
14	Non-metallic product	8,982	11,246	8.5%	7.8%
15	Metal	39,374	42,676	32.3%	2.7%
16	Metal product (except machinery)	2,423	7,430	5.6%	45.3%
17	Computer, electronic and optical	160	120	0.1%	-9.1%

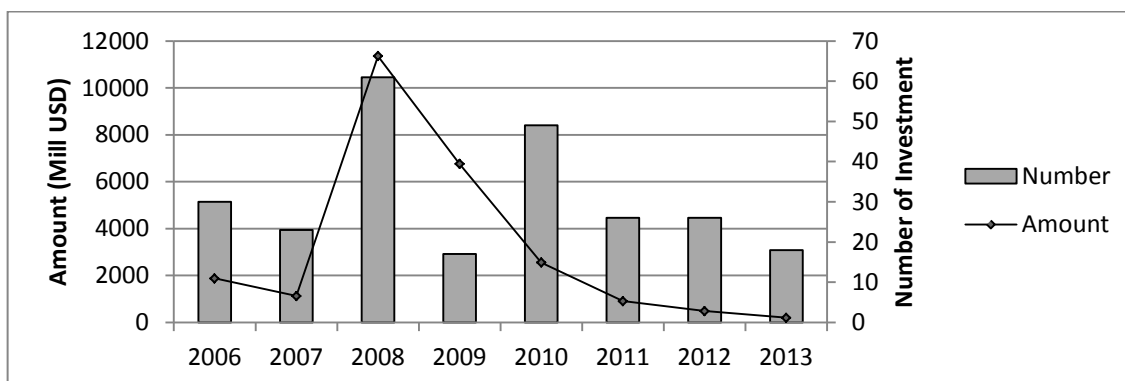
	product				
18	Electric product	14	248	0.2%	160.7%
19	Machinery	11	11	0.0%	0.0%
20	Motor vehicle, trailer and semi-trailer	1	3	0.0%	44.2%
21	Other transport equipment	11,919	21,947	16.6%	22.6%
22	Furniture	51	279	0.2%	76.2%
23	Other manufacturing	41	67	0.1%	17.8%
24	Repair and installation of machinery and equipment	266	1,248	0.9%	67.4%
Manufacturing Total		94,337	132,168	100.0%	11.9%



Source: Ba Ria-Vung Tau Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

FDIs to the province have been decreasing since 2008 in terms of amount and the total amount in 2013 was USD 200 Million (18 cases). There is no FDI from Japanese enterprises in 2014 (as of November 20).



Source: "2014 Vietnam General Situation" JETRO Hanoi Office

Figure A7-14 Foreign Direct Investment (New and Expansion, Ba Ria-Vung Tau Province)

There are 17 Japanese enterprises in the province, 7 of which are related to the machining, electricity and electronics industries and employ an estimated 700 employees, calculated based

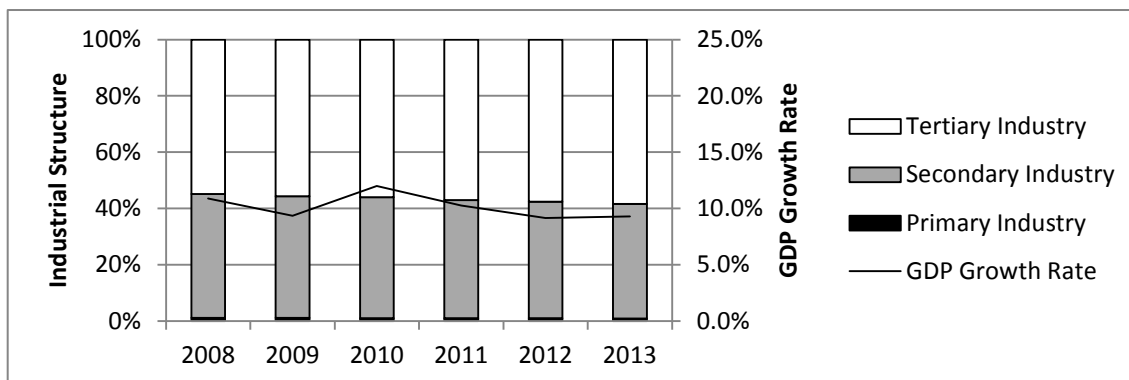
on the average number of employees. There are 15 industrial parks (including 2 in preparation and 3 not in operation) in which 14 Japanese enterprises operate. The Phu My III Industrial Zone (in preparation) is planned exclusively for Japanese enterprises and The Da Bac Industrial Cluster is planned exclusively for Japanese enterprises of supporting industry.⁸ However, there is no Japanese enterprise operating there.

According to “the Supporting Industry Development Plan to 2020” by Ba Ria-Vung Tau people’s committee, the prioritized industry is engineering and manufacturing, electrics and electronics, and chemicals. The target proportion of the manufacturing sector against overall supporting industry is 70% by 2015, 60% by 2020 and 50% by 2025, which are gradually lowered. The target proportion of the electric and electronics sector is 12% by 2015, 24% by 2020 and 34% by 2025. Ba Ria-Vung Tau Province has accelerated the investment promotion activities for supporting industry to attract Japanese investors and built a bilateral economic cooperation relationship with Kawasaki City, Japan.

Steel and food industries had a large share of the manufacturing industry in 2013. Industries related to petroleum, gas and steel will be the key industries to lead the economy of the province. In order to develop the supporting industry, the above mentioned development plan shall be accelerated with support of preferential policies.

Hochi Minh City

The gross output of industry of Hochi Minh City is about VND 900,000 Billion, and is the largest among the target areas. The GDP growth rate has been around 10%. The proportion of the primary industry was 1.0% as the lowest among the target area, the secondary industry was 40.6% and the tertiary industry was 58.4%.



Source: Hochi Minh Statistical Yearbook 2013

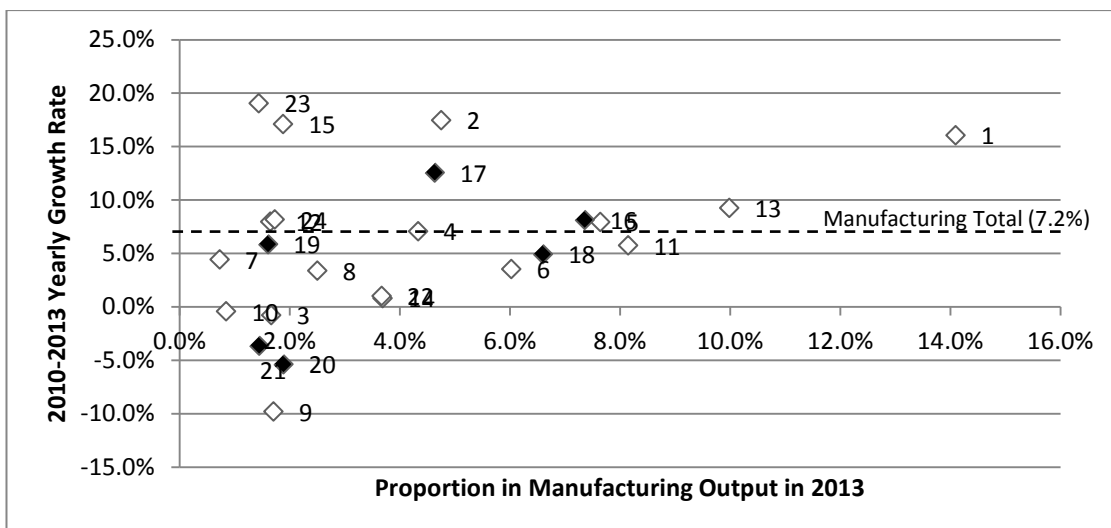
Figure A7-15 GDP Growth Rate and Industrial Structure (Hochi Minh City)

The breakdown of gross output of manufacturing industry in 2013 in the following table shows that the proportion and the annual growth rate of “Food product” were higher followed by “Rubber and plastic”. Regarding the industry related to the target occupation, the annual growth rate of the transport equipment industry was negative; meanwhile “Metal product (except machinery)”, “Computer, electronic and optical product” and “Electric product” are expected to grow smoothly.

⁸ “Introduction of Industrial Parks in Ba Ria-Vung Tau Province”, JICA, June 2014

**Table A7-8 Gross Output of Manufacturing Industry
(Ho Chi Minh City)**

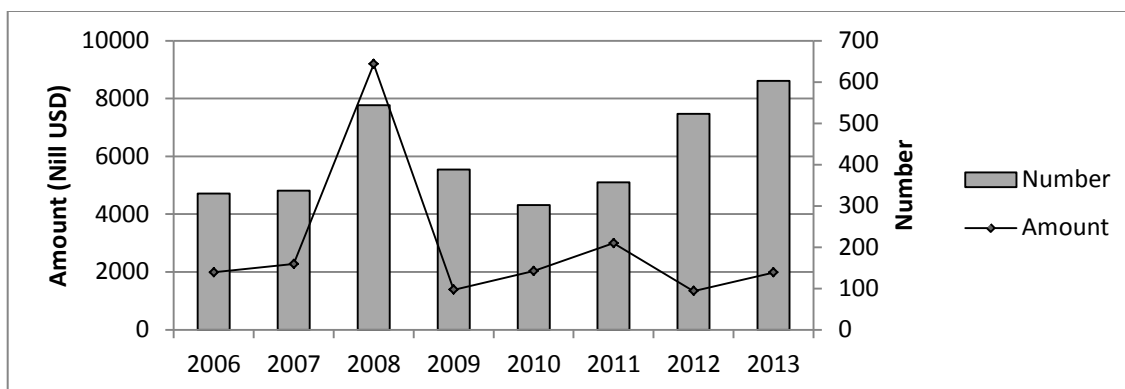
Category		2010	2013		Average Annual Growth Rate 2010-2013 (%)
		Amount (Bill VND)	Amount (Bill VND)	Proportion (%)	
1	Food product	67,473	105,441	14.1%	16.0%
2	Beverage	21,929	35,542	4.8%	17.5%
3	Cigarette	12,746	12,444	1.7%	-0.8%
4	Textile product	26,414	32,408	4.3%	7.1%
5	Wearing apparel	45,477	57,189	7.6%	7.9%
6	Leather and related product	40,628	45,072	6.0%	3.5%
7	Wood and wood product	4,789	5,454	0.7%	4.4%
8	Paper and paper products	16,941	18,714	2.5%	3.4%
9	Printing and reproduction of recorded media	17,427	12,780	1.7%	-9.8%
10	Refined petroleum	6,421	6,338	0.8%	-0.4%
11	Chemical and chemical product	51,552	60,947	8.1%	5.7%
12	Pharmaceutical, medical chemical and botanical product	9,790	12,317	1.6%	8.0%
13	Rubber and plastic	57,294	74,688	10.0%	9.2%
14	Non-metallic product	26,953	27,595	3.7%	0.8%
15	Metal	8,768	14,080	1.9%	17.1%
16	Metal product (except machinery)	43,505	55,037	7.4%	8.2%
17	Computer, electronic and optical product	24,290	34,655	4.6%	12.6%
18	Electric product	42,709	49,360	6.6%	4.9%
19	Machinery	10,118	12,008	1.6%	5.9%
20	Motor vehicle, trailer and semi- trailer	16,632	14,098	1.9%	-5.4%
21	Other transport equipment	12,069	10,804	1.4%	-3.6%
22	Furniture	26,653	27,466	3.7%	1.0%
23	Other manufacturing	6,378	10,762	1.4%	19.1%
24	Repair and installation of machinery and equipment	10,242	12,958	1.7%	8.2%
Manufacturing Total		607,198	748,157	100.0%	7.2%



Source: Ho Chi Minh Statistical Yearbook 2013

Note: Shaded industries indicated with a black diamond symbol are related to the target occupations. The numbers on the scatter plot correspond to the category of manufacturing industry in the above table.

FDIs to Ho Chi Minh City in 2013 were USD 1,983 Million (603 cases), the second largest among the target areas after Hai Phong City. The FDIs from Japanese enterprises in 2014 (as of November 20) amount to USD 218 Million (26 cases), the largest among the target areas, including USD 128 Million from AEON Co., Ltd. However, among these, FDIs for the manufacturing industry were only USD 8.3 Million (8 cases).



Source: “2014 Vietnam General Situation” JETRO Hanoi Office

Figure A7-16 Foreign Direct Investment (New and Expansion, Ho Chi Minh City)

755 Japanese enterprises are in the city, 164 of which are in the machining, electricity and electronics industries and have an estimated 69,000 employees in total, calculated based on the average number of employees. There are 20 industrial parks, in which 20 Japanese enterprises operate. According to the “Overall plan for the socio-economic development of the southern key economic zone to 2020 and vision 2030”, development of industrial parks for high-tech industry will be promoted.

The gross output of industry in Ho Chi Minh City is the largest among the target areas with a high growth rate and the number of Japanese enterprises is the biggest as well. Regarding the industries related to the project, “metal product (except machinery)”, “computer, electronic and optical product”, electric product” and “machinery” had a growth rate of 5-12% (2010-2013) and large output of about VND 150,000 Billion in total. Therefore, these industries are expected to be grown as the part of major industry in Ho Chi Minh City. The development

plan includes the promotion of precision engineering with advanced technology, high-value added industry and supporting industry, and the electronics industry is especially expected to grow.





Annex-8

Outline of the target vocational college/university

Annex-8 Outline of the target vocational college/university

01 Ho Chi Minh Vocational College (HVMVC)

Name	Ho Chi Minh Vocational College		
Address	1st Campus : 38 Tran Khanh Du, Tan Dinh Ward, Dist 1, HCMC 2nd Campus : 48/43 Chuony Duong Street, Linh Chieu Ward, Thu Duc District, HCM		
No. of Campus	2 Campus		
Governing agency	Ho Chi Minh PPC		
Establishment	8 Oct. 1997 (as Technical Worker School) 31 Jan. 2007 (Ho Chi Minh Vocational College)		
Department, Faculty, Course	11 Faculties		
Organization Chart			
Students			
Enrolment at College Level: Actual /Targeted number of students	Machining 147/80, Electricity 120/110, Electronics 36/110 (2013)		
No. of Graduates Target : College Level	Machining 33, Electricity 13, Electronics 80 (2013)		
Evening course	Existent		
Future plan	Machining Enrolment Goal (2015): 110 Electricity Enrolment Goal (2015): 110		
Teachers			
No. of teachers	Machining 14, Electricity 17, Electronics 11 (2013)		
Categorization/	Machining: College 2, Bachelor 8, Master 4 Electricity: Bachelor 11, Master 3, Others 3 Electronics: Bachelor 8, Master 3		

Training	
<p>Conduct of training in potential areas needed by companies</p>	<p>In Machining, training techniques of machine manufacture, which are basic skills, are being taught and in Electricity and Electronics, training techniques taught are pneumatic control, Lab-View and micro-controller focusing on PLC technique.</p> <p>While focusing on training that considers correspondence as an immediate strategy, nurturing college students who are both equipped with high-level knowledge and technique is also expected.</p> <p>(1) Status of training equipment (Machinery area)</p> <p>The machinery area consists of general-purpose machines, including 30 lathes, 5 vertical milling machines, 5 plain milling machines, 5 shaping machines, 2 sawing machines, 3 drilling machines, 1 slotting machine, 3 double-headed grinders, 1 surface grinding machine, and 1 cylindrical grinding machine; most of the machines are outdated, with machines up to 30 years old (Photo 1). Since the working accuracy of these old machines is significantly reduced, they need to be retrofitted or replaced in order for the site to be certified as a skill test site, as well as for the students to be trained on equipment of the level of the test and of future job requirements. Additionally, each machine should be arranged to enhance operation efficiency (Photo 2).</p> <div style="display: flex; justify-content: space-around;"> <div>  </div> <div>  </div> </div> <p>Photo 1: Machining Training Room 1 Photo 2: Machining Training Room 2</p> <p>To improve the working accuracy, the NC processor used from 2004 to 2009 should also be replaced.</p> <p>(Electricity and Electronics areas)</p> <p>The basic experiment devices, such as those used for analog electric circuits (Photo 3) and for digital electric circuits, are small in number and most of them are outdated or damaged. A few basic measurement devices are lacking. Most of the oscilloscopes, a typical measurement device, are old-fashioned analog style types, which are no longer used in Japanese companies (Photo 4). Additionally, among the measurement devices used in electric technical courses in Japanese Polytechnic Colleges, those for analog electric circuits are not used. Therefore, all measurement devices should be replaced with newer models.</p> <div style="display: flex; justify-content: space-around;"> <div>  </div> <div>  </div> </div> <p>Photo 3: Basic experiment device for an electric circuit (damaged) Photo 4: Analog oscilloscopes</p>

(2) Status of training implementation

(Machinery area)

Many kinds of machines are installed in the machining training room, however work space is limited, which poses a safety risk. Without a work table on which to put operational tools, measurement devices, and drawings, training is inefficient.



Photo 5: Machining lathe training



Photo 6: Milling machine training

Photo 5 and Photo 6 are the training scenes at Chiba Polytechnic College. Students use work tables beside the lathe or milling machine to enhance operation efficiency. Each machine to be installed in our plan will have a work table.

There is a difference in the safety measures taken at Japanese Polytechnic Colleges compared with trainings at HCMVC (Photo 1). HCMVC students are not wearing caps or protective glasses. Students are expected to conduct cleaning and maintenance when they complete training, but cleaning was not properly done when we visited. Based on these issues, we imagine that the instructors' attitude in relation to machining training needs to be reexamined. This might be because both times we visited, we happened to visit in the middle of a machine training, and thus we do not know about other training for the machines installed at HCMVC.

Japanese Polytechnic Colleges include liberal arts courses as well as the specialized courses in proofing theories, experimental and practical training courses that instruct in the knowledge necessary for processing technology through basic and machine engineering experiments, and a graduation project in which students put a self-designed product into two-dimensional or three-dimensional CAD and work on actual production. While HCMVC also works on mold production, it seems that not enough time is allocated to experimental and practical training.

(Electronics area)

Normally, countermeasures against static electricity should be taken in an electric circuit laboratory as static-sensitive IC equipment is handled frequently. While Japanese companies definitely take measures on electronic circuit assembly lines, HCMVC has not taken any. There are very few tools at HCMVC. In particular, stationery scissors are used for wire processing work (cutting, cover removal, etc.), which is never allowed in Japan. Also, while Japanese students must wear protective glasses to avoid accidents caused by the scatter of solder, HCMVC students do not. In many areas HCMVC is not following basic standards applied at Japanese universities. The JST must provide further instruction, including a full arrangement of tools and how to use them.

Although it was not possible to do a thorough check of their instruction methods, instructors are proactively preparing original instruction materials such as microcomputer controlled helicopters (Photo 7), PLC-based elevators, and LabVIEW.

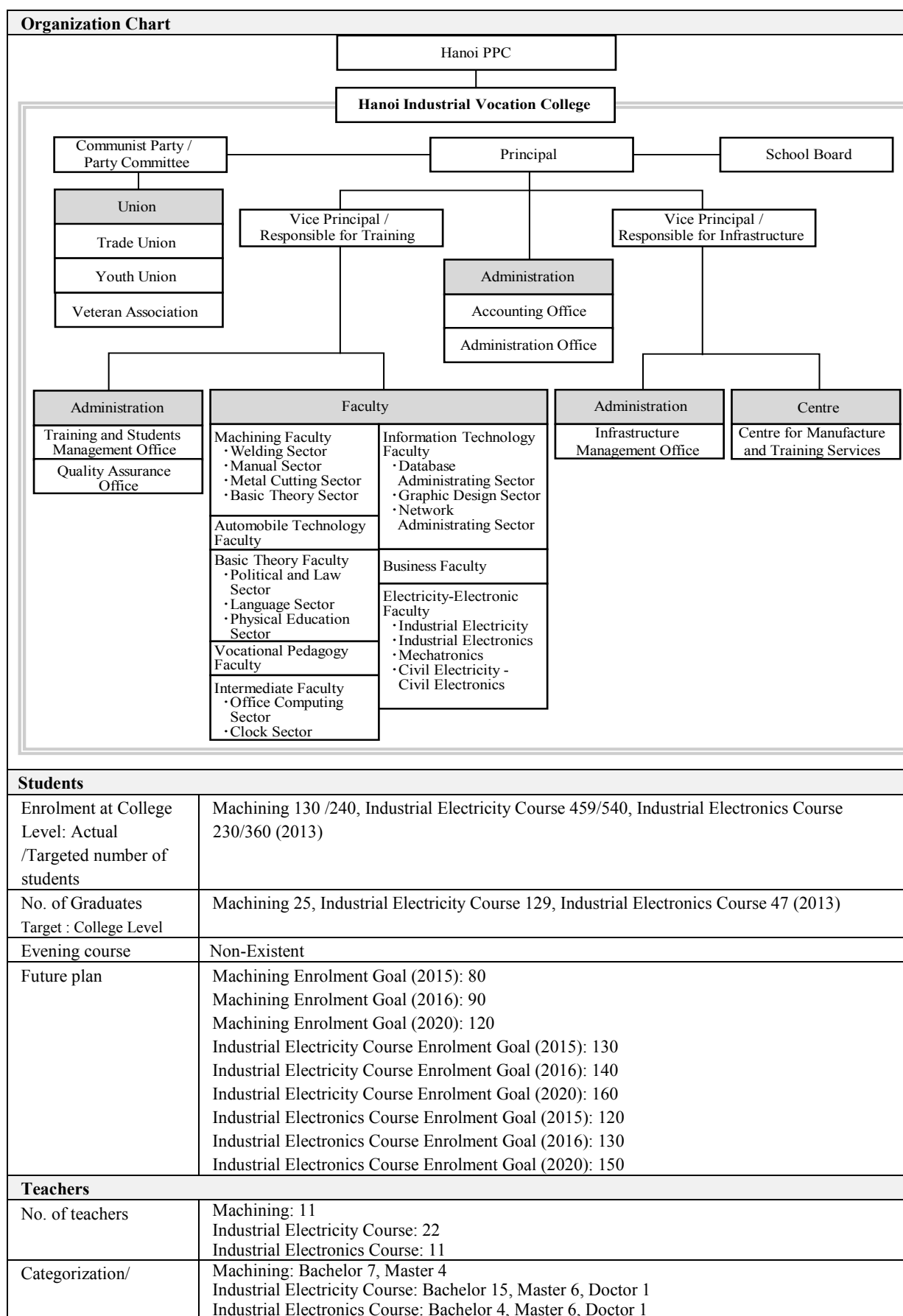


Photo 7: Microcomputer-controlled helicopter

	<p>While instructors are actively working on a skills test, students in both the machinery and electricity areas are not. The test has been taken by graduates only.</p> <p>Therefore, HCMVC needs to introduce machines applicable to the skills test, develop instructors who can teach the skills test, and encourage students to take the skills test. They also should offer training for instructors that teach appropriate levels of skill and knowledge about safe work as a vocational college.</p>	
Training Management		
Training process management and related matters	<p>Gathering opportunities of taking survey on companies, seminars or internship and processing examining curriculum every year. (For example: checking on how enterprises use CNC manufacturing machine and show that method in class)</p> <p>Furthermore, making an effort to raise the quality of college education by proceeding to estimations of instructors every year and examining training contents as well as training methods.</p>	
Job placement		
Support for employment and related matters	<p>Organizing internships in various enterprises (about 100) including Japanese Enterprises such as JUKI (460 hours)</p> <p>Cooperating with the Job Introduction Centre and the Job Development Focus Centre in Ho Chi Minh City (HCMC) and posting information of graduated students on the website of those centres.</p> <p>Moreover, organizing job fairs as well as short-term courses inviting lecturers from enterprises; raising students' consciousness about career and holding careful counselling for students. Alternatively, being able to speak actively about things related to students' career.</p>	
Observation of Consultant		
<p>The college seems to achieve good results in supporting employment of their students in coordination with Ho Chi Minh City, although some faculties fall below the target. The college has an enrolment plan for next year only.</p>		
	Possible Risk	Countermeasure
Student	<p>Soundness of the college management plan and the management capacity are not clear since the college does not have a written future plan to secure enough enrolment.</p>	<ul style="list-style-type: none"> - Promotion to the management division of industrial parks - Promotion in rural areas - Implementation of the technical cooperation project with Kawasaki City
Equipment	<ul style="list-style-type: none"> - Most of the equipment is old. - Manuals are not complete. - There is no maintenance record. 	

02 Hanoi Industrial Vocation College (HIVC)

Name	Hanoi Industrial Vocation College (HIVC)
Address	1st Campus: 131 Thai Thịnh Str., Hanoi city 2nd Campus: Phùng Khoang, Trung Văn ward, Nam Từ Liêm district, Hà Nội.
No. of Campus	2 Campus
Governing agency	Hanoi PPC
Establishment	11 June 1974 (as College)
Department, Faculty, Course	8 Faculties, 16 Courses



Training	
<p>Conduct of training in potential areas needed by companies</p>	<p>In Machining, knowledge of lathe and milling machine manufacture (basic techniques necessary for manufacturing metal mould) is required by enterprises such as Nihon Denso, Honda, and Pentax etc.</p> <p>In Electricity and Electronic, knowledge of PLC, inverter, microprocessor, three-phase electricity assembly is sought after.</p> <p>Those are basic techniques in various fields and it is necessary to nurture students with such techniques.</p> <p>There is an expectation of development toward training content that contains content about metal mould in Mechanic as well as automated techniques in manufacture factories.</p> <p>(1) Status of training equipment (Machinery area)</p> <p>The machining area consists of general-purpose machines, including 27 lathes (10 lathes that are relatively new and 6 for maintenance education), 5 vertical milling machines, 1 universal miller, 3 plain milling machines, 3 shaping machines, 1 sawing machine, 1 slotting machine, 2 double-headed grinders, and 1 surface grinding machine. Since HVC has a 40-year history as a vocational training school, and the equipment is mostly original, other than 10 lathes (installed in 2008) all machinery is outdated (Photo 2-1), thus the working accuracy of these machines appears to have decreased significantly.</p> <p>With the Taiwanese lathes that were installed in 2008, a skills trial test was conducted for level two lathe processing in March 2012 on 7 people and an authorized skills test was conducted in October 2014 on 10 people (Photo 2-2, Photo 2-6). However all examinees failed. Their work did not meet the required size accuracy. One of the reasons for this is likely to be the degraded accuracy of the machine itself (the flat level of the lathe was pre-adjusted at the trial test). Thus, all general-purpose machinery needs to be replaced.</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Photo 2-1: Lathe Training Room 1 Photo 2-2: Lathe Training Room 2</p> <p>As for NC processors, there are 3 NC lathes, 2 NC milling machines, 2 MC machines, 1 wire-cut electric discharge machine (including a small hole processor), and 1 engraving electric discharge machine. However, all of them are outdated and need to be replaced. A new CAD/CAM system (40 PCs) was installed in 2013 with the assistance of South Korea.</p> <p>(Electricity and Electronics areas)</p> <p>Thanks to donations received in the past from South Korea and other countries, HVC has more machines than other schools. The PIC and PLD are newer models and available for continued use (Photo 2-3). There are more experiment and measurement devices for digital circuits than for analog circuits. The measurement devices should be stored in a cabinet, not on a shelf, to avoid dust. They should not be stacked to prevent damage to the machines (Photo 2-4).</p>



Photo 2-3: PLD (upper left) and PIC (upper right)

Photo 2-4: Stored measurement devices

(2) Status of training implementation
(Machinery area)

The machining training room for general-purpose machinery is in a very dangerous situation with a lot of holes in the concrete floor (Photo 2-5). It should be renovated as early as possible for the safety of the students. There is a room on the mezzanine level in the center of the training room where training lectures are provided and simplified size measuring for finished work is conducted. The well-arranged classrooms and training rooms make it easier to organize classes. Although there are some spaces between machines, there are no work tables upon which to put tools, measurement devices or drawings, which is reducing operation efficiency (Photo 2-5).



Photo 2-5: Milling Machine Training Room





Photo 2-6: Skills Test Work (level two lathe)

Work tables should be prepared for lathes or milling machines to enhance operation efficiency. Each machine to be installed in the JST's plan will have a work table. Although students learn about production management in class, the concept is not reflected in the current environment.

The mezzanine level classroom is appropriate for simplified measurements, but a separate room should be prepared that is resistant to vibration caused by walking and where the temperature is kept at 20 degrees so that precise measuring for surface finishing, roundness, etc., may be conducted (the skills test in particular requires accurate size measuring).

(Electricity and Electronics areas)

Training rooms are spacious enough and training takes place in small groups. Photo 2-7 shows the students earnestly working on motor winding training. The work table is too small. The electric power cable crossing the passage poses a tripping hazard, and therefore the power strip plug should be fixed on the work table or replaced with a floor plug or a ceiling duct rail plug. Photo 2-8 shows the street where shops sell electric goods/parts in Hanoi. While it is possible to find various general parts and tools (mostly Chinese), electronic parts are limited.

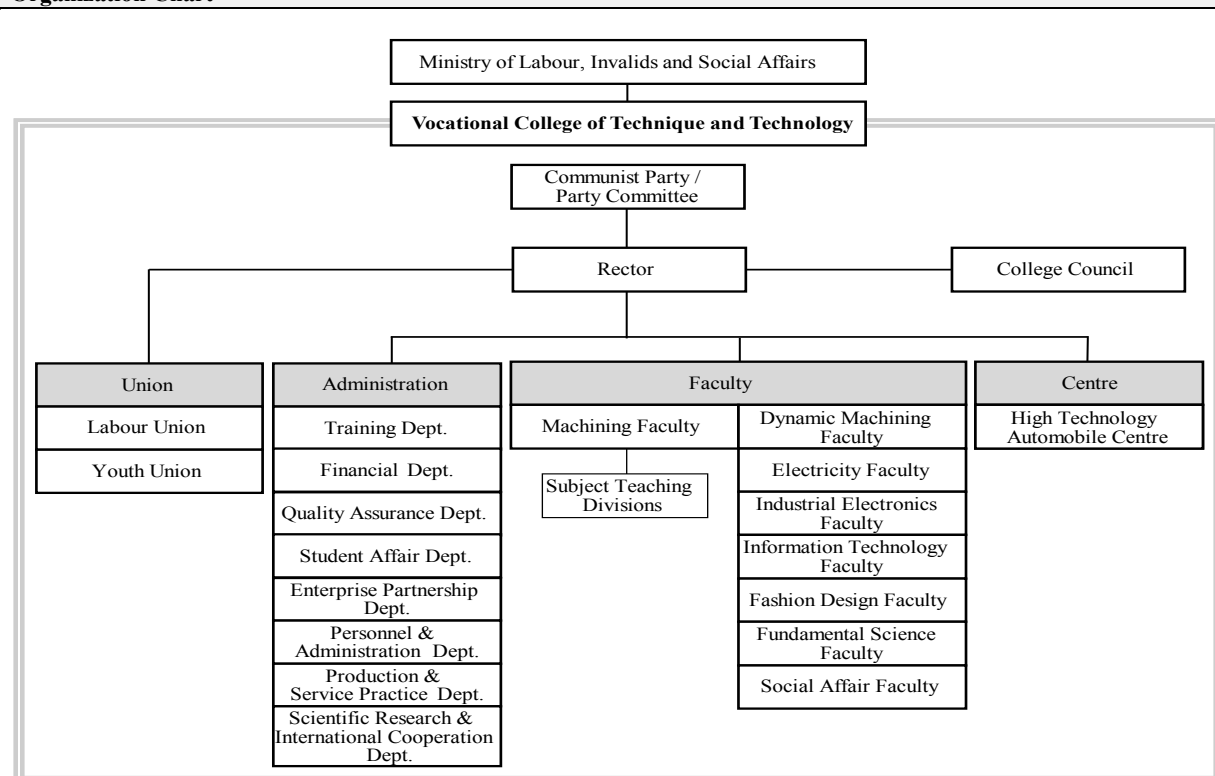
	 <p>Photo 2-7: Motor winding training</p>	 <p>Photo 2-8: Electric tools and parts shop in Hanoi</p>
<p>Private companies have a great need for workers with PLC, inverter, microcomputer, and 3-phase electric wiring skills. HIVC was used as a JAVADA level two skills test (lathe) site and some instructors joined the effort. Many people in the electricity and electronics fields consider competition to equate skill level.</p>		
<p>Training Management</p>		
<p>Training process management and related matters</p>	<p>Other than collecting needs of enterprises, the section of Technique and Training Service of the college has held visits of instructors from each department to enterprises, listening to the requirement of enterprises taking part in the college Job Fair (held from April to May), and gathering enterprises' information. The collected information will be used to examine the curriculums. After those curriculums pass the assessment board, time of classes may be changed, and the manufacture practice will be divided into 2 groups. Changes will be put into practice and classes based on enterprises' needs will be launched. Moreover, the 3rd level of Lathe Manufacture JAVADA (which has become the assessment standard that Japanese enterprises require from technicians) will be used as examination questions. This will be an active way to improve the training content (technique level). The evaluation of instructors' quality will be assessed at the Curriculum Evaluation Committee (an organization within the college), which includes the school principal, another VC, and three representatives from enterprises (about 5 people). Additionally, instructors will have to do some exhibiting lesson and will have surprise inspections of their classes several times a year by the Inspectors. This is necessary in making an effort to improve the quality of their class, and to ensure that the school is nurturing students with high quality training.</p>	
<p>Job placement</p>		
<p>Support for employment and related matters</p>	<p>Relating to career support activities, right after students enter the school, a first talk about career choice should be held. The teacher will be in charge of this. The vice-president, the president of the college, as well as graduated students should be invited. They will talk about experiences of career choices in the future or working conditions in companies. After that, in the 3rd year, the second talk about career will be held. In this talk, people who are in charge of human resource management of enterprises will come to talk about the enterprise's requirement of employees or job interview. (In case of Japanese enterprises, there may be Japanese language classes). In the 3rd year, internal job fairs will be held from April to May at the school and enterprises will be invited to come. After that, internships in various Japanese enterprises (such as Canon, Panasonic, Nihon Denso etc...) will be planned by the "Centre for Manufacture and Training Service," an internal organization of the college. This will be an example of making an effort in career activity supports to enable smooth career achievement of the students. Not only the teacher but also the vice-president and the president should be engaged in making effort to improve the student's career achievement. Active career activity support is required.</p>	
<p>Observation of Consultant</p>		
<ul style="list-style-type: none"> - The campus transfer project has been suspended since 2011 by the order of suspension of BT (Build and Transfer) projects due to the national economic crisis. The project was subsequently selected as the priority feasible project by the PPC in 2013. However, the resumption of project has not been approved yet in consideration of the Hanoi Master Plan since the new campus in Dong Anh District is in the historical area. According to college staff, the project was approved by the prime minister and a developer has been selected. If the project starts officially, it will take 2 months for design and 2.5 years for construction. The rector and the developer do not know about the urban planning of the district. - Installation of equipment under the project is expected in the new campus. However, the JST has surveyed the existing campus since the period of transfer is not determined. 		
<p>Possible Risk</p>		
<p>Countermeasure</p>		
<p>Campus transfer project</p>	<ul style="list-style-type: none"> - The project has been suspended for 2 years and the time of resumption is uncertain. 	<ul style="list-style-type: none"> - During the implementation of this yen loan project, the plan to transfer to the new campus has been cancelled.

Student	- Due to competition with the existing vocational colleges in the area of the new campus, it will be difficult to secure enough enrolment.	- According to the college staff, the first year after the transfer will be a hard time to secure enough enrolment. However, the college will be able to secure it because of its reputation and past performance and because the Nhat Tan Bridge connecting the new campus and Hanoi City will be completed in 2015.
Equipment	- New equipment except for CAD/CAM is necessary since they are old. - Practical room is necessary for the installation of measurement and experimental equipment	

03 Vocational College of Technique and Technology (VCTT)

Name	Vocational College of Technique and Technology
Address	1 st Campus: To 59 TT Dong Anh, Hanoi city (Northern part of Hanoi) 2 nd Campus: *1km away from the 1 st campus for practice training rooms and classrooms
No. of Campus	2 Campus
Governing agency	Ministry of Labour, Invalids and Social Affairs (MOLISA)
Establishment	2000 (2006: as College)
Department, Faculty, Course	8 Faculties

Organization Chart



Students

Enrolment at College Level: Actual /Targeted number of students	Machining 40/70, Electricity 40/40, Electronics 55/55 (2013)
No. of Graduates Target : College Level	Machining 28, Electricity 65, Electronics 40 (2013)
Evening course	Non-Existent

Future plan	Planned enrolment from 2014-2018: 120-150 number of students increase per year, after 2018: 20% per year
Teachers	
No. of teachers	Machining 11, Electricity 12, Electronics 11
Categorization/	Machining: Bachelor 5, Master 5, Doctor 1 Electricity: Bachelor 10, Master 2 Electronics: Bachelor 5, Master 6
Training	
Conduct of training in potential areas needed by companies	<p>Machining: Offers courses consisting of 80% machining (including CAD/CAM) and 20% welding, and changes the number of hours of training depending on the needs of companies (e.g.: 45 hours to 120 hours).</p> <p>Electricity: Automation (PLC, industrial communication, etc.)</p> <p>Electronics: Includes training on microcomputers, PLCs and PLDs</p> <p>(1) Status of training equipment (Machinery area)</p> <p>The machining area consists of general-purpose machines, including 10 lathes, 2 vertical milling machines, 2 universal millers, 1 shaping machine, 1 sawing machine, 3 double-headed grinders, 1 surface grinding machine, and 1 cylindrical grinding machine. They were installed in 2009 when the new building opened (Photo 3-1, Photo3-2).</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Photo 3-1: Machining lathe training room Photo 3-2: Milling machine training room</p> <p>As for NC processors, in 2010, 1 NC lathe and 1 MC machine were installed, but the wire cut electric discharge machine that was installed before that is out of order.</p> <p>The training room, within which these NC processors are installed, is a good environment equipped with an air conditioner to control the temperature increase due to the machines. However, the three-dimensional measuring machine (2010 model) and the CAD/CAM system are in the same room. Since the NC lathe and the MC machine use a massive amount of water-soluble cutting fluid to limit the temperature increase during the process, there is a possibility that the fluid will evaporate or turn into a mist and fill up the training room. This is likely the reason that the new three-dimensional measurement device is out of order. The precise measuring machine should be placed in a separate room for measurement training.</p> <p>Although most machines are not that old, as VCTT starts to work on a skills test, the machines that will be used in the skills test should be replaced for the sake of working accuracy (as most of them are Taiwanese). The machines that will not be used in the skills test are still useable with the exception of the double-headed grinder, which should be replaced as it does not have a dust collector and thus poses a health risk. The CAD/CAM system should be replaced with a new one as it has been in use for years and is currently out of order.</p> <p>There are no measurement or experiment devices to assess processed goods, measure the strength or hardness of materials, or that can provide technical proofs. These devices should be installed if VCTT is to function as a vocational college (subjects such as mechanics of materials and precision measurements include 8 hours of training.)</p> <p>(Electricity and Electronics areas)</p> <p>Machines and devices are limited in number, including 2 power circuit training devices, 2</p>

electrical engineering experiment devices, 6 digital circuit experiment devices, a printed board manufacturing device (the etching container is damaged) (Photo 3-3), and 6 PLC training devices. Experiment and measurement devices for use with analog electronic circuits are particularly lacking. Ceiling duct rail sockets are in use (Photo 3-4), which is good for safety and convenience.



Photo 3-3: Print board manufacturing device
(The etching container is damaged)



Photo 3-4: Ceiling duct rail socket

(2) Status of training implementation
(Machinery area)

The machining training room is newly established, but the concrete floor has holes and drain boards are being used beside the machines. The floor should be renovated as early as possible for the safety of the students. A sign outlining the 5S method is posted on a pillar (Photo 3-5). Nevertheless, students are not wearing safety caps, protective glasses, or shoes during operation, which is very dangerous (Photo 3-6).



Photo 3-5: A sign of the 5S method

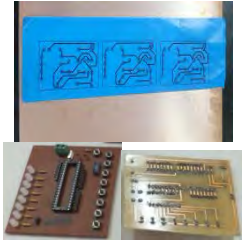



Photo 3-6: Lathe in operation

Although there is a work table beside the milling machine (Photo 3-2), nobody uses it. It seems that instructors' understanding of operation efficiency is not at a sufficient level.

(Electricity and Electronics areas)

Training is being held with limited devices. While Japanese colleges use costly photosensitive boards when processing print boards, colleges in Vietnam, including VCTT, use low-cost non-photosensitive boards. They also print out circuit patterns on commercially available low-cost thermal transfer paper, thermally transfer the copper layer of the board with an iron, etc., and finish up with an etching treatment. This is adequate as a test board. Photo 3-7 shows the printed board materials and the finished product. Photo 3-8 shows a soldering training class at Kyushu Polytechnic College. They also conduct SMD (surface-mount parts; chip parts) and soldering training with a stereomicroscope.

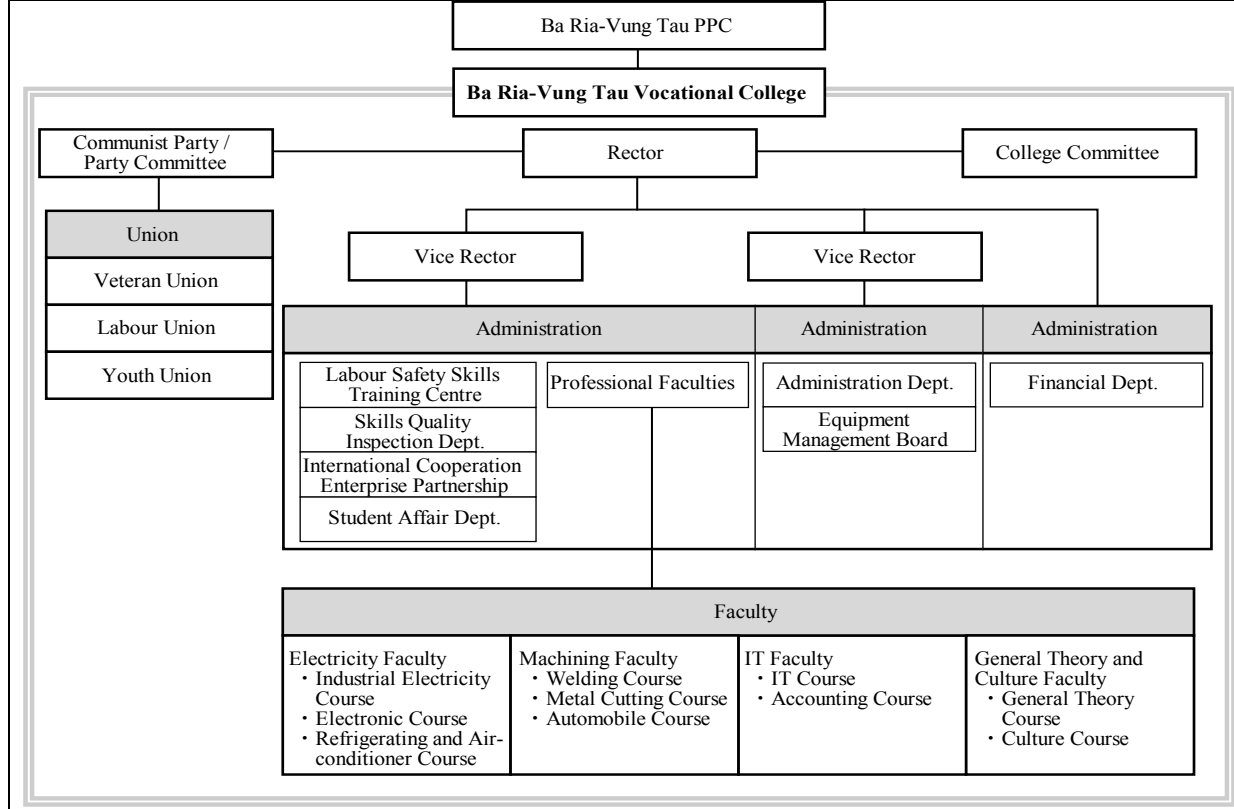
	<div style="display: flex; justify-content: space-around;">   </div> <p>Photo 3-7: Printed board and thermal transfer paper (left), finished printed boards (right)</p> <p>Photo 3-8: Soldering training (top), SMD soldering training (bottom)</p> <p>Private companies have a great need for workers with PLC, microcomputers, and PLD skills. As for the skills test, although the skill level is slightly inferior to that of other schools, VCTT is currently taking advantage of technical training at HaUI. People in the electricity and electronics fields do not know much about the job category of the skills test, nor about the National Skill Test.</p>
Training Management	
<p>Training process management and related matters</p>	<ol style="list-style-type: none"> 1. How are the needs of companies collected? Machining: The Enterprise Relations Office (5 members) collect the needs. (Approx. 30 companies: Not all of them necessarily deal with machines. Many of them are small and medium enterprises.) Electricity: Questionnaires during seminars, and interviews at the time of visits to companies Electronics: Internship, seminars and questionnaires (July – August) 2. Are the needs of companies incorporated into the training? Machining: The number of hours of training changes depending on the needs of companies (e.g.: 45 hours to 120 hours). Electricity / Electronics: Consider needs every year. 3. Procedure for updating the curriculum Curriculum updates are proposed to the dean biennially, based on the result of discussion among teaching staff of the department. The dean then makes the proposal and if satisfactory to the administration committee, changes the contents of courses upon acceptance of the approval committee (to be approved within 3 months). The curriculum updating is carried out between June and July every year. Changes within 30% of curriculum can be configured at the discretion of the College. Any changes beyond the limit require an application for DOLISA and MOLISA for approval. 4. How is training evaluated? The “Quality assurance Department” (5 staff members) evaluates instructors during classes. In addition, a Training Review Committee was established for evaluation as necessary. Instructors are evaluated either during the open class by the Inspector (from the Department of training) or during regular classes. An evaluation takes place 3 times annually although not all instructors are subject to evaluation (the instructors to be evaluated are determined based on the yearly goal submitted by all teaching staff members at the beginning of an academic year). 5. Is the training evaluation or improvement committee or other relevant organization established? Inspectors (Department of training) are set up in which teaching staff from different departments are involved. In some cases, senior instructors can subject instructors to OJT. (The evaluation schedule is incorporated into the annual plan.)
Job placement	
<p>Support for employment and related matters</p>	<ol style="list-style-type: none"> 1. Is an internship program implemented? Generally, the internship program is implemented for 12 weeks at the beginning of the second year and the same number of weeks at the end of the 3rd year. Various contests including skill contests and international competitions are also carried out. Machining: The internship program involved 75 companies accepting 150 interns in 2013/2014. The names of the 75 companies are specified in the response sheet. (Japanese-affiliated companies included) (2nd year: 10 weeks, 3rd year: 8 weeks) Electricity: 55 interns and 16 accepting companies (Japanese companies includes Canon and Uniden): 2014 results

	<p>Electronics: Implements the program between May and July of the 3rd year (5 out of 14 accepting companies are Japanese-affiliated)</p> <p>2. Are companies visited or do graduates give lectures for current students? Machining: The responsible persons of the Enterprise Relation Office as well as teaching staff visit companies. (Some Japanese-affiliated companies like Canon are included.) Electricity / Electronics: Implement these (Japanese company: Canon).</p> <p>3. What kind of system is established to obtain and circulate job information? The responsible persons of the Enterprise cooperation Department and teaching staff have access to companies. Websites are also used. Job information received from companies is registered to the College database and posted on a message board. Since 2011, the “Enterprise cooperation Department” (6 staff members) has been responsible for job information in cooperation with faculties. Before then, each department managed company information.</p> <p>4. Is a career fair or job fair implemented? Machining: Reportedly holds Job Fairs (attended by approx. 50 companies) in collaboration with companies biennially before the internship program is implemented (some Japanese-affiliated companies are included). Electricity / Electronics: Holds fairs attended by 16 companies including Japanese-affiliated companies such as Canon and Uniden.</p> <p>5. Is a guidebook for employment support available? Available (the guidebook contains company information and is updated every January).</p> <p>6. Is career counselling provided? Provided during an interview prior to enrolment.</p> <p>7. Are employment situations managed? Employment situations are well identified. A College department called the “Enterprise cooperation Department” engages in management in cooperation with departments. The same system as CPA (HaUI) is being developed.</p> <p>8. What are the placement rates of the last 3 years? Machining: 2011-100%, 2012-100%, and 2013-100% Electricity: 2011-88%, 2012-100%, and 2013-100% Electronics: 2011-94%, 2012-100%, and 2013-100%</p> <p>9. Is there a database of companies? A database is developed containing those companies accepting graduates and candidate companies near the College. Around 200 companies are currently included, approx. 30 to 40% of which are Japanese-affiliated companies.</p> <p>10. Is there any other effort made that could be helpful for employment? Teaching staff introduce companies to students based on company information on a periodical basis.</p>						
Observation of Consultant							
<p>The college is located next to an industrial park where many Japanese enterprises operate and the college has strong connections with them for internship and employment. The management of colleges was replaced by young managers including the rector and deputy rectors, and the management is promoting actively the new method of management and training from HaUI. It is assumed that approval procedures and decision-making will take a long time since the college depends on MOLISA.</p>							
	<table border="1"> <thead> <tr> <th>Possible Risk</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td>General</td> <td>The neighbouring vocational institutions which will be increased may cause the problem of enrolment and coordination with enterprises. VCTT wishes to secure students and strengthen cooperation with companies through this ODA project and technical cooperation.</td> </tr> <tr> <td>Independence</td> <td>All procedures take longer compared to other colleges. Approval from MOLISA is necessary since the college is completely under the administration of MOLISA There is no specific countermeasure taken.</td> </tr> </tbody> </table>	Possible Risk	Countermeasure	General	The neighbouring vocational institutions which will be increased may cause the problem of enrolment and coordination with enterprises. VCTT wishes to secure students and strengthen cooperation with companies through this ODA project and technical cooperation.	Independence	All procedures take longer compared to other colleges. Approval from MOLISA is necessary since the college is completely under the administration of MOLISA There is no specific countermeasure taken.
Possible Risk	Countermeasure						
General	The neighbouring vocational institutions which will be increased may cause the problem of enrolment and coordination with enterprises. VCTT wishes to secure students and strengthen cooperation with companies through this ODA project and technical cooperation.						
Independence	All procedures take longer compared to other colleges. Approval from MOLISA is necessary since the college is completely under the administration of MOLISA There is no specific countermeasure taken.						
Independence	<p>All procedures take longer compared to other colleges. Approval from MOLISA is necessary since the college is completely under the administration of MOLISA</p> <p>There is no specific countermeasure taken.</p>						

04 Ba Ria-Vung Tau Vocational College (BRVTVC)

Name	Ba Ria-Vung Tau Vocational College
Address	1st Campus: Thanh Tan street, Dat Do Town, Dat Do District, Ba Ria - Vung Tau 2 nd Campus: No.78 Truong Cong Dinh Street, Ward 3, Vung Tau City
No. of Campus	3 Campus (Committee college will be integrated)
Governing agency	Ba Ria-Vung Tau PPC
Establishment	21th Aug. 1988
Department, Faculty, Course	7 Faculties

Organization Chart



Students

Enrolment at College Level: Actual /Targeted number of students	Machining 50/50, Electricity 108/100 (2013)
No. of Graduates Target : College Level	Machining 0, Electricity 26 (2013)
Evening course	Non-Existent
Future plan	Machining : 100 Whole college: 10% increase in the number of students per year

Teachers

No. of teachers	Machining 27, Electricity 32
Categorization/	Machining: Bachelor 23, Master 4 Electricity: Bachelor 25, Master 7

Training

Conduct of training in potential areas needed by companies	Machining: The needs of companies lie in machining and welding techniques. Electricity: PLC area (for Siemens and Mitsubishi for instance) Electronics: FPLC area (1) Status of training equipment (Machinery area) In the current building, the machining area consists of general-purpose machines, including 14 lathes, 3 vertical milling machines, 6 universal millers, 3 shaping machines, 1 sawing machine, 3 double-headed grinders, 1 surface grinding machine, 1 cylindrical grinding machine, 1 slotting
--	---

machine, 1 universal tool and cutter grinding machine, 1 tool grinder, 2 radial drilling machines, and 2 bench drilling machines. As for NC processors, there are 2 NC lathes, 3 MC machines (one for learning about structure), 1 wire cut electric discharge machine, and 1 engraving electric discharge machine. Since BRVTVC is planning to build a new building for the machinery college, we created a plan for installation of the machines in the new building. They already have 1 universal miller, 1 universal cylindrical grinding machine, and 2 radial drilling machines (equivalent to the upright drilling machine) installed, thus we omitted those from the JST's plan. The new building should be a very comfortable environment.

(Electricity and Electronics areas)

Photo 4-1 shows the sensor laboratory, where relatively new machines have been installed but in limited numbers. Photo 4-2 shows the power training room with large but old transformers. The training rooms are relatively large spaces. The main machines are for digital circuits, such as microcomputers. There are very few experimental or measurement devices for analog circuits.



Photo 4-1: Sensor Laboratory

Photo 4-2: Old transformers in the Power Training Room

(2) Status of training implementation
(Machinery area)

The 5S method is strictly implemented in the training rooms, including green painted concrete flooring and wide safety passages (Photo 4-3). All students wear work caps, work uniforms, protective glasses, and shoes (Photo 4-4). Additionally, they operate training in an efficient way with mobile work tables (Photo 4-3).





Photo 4-3: Lathe training

Photo 4-4: Plain milling machine training

(Electricity and Electronics areas)

As seen in Photo 4-5, plates bearing the name in Japanese of each workshop are hung at the entrances of training rooms, which shows their appreciation for Japan's support. The training room has desks in the center and PLC training devices at both sides. Lectures and practice are organically combined during training. Photo 4-6 shows students earnestly working on winding training for a transformer. The 5S method has produced great results in this school.

	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo 4-5: PLC Training Room</p> </div> <div style="text-align: center;">  <p>Photo 4-6: Training for winding transformer</p> </div> </div> <p>The Electronics course has been closed as there were very few applicants.</p> <p>Private companies such as Siemens and Mitsubishi, have a need for staff with PLC and microcomputer skills. The 5-level skills test administered by GDVT (General Department of Vocational Training) is very well known in this school and taken by students.</p>
Training Management	
<p>Training process management and related matters</p>	<ol style="list-style-type: none"> 1. How are the needs of companies collected? Machining: Communicates with companies and surveys them by means of questionnaires and when teaching staff visit companies. Electricity / Electronics: These departments as well as the Department of international enterprise relationship collect them 2. Are the needs of companies incorporated into training? Machining: Incorporates the needs of companies into training and changes the curriculum. Electricity / Electronics: Evaluate curriculums around June every year. 3. Procedure for updating the curriculum The curriculum is examined while discussing with companies and any necessity to change the curriculum is proposed to the College. Changes within 30% can be configured at the discretion of the College. Any changes beyond the limit require an application for DOLISA and MOLISA for approval. The standard curriculum is configured by GDVT. 4. How is training evaluated? The examinations for promotion/graduation are carried out in June (examinations are set by MOLISA). At least 50% of the questions must be answered correctly to pass the examinations. The criteria for evaluating the training are set by MOLISA. Currently, one member from a university as well as at least one member from a company must participate in a team for evaluation. 5. Is the training evaluation or improvement committee or other relevant organization established? Cameras for evaluation constantly monitor teaching staff. If students fail a class, appropriate actions may be taken including a reduction in the staff's salary according to the ratio of students who failed the class and supplementary classes may be provided to allow students to earn the credits. Each department has two committees set up: a "Teaching materials improvement committee" (all instructors) and a "Teaching materials verification committee" (head and deputy head of the College, Department of training and engineers from companies). Teaching materials are periodically revised, at least once a year and upon requests from companies.
Job placement	
<p>Support for employment and related matters</p>	<ol style="list-style-type: none"> 1. Is an internship program implemented? Machining: Provides the program to all students. Electricity / Electronics: Implements the program for 2 months in the 3rd year. 2. Are companies visited or do graduates give lectures for current students? Machining: Teaching staff visit companies during the internship program as part of their teaching tour. Electricity / Electronics: The responsible persons of the Department of International cooperation and Business relationship as well as teaching staff visit companies.

	<p>The Japanese-affiliated companies involved are YKK and KYOEI.</p> <p>3. What kind of system is established to obtain and circulate job information? The Department of International cooperation and Business relationship organizes the job information received from companies, selects students meeting the companies' needs, and introduces them to the relevant companies.</p> <p>4. Is a carrier fair or job fair implemented? Machining: Receives public relations for recruitment and internship notices from companies. Electricity / Electronics: Hold Job Fairs every August (two of the Japanese-affiliated companies attending are YKK and KYOEI).</p> <p>5. Is a guidebook for employment support available? Available. The guidebook contains the techniques required in preparation for works at a company.</p> <p>6. Is career counselling provided? Career counselling is provided by the Department of International cooperation and Business relationship. Instructors also actively involve themselves in the counselling. Interviews on software skills are instructed before practical trainings at companies (for 8 weeks each in the 2nd and 3rd years).</p> <p>7. Are employment situations managed? The College contacts graduates for 6 months following their graduation to check their employment situations. The "Job employment assistant group" (2 staff members under the control of the Department of International cooperation and Business relationship) engages in management and attempts to share data.</p> <p>8. What are the placement rates of the last 3 years? 2011 – 2012: Not applicable (The College level has not been established yet). 2013: 85% of the graduates are being tracked.</p> <p>9. Is the database of companies developed? The database is developed containing those companies accepting graduates and candidate companies near the College. The Department of International cooperation and Business relationship is responsible for development.</p> <p>10. Is there any other effort made that could be helpful for employment? Machining: Changes the curriculum to meet the needs of companies. Electricity/ Electronics: Practical training at companies in the 3rd year (for 2 months) A 3-day seminar to learn Japanese culture is held for those 3rd year students who are to be employed by a Japanese company.</p>				
Observation of Consultant					
<p>The college is being improved since the skill test and 5S is actively conducted. Evaluation of trainings in cooperation with the neighbouring universities and enterprises is conducted. In addition, the employment-supporting program is developed and provided especially for Japanese enterprises. Equipment by the project is necessary except for the equipment ready for new building.</p>					
	<table border="1"> <thead> <tr> <th>Possible Risk</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <p>General</p> <p>The college was originally established for intermediate level training and its management thinks that the intermediate level training is more in demand than the college level.</p> </td> <td> <p>It was confirmed that the college level training is in demand more than the intermediate level. The moulding course and the plating course at the college level will start in December 2014 and 2015 relatively. 70% of the enrolment in 2014 is for the college level and 30% is for the intermediate level. BRVTVC estimates the demand for college level training will get even higher due to the increase of new admissions to college every year.</p> </td> </tr> </tbody> </table>	Possible Risk	Countermeasure	<p>General</p> <p>The college was originally established for intermediate level training and its management thinks that the intermediate level training is more in demand than the college level.</p>	<p>It was confirmed that the college level training is in demand more than the intermediate level. The moulding course and the plating course at the college level will start in December 2014 and 2015 relatively. 70% of the enrolment in 2014 is for the college level and 30% is for the intermediate level. BRVTVC estimates the demand for college level training will get even higher due to the increase of new admissions to college every year.</p>
Possible Risk	Countermeasure				
<p>General</p> <p>The college was originally established for intermediate level training and its management thinks that the intermediate level training is more in demand than the college level.</p>	<p>It was confirmed that the college level training is in demand more than the intermediate level. The moulding course and the plating course at the college level will start in December 2014 and 2015 relatively. 70% of the enrolment in 2014 is for the college level and 30% is for the intermediate level. BRVTVC estimates the demand for college level training will get even higher due to the increase of new admissions to college every year.</p>				

05 Hanoi Vocational College of High Technology (HVCHT)

Name	Hanoi High Technology Vocational College (HHT)
------	--

	(Hanoi Vocational College of High Technology)
Address	Tay Mo Com- Tu Liem Dist, Hanoi City
No. of Campus	1 Campus
Governing agency	Hanoi PPC
Establishment	2010
Department, Faculty, Course	7 Faculties 18Courses
Organization Chart	
<pre> graph TD HanoiPPC[Hanoi PPC] --- CC[College Council] HanoiPPC --- CPC[Communist Party / Party Committee] HanoiPPC --- HHT[Hanoi Vocational College of High Technology] HHT --- Rector[Rector] Rector --- Association[Association] Rector --- Administration[Administration] Rector --- Faculty[Faculty] Rector --- Centre[Centre] Association --- TU[Trade Union] Association --- YG[Youth Group] Association --- SA[Student Association] Administration --- AO[Administration Organization Dept.] Administration --- LC[Library Centre] Administration --- TD[Training Dept.] Administration --- FAD[Financial Accounting Dept.] Administration --- AD[Administration Dept.] Administration --- SRC[Scientific research and International Cooperation] Administration --- WSP[Working Student - Pupil] Faculty --- FIT[Faculty of Information Technology] Faculty --- FFL[Faculty of Foreign Languages] Faculty --- FBT[Faculty of Beauty Therapy] Faculty --- FB[Faculty of Basics] Faculty --- FM[Faculty of Machining] Faculty --- FE[Faculty of Economics] FIT --- FIT_L["• Graphic Designs • Software Technology • Network Administration"] FFL --- FFL_L["• Korean Language Centre"] FBT --- FBT_L["• Beauty Therapy • Hair Design"] FM --- FM_L["• Mechanical Manufacturing • Electromechanic • Computerized Drawing and Design • Soldering"] FE --- FE_L["• Accounting • Business Administration"] Centre --- HHTI[HHT Information] Centre --- DC[Dormitory Centre] Centre --- EQAC[Examination & Quality Association Centre] FIT --- FIT_C["Centre of Technological Application and Transference"] FIT_C --- FIT_C_L["• Industrial Electricity • Industrial Electronics • Computer Assembling and Repairing"] FIT_C --- FIT_C_C["Centre of Technological Application and Transference"] FIT --- FIT_C FIT --- FIT_C FIT --- FIT_C </pre>	
Students	
Enrolment at College Level: Actual /Targeted number of students	Machining 240/200, Industrial Electricity207/220, Industrial Electronics180/185 (2014)
No. of Graduates Target : College Level	Machining 89, Industrial Electricity130, Industrial Electronics102 (2014)
Evening course	Non-Existent
Future plan	Industrial Electricity: 250 (2015), 300 (2016), 400 (2017) Industrial Electronics: 250 (2015), 300 (2016), 400 (2017) Machining: n/a
Teachers	
No. of teachers	Machining 18, Industrial Electricity 12, Industrial Electronics 13
Categorization/	Machining: Bachelor 12, Master 5, Doctor 1 Industrial Electricity: Bachelor 7, Master 5 Industrial Electronics: Bachelor 9, Master 2, Doctor 2
Training	
Conduct of training in potential areas needed by companies	Machining: A high quality and high accuracy production technique is needed in anything to do with machining. Electricity: New energy source and PLC areas Electronics: FPGA, PLC, and microcomputer areas (1) Status of training equipment (Machinery area) The machining area consists of general-purpose machines, including 10 lathes, 10 vertical milling machines, 4 universal millers, 2 sawing machines, 3 double-headed grinders, 4 surface grinding machines, 2 cylindrical grinding machines, 2 gear hobbing machines, 1 universal tool

and cutter grinding machine, 1 tool grinder, 2 radial drilling machines, 2 bench drilling machines, 1 shearing machine (for thin sheets), and 1 press brake. As for NC processors, there are 2 NC lathes, 2 MC machines, 1 wire cut electric discharge machine (with slot processing machine), 1 engraving electric discharge machine (Photo 5-1), and 1 laser beam machine (Photo 5-2). As is evident, HVCHT has a variety of machines (mostly Taiwanese).

Since HVCHT is a new college opened in 2008, the machines are fairly new. However, the training room on the 1st floor suffers from significant land settlement damage. The grinding machine and the engraving electric discharge machine are placed on the spot where there is the largest slope (Photo 5-1).

The accuracy of products is guaranteed when they are processed with machines placed on flat surfaces. In the current situation, instructors have to check the flatness, either every week or with every use, and they say they are actually doing so. However, as shown in Photo 5-1, the anchor bolts of the engraving electric discharge machine are not set flat. Checking the horizontalness of all machines with a leveling instrument is a time-consuming task (e.g. a lathe should be within 0.05mm per 1m), but it is necessary to maintain the accuracy of products. Especially since HVCHT is putting a lot of effort toward the skills test, the horizontalness of machines should be confirmed before tests (including graduation examinations).

The floor should be repaired as soon as possible so that such troublesome work can be avoided and new machines should be installed after the repair work. If new machines are installed on the repaired floor together with the current machines, it is expected that the distortion and slope of the machines will be checked.



Photo 5-1: Engraving electric discharge machine
(Electricity and Electronics areas)



Photo 5-2: Laser beam machine

There are only a few basic machines, such as a semiconductor experiment device, an analog circuit experiment device, and a digital circuit experiment device, while the PLC machines, which hold a higher significance in terms of corporate need, are in a better condition. Photo 5-3 shows the instructor's self-made one-board microcomputer, which is used in training. They also use an original stabilized power source, which shows the instructors' proactive attitude toward training. A solar power system, donated by a Japanese company, allows students to learn the process that converts DC into AC using the solar panels on the roof and delivers it to the power line (Photo 5-4).



Photo 5-3: One-board microcomputer
(the instructor's original)



Photo 5-4: Power conditioner of the solar power
system

(2) Status of training implementation
(Machinery area)

There are a lot of processors and experiment devices which offer appropriate training levels for a vocational college. Training includes production tasks, which are equivalent to graduation work at Japanese colleges, and mold building skills. They offer advanced technologies, such as applying skill test tasks to practical tasks. Students take the level two of the skills test despite the graduation requirements being only level 3. In this way, HVCHT is committed to developing advanced-level technicians.

(Electricity and Electronics areas)

Photo 5-5 shows home appliance repair work training. Students work earnestly but they are not wearing work uniforms or safety equipment and tools are limited in number. Photo 5-6 shows an X-Y table under the instructor's development, which serves as good material for students to learn principles and behaviors. HVCHT has many young and motivating instructors and they achieve great results at the Robokon competitions that take place domestically and abroad every year.



Photo 5-5: Home appliances repair training

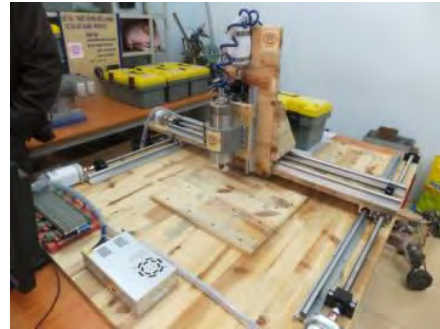


Photo 5-6: X-Y table under development

Private companies have a great need for workers with skills in new energy sources, PLC, FPGA, and microcomputers. HVCHT is positive for the skills test. Some students have already passed level three of the JAVADA Test (Lathe). In the electricity and electronics area, they achieved the first prize in the mechatronics section of the Asia Skill Olympics, though it was the result of intensive training for selected students only.

Training Management

Training process management and related matters

1. How are the needs of companies collected?

Machining: The needs of companies are collected by CER (Company of Enterprise Relations) from companies.

Electricity: Questionnaires are used or instructors visit companies when a student is doing an internship.

Electronics: The Enterprise partnership Division, a College organization, collects them in cooperation with instructors.

2. Are the needs of companies incorporated into training?

Machining: Collects the needs of companies every year and checks courses. It also changes the contents of courses little by little according to the needs collected (e.g.: The practical training on NC lathe machining was changed to that on machining with the NC lathe and machining centre).

Electricity / Electronics: Consider needs every year.

3. Procedure for updating the curriculum

Teaching staff prepare the curriculum outline, which is then proposed to the department to work out details.

Companies are invited for explanations. When consented, the updating is proposed to the director of the College for approval.

*Revision is made in July (at the end of an academic year). Generally, students enrol in September and graduate in July. An academic year consists of 2 semesters. The College offers 3-year courses.

4. How is training evaluated?

Training is evaluated by GDVT every year (evaluation by Inspectors).

A College organization "Office of Training" (consisting of instructors, company representatives and academic experts) leads the evaluation of courses.

5. Is the training evaluation or improvement committee or other relevant organization established?

There is an improvement committee (Office training quality Control).

Job placement	
Support for employment and related matters	<p>1. Is an internship program implemented? Machining: Implements the program for a week (25 hours) in the 2nd year and 16 weeks (640 hours) in the 3rd year (some students complete the program in the College) The internship program involved 75 companies accepting 150 interns in 2013/2014. Electricity / Electronics: Implements the 8-week program twice in the 3rd year. The result by department: 22 companies in 2012 (including 4 Japanese-affiliated companies: Thang Long Industrial Park including Uniden, Canon, Panasonic and Sony)</p> <p>2. Are companies visited or do graduates give lectures for current students? Machining: Visits companies (provides teaching tours during the internship program). In some cases, teaching staff accompany students to assist them. Some Japanese-affiliated companies are included. No training is provided by graduates. Electricity/ Electronics: Visit companies and provide lectures by graduates.</p> <p>3. What kind of system is established to obtain and circulate job information? Job fairs are carried out, Websites and Facebook are used. The College CER makes a request of recruitment to companies so that employment opportunities are provided from those companies. The department of student affairs releases job-offer slips and other information.</p> <p>4. Is the carrier fair or job fair by company implemented? Machining: Job Fairs are held once a year (at the graduation ceremony) where a number of companies provide their information sessions. Some Japanese-affiliated companies are also included (40 companies in 2013). Electricity / Electronics: Implement Job Fair between May and June before graduation.</p> <p>5. Is a guidebook for employment support available? Available: Companies distribute the guidebook along with recruitment guidelines. The department of student affairs releases job-offer slips and other information. Facebook is also made use of.</p> <p>6. Is career counselling provided? Career counselling is provided by the CER (Enterprise Partnership Department; 3 staff members). Teaching staff of each department also provide counselling to students (how an appropriate course should be selected is instructed at the time of enrolment). Interviews on software skills are instructed before practical trainings at companies (for 8 weeks each in the 2nd and 3rd years).</p> <p>7. Are employment situations managed? Employment situations are identified. Employment is supported by CER. To identify employment situations, information is collected from companies. The “Student Management Office” manages students’ employment situations.</p> <p>8. What are the placement rates of the last 3 years? Machining: 2011-100%, 2012-100%, and 2013-100% Electricity: 2011-N.A., 2012-87.6%, and 2013-85.7% Electronics: 2011-N.A., 2012-81.7%, and 2013-81.5%</p> <p>9. Is the database of companies developed? The database is developed by CER (containing produce, development, day of graduate, etc.). The College committee called the Enterprise Partnership Department (3 staff members) is responsible for developing the database. The database is controlled in the internship section. Around 300 companies are allied, 36 of which are Japanese-affiliated companies. The College has entered into an agreement with approx. 60 companies.</p> <p>10. Is there any other effort made that could be helpful for employment? Activities of the college are introduced via mass media as public relations for instance the victory in the Asian Skill Olympic Games and the successful experiences of graduates in companies.</p>
Observation of Consultant	
<p>The college has an original innovative management through employment of high-quality teachers, enough number of students and coordination with enterprises.</p> <p>The college established a strong relationship with enterprises including Japanese enterprises with their support of equipment and human resource development.</p>	

Skill level is high since the second grade of JAVADA is used in the graduation examination. The third grade of JAVADA is used for the graduation examination in Japan.		
	Possible Risk	Countermeasure
Student	The admission examination is unique. The college allows high-achieving students to enrol based on the criteria. The reputation of the college will go up as an elite vocational college. However, it may be deemed discriminatory against the concept of open vocational college.	No specific countermeasures taken by HVCHT. Observation by the survey team: Monitoring is necessary to evaluate whether the issue mentioned in the left is a positive feature of the VC or negative risk. Depending on the situation, it is necessary to reconsider student recruitment method.
Equipment	Processing accuracy cannot be maintained due to land subsidence.	PPC issued the letter regarding acceleration of rehabilitation against land subsidence on Nov. 6, 2014. Two countermeasures against the land subsidence were presented in the inspection report (ref. Annex-15). In April 2015, the proposal on fixing the damages due to land subsidence has been submitted by HVCHT to the People's Committee (81 billion VND). Following the revision in urban development method, the construction guideline for this project will also be changed, thus approval is planned to be issued after this revision. Completion is planned within 2016

06 Vinh Phuc Vocational College (VPVC) ¹

Name	Vinh Phuc Vocational College (Vietnam-German Vocational College)
Address	1 st Campus : Nguyen Tat Thanh Str. Lien Bao Ward, Vinh Yen City, Vinh Phuc Province 2 nd Campus : Building B is in Chu Van An Street - Lien Bao Ward - Vinh Yen city - Vinh Phuc Province
No. of Campus	2 Campus
Governing agency	Vinh PhucPPC
Establishment	2000 (2007 as college)
Department, Faculty, Course	8 Faculties 2functioning course
Organization Chart	

¹ The name of the college was officially changed by the “DECISION 1335-QD-BLDTBXH (October 15 2014)”, refer to the Annex-13.

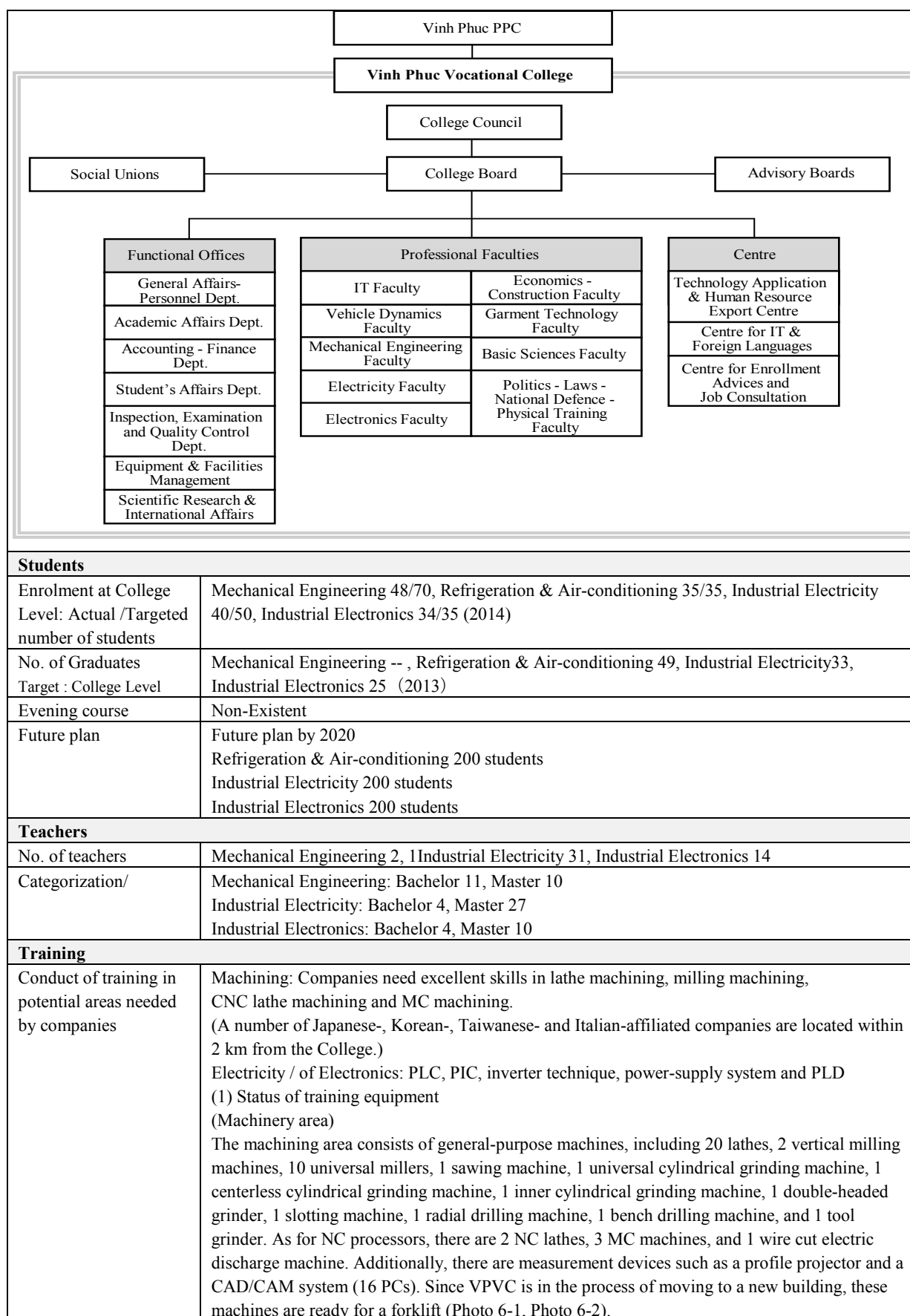




Photo 6-1: Universal miller 1



Photo 6-2: Universal miller 2

(Electricity and Electronics areas)

Machines are being moved to a new training room. The old training rooms are too small and devices for experiments and training on digital and analog circuits, as well as measurement devices, are limited in number and mostly outdated. The machines are not well maintained. The 5S method should be strictly implemented (Photo 6-3, 6-4).



Photo 6-3: PCs are not organized



Photo 6-4: New Training Room in preparation

(2) Status of training implementation

(Machinery area)

They are making an earnest effort to improve the skill level of students. Students are taking the MC skills test and instructors are taking a three-month training to become judge members. This proactive attitude in relation to the skills test is probably the result of demands from companies located near the school. Advanced-level training allows students to find employment in good companies and the school itself to receive a higher evaluation. The school is committed to the development of competent technicians.

(Electricity and Electronics areas)

Breadboards are used for electronic circuit experiments (Photo 6-5). Compared to a plug-in panel device, it takes longer to set up a circuit while paying attention to the parts configuration and wiring connection, but it is a very effective training method. Electronic parts stored in plastic cases (as shown in Photo 6-6) should be reorganized using a cabinet like the one shown in Photo 6-7 (Kyushu Polytechnic College).



Photo 6-5: Breadboard experiment



Photo 6-6: Electronic parts

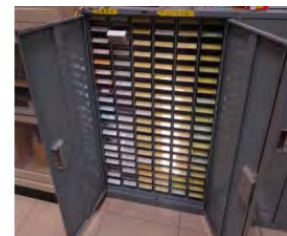


Photo 6-7: Cabinet for electronic parts

Private companies have a great need for workers with skills in PLC, microcomputer, PLD, inverter technology, and power supply systems. While the machinery area is actively participating for the skills test, the electricity and electronics areas have little recognition.

Training Management	
Training process	1. How are the needs of companies collected?

<p>management and related matters</p>	<p>Machining: The Centre of Technology Application and Labour Export manage them in an integrated manner. Teaching staff also obtain information during his/her teaching tour. Electricity / Electronics: Obtain information from companies (when visiting them)</p> <p>2. Are the needs of companies incorporated into training? Machining: Makes efforts for increasing the number of hours for NC machining and CAD/CAM within 30% of the total training hours. Electricity/ Electronics: incorporate the needs.</p> <p>3. Procedure for updating the curriculum The curriculum updating conforms to the GDVT provisions where the needs of companies are surveyed to develop and propose the suitable curriculum to the College for approval (around a year is required for approval).</p> <p>4. How is training evaluated? All trainers are required to participate in the Teaching Competition once a year. Inspectors may review an open class with a specified date or conduct a surprise inspection of classes. Evaluation takes place between June and August followed by examination by relevant committees.</p> <p>5. Is the training evaluation or improvement committee or other relevant organization established? The committees are set up in the Centre of Technology Application and Labour Export. Inspection, Quality, Assistance and Skills Assessment Department (consisting of 5 staff members) has been established. The Skills Assessment Centres (two centres are set up in Vietnam, one of which is located in Hanoi) are established to evaluate instructors and students in Hanoi.</p>
<p>Job placement</p>	
<p>Support for employment and related matters</p>	<p>1. Is an internship program implemented? Machining: All students have 3 months internship program right before graduation. 90% of the students are directly employed by their internship company after graduations. Some Japanese-affiliated companies are included in the companies that receive interns and that hire some graduating students. Electricity / Electronics: Implement the program for 3 months from the beginning of Semester 2, i.e. March in the 3rd year. Some Japanese-affiliated companies accepting interns include Canon, SHOWA and Nissin.</p> <p>2. Are companies visited or do graduates give lectures for current students? Machining: Visit companies as part of teaching tours during the internship program. Some Japanese-affiliated companies are included. Electricity / Electronics: A College organization called the Centre for apply technology and Labour export is responsible for these.</p> <p>3. What kind of system is established to obtain and circulate job information? The Centre of Technology Application and Labour Export (established in 2007) manages the information in an integrated manner. Websites are available to establish the system not only providing the College information but also allowing students to obtain job information.</p> <p>4. Is the carrier fair or job fair by company implemented? Job fairs are held by the Centre of Technology Application and Labour Export once a year (July or August) and by companies as needed.</p> <p>5. Is a guidebook for employment support available? Available: the Centre of Technology Application and Labour Export manages and handles the guidebook.</p> <p>6. Is career counselling provided? The Centre of Technology Application and Labour Export provides counselling in an integrated manner. Teaching staff also provide counselling to the students of each department as appropriate.</p> <p>7. Are employment situations managed? Employment situations are managed by the Centre of Technology Application and Labour Export in an integrated manner three months following students' graduation. Since 2003, GDVT and the German government have required the employment situations of graduates to be managed.</p>

	<p>8. What are the placement rates of the last 3 years? Machining: 2011-172/186 (92%), 2012-94/99 (95%), and 2013-101/101 (100%) Electricity: 2011-112/122 (92%), 2012-61/64 (98%), and 2013-45/46 (98%) Electronics: 2011-N.A., 2012-15/15 (100%), and 2013-32/32 (100%)</p> <p>9. Is the database of companies developed? There is a responsible department for developing the database. The database is developed containing those companies accepting graduates and candidate companies near the College. 34 companies are related to the departments, 10 of which are Japanese-affiliated companies.</p> <p>10. Is there any other effort made that could be helpful for employment? A website is provided to allow students to obtain job information. (Job offers from companies sent by e-mails are accepted and reflected on the website.) Companies visit the College and provide information sessions as needed.</p>				
Observation of Consultant					
<p>The college has an advantage to secure places of employment for the students due to its location near several industrial areas. 40% of the enterprises in cooperation are related to automobile industry. 44% of students are in the faculty of automobile technology. The college recognizes that it is not easy to have a sufficient enrolment for the metal cutting course due to the perception of hard training and hard working conditions. (Enrolment for the metal cutting course was 60-68% of the target in the past 3 years)</p> <p>The college has quickly dealt with the merger with the neighbouring school (Aug. 2008), the change of college name (Oct. 2014) and the transfer of asset from the merged school.</p> <p>Equipment for electronics is not enough even with the support from Germany completed 3 years ago. Equipment is not well operated and managed. The tools and jigs are not sufficient. The model of television and home electronics is well developed with ingenuity.</p>					
	<table border="1"> <thead> <tr> <th>Possible Risk</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <p>Student</p> <p>Shortage of enrolment for the faculty of mechanical engineering</p> </td> <td> <p>Although the number of enrolled student for the metal cutting course in 2014 was about 68% of the standard number of students for one class, there were 48 students in the course, which was enough students from the viewpoint of training operation.</p> </td> </tr> </tbody> </table>	Possible Risk	Countermeasure	<p>Student</p> <p>Shortage of enrolment for the faculty of mechanical engineering</p>	<p>Although the number of enrolled student for the metal cutting course in 2014 was about 68% of the standard number of students for one class, there were 48 students in the course, which was enough students from the viewpoint of training operation.</p>
Possible Risk	Countermeasure				
<p>Student</p> <p>Shortage of enrolment for the faculty of mechanical engineering</p>	<p>Although the number of enrolled student for the metal cutting course in 2014 was about 68% of the standard number of students for one class, there were 48 students in the course, which was enough students from the viewpoint of training operation.</p>				

07 Da Nang Vocational Training College (DNVC)

Name	Da Nang Vocational College
Address	99 To Hien Thanh – Son Tra, Da Nang
No. of Campus	1 Campus
Governing agency	Da Nang PPC
Establishment	1976 (2007/as college) Da Nang Economics – Technology School is establishment at first.
Department, Faculty, Course	9 Faculties

Organization Chart	
Students	
Enrolment at College Level: Actual /Targeted number of students	Industrial Electricity 169/80, Industrial Electronics 36/40, Civil Electronics 37/40, Installation of electricity and industrial control 29/50, Mechatronics 47/55 (2014)
No. of Graduates Target: College Level	Industrial Electricity -- , Industrial Electronics 32, Civil Electronics -- , Installation of electricity and industrial control -- , Mechatronics -- (2014)
Evening course	Non-Existent
Future plan	Future plan: Industrial Electronics — 35 Mechatronics Faculties — 50 Welding — 30 Automotive technology — 170 Metal cutting — 50 Industrial power — 185 Electrical installation and industrial control — 35 Consumer electronics — 70
Teachers	
No. of teachers	Industrial Electricity - Industrial Electronics 24
Categorization	Industrial Electricity - Industrial Electronics: Bachelor 16, Master 8

Training	
<p>Conduct of training in potential areas needed by companies</p>	<p>Machining: The curriculum is currently being developed to launch the course in 2015, 30% of which the College can develop it by itself is to satisfy the needs of companies. Therefore, those students participating in internship are asked to provide accepting companies with questionnaires to collect the needs of companies. The questionnaires are distributed through the students belonging in Refrigeration Electrical Engineering. In addition, the Dept. of student affairs started interviews with companies.</p> <p>Electricity: PIC and industrial wiring areas Electronics: PIC areas</p> <p>(1) Status of training equipment (Electricity and Electronics areas)</p> <p>Photo 7-1 shows an original experiment device for semiconductor power element. DNVC is very active in preparing original machines if theirs are limited in number. Photo 7-2 shows the indoor training booth for electric work. Basic experiment devices or analog circuit experiment devices are very limited in both type and number.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Photo 7-1: Original experiment device for semiconductor power element Photo 7-2: Indoor training booth for electric work</p> <p>(2) Status of training implementation (Electricity and Electronics areas)</p> <p>Photo 7-3 shows an original CNC milling machine. Photo 7-4 shows training on creating a DC stabilized power supply. Students are working in groups of 6 people due to the limited number of devices.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Photo 7-3: Original CNC milling machine Photo 7-4: Group learning</p> <p>Private companies have a great need for workers with microcomputer and Industrial wiring skills. While the machinery area is active with the skills test, the electricity and electronics areas place a higher priority on skills competitions.</p>
Training Management	
<p>Training process management and related matters</p>	<ol style="list-style-type: none"> 1. How are the needs of companies collected? Companies are visited around the time of internships to survey their needs. 2. Are the needs of companies incorporated into training? An example includes a revision where the monitor repair is eliminated and CNC control is incorporated. 3. Procedure for updating the curriculum The curriculum is updated at the time of enrolment/graduation. The review committee in the College is consulted for approval. 4. How is training evaluated?

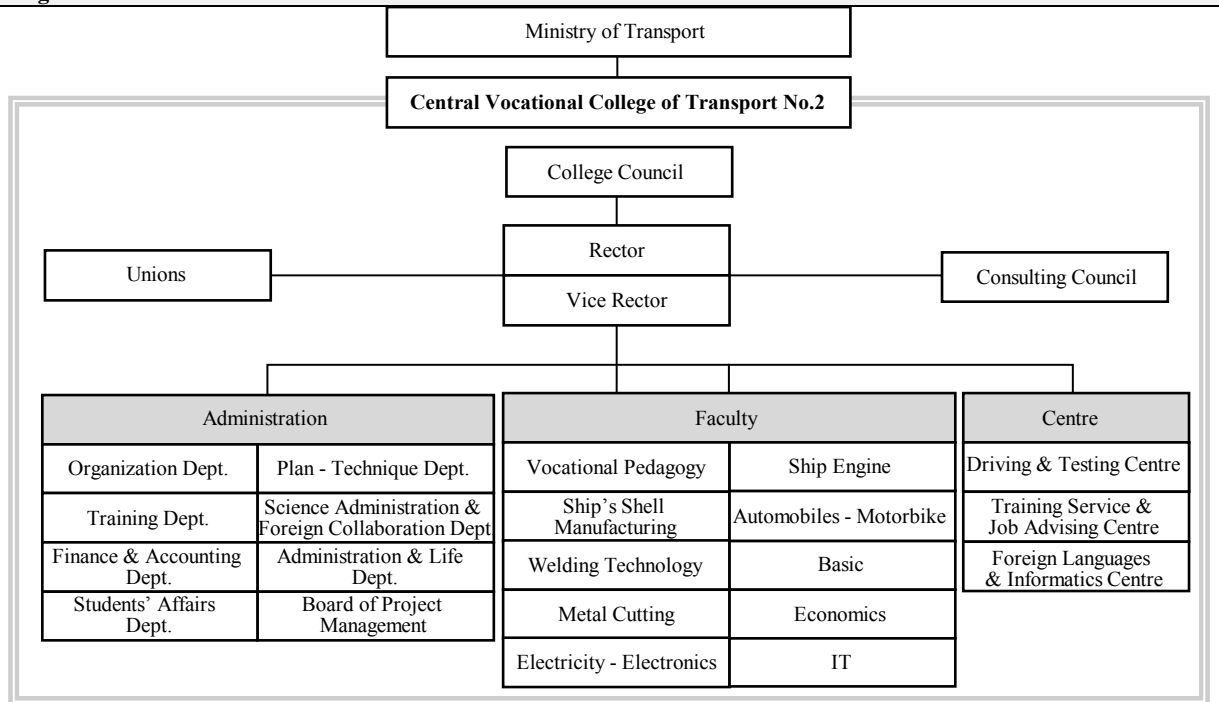
	<p>The Training Department evaluates training. Instructors are evaluated with regard to the preparation for training, training skills/knowledge and training methods, and by means of GDVT evaluation.</p> <p>5. Is the training evaluation or improvement committee or other relevant organization established?</p> <p>The Training Department and the dean of each department are responsible for evaluation and improvement of training. In addition, the Review and acceptance committee is set up as appropriate to evaluate and improve teaching materials.</p>	
Job placement		
Support for employment and related matters	<p>1. Is an internship program implemented?</p> <p>The program is implemented by the Training Division in cooperation with teaching staff.</p> <p>2. Are companies visited or do graduates give lectures for current students?</p> <p>The response to the questionnaire includes a list of companies, some of which seem to be Japanese-affiliated companies although not fully sure.</p> <p>3. What kind of system is established to obtain and circulate job information?</p> <p>The website is available: http://vtc.vn/%C4%90%E1%BB%93ng-Nai.tag.html</p> <p>4. Is the carrier fair or job fair by company implemented?</p> <p>Students participate in the job fairs (several times a year) hosted by People's Committee in addition to the job fair hosted by the College.</p> <p>5. Is a guidebook for employment support available?</p> <p>The teaching materials for software skills can also serve as a guidebook for employment support.</p> <p>6. Is career counselling provided?</p> <p>A U.S. NGO has provided career counselling since June 2014. The College also benefits from support from Youth Union Da Nang city.</p> <p>7. Are employment situations managed?</p> <p>The college has collaborated with the Da Nang Information Resource Centre for the college staff and students to make use of resources and documents. Updating once every 3 months is required.</p> <p>8. What are the placement rates of the last 3 years?</p> <p>Department of Machining: 2011-68%, 2012-70%, and 2013-65% Department of Electricity: 2011-85.8%, 2012-75%, and 2013-70%</p> <p>9. Is the database of companies developed?</p> <p>Developed.</p> <p>10. Is there any other effort made that could be helpful for employment?</p> <p>Not applicable.</p>	
Observation of Consultant		
<p>The college has a reputation as the best vocational college in the middle region of Vietnam. There are many students since the access to the college from the city is easy and the college is located near several industrial areas.</p> <p>The number of students is 2-3 times greater than the target approved by GDVT and the college is operated in 3 shifts. The third shift is from 18:00 to 22:00 so the training condition seems inappropriate because this is too late for proper studying and optimum intellectual activity.</p> <p>The college will receive CNC through an ADB project in April 2015 (The JST obtained the list and specification of equipment to be procured by the ADB project) (ref. Annex-18).</p> <p>The college will develop the facilities and equipment, and conduct the training of trainers from 2015 in accordance with the master plan including the location of equipment by JICA project. The master plan was evaluated by the PPC in December 2014. If the deliberation on the master plan takes a long time, necessary work will begin prior to the final approval of the master plan.</p> <p>The workshop will be expanded from 200 m² to 600 m² by demolishing the existing building. The expansion is planned to be completed in April 2015 even the work has not started yet. Existing equipment seems to be more than 10 years-old. The workshop needs some electrical distribution work.</p>		
	Possible Risk	Countermeasure
Student	Inappropriate training conditions due to excessive enrolment (inappropriate ratio of students to facilities and teachers)	According to DNVC, there's a plan to expand its student capacity, though there has been no corrective action regarding this in the last 3 years. However, facility improvement and GDVT's approval are necessary to expand a school's capacity.
Master plan	In case the master plan is not implemented, the	There has been no specific countermeasure

	equipment will be installed in the existing building. The plan for the existing equipment (disposal or transfer) is not sure.	taken. The survey team advised the college to develop a plan for the existing equipment and the installation of new equipment if the MP is not conducted as planned, and DNVC understood..
Equipment	Duplication of equipment by ADB Installation place of equipment in consideration of ADB equipment.	Confirmation of the duplication of equipment





08 The Central Vocational College of Transport No.2 (CVCT)



Name	The Central Vocational College of Transport No. 2
Address	Hong Thai Commune, An Duong District, Hai Phong City
No. of Campus	1 Campus
Governing agency	Ministry of Transport (MOT)
Establishment	1965 (2007 as College)
Department, Faculty, Course	14 Faculties

Organization Chart



Students	
Enrolment at College Level: Actual /Targeted number of students	Industrial Electricity 90/170, Welding Technology 17/200, Metal Cutting 10/60 (2013)
No. of Graduates Target : College Level	Industrial Electricity 130, Welding Technology 26, Metal Cutting 16 (2013)
Evening course	Non-Existent
Future plan	Future plan (2015) Machining 195 Industrial Electricity 221 Future plan (2016) Machining 245 Industrial Electricity 288 Future plan (2017) Machining 322 Industrial Electricity 315

Teachers	
No. of teachers	Metal Cutting : 9, Industrial Electricity : 19
Categorization/	Metal Cutting : Bachelor 2, Master 7 Industrial Electricity : Bachelor 6, Master 10, Doctor 3
Training	
Conduct of training in potential areas needed by companies	<p>Machining: Lathe machining and milling machining (precision machining) A number of companies located in Nomura Industrial Zone regularly make job offers.</p> <p>Electricity: PLC area</p> <p>(1) Status of training equipment (Machinery area)</p> <p>The machining area consists of general-purpose machines, including 15 lathes, 1 vertical milling machine, 1 universal miller, 1 sawing machine, 3 double-headed grinders, 1 shaping machine, 1 surface grinding machine, 1 slotting machine, 3 radial drilling machines, and 1 upright drilling machine. All of these machines are outdated, an example of which is the Japanese lathe (1967 model) (Photo8-1, Photo 8-2). As for NC processors, there are 2 NC lathes (2006 model and 2011 model), and 1 MC machine (2013 model). There is also a CAD/CAM system (27 PCs). Therefore, all general-purpose machines in the JST’s plan need to be introduced. The 2006 model NC lathe and the CAD/CAM system should also be replaced.</p> <p>A new building is under construction, which is already half done and expected to be fully completed soon. All machines are to be installed in the training room on the 1st floor when construction is over.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo 8-1: Lathe Training Room</p> </div> <div style="text-align: center;">  <p>Photo 8-2: Milling Machine Training Room</p> </div> </div> <p>(Electricity and Electronics areas)</p> <p>Electronics is not offered at this school. Since there are shipbuilding companies around the school, there are many training devices for ship outfitting. Photo 8-3 shows a basic electricity training machine. Photo 8-4 shows sensor training. Students use the instructor’s self-developed water level sensors.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo 8-3: Basic electricity training devices</p> </div> <div style="text-align: center;">  <p>Photo 8-4: Sensor training devices</p> </div> </div> <p>(2) Status of training implementation (Machinery area)</p> <p>The machines are old but still operational as they are well maintained and carefully used. The 5S method is strictly implemented and school buildings are also well organized (cleaning checks by all students before and after classes). Unfortunately, students wear only protective glasses during training, and do not wear safety cap or protective shoes (the school needs to decide who covers the cost: students or school). Training classes are appropriate for a technical college. For instance students select a local issue and work on a production task in that area.</p> <p>(Electricity and Electronics areas)</p>

	<p>Photo 8-5 shows the PLC training room where tables are placed in the center and the training devices are on both sides. Trainings organically combine lectures and practical learning. Photo 8-6 shows motor assembly training and conduction experiments in the power application training room. Desks are very small and there are bottles of drinking water. Food and drink should be prohibited in order to create a better working environment and keep the equipment in good conditions.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Photo 8-5: PLC Training Room Photo 8-6: Motor assembly and conduction experiment</p> <p>Private companies have a great need for workers with the ability to use new technologies for ship outfitting. Students take the skills test administered by GDVT.</p>
Training Management	
<p>Training process management and related matters</p>	<ol style="list-style-type: none"> 1. How are the needs of companies collected? Teaching staff visit companies and collect the needs. [Centre of Admission and Job Introduction] collects the needs in collaboration with companies. 2. Are the needs of companies incorporated into training? The needs are reflected in training (the number of hours of course study is reduced but the duration of practical training increases). 3. Procedure for updating the curriculum Major revisions are made once every 3 years (within 30% of the entire curriculum). Teaching staff develop the curriculum and lesson plans according to the needs of companies collected and submit them to the College. The dean determines whether they are appropriate, and submit them to [community & verification] for approval. When approved, the result is submitted to GDVT (takes up to 6 to 12 months). 4. How is training evaluated? The open class is reviewed by Inspectors as well as surprise class reviews. Trainers participate in class competitions hosted by the College and Hai Phong City Government. 5. Is the training evaluation or improvement committee or other relevant organization established? The Training office [Administration & Organization] is set up. The Review and Acceptance of Teaching materials (9 staff members) are formed as needed under the control of the Scientific Management and Foreign Department (6 staff members).
Job placement	
<p>Support for employment and related matters</p>	<ol style="list-style-type: none"> 1. Is an internship program implemented? The program is implemented for 3 months in the 3rd year (some companies want to implement the program for the 2nd year students). Every year, the college organizes internship enabling students to experience the realities of business in order to improve the quality of training. Some accepting companies include Daimen-SongCam shipbuilding company, LISEMCO2 joint-stock company, LISEMCO5 joint-stock company, and Mong Duong Thermal Power Plan 2. Are companies visited or do graduates give lectures for current students? Companies are visited by teaching staff (some Japanese-affiliated companies are included). <ol style="list-style-type: none"> (1) Dong A industrial shipbuilding joint-stock company (2) IRE Investment and human resource development Co.Ltd (3) Damen- Song Cam joint-stock company (4) LISEMCO joint-stock company (5) LISEMCO2 joint-stock company 3. What kind of system is established to obtain and circulate job information?

	<p>Teaching staff visit companies during the internship program. With expert knowledge and practical skills of school students after graduation, college graduates meet the needs of the domestic labour market (in domestic and international companies). In fact, every year the school provides hundreds of workers to businesses throughout the country and for labour export markets such as South Korea and Japan, with a steady income from 5-15 million Vietnamese dong per month.</p> <p>4. Is the carrier fair or job fair by company implemented? Job Fairs are held in collaboration with companies and sponsored by the GDVT and Hai Phong City Government. Some Japanese-affiliated companies participate.</p> <p>5. Is a guidebook for employment support available? Available (Department of Student).</p> <p>6. Is career counselling provided? The Centre of Admission and Job Introduction (supported by 5 teaching staff members) provides career counselling.</p> <p>7. Are employment situations managed? Area employment situations identified? (Teaching staff identify them.) In what way are employment situations identified? (Teaching staff visit companies and verify the situations following graduation.) Data is updated once every 3 months following graduation.</p> <p>8. What are the placement rates of the last 3 years? Machining: 2011-100%, 2012-100%, and 2013-100% Electricity: 2011-60%, 2012-60%, and 2013-60%</p> <p>9. Is the database of companies developed? The Centre of Admission and Job Introduction develops the database. There are 15 to 20 key companies, 3 of which are Japanese-affiliated companies.</p> <p>10. Is there any other effort made that could be helpful for employment? Not applicable</p>				
Observation of Consultant					
<p>Number of enrolment in the past 3 years has been decreasing especially for the machining due to the economic crisis in 2011 and 2012. Meanwhile, the enrolment for the electricity has not been affected so much. The equipment for welding and electricity was provided by the support from ADB in 2009. The college prepared the equipment list and specifications. The procurement schedule has not been share with the college so they do not know when they will receive the equipment.</p>					
	<table border="1"> <thead> <tr> <th>Possible Risk</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td>Student</td> <td>Shortage of enrolment for the machining course. Although the number of students that enrolled in 2013 was 10, the number of students that graduated was 17, which was about 89% of the standard number of students for one class. In addition, the target number of students that will enrol in 2015 is 195 and in 2016 is 245, which shows high motivation to secure the students. It is expected the number of enrolled students will be increased in the future</td> </tr> </tbody> </table>	Possible Risk	Countermeasure	Student	Shortage of enrolment for the machining course. Although the number of students that enrolled in 2013 was 10, the number of students that graduated was 17, which was about 89% of the standard number of students for one class. In addition, the target number of students that will enrol in 2015 is 195 and in 2016 is 245, which shows high motivation to secure the students. It is expected the number of enrolled students will be increased in the future
Possible Risk	Countermeasure				
Student	Shortage of enrolment for the machining course. Although the number of students that enrolled in 2013 was 10, the number of students that graduated was 17, which was about 89% of the standard number of students for one class. In addition, the target number of students that will enrol in 2015 is 195 and in 2016 is 245, which shows high motivation to secure the students. It is expected the number of enrolled students will be increased in the future				

09 Ho Chi Minh City Vocational College of Technology (HVCT)

Name	Ho Chi Minh Vocational College of Technology
Address	502 Do Xuan Hop Street, Phuoc Binh Ward, District 9, Ho Chi Minh City
No. of Campus	1 Campus
Governing agency	Ministry of Labour, Invalids and Social Affairs (MOLISA)
Establishment	June 17 th , 1978 (2007 as a College)
Department, Faculty, Course	11 Faculties

Organization Chart	
Students	
Enrolment at College Level: Actual /Targeted number of students	Machining 39/53, Electricity 196/157, Electronics 58/53 (2013)
No. of Graduates Target : College Level	Machining 21, Electricity 155, Electronics 32 (2013) Employment ratio of Machining in 2013 was 100%.
Evening course	Existent (2010)
Future plan	Number of students: 15% more than previous year (2015)
Teachers	
No. of teachers	Machining 24, Electricity + Electronics 29
Categorization	-
Training	
Conduct of training in potential areas needed by companies	<p>Machining: Enterprises' demand for CNC training is high. For upgrading CNC, training on machines, etc., instructors are sent to companies for training or workers are trained at school, with the Certificate issued upon completion.</p> <p>Electricity: Demand for PLC area training is high.</p> <p>Electronics: Demand for PIC area training is high.</p> <p>(1) Status of training equipment (Machinery area)</p> <p>The machining area consists of general-purpose machines, including 20 lathes, 7 vertical milling machines, 2 plain milling machines, 1 sawing machine, 1 universal cylindrical grinding machine, 2 surface grinding machines, 1 bench drilling machine, and 1 tool grinder. As for NC processors, there are 2 NC lathes, 4 MC machines (two of them are Japanese), and 1 wire cut electric discharge machine. There are also measurement devices, such as 1 profile projector, 1 roundness measuring machine, 3 tool maker's microscopes, 1 3-D measuring machine, 1 hardness tester, and 1 lapping machine. There are 2 CAD/CAM systems (18 PCs each).</p>

The surface grinding machine, the universal cylindrical grinding machine, the roundness measuring machine for machining centers and precision measuring machine, and the profile projector were installed recently and still usable, but all other machines should be replaced. Measuring machines are placed in an air-conditioned room on the 2nd floor of the main building. Careful attention is paid to the accuracy of finished products (Photo 9-1, Photo 9-2).



Photo 9-1: Precision Measurement Room 1



Photo 9-2: Precision Measurement Room 2

(Electricity and Electronics areas)

There is relatively a good collection of training machines, including new large machines such as an MPS (*See below) system and a power generation experiment device. While there are 10 PLC training devices (Photo 9-3), each student should prepare one as the demand for workers skilled in this field is high. Digital experiment devices and microcomputers are old and limited in number. As Photo 9-4 shows, there is a sufficient number of power distribution/panel boards for electric basic devices.



Photo 9-3: PLC training devices



Photo 9-4: Power distribution/panel board devices



(2) Status of training implementation

(Machinery area)

There is a precision measurement room and measurement devices, offering an appropriate education environment as a technical college. Products are being processed based on requests from the private sector, which shows the advanced-level of techniques taught.

(Electricity and Electronics areas)

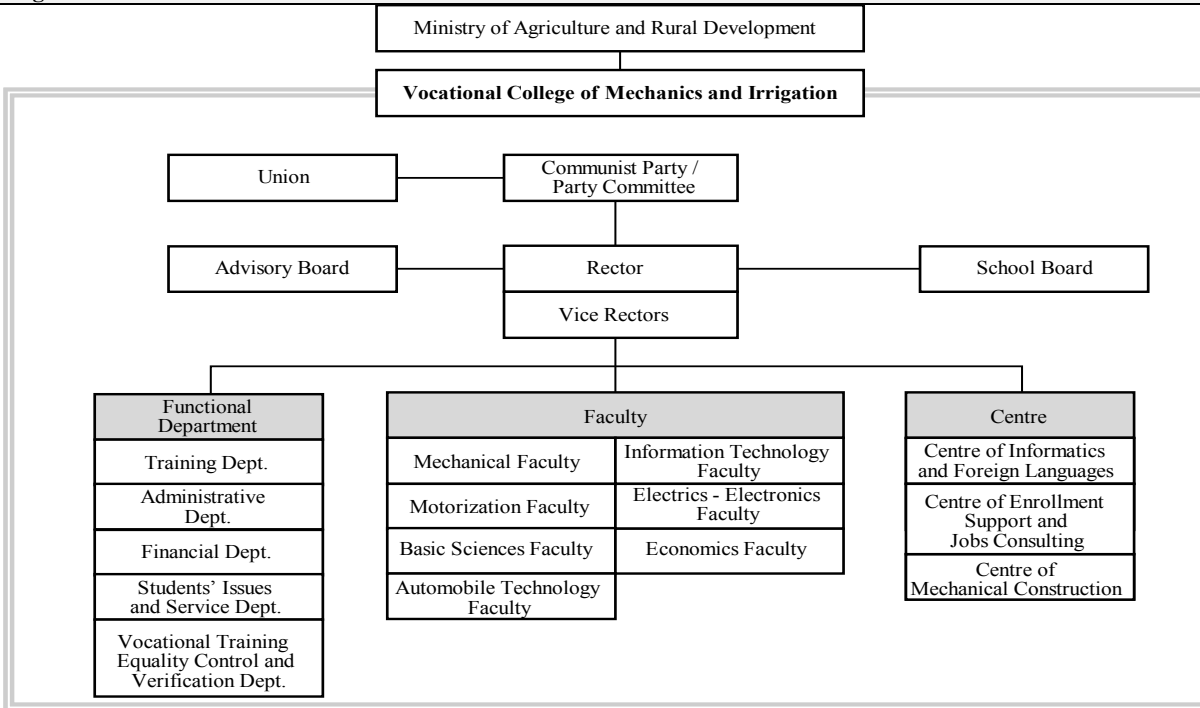
Photo 9-5 shows motor controller creation training. Students, each provided with devices, are seriously working, but the narrow spaces between devices should be increased. Photo 9-6 shows a graduation project, a machine for selecting and counting parts, which uses PLC technology, motor and pneumatic control, sensor technology, digital circuit technology, and machining technologies.

		 <p>Photo 9-5: Training of manufacturing motor controllers Photo 9-6: A graduation work</p> <p>Private companies have a great need for workers with PLC skills. The school dispatches instructors to private companies to provide CNC training to corporate workers. A certification is issued upon completion of training. The National Assessment Center, under construction on the HVCT property, is where the National Skill Center will be established in collaboration with GDVT.</p> <p>(* MPS (FESTO’s product name) stands for Modular Production Systems. It is made from modularized parts of production system and often used in learning of PLC controller skills.</p>
Training Management		
<p>Training process management and related matters</p>	<ol style="list-style-type: none"> 1. How are the needs of companies collected? The training contents are revised every year based on companies’ demand. Opinions on the improved skill level of graduates, skill trainings suitable for different workplaces, evaluation of trainees, and evaluation of training contents are requested from neighbouring companies. Organizationally, the Practice and Service Department (including 6 responsible persons) assigns trainees to proper destination companies for training and provides consultations for recruitment. There are the organized list and database on the companies to be visited. 2. Are the needs of companies incorporated into training? The needs are considered at the time of updating the curriculum. 3. Procedure for updating the curriculum Updating within 30% of the entire curriculum can be configured at the discretion of the College. Any changes beyond the limit require approval of GDVT. The curriculum is updated annually and revised once every 3 to 5 years. 4. How is training evaluated? On-site evaluations by other instructors, teaching contests, skill contests and questionnaires to students are carried out to evaluate instructors. The Testing and Training Quality Insurance Division verifies teaching materials (4 members). The verification currently carried out biannually will apparently be shifted to random checking starting in 2015. It is reported that the teaching materials for the College were recognized as outstanding teaching materials of the academic year 2013. 5. Is the training evaluation or improvement committee or other relevant organization established? There is a Testing and Training Quality Insurance Division (4 staff members). There are also Training Service Quality Evaluation Seminars. 	
Job placement		
<p>Support for employment and related matters</p>	<ol style="list-style-type: none"> 1. Is an internship program implemented? The internship program is being implemented. It is reported that appropriate companies are introduced to all technical trainees (Japanese-affiliated companies included Shiogai Seiki, KKCC and Hashimoto VN). 2. Are companies visited or do graduates give lectures for current students? Teaching staff visit companies. 3. What kind of system is established to obtain and circulate job information? The Practice and Service Department (6 staff members) uses the system called “Job Market” to provide employment consultations and the practical training at a company to in-house trainees. The job information from companies is provided to trainees at the entrance of the main building (electronic message board). 4. Is the carrier fair or job fair by company implemented? 	

	<p>“Career day at school” is held as an opportunity for companies to present their information to trainees at school.</p> <p>5. Is a guidebook for employment support available? Training on software skills is provided to the 1st year and 3rd year students (the teaching materials for training on software skills are used as a guidebook for employment support).</p> <p>6. Is career counselling provided? The Practice and Service Department is responsible for counselling and employment information.</p> <p>7. Are employment situations managed? The Practice and Service Department manages the situations of employment support.</p> <p>8. What are the placement rates of the last 3 years? Machining: 2011-100%, 2012-100%, and 2013-100%</p> <p>9. Is the database of companies developed? A database is developed containing the total 50 to 60 regular enterprises including those companies accepting graduates and candidate companies near the College. The name, address and industrial sector of the company is registered. Most companies registered are manufacturers.</p> <p>10. Is there any other effort made that could be helpful for employment? Work experience through internship for 2 months in the third year.</p>	
Observation of Consultant		
<p>The college accepts all applicants and intends to increase the number of students. The college obtained the approval from MOLISA to increase it by 15% annually. (Average increase ratio of other college is 10%)</p> <p>Teachers have at least a bachelor degree and are able to teach both at the college level and at the intermediate level.</p> <p>The college has an intention to improve the vocational training since they evaluate teaching materials. The training quality assessment office evaluates the teaching materials and the teaching material was awarded as one of the best teaching materials in 2013.</p> <p>Employment support performs effectively since the ratio of employment is very high.</p> <p>The equipment list should be prepared upon an analysis of the training contents in consideration of the training environment including the number of trainees and groups.</p> <p>The quantity of equipment for the electricity course should be adjusted since there are 2 electricity courses and the practices are conducted at the practice rooms by courses</p>		
	Possible Risk	Countermeasure
Student	The college does not have the quota for enrolment and the college’s plan for the number of enrolment is not clear in case the training needs of industries increases due to the improvement of the college with new equipment.	The realistic number of students should be set for the training in consideration of the existing resources through the quota of 1 classroom, the validation of the teacher’s deployment and the availability of classrooms and practice rooms.
New facility (10-story building)	Duplication of equipment for the new building (10-story building) where the opening of new courses and new research function are planned.	Large equipment cannot be installed in the new building, and the new course which is planned to be provided in the new facility does not require the large equipment.
Equipment	Equipment cannot be selected based on certain criteria due to the various curriculum and training assignments.	The equipment should be selected based on the needs within the budget.

10 Vocational College of Mechanics and Irrigation (VCMI)

Name	Vocational College of Mechanics and Irrigation
Address	Km44, National Road 1A, Ho Nai 3 Commune, Trang Bom District, Dong Nai Province
No. of Campus	1 Campus
Governing agency	Ministry of Agriculture and Rural Development (MARD)
Establishment	1976 (2008/as College)
Department, Faculty, Course	7 Faculties

Organization Chart	
	
Students	
Enrolment at College Level: Actual /Targeted number of students	Machining 59 /50, Electricity 131/100 (2014)
No. of Graduates Target: College Level	Machining 46, Electricity 61 (2014)
Evening course	Existent (2008)
Future plan	10% number of students increase per year until 2020
Teachers	
No. of teachers	Machining 11, Electricity 33
Categorization/	-
Training	
Conduct of training in potential areas needed by companies	<p>[Collection method with company's needs]</p> <ol style="list-style-type: none"> 1. VC gets information from companies when students attend their internship. 2. Teachers get their needs by directly visiting companies. 3. Teachers present technology trends and job information to students after visiting companies situated in the neighbouring industrial area. <p>[Implementation of training]</p> <p>In the machinery sector:</p> <ol style="list-style-type: none"> 1. To train to be very competent in the basic work. 2. An internship requirement has been implemented to provide advanced practical training for students to work in the field such as at the "Dong Nai" hydroelectric power plant. <p>In the electric field:</p> <ol style="list-style-type: none"> 1. PLC and pneumatic technology were included in the curriculum as suggested in a survey of the needs. 2. Based on the cooperation agreement between the college and a particular company, suggestions may be sent to the VC. The VC sends the curriculum to request for advice every year. <p>The VC has formulated the curriculum to appropriately meet the actual circumstances of the situation and the neighbouring industry's needs. (Mutual cooperation)</p> <p>[Method for improving the training content]</p> <p>Part of the curriculum was revised with industrial request based on GDVT rules.</p> <p>Participated in "The social economic condition in Ho Chi Minh City / Binh Duong province/ Ba</p>

Ria Vung Tau / Dong Nai province of the first 9 months of 2014”.

The VC has consulted with Companies in Dong Nai with Joint training and signed a graduate job placement agreement.

The contents of curriculum were shared with the companies at the time of corporate training contract. The college is able to comprehend the required special skill in the industries through the joint evaluation on the result of corporate training, which leads to improvement of the curriculum. The practical training within the companies is a good point. However, it will be the issue if the training in the companies is conducted because of lack of equipment in the college.

(1) Status of training equipment
(Machinery area)

The machining area consists of general-purpose machines, including 15 lathes, 1 universal miller, 3 plain milling machines, 1 shaping machine, 1 bench drilling machine, and 1 double-headed grinder, but all of them are outdated (Photo 10-1, Photo 10-2). As for NC processors, there is 1 NC lathe and 1 MC machine. There is also a CAD/CAM system (12 PCs).

VCMI has likely had great difficulty in training with the limited number of machines. All the machines in the JST’s plan need to be introduced.



Photo 10-1: Machining Lathe Training Room



Photo 10-2: Training Room for Milling Machine, etc.

(Electricity and Electronics areas)

While there is a course called ‘Electricity and Electronics’, most of the classes are actually in the electricity field. Therefore, a plan for the electronics area is not necessary.

There are PLC machines, including a sensor, motor, pneumatic controller, and training board for indoor electric work, however limited in number. The training room is large enough (Photo 10-3). Photo 10-4 shows an original training board for indoor electric work.



Photo 10-3: PLC Training Room

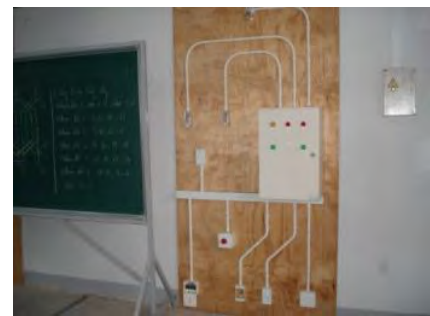


Photo 10-4: Training board for indoor electric work

(2) Status of training implementation
(Machinery area)

Photo 10-5 shows plain milling machine training. Although students are wearing work uniforms, they are not wearing work caps, protective glasses, or protective shoes, all of which are recommended for their safety. It seems that the trainings do not cover a wide variety of subjects due to the limited number of machines. It is expected that more classes will be offered upon the installation of the machines listed in the JST’s plan.



Photo 10-5: Students working with plain milling machine

(Electricity and Electronics areas)

As shown in Photos 10-6 and 10-7, students are eagerly working on training. Protective shoes should be worn in case heavy goods such as motors fall.



Photo 10-6: Motor wiring training



Photo 10-7: Sequence training

As shown in Photo 10-8, visitors must wear helmets for safety. Other schools should follow this custom.

Private companies have a great need for workers with PLC and pneumatic control skills.

While the machinery course is making an effort to improve the students' levels from 3 to 4 on the 5-level GDVT skill test scale, no such efforts are being made in the electricity and electronics areas as the skills test does not have a job category suitable for them.



Photo 10-8: Visitors wearing helmets

Training Management

Training process management and related matters

[Curriculum update procedure]

Every year, in mid-July at the end of the school year, the VC conducts a review (update).

Once every three years, based on the demand from companies and students, the curriculum is revised.

Based on discussions with companies, the VC will evaluate the curriculum. This will suggest if there is need for changes in the training contents.

[Training evaluation method]

Evaluation of the instructor and subject

1. Self-evaluation using the questionnaire

(And not self-only, also performs boss and other instructors)

2. Once every six months, and evaluation by "teaching method Contest" sponsored by the VC.

Evaluation of teacher:

There is teaching counselling twice a year to receive an evaluation of the professional team.

The highest performing instructor will be given prize money and a promotion.

[The evaluation of the trainee]

Students are evaluated during a final exam. If they fail the exam, they may take it again.

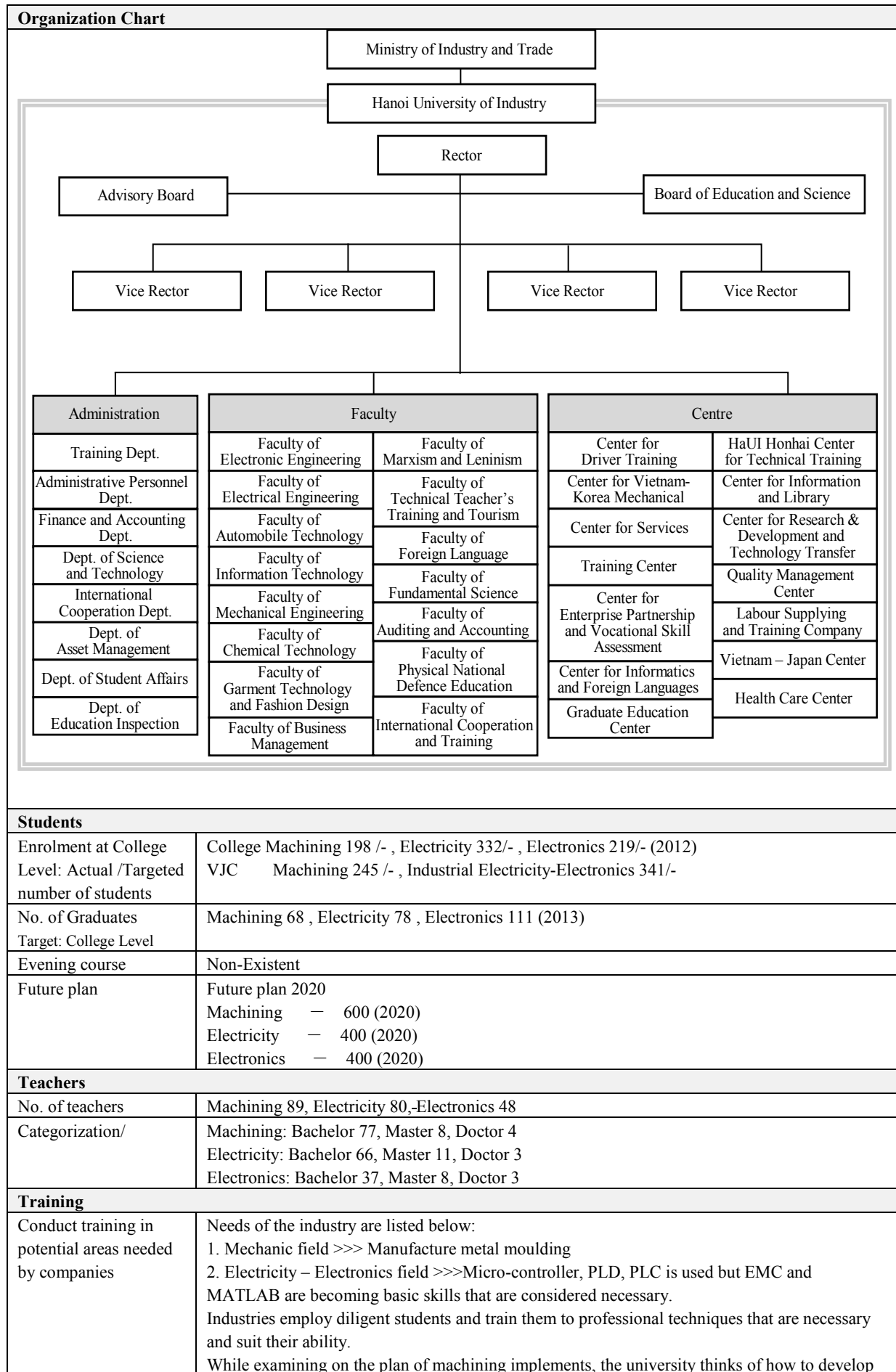
[Training evaluation Improvement Committee]

	<p>An Evaluation Committee (members: including the principal, the vice-principal) has been established. The Committee performed an evaluation of the previous teaching methods and contents. The Evaluation committee should evaluate the training content.</p> <p>Implementation of training should be followed GDVT rule and procedure.</p> <p>This VC has done one review of the curriculum every three years. The Committee performed an evaluation of the previous teaching methods and contents.</p> <p>70% of the course curriculum was confirmed as the standard curriculum by GDVT but the confirmation procedure was uncertain.</p> <p>Institutionalization of a committee consisting of academic experts, industry, and vocational college staff will contribute to improvement of training, which is proposed.</p>
Job placement	
<p>Support for employment and related matters</p>	<p>[Implementation of the internship program]</p> <p>Each department together with the "Centre of supporting the Entrance Exam and Consulting Jobs" has implemented the internship program.</p> <p>There are more than 20 host companies, and all students complete a 300-hour internship. Teachers visit the companies during the internships, and correct training based on needs or technical trends observed.</p> <p>[Job Information and Job Information System]</p> <p>Anyone can browse the Campus board for Job / labour market information monitoring.</p> <p>The "Centre of supporting the Entrance Exam and Consulting Job" supports job placement.</p> <p>A "Job Fair" is held in conjunction with companies.</p> <p>Every year, invited companies lead seminars.</p> <p>There is recruitment, internship, and job placement from companies.</p> <p>Every year, the VC invites companies to the graduation ceremony to help students get easier job opportunities.</p> <p>Since 2014, there is a Web site for job placement and job offer information. Information is updated monthly. URL: (http://www.vieclamdonai.net/)</p> <p>[Employment support guidebook]</p> <p>Employment support information is available on the Web site</p> <p>Once per week, on Wednesday, soft skills' training is provided for the whole school.</p> <p>This teaching material also serves as a guidebook of employment support.</p> <p>[Implementation of career counselling]</p> <p>The "Centre of supporting the Entrance Exam and Consulting Job" provides career counselling.</p> <p>[Management of employment situation]</p> <p>Conduct graduates employment surveys</p> <p>Employment is more than 80% each year. 63 companies, by which the graduates were employed, are listed</p> <p>[Enterprise database Upgrading]</p> <p>(158 Japanese companies recoded, 63 other companies listed)</p> <p>[others, effective activities for Job-placement]</p> <p>Seminars, implementation of skills test</p> <p>job placement agreement entered into with companies (30 companies)</p>
Observation of Consultant	
<p>The college is located 7km away from an industrial park with 142 Japanese enterprises (according to the college). The college takes advantage of the location for the vocational training and the employment support through the coordination with more than 60 enterprises in the review of curriculum and the acceptance of human resources based on needs of enterprises.</p> <p>Employment for the graduates of college level may be an issue since the neighbouring enterprises mostly need graduates of intermediate level. The college opened a night course for the graduates of intermediate level and there are as many students as in the daytime course (the number was not provided) which shows the employer's and the worker's desire to improve their skills.</p> <p>The college ensures the quality of teachers through the periodical improvement of knowledge and technic. The college has hired teachers in accordance with the qualification issued by GDVT and conducted the training of teachers based on the annual plan.</p> <p>The college does not desire the increase of enrolment quota.</p> <p>The college has conducted the employment support thoroughly by the Centre of Enrolment Support and Jobs Consulting and achieved 95% employment rate 3 months after graduation in the past 3 years. The graduates who could not be employed 2</p>	

<p>months after graduation are listed and supported by the college. The college has a good reputation on some level because of high enrolment as much as the target or 20% over the quota and high employment rate. The college is able to accept and master the new concept of management and training. The rector has brought best practices into the college activities such as 5S. All the equipment planned in the project should be procured since the existing equipment is old.</p>		
	Possible Risk	Countermeasure
Student	The cooperation with Japanese enterprises is not strong. The Japanese discipline is too strict for the graduates and no graduate went to work with a Japanese company recently. The graduates seem to find employment in domestic, Taiwanese and Chinese enterprises.	The college studied the needs of Japanese enterprises and put the result in the training for soft skill on every Wednesday for all students to adjust themselves to the Japanese discipline. The college is confident that the graduates will meet the needs of Japanese enterprises and will resume and enhance the employment support for Japanese enterprises.

11 Hanoi University of Industry (HaUI)

Name	Hanoi University of Industry (HaUI)
Address	Campus 1: Minh Khai commune, Tu Liem district, Ha Noi City (1st campus) Campus 2: Tây Tựu commune, Từ Liêm, Hà Nội City Campus 3: Phú Vân commune Lê Hồng Phong ward, Phú Lý town, Hà Nam province
No. of Campus	3 Campus
Governing agency	Ministry of Industry and Trade
Establishment	1898; 2005 as a University; 2007 as a College
Department, Faculty, Course	College: 18 Faculties



“Metal moulding” into techniques that can become popular to future college. There is a proposal to HaUI to include metal moulding in the university; the proposal is under current review by the HaUI.

(1) Status of training equipment

(Machinery area)

The machining area consists of general-purpose machines, including 10 lathes, 10 vertical milling machines, 1 universal miller, 1 sawing machine, 1 contour machine, 2 double-headed grinders, 1 universal cylindrical grinding machine, 5 surface grinding machines, 1 universal tool and cutter grinding machine, 1 tool grinder, 2 upright drilling machines, and 1 bench drilling machine. While the contour machine is new, other machines should be replaced (Photo 11-1). As for NC processors, there are 1 NC lathe, 2 MC machines, and 1 NC milling machine. There are also a CAD/CAM system (7 PCs), 20 drawing tables (Photo 11-2), a sequence experiment device, precise measuring machines such as a 3-D measuring machine, and engineering experiment devices such as a tension testing machine. The environment is nearly equivalent to that of Japanese Polytechnic Colleges.

However, since equipment is old and used for trainings for all college instructors in Vietnam, they should be replaced. Additionally, the introduction of a machining center designed for mold machining and an injection molding machine for trial runs of the finished molds is necessary in order to improve mold machining skills. The demand for these skills is high in the Vietnamese industries.



Photo 11-1: Milling Machine Training Room



Photo 11-2: Drawing room

(Electricity and Electronics areas)

Assistance from Japan and Japanese companies was received in the past (Photo 11-3). HaUI organizes trainings of trainers (TOT) in which instructors from other colleges participate (Photo 11-4). There is a good collection of training machines, but there is a lack of electric and hand tools.



Photo 11-3: PLC training devices



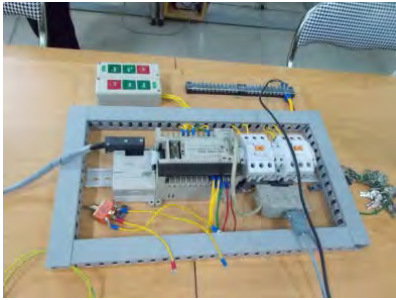

Photo 11-4: TOT in the Electricity and Electronics areas

(Right: donation from Japan, Left: donation from Japanese companies)

(2) Status of training implementation

(Machinery area)

As mentioned in the training equipment section, HaUI offers trainings appropriate for a technical college. When a student specializing in the machinery area gets a job in the private sector in Vietnam, they have two options: the machining department or the maintenance department with the automated production line. Since HaUI students may learn mechanical maintenance, as well as electric and hydro-pneumatic control for automation technology (Photo 11-5, 11-6), they

	<p>acquire flexibility as technicians. HaUI is expected to put forth more effort in this aspect as a model school.</p>  <p>Photo 11-5: Sequence control experiment 1</p>  <p>Photo 11-6: Sequence control experiment 2</p> <p>(Electricity and Electronics areas) Photo 11-7 shows an instructor’s self-made electric drill for punching a printed circuit, a tool that is neither user-friendly nor safe. Professional electric drills should be used.</p>  <p>Photo 11-7: Original electric drill</p> <p>Photo 11-8 shows the work of a student at Kyusyu Polytechnic College crafted as a practical task during a ‘level two electric device assembly’ Japanese skill test.</p>  <p>Photo 11-8: Practical task of the skill test</p> <p>Photo 11-9 shows an electric conductive rubber mat for static protection and a ground wire for removing static electricity on the work table in the electric circuit training room at Kyusyu Polytechnic College, a countermeasure for avoiding damage to static-sensitive semiconductors (e.g. IC goods). This should be introduced at HaUI and other colleges in Vietnam.</p>  <p>Photo 11-9: Electric conductive rubber mat for static protection</p> <p>Private companies have a great need for workers with microcomputer, PLD, and PLC skills. HaUI established the National Skills Examination Center, but it is not yet open. It is expected that HaUI will join in the future. They are working actively with the skills test as a certified school of the MC skill test.</p>
<p>Training Management</p>	
<p>Training process management and related matters</p>	<p>[Process of revising the curriculum] Revision of the curriculum is carried out from June to July every year. A revised curriculum is proposed by the college and approved by the GDVT. There is a significant change once every 3 years; and a smaller change corresponding to the needs of enterprises or the society is done every year. After visiting enterprises and collecting their needs, the college may be evaluated or the curriculum may be changed, [Training Assessment] 1. There is an assessment from a professional examination board 2. Having exhibiting classes and receiving evaluation. 3. Instructors receive evaluations from student surveys every semester. 4. Reference material of excellent instructor (based on exhibiting classes or teaching contest) or experienced instructor is shared with other instructors.</p>

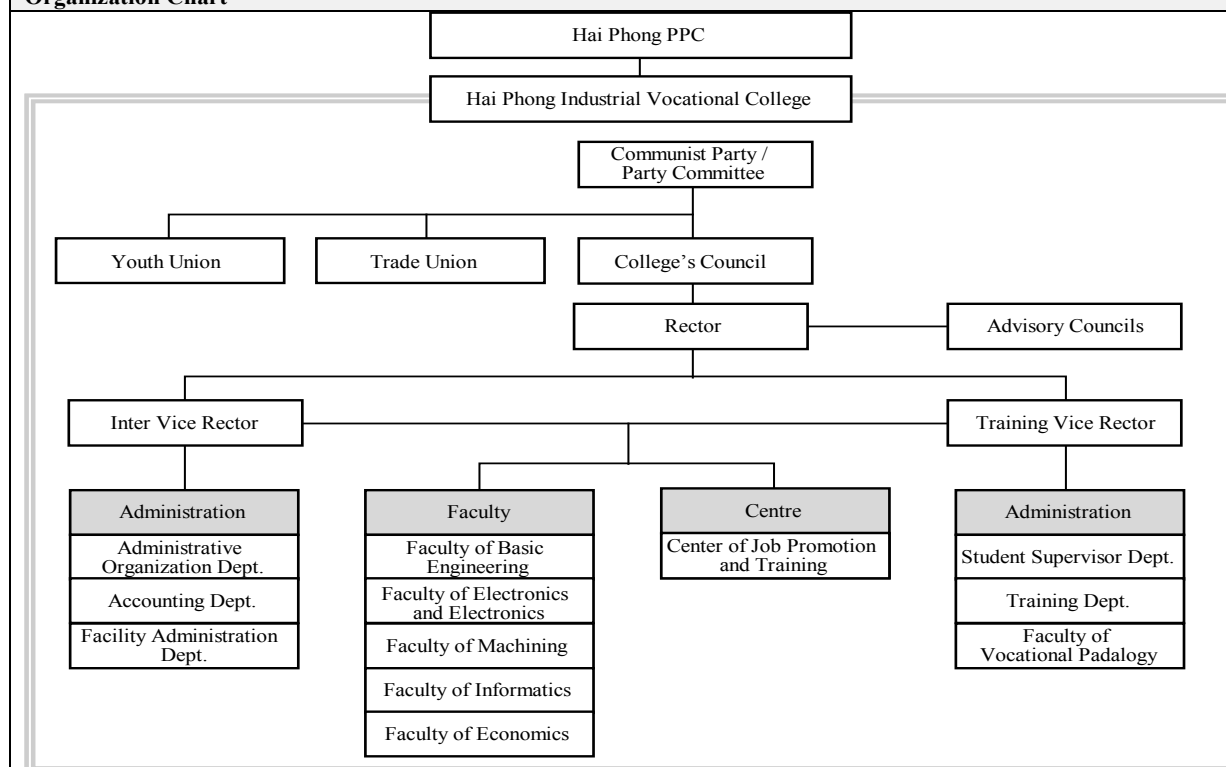
	<p>[Position of training assessment and improvement committee]</p> <p>1. Evaluation from the examination board to assess teachers' ability.</p> <p>2. The Science and Training Committee (20 staff members) promotes the training contest, while its subcommittee, the Evaluation Committee, evaluates the material. The result of evaluation should be the action for next step in accordance with PCDA cycle.</p>	
Job placement		
Support for employment and related matters	<p>[Internship programs]</p> <p>60-80% of the students have internships. (about 1 to 3 months), many corporate enterprises are Japanese (or Taiwanese)</p> <p>The internship is in the 3rd year, from March to May: in 2012; 21 students had internships, in 2013; 14 students, and in 2014; 16 students (80% of the placement companies are Japanese)</p> <p>LETCO (the government subsidiary company of HaUI, who works on supplying labour field) has about 1,100 graduated students and in-school students who take part in such internships.</p> <p>As of 2014, about 469 college-graduated students have conducted this kind of internship in Japan.</p> <p>[Enterprises visit and lectures from graduated student]</p> <p>There are enterprise visits (twice a year; by 20 companies which are all Japanese enterprises) from August to October (graduate term).</p> <p>CPA (Centre for enterprise partnership and vocational skill) and teachers collect information by visiting enterprises.</p> <p>Information can be found on Web site, notice board, email, Job fair etc... Activities on Facebook are also examined.</p> <p>[Organization]</p> <p>At an internal section of the school, "Enterprise partner and skill assessment centre (established in 2014 February, 7 staff members) there are activities of career support.</p> <p>[Career Fair, Meeting of Introducing Career of specific enterprises]</p> <p>Job Fairs in cooperation with enterprises are held twice a year; many Japanese enterprises come to participate.</p> <p>[Guidebook for career support]</p> <p>The database is changed by the CPA</p> <p>A "Manual for recruitment /employment (2010-2013)" was created by the CPA</p> <p>Registration in CPA is necessary to have a job consultation, and the registration rate is 100%. in 2013</p> <p>[Managing career conditions]</p> <p>Is being held by the CPA</p> <p>[Building database of enterprises]</p> <p>The Database is updated by the CPA</p> <p>Approximately 2000 companies have registered, about 100 of which are priority enterprises (56 of which are Japanese enterprises)</p> <p>[Effective effort for career support]</p> <p>Enhancing career activities with regular announces from teachers and the CPA</p>	
Observation of Consultant		
<p>The college admits all applicants whose score is more than a certain level and does not set an enrolment quota. Enrolment in the target faculties has increased for the past 3 years. Therefore, the needs of training in the target faculties are stable and tend to increase.</p> <p>The JST tried to comprehend the future plan of enrolment in various ways. However, the plan only consisted of the enrolment expected in 2020. It was also difficult to obtain the number of existing students at the different levels. The management of students at different levels will be the issue.</p> <p>The college has a strong connection with enterprises regarding internship and employment through LETCO, the temporary-employment agency and about 1,100 graduates get a place of employment annually.</p> <p>The college is expected to be the main institution for the skill tests since the college was approved as a machining centre skill test institution starting in 2014.</p>		
	Possible Risk	Countermeasure
Student	Management of increased student is not clear in case the enrolment increases due to the equipment by JICA project.	It is managed to avoid exceeding the target number of the students.
Relation with other institutions	The competition among the neighbouring institutions (HIVC, HHT) will cause the	Demarcation of role of each institution Review of the vocational training management

	declination of each institution with mismatch of facility, equipment and number of teachers.	and implementation structure among ministries and PPCs. *It is assumed that the educational committee of HaUI will consider and analyze the necessary training fields based on the demand for labor in order to avoid any competing with other institutions, and revise the contents of the training.
--	--	--

12 Hai Phong Industrial Vocational College (HPVC)

Name	Hai Phong Industrial Vocational College
Address	187 Ton Duc Thang Str. Hai Phong City
No. of Campus	1 Campus
Governing agency	Hai Phong PPC
Establishment	June 25 th , 1961 (2007 as a College)
Department, Faculty, Course	5 Faculties

Organization Chart











Students

Enrolment at College Level: Actual /Targeted number of students	Industrial Electricity 196/157, Industrial Electronics 58/53 The numbers above-mentioned are the total number of each faculty.
No. of Graduates Target : College Level	Industrial Electricity 314, Industrial Electronics 32
Evening course	Non-Existent
Future plan	Future plan (2020) Industrial Electricity — 450 Industrial Electronics — 150

Teachers

No. of teachers	Machining 23 , Industrial Electricity + Industrial Electronics 33
Categorization/	Machining: Bachelor 22, Master 1

Industrial Electricity + Industrial Electronics : Bachelor 23, Master 10	
Training	
<p>Conduct training in potential areas needed by companies</p>	<p>Industry needs in the electrical and electronic fields are; PLC, power electronics and a pneumatic control field.</p> <p>(1) Status of training equipment (Machinery area)</p> <p>The machining area consists of general-purpose machines, including 21 lathes, 1 vertical milling machine, 1 universal miller, 1 plain milling machine, 1 shaping machine, 1 sawing machine, 4 double-headed grinders, 1 universal tool and cutter grinding machine, 1 upright drilling machine, and 1 bench drilling machine. All machines excluding, 8 Italian lathes (installed in 2006), are outdated and should be replaced (Photo 12-1). As for NC processors, 3 German NC lathes and 1 MC machine were installed in 2008. There is also a 3-D measuring machine.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo 12- 1: Machining lathe training room</p> </div> <div style="text-align: center;">  <p>Photo 12-2: Milling machine training room</p> </div> </div> <p>(Electricity and Electronics areas)</p> <p>They have more machines, in both type and number, than other schools. Photo 12-3 shows relatively new MPS devices. The power generation experiment devices and measurement devices are old. The electric tools are limited in both type and number. Since there are a limited number of digital circuit experiment devices (Photo 12-4), students conduct experiments in groups of 4 or 5 people. More devices should be prepared. There are very few experiment and measurement devices for analog circuits.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo12-3: MPS training room</p> </div> <div style="text-align: center;">  <p>Photo 12-4: Digital circuit experiment device</p> </div> </div> <p>(2) Status of training implementation (Machinery area)</p> <p>Their trainings allow students to learn techniques for creating products with a MC machine based on requests from the private sector (Photo 12-5). While there is a 3-D measurement machine to measure the size of products, there is no machine to measure surface roughness in products, which a private company might require. Safety measures taken during processing trainings are not at a sufficient level (Photo 12-2). Photo 12-6 shows a very organized work table for MC processing. The 5S method seems to be thoroughly implemented at this school.</p>

	<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Photo 12-5: MC processing Photo 12-6: Work table for MC processing</p> <p>(Electricity and Electronics areas)</p> <p>Photo 12-7 shows an original training booth for electric work. Lectures and practical trainings are organically combined. Photo 12-8 shows training on creating control boards. Similar to Photo12-4, the work table is so small that the equipment and materials are in unstable conditions. Larger tables should be introduced.</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Photo12-7: original training booth for electric work Photo12-8: Training of creating control boards</p> <p>Private companies have a great need for workers with PLC, power electronics, and pneumatic control skills. All three sections are taking the 5-level GDVT assessment test exclusively. Trial tests are being implemented for the moment and the skills test will be introduced once it becomes popular in Vietnam. Currently, there are no instructors who can teach to the skills test. (5 instructors took the level three skills test and 4 of them passed.)</p>
Training Management	
<p>Training process management and related matters</p>	<p>[Collection method with company’s needs] Teacher gets their needs directly visiting companies.</p> <p>[Implementation of training] Teacher has reviewed a part of curriculum by industrial needs. (PLC etc)</p> <p>[Procedure for updating the curriculum] Curriculum updates are proposed to the Curriculum Revise Committee. If there is a necessity to change, the curriculum is proposed to the College. Changes within 30% of curriculum can be configured at the discretion of the College. Any changes beyond the limit require an approval from GDVT.</p>
Job placement	
<p>Support for employment and related matters</p>	<p>[Employment and employment support]</p> <ol style="list-style-type: none"> 1. The college provides the information needed for job placement and supports students in their career selection based on their interests and abilities. 2. The Training Service and Employment promotion centre was established to provide necessary information, career consulting for graduated students. 3. We establish relationships with enterprises and contract them for training services and employment including Glo-Tech company, LEESCO company, VINALINES marine labour export company for consulting, on-site training for learners in and outside our college. Labour export to Taiwan, Russia, Japan, Rumania, UEA, etc. 4. We participate in interaction activities, seminars, job fairs to expand and strengthen our training activities and labour supply.

	<p>We provide students with job hunting skills, by helping them with job application procedures, communication skills and examination skill.</p> <p>[Internship Program]</p> <p>Third year students at the college level take part in an internship period. Students are equipped with professional knowledge and labour safety awareness so that they may practice and work in an enterprise whose working environment and conditions are selected.</p>			
	Year	Internship in	Number of students	Total
	2010	Canon Viet Nam- Queue Vo IP - Bac Ninh Canon Viet Nam- Tien Son IP - Bac Ninh	137 140	277
	2011	Canon Viet Nam- Queue Vo IP - Bac Ninh Canon Viet Nam- Tien Son IP - Bac Ninh Viet Nam- Thing Long IP - Had No	115 57 150	322
	2012	Canon Viet Nam- Tien Son IP - Bac Ninh	78	78
	2013	YAZAKI – Nomura IP Hai Phong	30	30
	2014	Fuhong Co. Ltd., - Bac Giang	80	80
Observation of Consultant				
<p>The college predicts an increase of enrolment based on the current enrolment situation, the industrial plan and the national policy, which decided that Hai Phong and Ba Ria-Vung Tau would be the development and investment center of Vietnam. Same as the neighbouring colleges including CVCT, the number of students has been decreasing in machining course. The course was closed in a college in the area.</p> <p>The ADB project supported the college with the procurement of equipment, construction of facilities and training of trainers. PPC has borne the repayment of the on-lending.</p> <p>Equipment should be renewed except for CNC.</p>				
	Possible Risk		Countermeasure	
Student	To secure the enrolment in the machining course is the issue.		The number of enrolment in the machining course is decreasing. However, this is the problem of the vocational training sector because of few employments due to the depression, popularity of IT and account, lack of appropriate investment to machining course. Although it is difficult to recover the situation by the VC, it was observed that the enrolment situation is not bad as other colleges.	

13 Ha Nam Vocational College (HNVC)

Name	Ha Nam Vocational College
Address	No. 88 - Le Hoan - Quang Trung District – Phu Ly city – Ha Nam Province
No. of Campus	1 Campus
Governing agency	Ha Nam PPC
Establishment	1967 (2007/as College)
Department, Faculty, Course	5 Faculties, 13 Course

Organization Chart	
<pre> graph TD PPC[Ha Nam PPC] --> College[Ha Nam Vocational College] College --> CC[College Committee] CC --> Rector[Rector] Rector --> Admin[Administration] Rector --> Faculty[Faculty] subgraph Admin [Administration] Admin --> FD[Financial Dept.] Admin --> SAD[Student Affair Dept.] Admin --> AD[Administration Dept.] Admin --> TD[Training Dept.] Admin --> EMLD[Equipment Management and Logistic Dept.] Admin --> SEJSD[Student Enrollment & JOB Support Dept.] end subgraph Faculty [Faculty] Faculty --> ATF[Automobile Technology Faculty] Faculty --> ITF[Information Technology Faculty] Faculty --> MF[Machining Faculty] Faculty --> EF[Electricity Faculty] Faculty --> FSCF[Fundamental Science Faculty] end </pre>	
Students	
Enrolment at College Level: Actual /Targeted number of students	Machining 8/25, Electricity 93/100
No. of Graduates Target : College Level	Machining 7, Electricity 72
Evening course	Non-Existent
Future plan	Future plan (2017) Machining – 75 Electricity – 200
Teachers	
No. of teachers	Machining 8 , Electricity 30
Categorization/	Machining: Bachelor 6, Master 2 Electricity: Bachelor 22, Master 8
Training	
Conduct of training in potential areas needed by companies	We have got an useful information of training needs when visited the company during internship training of our students, etc.
Training Management	
Training process management and related matters	<ol style="list-style-type: none"> Improvement of curriculum is discussed in July-August for curriculum revision. (*July and August is the time of admission and end of school year) If changes are greater than or equal to 30%, approval is requested from DOLISA, and from GDVT at the same time. The curriculum evaluation committee (made of internal staff) evaluates the curriculum Then the Council of DOLISA evaluates the curriculum. <p>(1) Status of training equipment (Electricity and Electronics areas)</p> <p>HNVC does not have an electronics course. Machines are limited in both type and number. Photo 13-1 shows a relatively new electric safety training device (Chinese). They also have 1 three-phase power distribution device and 1 fan motor board. Photo 13-2 shows the PLC motor speed controller and program development computers. There are also 1 PLC belt conveyor controller and servomotor controller.</p>



Photo 13-1: Electrical safety training device and program



Photo 13-2: PLC motor speed controller development computers

(2) Status of training implementation
(Electricity and Electronics areas)

Photo 13-3 shows a basic experiment on motor speed controller. Photo 13-4 shows motor wiring training. The work table is very old. All students are wearing work uniforms. An illustrated signboard outlining the 5S method is hung at the front gate (Photo 13-5).



Photo 13-3: Motor speed controller



Photo 13-4: Motor wiring training



Photo 13-5: Signboard of the 5S method

No action has been taken in regards to the skills test.

Job placement	
Support for employment and related matters	<p>[Internship Program] In the 2013/2014 academic year, 150 students conducted internships in 75 companies, including 12 Japanese companies.</p> <p>[Job information acquisition, the circulation system] Enrolment and Job-assessment committee (DOLISA) cooperated with the management office.</p> <p>[Job fair enterprise-specific job fairs] DOLISA conducts job fairs every month.</p> <p>A Centre of Job recommendation has been established under DOLISA.</p> <p>[Development of employment support guidebook] DOLISA publishes information on a WEB site, which students access at the following URL: http://www.cdnhanam.edu.vn</p> <p>※ There is a home page on the Internet, it has been utilized for openings and employment guidance of incoming students.</p>

Observation of Consultant		
<p>The welding and sheeting metal courses were established in 2012 in response to the needs from enterprises. However, the enrolment rate is not high due to the perception that the training is harmful to health, according to the college. The college has a plan to expand the machining course. However, enrolment in the machining course is uncertain in these circumstances. (It is not sure that the machining course will be expanded before the implementation of the JICA project.)</p> <p>The existing equipment was manufactured between 2001 and 2008 and much of it is still usable. Equipment such as PLC should be from same manufacturer for various practices as well as software. Equipment for electricity needs to be updated in 3-5 years but the old model will still be able to be used for basic training.</p>		
	Possible Risk	Countermeasure
Student	<p>The enrolment quota in the electricity course is increasing. However, the enrolment is not stable. Contents of the course should be reviewed in line with the increase of the enrolment quota.</p>	<p>Currently, the electricity course and the electronics course are integrated into one course. However, the electronics course will be separated starting in 2015.</p> <p>The machining course will open starting in 2015.</p> <p>The enrolment in the machining course is expected to increase since the needs of the machining course from enterprises tend to increase and it is becoming difficult to find a job in the IT and accounting sectors.</p> <p>Some graduates from universities, who could not find the job, are entering vocational colleges.</p> <p>PPC committed the improvement of industrial environment and PPC Japan Desk in cooperation with the college is implementing the project to send 1,000 engineers to Japan.</p>

Annex-9

Summary of Quantitative Information and Supplements

Annex-9 Summary of Quantitative Information and Supplements

As of February 9, 2015

Grand Summary (X: with concerns)

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
1	Consistency with Vietnam's request/ desire for the Japanese cooperation and in the list of 45 high-quality colleges												X	X	X	
2	Consistency with Japanese strong vocational fields (Machining, Electricity and Electronics)				X				X	X		X			X	
3	Sufficient number of Japanese enterprises in the area of target college				X			X							X	
4	Sufficient economic growth in the area of target college							X	X						X	
5	Sufficient capacity of teacher			X				X	X							
6	Sufficient number of enrollment							X		X		X		X	X	
7	Sufficient capacity of facility				X		X					X				
8	No similar course in the neighboring school															
A	Model/Candidate for future technical cooperation															
B	Supports from other donors								X	X		X				
C	Sufficient Job assistance capacity as a VC															
D	Operational status															
E	On-lending															

N o.	Criteria	Methods of Analysis	1	2	3	4	5	6	7	8	9	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		Location	1: HCM 2 :HCM	Hanoi	1:Hanoi 2 :Hanoi	1, 2, 3 (Committee college): Ba Ria- Vung Tau	Hanoi	1 :Vinh Phuc 2 :Vinh Phuc	Da Nang	Hai Phong	HCM	Dong Nai	1: Hanoi 2: Hanoi 3:Ha Nam	Hai Phong	1: Ha Nam	
1	Consistency with Vietnam's request/ desire for the Japanese cooperation and in the list of 45 high-quality colleges		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Not in the 45 list. However, GDVT recognize HaUI as requisite for the project	Not in the 45 list.	Not in the 45 list.	Highlighted VCs are not consistent with the criteria.
2	Consistency with Japanese strong vocational fields (Machining, Electricity and Electronics)	-1. The number of target fields established	3/3	3/3	3/3	3/3 Electronics is included in Electricity.	3/3	3/3	2/3 Metal cutting faculty will be established in Sep. 2015	2/3 No electronics	3/3	2/3 No electronics	3/3	3/3	1/3 No machining and electronics fields. Mechanic Faculty consists of Welding course only.	Highlighted VCs are without 3 Japanese strong vocational fields.
3	Sufficient number of Japanese enterprises in the area of target college	-1. The number of Japanese enterprises in the area of target college *7, 8	HCM 755	HA NOI 570	HA NOI 570	BRVT 17	HA NOI 570	VINH PHUC 15	DA NANG 62	HAI PHONG 93	HCM 755	DONG NAI 121	HA NOI 570	HAI PHONG 93	HA NAM 33 *8	Highlighted VCs are in the area with less than 20 Japanese enterprises.
		-2. The number of employees of specified Japanese enterprises (Machinery, E&E, Plastic, Steel) for job offers *7,9	HCM Enterprise: 164 Average employee: 419 Estimated total employee: 69,000	HANOI Enterprise: 185 Average employee: 570 Estimated total employee: 105,000	HANOI Enterprise: 185 Average employee: 570 Estimated total employee: 105,000	BRVT Enterprise: 7 Average employee: 107 Estimated total employee: 700	HANOI Enterprise: 185 Average employee: 570 Estimated total employee: 105,000	VIN PHUC Enterprise: 12 Average employee: 507 Estimated total employee: 6,000	DA NANG Enterprise: 21 Average employee: 650 Estimated total employee: 14,000	HAI PHONG Enterprise: 32 Average employee: 296 Estimated total employee: 9,000	HCM Enterprise: 164 Average employee: 419 Estimated total employee: 69,000	DONG NAI Enterprise: 57 Average employee: 590 Estimated total employee: 34,000	HANOI Enterprise: 185 Average employee: 570 Estimated total employee: 105,000	HAI PHONG Enterprise: 32 Average employee: 296 Estimated total employee: 9,000	HA NAM Enterprise: 10 *9 Average employee: 85 Estimated total employee: 900	Highlighted VCs are in the area with less than 1,000 employees
			DONG ANH DISTRICT +NEAR IP/IZ Enterprise: 79 Estimated total employee: 45,000	DONG ANH DISTRICT +NEAR IP/IZ Enterprise: 79 Estimated total employee: 45,000												

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-3. The number of employees of Japanese enterprises in the area of target college *7,8	HCM Enterprise: 755 Average employee: 241 Estimated total employee: 182,000	HANOI Enterprise: 570 Average employee: 337 Estimated total employee: 192,000	HANOI Enterprise: 570 Average employee: 337 Estimated total employee: 192,000	BRVT Enterprise: 17 Average employee: 127 Estimated total employee: 2,000	HANOI Enterprise: 570 Average employee: 337 Estimated total employee: 192,000	VIN PHUC Enterprise: 15 Average employee: 609 Estimated total employee: 9,000	DA NANG Enterprise: 62 Average employee: 266 Estimated total employee: 16,000	HAI PHONG Enterprise: 93 Average employee: 228 Estimated total employee: 21,000	HCM Enterprise: 755 Average employee: 241 Estimated total employee: 182,000	DONG NAI Enterprise: 121 Average employee: 491 Estimated total employee: 59,000	HANOI Enterprise: 570 Average employee: 337 Estimated total employee: 192,000	HAI PHONG Enterprise: 93 Average employee: 228 Estimated total employee: 21,000	HA NAM Enterprise: 33 *8 Average employee: 85 Estimated total employee: 3,000	Highlighted VCs are in the area with less than 10,000 employees
		-4. The number of Japanese enterprises newly established since 2012 *7	85	26	26	2	26	1	2	7	85	13	26	7	3	Only enterprises with establishment year data are counted.
4	Sufficient economic growth in the area of target college	-1. Total registered capital(Mill.USD) / Number of projects of target area *6 [Capital per a project(Mill.USD)]	34,852 Mill USD /4,809 Projects [7.25 Mill USD]	22,404 Mill USD /2,702 Projects [8.29 Mill USD]	22,404 Mill USD /2,702 Projects [8.29 Mill USD]	26,503 Mill USD /294 Projects [90.15 Mill USD]	22,404 Mill USD /2,702 Projects [8.29 Mill USD]	2,774Mill USD /166 Projects [16.71 Mill USD]	3,894Mill USD /280 Projects [13.91 Mill USD]	9,979Mill USD /392 Projects [25.46 Mill USD]	34,852 Mill USD /4,809 Projects [7.25 Mill USD]	10,336Mill USD /1,162 Projects [8.90 Mill USD]	22,404 Mill USD /2,702 Projects [8.29 Mill USD]	9,979Mill USD /392 Projects [25.46 Mill USD]	647Mill USD /79 Projects [8.19 Mill USD]	Highlighted VCs are in the area with less than 1,000 Mil USD of capital
		-2. Gross Output of Industry at Current Prices by Provinces (2013) *6 Rate of Increase Upper:2012-2013 Lower:2005-2013 Average whole Vietnam 121.4%/553.3%	927,362 Bill VND (2013) 117.4% Ratio 2012 387.1% Ratio 2005	418,926 Bill VND (2013) 113.3% Ratio 2012 546.7% Ratio 2005	418,926 Bill VND (2013) 113.3% Ratio 2012 546.7% Ratio 2005	414,424 Bill VND (2013) 104.5% Ratio 2012 349.4% Ratio 2005	418,926 Bill VND (2013) 113.3% Ratio 2012 546.7% Ratio 2005	119,392 Bill VND (2013) 125.0% Ratio 2012 563.5% Ratio 2005	44,100 Bill VND (2013) 126.4% Ratio 2012 373.8% Ratio 2005	124,367 Bill VND (2013) 116.7% Ratio 2012 492.9% Ratio 2005	927,362 Bill VND (2013) 117.4% Ratio 2012 387.1% Ratio 2005	515,983 Bill VND (2013) 118.2% Ratio 2012 492.3% Ratio 2005	418,926 Bill VND (2013) 113.3% Ratio 2012 546.7% Ratio 2005	124,367 Bill VND (2013) 116.7% Ratio 2012 492.9% Ratio 2005	37,705 Bill VND (2013) 124.9% Ratio 2012 1058.3% Ratio 2005	Highlighted VCs are in the area less than 100,000 Bill VND of gross output
		-3. FDI newly approved (year, number, amount, increase from previous year) *5	(2011) 302 USD2,755.7 M 45.4%	(2011) 258 USD524.2M 190.9%	(2011) 258 USD524.2M 190.9%	(2011) 22 USD880.8M -63.3%	(2011) 258 USD524.2M 190.9%	(2011) 6 USD21.3M -21.2%	(2011) 30 USD285.3M 646.9%	(2011) 26 USD636.4M 1006.7%	(2011) 302 USD2,755.7 M 45.4%	(2011) 33 USD215.8M -43.0%	(2011) 258 USD524.2M 190.9%	(2011) 26 USD636.4M 1006.7%	(2011) 8 USD198.8M 506.3%	Highlighted VCs are in the area less than USD 100 M of FDI in 2013
			(2012) 436 USD640.1M -76.8%	(2012) 224 USD940.5M 79.4%	(2012) 224 USD940.5M 79.4%	(2012) 21 USD453.3M -48.5%	(2012) 224 USD940.5M 79.4%	(2012) 6 USD72.3M 239.8%	(2012) 30 USD109.6M -61.6%	(2012) 34 USD1,106.7 M 73.9%	(2012) 436 USD640.1M -76.8%	(2012) 54 USD637.8M 195.5%	(2012) 224 USD940.5M 79.4%	(2012) 34 USD1,106.7 M 73.9%	(2012) 14 USD50.6M -74.6%	
			(2013) 491 USD1,015.2 M 58.6%	(2013) 261 USD541.0M -42.5%	(2013) 261 USD541.0M -42.5%	(2013) 11 USD116.3M -74.3%	(2013) 261 USD541.0M -42.5%	(2013) 19 USD117.2M 62.1%	(2013) 37 USD60.5M -44.8%	(2013) 28 USD1,844.1 M 66.6%	(2013) 491 USD1,015.2 M 58.6%	(2013) 80 USD746.6M 17.1%	(2013) 261 USD541.0M -42.5%	(2013) 28 USD1,844.1 M 66.6%	(2013) 25 USD132.2M 161.5%	

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-4. FDI newly approved for processing/manufacturing (estimated) (year, amount, increase from previous year) *5	(2011) USD1,245.6 M 180.9%	(2011) USD236.9M 461.9%	(2011) USD236.9M 461.9%	(2011) USD398.1M -29.1%	(2011) USD236.9M 461.9%	(2011) USD9.6M 52.4%	(2011) USD129.0M 1,342.7%	(2011) USD287.7M 2,037.9%	(2011) USD1,245.6 M 180.9%	(2011) USD97.5M 10.1%	(2011) USD236.9M 461.9%	(2011) USD287.7M 2,037.9%	(2011) USD89.9M 1,071.1%	
		-5. GDP Growth Rate *9*10*11	(2011) 10.3 (2012) 9.2% (2013) 9.3%	(2008) 10.9% (2009) 6.7% (2010) 11.0% (2011) 10.1% (2012) 8.1%	(2008) 10.9% (2009) 6.7% (2010) 11.0% (2011) 10.1% (2012) 8.1%	(2011) 10% (2012) 6.1% (2013) 6-6.5%	(2008) 10.9% (2009) 6.7% (2010) 11.0% (2011) 10.1% (2012) 8.1%	(2008) 14.8% (2009) 8.3% (2010) 19.1% (2011) 15.9% (2012) 2.5%	(2008) 10.1% (2009) 11.3% (2010) 12.6% (2011) 13.0% (2012) 9.1%	(2008) 13.0% (2009) 7.6% (2010) 11.0% (2011) 11.3% (2012) 8.1%	(2011) 10.3 (2012) 9.2% (2013) 9.3%	(2011) 13.3% (2012) 12.1 (2013) 11.5-12%	(2008) 10.9% (2009) 6.7% (2010) 11.0% (2011) 10.1% (2012) 8.1%	(2008) 13.0% (2009) 7.6% (2010) 11.0% (2011) 11.3% (2012) 8.1%	(2008) 13.0% (2009) 15.0% (2010) 14.0% (2011) 13.7% (2012) 12.4%	Highlighted VCs are in the area less than 5% growth rate in 2012
5	Sufficient capacity of teacher	-1. The number of students / teachers in the target fields [number of student per a teacher]	Electricity -/17 Electronics -/11 Mechanics -/14 In total 4000/120 [33.3]	Metal Cutting/Machining 76/11 [6.9] Industrial Electricity 162/22 [7.4] Industrial and Civil Electronics 81/11 [7.4] In total 3,446/157 [21.9]	Electricity 40/12 [3.3] Electronics 55/10 [5.5] Machining 40/13 [3.1] In total 1,666/144 [11.6]	In total 3,739/112 [33.4]	Machining 679/10 [67.9] Electricity-Electronics, Automation Faculty 1267/28 [45.3] In total 4000/105 [38.1]	Machining 48/16 [3.0] Electricity 40/29 [1.4] Electronics 34/14 [2.4] In total 3,500/166 [21.1]	Mechanical 65/16 [4.1] Electricity 169/16 [10.6] Electronics 102/17 [6.0] In total 1,636/165 [9.9]	Industrial Electricity 90/19[4.7] Welding 17/13[1.3] Metal cutting 10/9 [1.1] Automotive 55/9[6.1]	Metal 33/20 [1.7] Electricity -Electronics 316/22 [14.4] In total 4,910/100 [49.1] The number of staff is 59	Electricity-Electronic 108/33 [3.3] Mechanics 50/41 [1.2] In total 3,122/184 [17.0] Including staff	Mechanic -/89 Electricity 792/80 [9.9] Electronics 533/48 [11.1] VJC 586/21 [27.9] Vietnam Korea Center -/31 Teachers are for both University and vocational training In total 45,000/1,571 [28.6]	Electricity-Electronics 240/33 [7.3] Machining -/23 In total 2,074/93 [22.3]	Mechanic 24/6 [4.0] Electricity 231/30 [7.7] In Total 5,001/108 [46.3] *4	Due to the teachers' multiple coverage of training level: primary, intermediate and college, the number of students per teacher cannot be compared under the same condition.

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		<p>-2. Categorization/Qualification of teacher</p> <p>*B: Bachelor</p> <p>*B/c: Bachelor/college</p> <p>*B/u: Bachelor/university</p> <p>*M: Master</p> <p>As of Nov. 2014</p>	<p>Mechanic</p> <p>B/c: 2[14%]</p> <p>B/u: 8[58%]</p> <p>M: 4[28%]</p> <p>Industrial</p> <p>Electricity</p> <p>B/c: 0[0%]</p> <p>B/u: 11[65%]</p> <p>M: 3[17.5%]</p> <p>Others: 3[17.5%]</p> <p>Industrial Electronics</p> <p>B/c: 0[0%]</p> <p>B/u: 8[72%]</p> <p>M: 3[28%]</p>	<p>Metal Cutting/Machining</p> <p>B/u: 7[64%]</p> <p>M: 4[36%]</p> <p>Industrial</p> <p>Electricity</p> <p>B/u: 15[68%]</p> <p>M: 6[27%]</p> <p>D: 1[5%]</p> <p>Industrial and Civil Electronics</p> <p>B/u: 4[36%]</p> <p>M: 6[55%]</p> <p>D: 1[9%]</p>	<p>Machining</p> <p>B/u: 5 [45%],</p> <p>M: 5[45%]</p> <p>D: 1[10%]</p> <p>Electricity</p> <p>B/u: 10[83%],</p> <p>M: 2[17%]</p> <p>Electronics</p> <p>B/u: 5[45%],</p> <p>M: 6[55%]</p>	<p>Machining</p> <p>B/u: 23[85%],</p> <p>M: 4[15%]</p> <p>Electricity</p> <p>B/u: 25[78%]</p> <p>M: 7[22%]</p>	<p>Machining</p> <p>B/u: 12[67%]</p> <p>M: 5[28%]</p> <p>D: 1[5%]</p> <p>Electricity</p> <p>B/u: 7[58%]</p> <p>M: 5[42%]</p> <p>Electronics</p> <p>B/u: 9[69%]</p> <p>M: 2[15%]</p> <p>D: 2[15%]</p>	<p>Machining</p> <p>B/c: 3</p> <p>B/u: 8 [44%],</p> <p>M: 10[56%]</p> <p>Electricity</p> <p>B/u: 4 [13%],</p> <p>M: 27[87%]</p> <p>Electronics</p> <p>B/u: 4 [29%],</p> <p>M: 10[71%]</p>	<p>Mechanical</p> <p>B/u: 18[82%]</p> <p>M: 4[18%]</p> <p>Electricity-Electronics</p> <p>B/u: 16[67%]</p> <p>M: 8[33%]</p> <p>Welding</p> <p>B/u: 11[85%]</p> <p>M: 2[15%]</p> <p>Metal cutting</p> <p>B/u: 7[78%]</p> <p>M: 2[22%]</p> <p>Automotive</p> <p>B/u: 6[67%]</p> <p>M: 2[23%]</p> <p>Others: 1[10%]</p>	<p>Industrial Electricity</p> <p>B/u: 10[53%]</p> <p>M: 6[32%]</p> <p>Others: 3[15%]</p> <p>Electricity-Electronics</p> <p>B/u: 16[67%]</p> <p>M: 8[33%]</p>	<p>Metal Cutting 20</p> <p>Electricity-Electronics 22</p> <p>All teachers have bachelor.</p> <p>Industrial Electronics, Mechatronics</p> <p>B/u: 15[100%]</p> <p>Industrial Electronics</p> <p>B/u: 15[100%]</p> <p>VJC</p> <p>B/u: 10[48%]</p> <p>M: 11[52%]</p> <p>Vietnam Korea center</p> <p>B/u: 20[65%]</p> <p>M: 11[35%]</p>	<p>Machining</p> <p>B/u: 5[45%]</p> <p>M: 6[55%]</p> <p>Industrial Electricity</p> <p>B/u: 15[79%]</p> <p>M: 4[21%]</p> <p>Industrial Electronics</p> <p>B/u: 15[100%]</p> <p>Electronics</p> <p>B/u: 37[77%]</p> <p>M: 8[17%]</p> <p>D: 3[6%]</p> <p>VJC</p> <p>B/u: 10[48%]</p> <p>M: 11[52%]</p> <p>Vietnam Korea center</p> <p>B/u: 20[65%]</p> <p>M: 11[35%]</p>	<p>Machining</p> <p>B/u: 77[87%]</p> <p>M: 8[9%]</p> <p>D: 4[4%]</p> <p>Electricity</p> <p>B/u: 66[83%]</p> <p>M: 11[14%]</p> <p>D: 3[3%]</p> <p>Electronics</p> <p>B/u: 37[77%]</p> <p>M: 8[17%]</p> <p>D: 3[6%]</p> <p>VJC</p> <p>B/u: 10[48%]</p> <p>M: 11[52%]</p> <p>Vietnam Korea center</p> <p>B/u: 20[65%]</p> <p>M: 11[35%]</p>	<p>Electricity-Electronics</p> <p>B/u: 28[64%]</p> <p>M: 16[36%]</p> <p>Machining</p> <p>B/u: 23[88%]</p> <p>M: 3[12%]</p>	<p>Mechanic</p> <p>B/u: 6[75%]</p> <p>M: 2[25%]</p> <p>Electricity</p> <p>B/u: 22[73%]</p> <p>M: 8[27%]</p>	<p>It is found that all VCs allocate the teachers in accordance with GDVT's regulation from the viewpoint of educational background.</p>
		-3. Training of Teachers	<p><u>2012</u></p> <p>- Quality control: 4 in Mechanic and industrial Electronics</p> <p>- pedagogy in Korea: 7 in Industrial Electricity</p> <p><u>2013</u></p> <p>- Skill development: 1 in Mechanic</p> <p>- English: 2 in Mechanic</p> <p>- Equipment M&O: 3 in Electricity and Electronics</p>	<p>2011</p> <p>- 40 times for all teachers in Electricity and Electronics</p> <p>2012</p> <p>- 65 times for all teachers in Electricity and Electronics</p> <p>2013</p> <p>4-5 times held by GDVT for Machining 200 times for all teachers in Electricity and Electronics</p>	<p><u>2012</u></p> <p>- 18 times for Electricity faculty</p> <p>- 10 teachers in Electronics faculty</p> <p>2013</p> <p>- 2 teachers for HaUI training and Kanto PC training in Machining faculty</p>	<p>6 Japanese experts are engaged for training of teachers.</p>	<p>2014</p> <p>Industrial Electricity, Electronics 27</p> <p>General In Vietnam 65</p> <p>Abroad 16</p>	<p>2011</p> <p>Skill: 25</p> <p>Theory: 31</p> <p>Abroad: 3</p> <p>2012</p> <p>Skill: 27</p> <p>Theory: 19</p> <p>Abroad: 18</p> <p>2013</p> <p>Skill: 59</p> <p>Theory: 4</p> <p>Abroad: 2</p>	<p>2011</p> <p>Refrigerator: 6</p> <p>Electricity-Electronics: 40</p> <p>2012</p> <p>Refrigerator: 8</p> <p>Electricity: 27</p> <p>Electronics: 13</p> <p>2013</p> <p>Refrigerator: 3</p> <p>Electricity: 29</p> <p>Electronics: 14</p>	<p>2013</p> <p>CNC operation (HaUI)</p> <p>CNC maintenance (HaUI)</p> <p>Skill Test (HIVC)</p>	<p>Several batches of domestic training and training conducted by GDVT</p>	<p><u>2012</u></p> <p>- teaching training: 27 (8 in Mecha, 19 in Indus Elec.)</p> <p>- vocational training: 15 (5 in Mecha, 10 in Indus Elec.)</p> <p><u>2013</u></p> <p>- teaching training: 22 (8 in Mecha, 14 in Indus Elec.)</p> <p>- vocational training: 25 (5 in Mecha, 20 in Indus Elec.)</p> <p>Training abroad: 2 (1 in Mecha, 1 in Industrial Elec)</p>	<p>2011</p> <p>- VJC: 10</p> <p>- HaUI: 12</p> <p>2012</p> <p>- VJC: 10</p> <p>- HaUI: 12</p> <p>2013</p> <p>- VJC: 10</p> <p>- HaUI: 12</p>	<p>2013</p> <p>Training at HaUI: 13</p>	<p>2013</p> <p>Metal cutting: 4</p> <p>Electricity: 8</p>	

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-4. Execution of 5S activity (present situation)	<p>Since 2013</p> <p>Good performance was confirmed in Mechanics faculty.</p> <p>On the other hand, the safety line is not indicated in the floor, some students are on sandals, plastic bottles are left on equipment and storages are not clean *2</p>	No	<p>Since 2013</p> <p>HaUI's method has been adopted.</p>	<p>Since March 2012</p> <p>Last 20minuets of each practical training is allocated for 5S activities.</p> <p>Each faculty prepares the monthly report for 5S activities.</p>	Yes	No	No	Yes	Since 2012	Since 2013	Since 2011	Yes	Yes	<p>Highlighted VCs does not conduct 5S activity</p>
6	Sufficient number of enrollment	-1. The number of enrollment of target fields at the college level Actual Enrollment /fixed number [--%] *19														Highlighted VCs are less than 50% of actual/quota in the recent year

	Faculty	Machining	Machining	Machining	Machining	Machining	Metal cutting		Metal cutting	Machining	Machining	Machining	Machining		
	2011	52/80 [65%]	47/60 [78%]	50/50 [100%]	98/95 [103%]	167/170 [98%]	141/300 [47%]		20/60 [33%]	33/30 [110%]	60/30 [120%]	148/180 [82%]	34/50 [68%]		
	2012	61/80 [76%]	76/60 [127%]	55/50 [110%]	85/70 [121%]	272/280 [97%]	176/160 [110%]		14/60 [23%]	45/50 [90%]	49/50 [98%]	163/150 [109%]	37/50 [74%]		
	2013	147/80 [184%]	64/80 [80%]	40/50 [80%]	135/100 [135%]	240/320 [75%]	92/180 [50%]		10/60 [17%]	86/75 [172%]	59/50 [118%]	175/180 [97%]	35/50 [70%]		
	2014	141/80 [176%]	102/120 [85%]	50/50 [100%]	265/150 [177%]	477/320 [149%]	97/180 [53%]		17/85 [20%]	90/50 [180%]	56/50 [112%]	244/180 [136%]	26/50 [52%]		
	Faculty	Electricity	Industrial Electricity	Electricity	Electricity	Industrial Electricity	Refrigeration and air-conditioning technology	Industrial Electricity:	Industrial electricity	Electricity	Electricity	Electricity	Industrial Electricity	Electricity	
	2011	120/110 [109%]	192/80 [240%]	70/50 [140%]	193/100 [193%]	217/300 [72%]	0/0	214/80 [268%]	180/60 [300%]	77/100 [77%]	69/80 [86%]	234/ (n/a)	414/450 [92%]	117/100 [117%]	
	2012	30/110 [27%]	278/270 [103%]	80/50 [160%]	195/130 [165%]	255/300 [85%]	50/40 [125%]	248/80 [310%]	157/60 [262%]	180/100 [180%]	71/60 [118%]	332/ (n/a)	380/450 [84%]	101/100 [101%]	
	2013	120/110 [109%]	147/180 [82%]	77/50 [154%]	165/100 [165%]	207/360 [58%]	33/35 [94%]	163/80 [204%]	90/170 [53%]	196/100 [196%]	73/60 [122%]	220/ (n/a)	217/450 [48%]	93/100 [93%]	
	2014	122/110 [111%]	156/160 [98%]	85/75 [113%]	185/120 [154%]	316/360 [88%]	35/35 [100%]	169/80 [211%]	168/215 [78%]	123/120 [103%]	75/110 [68%]	n/a / (n/a)	200/450 [44%]	83/100 [83%]	
	Faculty	Electronics	Industrial Electronics	Electronics		Industrial Electronics	Industrial Electricity	Industrial Electronics:	Welding Technology	Electronics		Electronics	Industrial Electronics		
	2011	35/110 [32%]	83/50 [166%]	61/50 [122%]		180/230 [78%]	37/100 [37%]	96/40 [240%]	45/200 [23%]	58/35 [166%]		118/ (n/a)	31/50 [62%]		
	2012	48/110 [44%]	167/120 [139%]	45/50 [90%]		228/280 [81%]	67/140 [48%]	60/40 [150%]	21/200 [11%]	37/50 [74%]		219/ (n/a)	46/50 [92%]		
	2013	36/110 [33%]	81/120 [68%]	47/50 [94%]		180/280 [64%]	34/50 [68%]	28/40 [70%]	17/200 [9%]	33/50 [66%]		125/ (n/a)	51/50 [102%]		
	2014	96/110 [87%]	90/80 [113%]	60/50 [120%]		254/280 [91%]	40/50 [80%]	33/40 [83%]	33/110 [30%]	54/50 [108%]		(n/a) / (n/a)	40/50 [80%]		
	Faculty						Industrial electronics	Civil Electronics:							
	2011						18/100 [18%]	42/40 [105%]							
	2012						34/80 [43%]	47/40 [118%]							
	2013						30/35 [86%]	24/40 [60%]							
	2014						34/35 [97%]	37/40 [93%]							
	Faculty							Installation of electricity and industrial control:							
	2011							52/50 [104%]							
	2012							54/50 [108%]							
	2013							41/50 [82%]							
	2014							30/50 [60%]							
	Faculty							Mechatronics							
	2011							77/45 [171%]							
	2012							50/45 [111%]							
	2013							41/45 [91%]							
	2014							48/45 [107%]							

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	備考
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-2. Total number of students of each target faculty/fixed number (2014) [--%]	Machining 260/240 [108%] Electricity 228/330 [69%] Electronics 119/330 [36%]	Machining 132/260 [51%] Industrial Electricity 333/610 [55%] Industrial Electronics 134/320 [42%]	Machining 100/150 [67%] Electricity 214/175 [122%] Electronics 134/150 [89%]	Machining 422/320 [132%] Electricity 422/350 [121%]	Machining 908/920 [99%] Industrial Electricity 778/1,020 [76%] Industrial Electronics 662/840 [79%]	Metal cutting 365/520 [70%] Refrigerator and air-condition technology 118/110 [107%] Industrial Electricity 141/240 [59%] Industrial electronics 98/150 [65%]	Industrial Electricity 408/240 [170%] Industrial Electronics 90/120 [75%] Civil Electronics 65/120 [54%] Installation of electricity and industrial control 88/150 [59%] Mechatronics 115/135 [85%]	Metal cutting 30/205 [15%] Industrial Electricity 351/445 [79%] Welding Technology 36/510 [7%]	Machining 170/175 [97%] Electricity 306/320 [96%] Electronics 114/150 [76%]	Machining 328/150 [219%] Electricity 620/230 [270%]	Machining 465 (2012) Electricity 792 (2012) Electronics 533 (2012) Univ. 8,100/7,500 [108%] College. 4,217/4,000 [105%] Vocational Training 1,195/1,000 [120%] VJC Machinery 245/- Industrial Electricity and Electronics 341/-	Machining 98/150 [65%] Industrial Electricity 797/1,350 [59%] Industrial Electronics 128/150 [85%]	Electricity 256/300 [85%]	
		-3. The total number of students (fixed number) (2014)														
		Whole School *19	Total 1,500	1,967	1,407 (1,800)	3,373 (4,390)	4,210	4,786	4,538 (1,220)	2,219	3,018	3,122	-	1,629 (2,250)	2,136	
			Male -	1,699	984	3,115	3,633	-	3,398	1,609	1,916	-	-	1,383	1,756	
			Female -	268	423	258	577	-	1,140	610	1,102	-	-	246	380	
		College Level *19	Total 3,051	1,268	988	955	3,202	1,087	3,836	664	2,351	896	1,195	1,258	277	
			Male 2,576	1,180	712	886	2,935	-	2,800	539	1,395	-	-	1,018	276	
			Female 475	88	276	69	267	-	1,036	125	956	-	-	240	1	

N o.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-4. Existence of the evening course	Existent	Non-existent	Non-existent	Non-existent	Non-existent	Non-existent	Non-existent	Non-existent	Existent Since 2010	Existent Since 2008	Non-existent	Non-existent	Non-existent	VCs established the evening courses as requested by industrial demand.
		-5. Future Plan	Planned enrollment in 2015 are: Mechanic 110, Industrial Electricity 110, Industrial Electronics 150.	Planned enrollment in 2015 are: Machining 80, Electricity 130, Electronics 120 In 2016 Machining 90, Electricity 140, Electronics 130 In 2020 Machining 120, Electricity 160, Electronics 150	Planned enrollment from 2014-2018: 120-150, after 2018: 20% per year	10% increase per year	Industrial Electricity 250 (2015), 300 (2016), 400 (2017) Industrial Electronics 250 (2015), 300 (2016), 400 (2017)	Planned enrolment by 2020: Refrigerator and air-condition technology 200, Electricity 200, Industrial Electronics 200	Planned enrolment by 2020: Welding 30, Mechatronics 50, Automotive technology 170, Metal cutting 50, Industrial power 185, Industrial electronics 35, Electrical installation and industrial control 35, Consumer electronics 70	Planned enrollment in 2015 are: Machining 195, Elec &Eletro 221 In 2016 Machining 245, Elec &Eletro 288 In 2017 Machining 322, Elec & Eletro 315	15% Increase per year from 2014 to 2015	10% increase per year till 2020	Machining 600 in 2020 Electricity 400 in 2020 Electronics 400 in 2020	Industrial Electricity 450 by 2020 Industrial Electricity 150 by 2020	Planned enrolment by 2017 Machining (new) 75 Electricity 200	Highlighted VCs' future plans do not have feasibilities due to the current insufficient numbers of students.
		-6 Population *6 Population (x1,000 2013) /increase from 2008	HCMC 7,818.2 113%	Hanoi 6,936.9 109% Dong Anh 334 (2014)	Hanoi 6,936.9 109% Dong Anh 334 (2014)	Ba Ria-Vung Tau 1,052.8 107%	6,936.9 109%	1,029.4 104%	992.8 114%	1,925.2 106%	7,818.2 113%	2,768.7 114%	6,936.9 109%	1,925.2 106%	794.3 101%	Highlighted VCs are less than 105% of increase
7	Sufficient capacity of facility	-1. Sufficient space for equipment installation														
		Machining	O	O	O	O	O	O	-	O	O	O	O	O	-	
		Electricity	O	O	O	O	O	O	O	O	O	O	O	O	O	
		Electronics	O	O	O	-	O	O	O	-	O	-	O	O	-	
		-2. Sufficient facility infrastructure (electricity, water supply, drainage, etc.) for equipment installation	Finishing repair work	Finishing repair work	Structure reinforcement work	Partial structure reinforcement work	Structure reinforcement work	Finishing repair work	Finishing repair work	Finishing repair work	No repair work required	Structure reinforcement work Additional power distribution panel	Finishing repair work	Finishing repair work	Finishing repair work	Highlighted VCs needs large budget for the work relatively

No.	Criteria	Methods of Analysis	01	02	03	04	05	06	07	08	09	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-3. Critical issue to ensure the space and infrastructure for equipment installation					Land subsidence									Highlighted VCs are with critical issue
8	No similar course in the neighboring school	Number of VCs in the neighboring area (45 Priority VC and candidate VC)	3 Ho Chi Minh VC of Technology Hung Vung Technology Secondary School The Central VC of No.3 According to VC, this is one of the factors which cause the situation that the # of enrollment is getting low.	5 HaUI VC TT HVCHT, Hanoi VC of Electrical Machinery The Central VC of No.1 - Predicted population of Dong Anh area in 2020: 457,800*12 - Predicted population of Dong Anh area from age 15 to 19 in 2018: 44,700*13, >>>1,269 > 1,027 It shows that the predicted demand at the college level in 2018 is slightly exceeding the number of predicted admission enrollment in 2018. >>>1,949 +1,269 < 2,650 +1,027 It shows that the predicted demand at the college level and intermediate level in 2018 is below the number of predicted admission enrollment in 2018. *Admission enrollment of the college and intermediate level of competitors in 2013: VCTT: 346, HVC: 1,604, Vietnam-Korea VC: 700	5 HaUI VC TT HVCHT, Hanoi VC of Electrical Machinery The Central VC of No.1	1 Ninh Dinh VC of Mechanization	5 HaUI Hanoi Industrial VC VC of Technique and Technology Hanoi VC of Electrical Machinery The Central VC of No.1	1 VC of Agricultural Machinery	1 VC of No.5	2 Hai Phong Industrial VC Hai Phong Tourism and Service VC	3 Ho Chi Minh VC Hung Vung Technology Secondary School The Central VC of No.3	2 VC No.8 Llama VC No.2 Supported by Dong Nai province, Long Thanh – Nhon Trach area for the VC: USD0.25M, other intermediates: USD0.15M	5 Hanoi Industrial VC VC of Technique and Technology VC of High Technology Hanoi VC of Electrical Machinery The Central VC of No.1	2 The Central VC of Transport No.2 Hai Phong Tourism and Service VC	1 Haul 3 rd campus	
JICA Evaluation			1	2	1	2	4	4	4	3	3	2	1	2	2	

*1: Source - Answer of questionnaire taken by JST in October 2014

*2: Source - Checked by JICA in May 2014.

*3: Source – JICA Survey 'Editing number of students of school'

*4: Source Reply of Questionnaire taken by JICA in December 2013

*5: Overall condition of Vietnam in 2014, JETRO

*6: General Statistics Office of Vietnam

*7: Yearbook of Japanese enterprises in Vietnam, COMM BANGKOK CO., LTD.

*8: Ha Nam PPC

*9: Data book of Industrial Parks in Vietnam, JETRO

*10: People's Committee

*11: Vietnam Communist Party

*12: Dong Anh Development Plan to 2020

The Preparatory Survey on the Project
for Strengthening Vocational Training Sector in Vietnam

*13: UN Demographic Statistics (1950-2050), World Population Pyramid

*14: The 2009 Vietnam Population and housing census/ General Statistics Office of Vietnam

*15: Average population by sex and by residence/ General Statistics Office of Vietnam

*16: Vocational Training Report Vietnam 2012/GDVT

*17: UNESCO

*18: Report on the 2011 Vietnam labor force survey/ General Statistics Office of Vietnam

Source: prepared by the JST

The Preparatory Survey on the Project for Strengthening Vocational Training Sector in Vietnam

Supplements

As of December 18, 2014

N o.	Items	Methods of Analysis	1	2	3	4	5	6	7	8	9	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
A	Model/Candidate for future technical cooperation		Model& GR	GR	Model	GR							Model			
B	Supports from other donors		USA *1	Korea*1	None	None	Korea*1	German, Korea*1	ADB (May 2011-Dec. 2017) *1 Duplication on single equipment for electricity field confirmed Korea France	ADB (May 2011-Dec. 2017)*1 No duplication	German, USA*1	German (2014-) EUR6.5M + Additional EUR2-3M is planned	Korea*1 (2007 -)	AFD Finland ADB *1	SFD Saudi Fund for Development USD18.2M (Saudi Arabia 50%, Vietnam 50%) New building construction project, including classrooms, workshops and dormitory, Construction 2011-2018.	
C	Sufficient Job assistance capacity as a VC	-1. Existence of department/division/center for job assistance	"Admission and Jobs Support Center"	Training & Student Affair Department	Enterprise cooperation Department	"Job employment Assistant Group"/ Department of International cooperation and Business relationship	Enterprise Partnership Department, Student Management Office	Center of technology application and labor export	Training Division	Center of Admission and Job Introduction	1. " Testing and Training Quality Insurance Division" and 2. " Practice and Service Department."	"Department of Student Affair" and "Job Consultation Center"	" Center for enterprise partnership and vocational skill Assessment"	Student affair division	Student Affair and Job Consultation Department, Ha Nam job instruction center, Center of job recommendation (DORISA)	
		-2. The number of staff working at the dep/div/cer above-mentioned	6	6 for Job placement	6	More than 2				5	1. 4 2. 6 10 in total	5 each	7		9	
		-3 Methods to provide job-related information to students	- Web site - Job fair (2/year)	- Web site Job fair	- Web site - Job fair (1/year) - by teachers	- Job fair (1/year in Aug.) - by teachers	-Job fair (1/year)	-Web site -Job fair (1/year)	-Web site -Job fair (several times)	-Job fair	- electric bulletin board - Web site - Job fair (career day)	- Web site - Job fair	- Web site - Job fair (2/year) - bulletin board - e-mail	-Job fair with Hai Phong City	-Job fair (Mechanic: 4/year. Electricity: every month by DORISA)	

N o.	Item	Methods of Analysis	1	2	3	4	5	6	7	8	9	10	11	12	13	Remarks
			Ho Chi Minh VC	Hanoi Industrial VC	VC of Technique and Technology	Ba Ria-Vung Tau VC	Hanoi VC of High Technology	Vinh Phuc VC	Da Nang VC	The Central VC of Transport No. 2	Ho Chi Minh VC of Technology	VC of Mechanics and Irrigation	HaUI	Hai Phong Industrial VC	Ha Nam VC	
		-4. The number of enterprises has relationships with the target VC *if there are any big difference on the scale/potential/possibility among the enterprises, the conditions of figures are to be added or changed.	77 Including 7 Japanese enterprises	11	200 About 30-40% of it is Japanese enterprise.		Internship 22 (4 Japanese enterprise) Alliance Partner 300 (36 Japanese enterprise)	34 including 10 Japanese enterprises		15-20 (3 Japanese enterprise)	50-60	30 (labor recruitment agreement)	100 (including 56 Japanese enterprises)		50 (11 Japanese enterprise)	
		-5. Employment rate In 2013	Machining: 100% Electricity: 90% Electronics 80% 80-90% of students take jobs within 3months after graduation.	Machining 100% Electricity 90% Electronics 80%	Machining 100% Electricity 100% Electronics 100%		Machining 100% Electricity 85.7% Electronics 81.5%	Machining 100% Electricity 98% Electronics 100%	Mechanical 65% Industrial Electricity, Industrial Electronics, Electrical installation and industrial control electronics 70%	Machining 100% Industry Electricity 60%	Almost 100%	Almost 100% (within 3 months after graduation) Since 2002, jobless students after 2 months from their graduation are listed and strongly supported by VC to be employed.	Machining 100%(2012) 100%(2013) 100%(2014) Electricity Electronics 81%(2012) 78%(2013) 88%(2014)	Machining 100% Industrial Electricity 80% Industrial Electronics 80%	Mechanic: 100% Electricity: 89%	
D	Operational status	Autonomy rate	40%	30%	0%	0%	30%	0%	30%	12-15%	20%	80%	90%		12%	
E	On-lending	Contribution rate and its evidence/background expressed by the representative of VC	Depending on PPC	Depending on PPC Income USD80,000 /year	10-20%	10-20%	Income USD50,000 /year	~20%	Income USD50,000 /year	Income USD50,000 /year	20%	Support from MARD	10%	10-20%	10%	
			The VC is aware of the value of Japan's support and what reputations they can gain. That's why, the VC requests to be involved the project, though the contribution rate depends on the condition.								The VC gains enterprise profit more than expressed amount.	It was discussed between the VC and MARD on Nov. 8, 2014.	The VC assumed that USD 10 million is the loan amount. On the other hand, USD 2 million is the annual budget for equipment procurement. That's why, the VC also assumed that 5-10% of this budget could be spent for disbursement of the loan			

*1: Source - Answer of questionnaire taken by JST in October 2014

*2: Source - Checked by JICA in May 2014.

*3: Source – JICA Survey 'Editing number of students of school'

- The Preparatory Survey on the Project
for Strengthening Vocational Training Sector in Vietnam
- *4: Source Reply of Questionnaire taken by JICA in December 2013
 - *5: Overall condition of Vietnam in 2014, JETRO
 - *6: General Statistics Office of Vietnam
 - *7: Yearbook of Japanese enterprises in Vietnam, COMM BANGKOK CO., LTD.
 - *8: Ha Nam PPC
 - *9: Data book of Industrial Parks in Vietnam, JETRO
 - *10: People's Committee
 - *11: Vietnam Communist Party
 - *12: Dong Anh Development Plan to 2020
 - *13: UN Demographic Statistics (1950-2050), World Population Pyramid
 - *14: The 2009 Vietnam Population and housing census/ General Statistics Office of Vietnam
 - *15: Average population by sex and by residence/ General Statistics Office of Vietnam
 - *16: Vocational Training Report Vietnam 2012/GDVT
 - *17: UNESCO
 - *18: Report on the 2011 Vietnam labor force survey/ General Statistics Office of Vietnam

Source: prepared by the JST

Annex-10

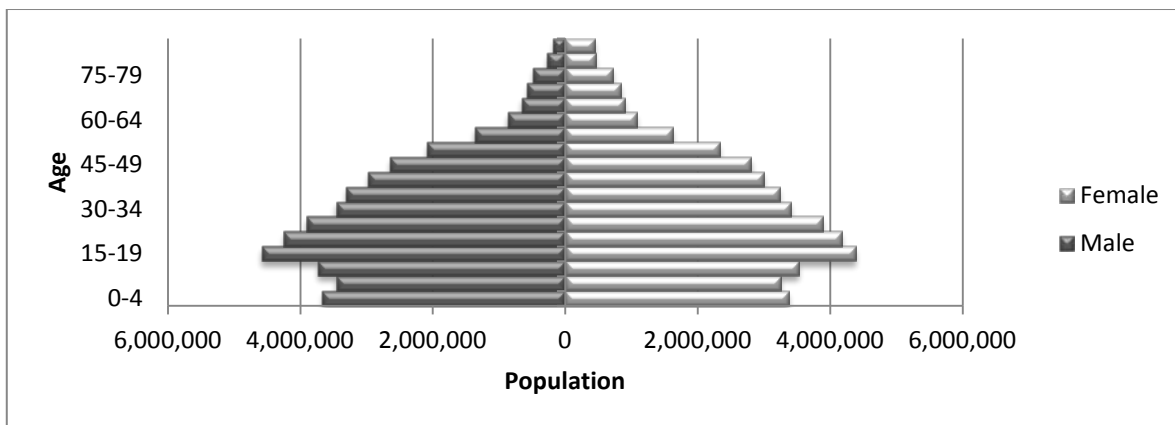
Demographic in the Target Area

Annex-10 Demographic in the target area

Demographic composition in Vietnam

The following figure shows that 15-19 age group is the largest population group in 2009 and the population is decreasing under this group. 5-9 age group, some of them will enter the vocational colleges in 2020, consists of 3.46 Million male and 3.25 female. 18-year-old population in 2020 (7-year-old as of 2009) is 654,894 male and 615585 female

Total enrolment to the vocational colleges in 2012 is 84,151¹, 18-year-old population in 2012 (15-year-old as of 2009) is 1,717,996. Based on the condition that the enrolled student to vocational colleges is the 18-year-old population only, the estimated enrolment ratio to vocational colleges is 4.9% of the 18-year-old population.

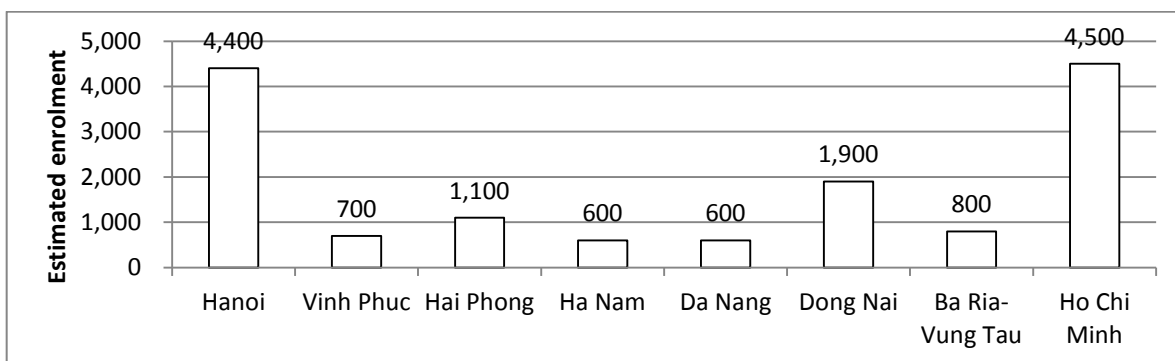


Source: 2009 Vietnam Population and Housing Census

Figure A10-1 Population Pyramid in 2009

Population projection and estimated enrolment to vocational colleges in 2020 in the target areas

The following figure shows the estimated enrolment to vocational colleges in 2020 in the target areas. Enrolment is calculated based on the condition that 4.9% of the 18-year-old population will enter colleges. The enrolment in Hanoi and Ho Chi Minh is estimated at about 4,500 people, meanwhile the one in Ha Nam and Da Nang is estimated at 600 people.



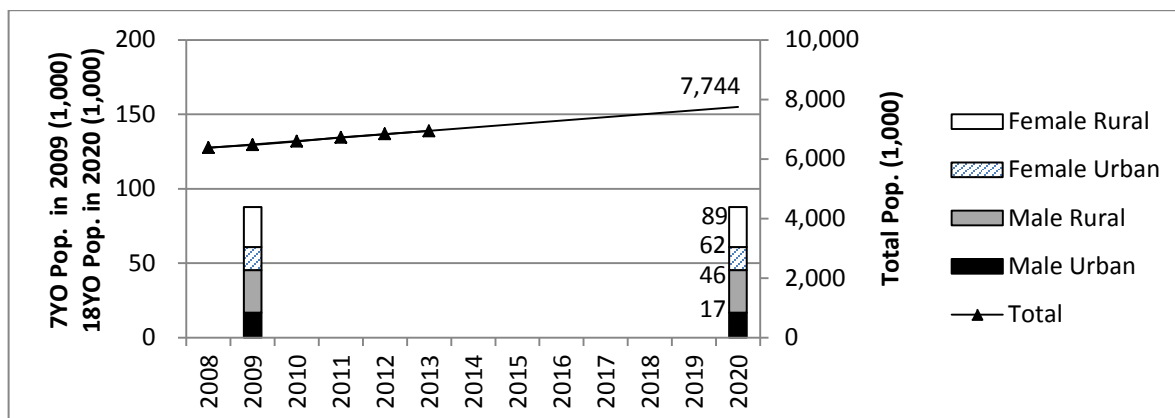
Source: 2009 Vietnam Population and Housing Census

Figure A10-2 Estimated Enrolment to Vocational Colleges in 2020

¹ Vocational Training Report - Vietnam 2012, MOLISA GDVT

Hanoi City

The population growth rate of Hanoi City is about 1.5% and the estimated total population in 2020 will be 7.7 Million if the trend continues. 18-year-old population in 2020 is estimated to 89,000 same as 7-year-old population in 2009 calculated from the census, on the condition that there is no social increase/decrease in population². 18-year-old-male population is estimated to 46,000 and 18-year-old-female-urban population is estimated to 43,000. The expected enrolment to vocational colleges in 2020 is 4,400 based on the condition that 4.9%³ of 18-year-old population will go to vocational colleges.



Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-3 Population Projection in 2020 (Hanoi City)

<Dong Anh District>

15-19-year-old population of Dong Anh District in 2018 is estimated as 59,000 based on the 15-19-year-old-urban population ratio in 2012, on the condition that half of the social increase in 2020 projected in “Dong Anh Development Plan 2020” is realized with 1.5%/year of natural increase. Meanwhile, the estimated enrolment for vocational college course in 2018 and for vocational intermediate course are 1,675 and 2,537 relatively based on the enrolment in 2012⁴, on the condition that the enrolment ratio over total 15-19-year-old population for 2012 and 2018 is same.

There will be 3 vocational colleges in the district in 2018; namely Vocational College of Technique and Technology, Vietnam-Korea Vocational College and Hanoi Industrial Vocational College, which is planning to transfer to this district. The estimated quota for vocational college course and vocational intermediate course of 3 colleges in 2018 is 1,654 and 4,073 relatively on the condition of 10% yearly increase of enrolment.

For vocational college course, the estimated enrolment (1,675) will be more than the quota (1,654) in 2018. However, the total estimated enrolment for both courses (4,212) will be 74%

² The condition of estimation is same for other provinces and cities.

³ The percentage was calculated based on the enrolment of vocational colleges in 2012 and 18-year-old population in 2012 as mentioned above. The conditions of the estimate are the same for other provinces and cities.

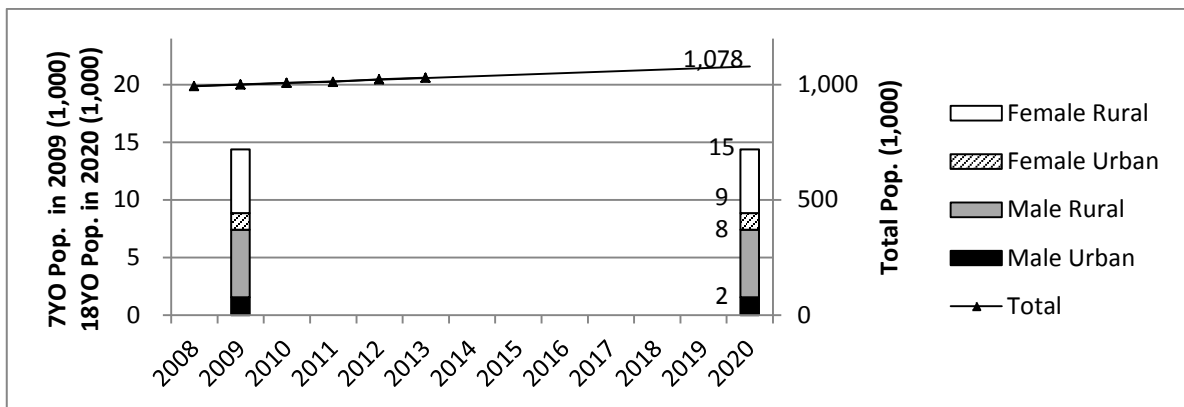
⁴ Enrolment for vocational college course and vocational intermediate course were studied, since the graduates from upper secondary school (grade 12) can enter both vocational college course and vocational intermediate course, and Vietnam-Korea Vocational College has intermediate course only.

of the quota (5,727) and the total estimated enrolment for intermediate course (2,537) will be 63% of the quota.

Therefore, 3 vocational colleges will be able to secure the enrolment in 2018 on the conditions that half of the projected social increase in “Dong Anh Development Plan 2020” is realized and the college and intermediate course do not compete each other.

Vinh Phuc Province

The population growth rate of the province is less than 1 % on average and the total population will be 1.1 Million in 2020 if the trend continues. The estimated 18-year-old population in 2020 is 15,000, the estimated 18-year-old-male population is 8,000 and the estimated 18-year-old-female-urban population is 7,000. The expected enrolment to vocational colleges in 2020 is 700.

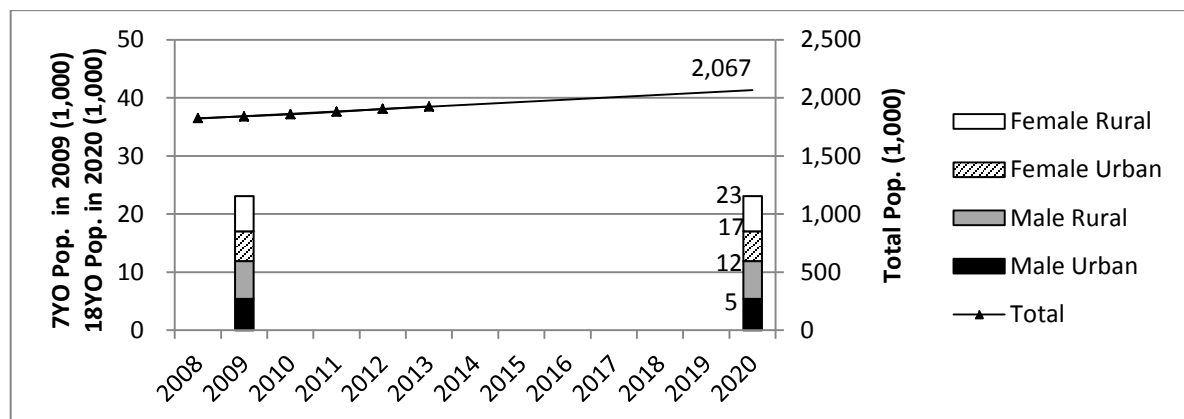


Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-4 Population Projection in 2020 (Vinh Phuc Province)

Hai Phong City

The population growth rate of Hai Phong City is moving around at 1% and the estimated population in 2020 is 2.1 Million if the trend continues. The estimated 18-year-old population in 2020 is 23,000, the estimated 18-year-old-male population is 12,000 and the estimated 18-year-old-female-urban population is 11,000. The expected enrolment to vocational colleges in 2020 is 1,100.

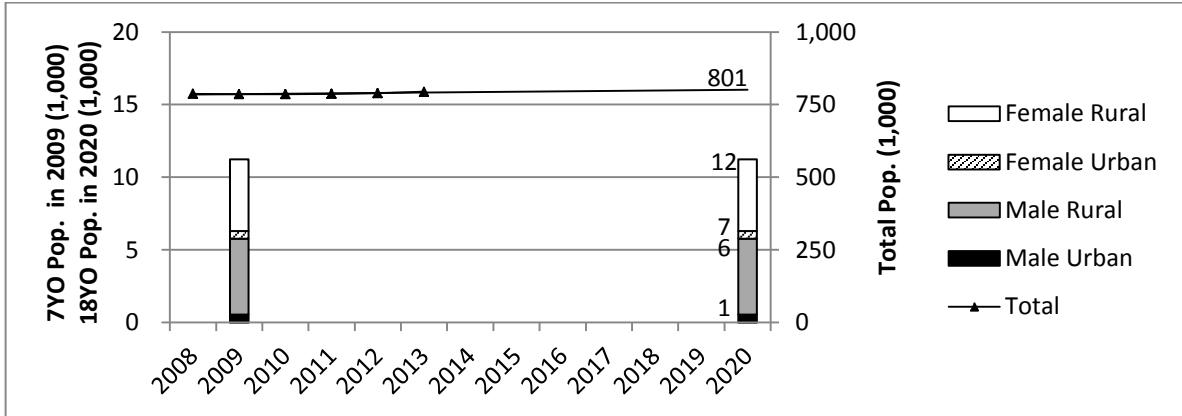


Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-5 Population Projection in 2020 (Hai Phong City)

Ha Nam Province

The population of Ha Nam Province decreased in 2008 and 2009. However, the population growth rate became positive afterwards which is 0.62% in 2013. The estimated population will be 0.8 Million in 2020 if the trend continues. The estimated 18-year-old population in 2020 is 12,000, the estimated 18-year-old-male population is 6,000 and the estimated 18-year-old-female-urban population is 6,000. The expected enrolment to vocational colleges in 2020 is 600.

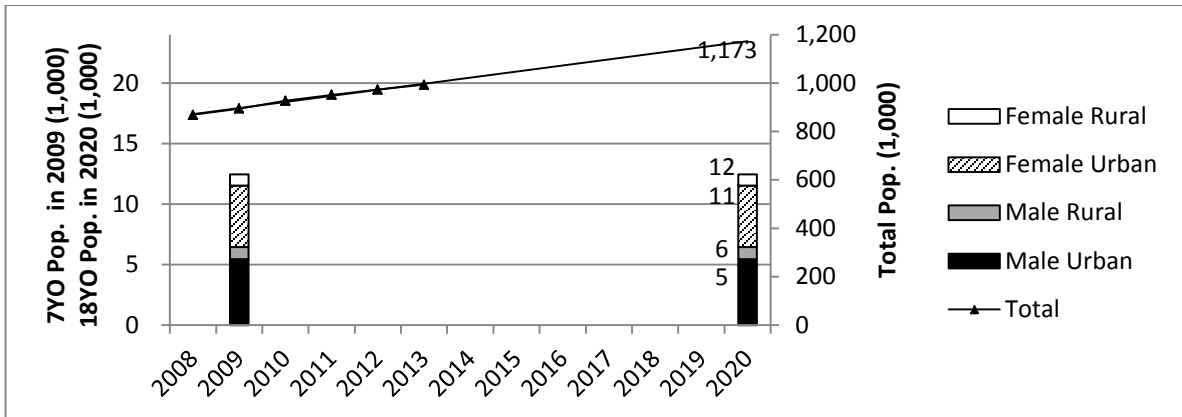


Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-6 Population Projection in 2020 (Ha Nam Province)

Da Nang City

The population growth rate of Da Nang City is around 2.5% in the past few years and the estimated population in 2020 will be 1.2 Million if the trend continues. The estimated 18-year-old population in 2020 is 12,000, the estimated 18-year-old-male population is 6,000 and the estimated 18-year-old-female-urban population is 6,000. The expected enrolment to vocational colleges in 2020 is 600.



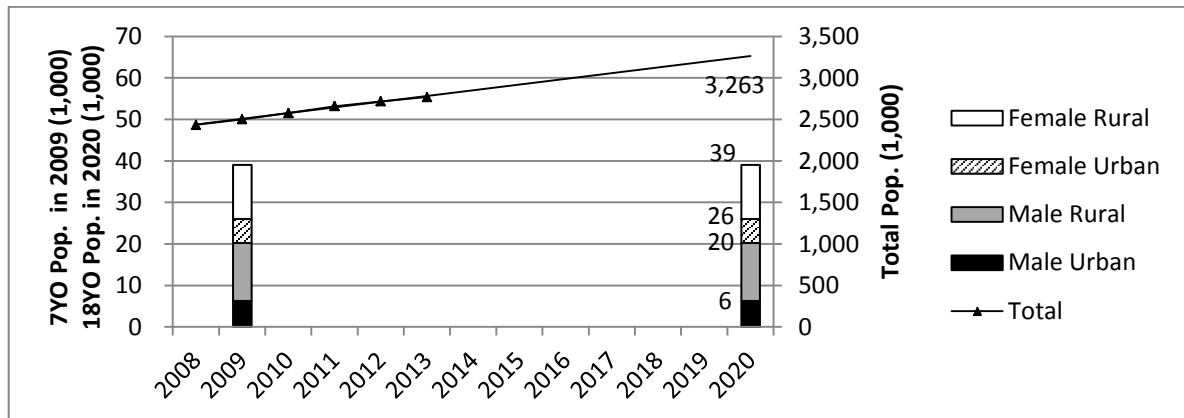
Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-7 Population Projection in 2020 (Da Nang City)

Dong Nai Province

The population growth rate of the province is about 2.5 % on average in the past few years and the total population will be 3.2 Million in 2020 if the trend continues. The estimated 18-year-old population in 2020 is 39,000, the estimated 18-year-old-male population is 20,000 and the

estimated 18-year-old-female-urban population is 19,000. The expected enrolment to vocational colleges in 2020 is 1,900.

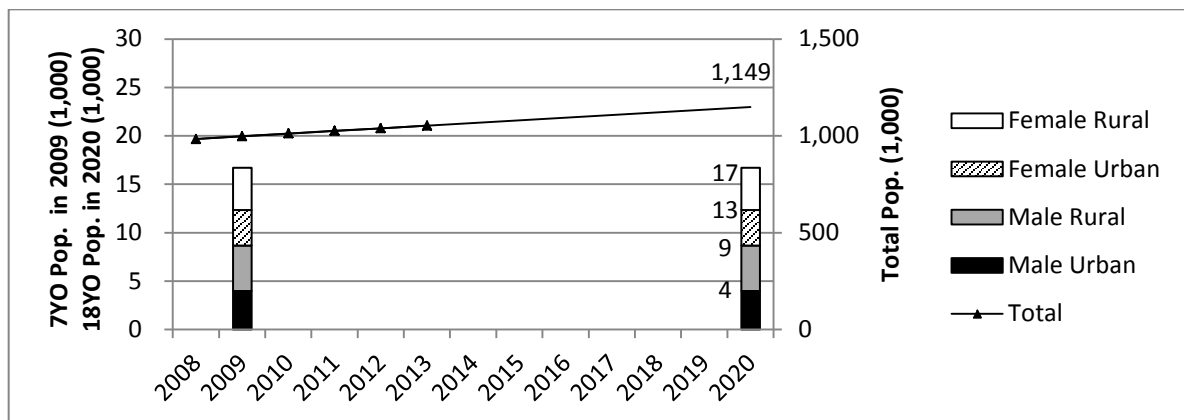


Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-8 Population Projection in 2020 (Dong Nai Province)

Ba Ria-Ving Tau Province

The population growth rate of the province is moving around at 1.3% and the total population will be 1.1 Million in 2020 if the trend continues. The estimated 18-year-old population in 2020 is 17,000, the estimated 18-year-old-male population is 9,000 and the estimated 18-year-old-female-urban population is 8,000. The expected enrolment to vocational colleges in 2020 is 800.

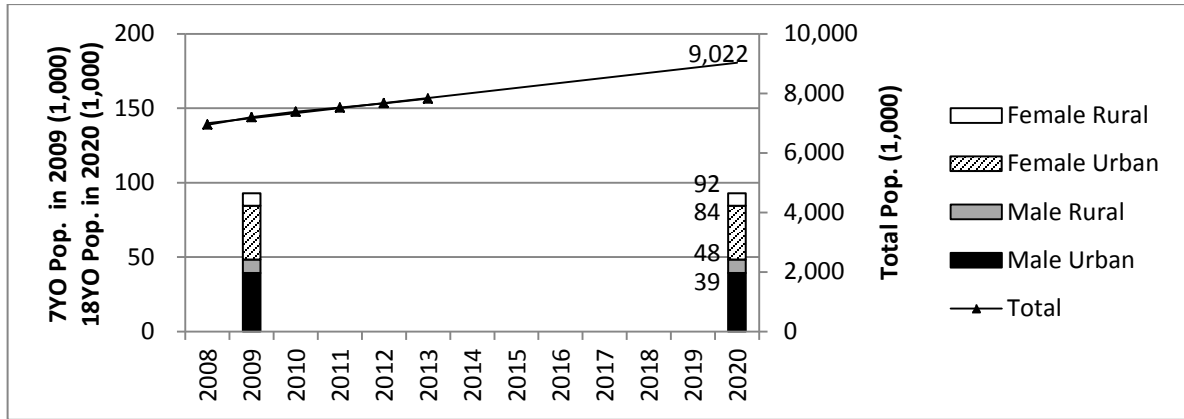


Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-9 Population Projection in 2020 (Ba Ria-Vung Tau Province)

Ho Chi Minh City

The population growth rate of Ho Chi Minh City is moving around at 2.5% and the total population will be 9.0 Million in 2020 if the trend continues. The estimated 18-year-old population in 2020 is 92,000, the estimated 18-year-old-male population is 48,000 and the estimated 18-year-old-male-urban population is 44,000. The expected enrolment to vocational colleges in 2020 is 4,500.



Source: Statistics Yearbook of Vietnam 2013, 2009 Vietnam Population and Housing Census

Figure A10-10 Population Projection in 2020 (Ho Chi Minh City)

Annex-11

Result of Information Analysis on Criteria Satisfaction and Useful Information for Selection

Annex-11 Result of Information Analysis on Criteria Satisfaction and Useful Information for Selection

01 HCMVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all the 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 700 Japanese Companies registered in Ho Chi Minh City in 2014¹. Also, in the 3 fields of this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), there are about 160 Japanese companies confirmed to be registered² (with an assumed scale of 69,000 employees in total), which can be considered as an employment opportunity. Moreover, in 2014 (November 20), the foreign investment by Japanese Companies was 218 million USD (26 investments), the highest of all³, but merely 8.3 million USD (8 investments) of which was for the manufacturing industry.

4. Economic growth at the target VC area

Based on the number of Japanese-affiliated companies (since 2012: 85 companies⁴), new direct foreign investment, as well as the total industrial production have remarkably increased in recent years, (compared to 2013, the growth rate of new direct foreign investment: 58.6%⁵, total industrial production: 117.4%⁶, (Vietnam national average 121.4%)), the industry and economy of Ho Chi Minh City where the target VC is located is steadily developing.

5. Teachers sufficiency

Among the 3 supported fields of study, 12 out of 14 teachers in machining, 14 out of 17 teachers in electrical, and all 11 teachers in electronics have a four-year university bachelor's degree or higher⁷. Furthermore, for teachers who do not have a four-year university bachelor's degree in a VC with a college's level are engaged as assistants.

There are a total of 42 teachers (including assistants in college) in the supported 3 fields of

¹ Source: Japanese Business Association of Ho Chi Minh.

² Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

³ Source: Based on the hearing at the JETRO Hanoi Office. It is also the same for data of other provinces/cities.

⁴ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

⁵ Source: "2014 Vietnam General Situation" issued by JETRO.

⁶ Source: General Statistics Office of Vietnam.

⁷ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are not enough teachers in the machining field, because teachers in the machining field sometimes have to manage 49 students in a class.

6. Securing students (including class management)

Few departments have reached their capacity for the school-year. Especially in the supported 3 fields of studies, the number of applying students to electronics is 30% more than its capacity. According to VC, this is due to the fact of competing with HVCT within the same city (refer to table 3-3). Under this circumstance, since the targeted future number of students of only one year ahead is presented, it is considered necessary to have a more concrete countermeasure of full capacity classes. On the other hand, regarding class operation in the Department of Machining in 2013, although the number of students per class was set to 10% more than the appropriate scale to 49 students, in other classes it is mostly about 20-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6). Therefore, equipment for 1 training unit (18 people) will be necessary.

7. Necessary facilities for equipment installation

The VC requested that the equipment to be procured by the ODA loan project be installed in the new building of the 2nd Campus. The demolition of the existing buildings and construction will be commenced in the first half of 2016 and be finished by 2018. However, at present, there is nothing other than storage for Faculty of Automobile and Faculty of Food Technology at the 2nd Campus, leaving no space for the equipment's installation.

8. Existence of similar VC in the surrounding area

Including the target VC of this project, HVCT, it is confirmed that this VC has 3 other similar VCs.⁸

< Other information >

9. Demographics at the target VC area

The population growth rate in Ho Chi Minh City has remained at about 2.5% in recent years, with a prediction of 92,000 18-years old population in 2020 (including 48,000 men, 39,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Ho Chi Minh City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

The activity has started since 2013. Some positive results were confirmed, but there are still some challenges regarding safety and students' discipline.

12. Equipment maintenance

⁸ HVCT、Hung Vung Technology Secondary School、The Central Vocational College of No. 3

There is a Maintenance Department (10 staff) with its own Person in Charge. On the other hand, there has been no equipment maintenance carried out by the teachers. Some of the equipment still have maintenance manuals, and daily inspection and periodic investments are made, but no record making and record keeping are conducted. An annual maintenance plan was created for each piece of equipment. This college needs improvement. This college should start to make and keep record.

Since there is no significant problem regarding the maintenance system, there is no need to review.

13. Finance

Income from 2012 tuition fee increased by 55% and still maintained a high level though slightly decreased in 2013. Moreover, the cumulative purchase prices of machines in the last 3 years are 44,671 million VND, 57,474 million VND, and 71,884 million VND, with an average growth of 27% annually. Although the useful lifespan degree (accumulative depreciation/ total fixed asset) is high (48.12%) with many aging machines, it is still considered a fully equipped vocational VC. Its ordinary profit in 2013 amounted to VND 3,182 million.

14. Support from other donor

Although there is a record of receiving technical cooperation from the United States in a Programming course, there is none in the targeted field of this project.

15. Others

In the beginning, starting from this 3rd semester and in the next technical cooperation project, this VC was planned to be the core VC in the southern area to receive technical deployment from HaUI. However, in January 2015 there was a financial problem in Ho Chi Minh City People's Committee, which is the regulating authority of this VC, resulting in a withdraw from this program.

02 HIVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all the 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 570 Japanese Companies registered in Hanoi in 2014⁹. Also, in the 3 fields of this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 185 Japanese companies are confirmed to be registered (with an assumed scale of

⁹ Source: Japanese Business Association of Hanoi.

105,000 employees in total)¹⁰, which can be considered as an employment opportunity.

Moreover, in Dong An, to which this VC is considering relocation, 80 Japanese-affiliated companies registered are within the area, 60 companies of which are in machining, electricity and electronics affiliated business. Regarding Japanese-affiliated companies in the neighbourhood, there are 12 in Noi Bai Industrial Area, 7 in Quang Minh Industrial Area, with an estimation of employment for 45,000 people in total to be available in machining, electricity and electronics.

4. Economic growth at the target VC area

The number of Japanese-affiliated number of companies (since 2012: 26 companies¹¹) has increased in recent years, with 79.4% of increase recorded in 2012 for new direct foreign investment. However, it decreased 42.5% in 2013, showing instability. But since the total industrial production has remarkably increased in recent years, (compared to 2013, the growth rate of the total industrial production was 113.3%¹², and Vietnam's national average was 121.4%), the industry and economy of Hanoi is steadily developing. Moreover, although direct foreign investment in Hanoi dropped in 2009, it has remained at about 1,000 million USD, which is still high. There were 359 investments in 2013.

Based on the above, industry and economic conditions in Hanoi, where the target institution is located, are developing, with a possibility of a greater economic growth expected from foreign investment in a stable manner.

5. Teachers sufficiency

Among the 3 supported fields of study, all 11 teachers in machining, all 22 teachers in electricity, and all 11 teachers in electronics have a four-year university bachelor's degree or higher¹³.

There are a total of 44 teachers (including assistants in college) in the supported 3 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are not enough teachers in electricity and electronics fields, because teachers in electricity and electronics fields sometimes have to manage more than 45 students in a class.

6. Securing students (including class management)

At present, since the student enrolment rate remains below 80% of capacity especially in the Machining department and Industrial Electronics department from year to year, securing students seems to be a challenge. After the realization of the transfer to Dong An area, it is predicted that securing students will be even more difficult (refer to Table 3.3, 2.2(2)). Furthermore, with several cases of class sizes exceeding 45 people, this VC has not been able to perform vocational training with a proper number of students per class. (Ref. Annex-6).

7. Necessary facilities for equipment installation

¹⁰ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

¹¹ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

¹² Source: General Statistics Office of Vietnam.

¹³ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

This VC is planned to be transferred, and the equipment from this ODA loan project will be installed in the new campus. However, the transfer plan has been cancelled during the implementation of this project.

8. Existence of similar VC in the surrounding area

Including the target VC of this project: HaUI, VCTT, HVCHT, it is confirmed that there are 5 other similar VCs in Hanoi¹⁴.

< Other information >

9. Demographics at the target VC area

The population growth rate in Hanoi City has remained at about 1.5% in recent years, with a prediction of 89,000 18-years old population in 2020 (including 46,000 men, 17,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Hanoi City).

On the other hand, for vocational training institutes in Dong An region, an area in the suburb of Hanoi to where this VC is considering to transfer, from 2018, if the population growth caused by development is achieved as expected and the enrolment candidates of mid-level VC is segregated from those of college level VC thus no competition, it is expected that enrolment can be secured under certain conditions.

10. Curriculum development

70% of the curriculum is developed by MOLISA, which is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

Although this activity has started since 2013, it has not reached its full-fledged implementation. Even teachers have no adequate concept and knowledge about 5S, thus they do not practice it in action.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (7 staff) with its own Person in Charge. On the other hand, there has been no equipment maintenance carried out by the teachers. Some of the equipment still have maintenance manuals, and daily inspection and periodic investments are made, but no record making and record keeping are conducted. An annual maintenance plan was created for each piece of equipment. In the future, it is advisable to review and to enhance the internal maintenance system.

13. Finance

Although tuition fee has decreased 4.35% in 3 years, the self-generated income slightly increased 0.47% because the business income increased. Because self-generated income is only 28% of the current revenue, it is hardly profitable. This VC was established in 1974 and thus has a historical value. Even though the asset size, which is a tangible fixed assets (acquisition based) is as much as 154,117 million VND and still growing, the purchase of machinery and equipment is as low as 1,471 million VND. The asset growth is also put under

¹⁴ HaUI, VC TT, HVCHT, Hanoi VC of Electrical Machinery, The Central VC of No.1

the subject of “Other fixed asset” in finance, which does not have any immediate effect on training. Its ordinary profit in 2013 amounted to VND 1,756 million.

14. Support from other donor

In 1994-1998, South Korea introduced 40 units of CAD/ CAM system, refurbished the equipment and training room of the Automotive Department and Refrigeration/ AC Department, and conducted some teacher training activities (the support amount was 1 million USD for equipment and training room refurbishment, and 1.5 million USD for teacher training). In addition, it was also confirmed that from 1996-1999 a grant aid project of machinery equipment procurement (the support amount was 5 million USD) was carried out by Russia. However, there was no other donor in recent years.

15. Others

The transport links are well connected in Hanoi urban area. In the supported field of studies, this VC is working to cooperate with the 11 companies in the surrounding area (including Japanese companies) in the form of internship.

03 VCTT

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all the 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 570 Japanese Companies registered in Hanoi in 2014¹⁵. Also, in the 3 fields of this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), there are about 185 Japanese companies confirmed to be registered¹⁶ (with an assumed scale of 105,000 employees in total), which can be considered as an employment opportunity.

Moreover, in Dong An, to which this VC is considering relocation, 80 Japanese-affiliated companies are registered within the area, 60 of which are in machining, electricity and electronics affiliated business. About Japanese-affiliated companies in the area, there are 12 in Noi Bai Industrial Area, 7 in Quang Minh Industrial Area, with an estimation of employment for 45,000 people in total to be available in machining, electricity and electronics.

4. Economic growth at the target VC area

The number of Japanese-affiliated companies (since 2012: 26 companies¹⁷) has increased in recent years, with a 79.4% increase recorded in 2012 for new direct foreign investment. However, it decreased 42.5% in 2013, showing instability. But since the total industrial

¹⁵ Source: Japanese Business Association of Hanoi.

¹⁶ Source: “Japanese enterprise in Vietnam 2015” issued by COMM BANGKOK CO., LTD and “Industrial Park Data” issued by JETRO Vietnam Office.

¹⁷ Source: “Japanese enterprises in Vietnam 2015” issued by COMM BANGKOK CO., LTD.

production has remarkably increased in recent years, (compared to 2013, the growth rate of the total industrial production was 113.3%¹⁸, and Vietnam's national average was 121.4%), the industry and economy of Hanoi is steadily developing. Moreover, although direct foreign investment in Hanoi dropped in 2009, it has remained at about 1,000 million USD, which is still high. There were 359 investments in 2013.

Based on the above, it can be said that industry and economic condition in Hanoi, where the target institution is located, are developing, with a possibility of a greater economic growth expected from foreign investment in a stable manner.

5. Teachers sufficiency

Among the 3 supported fields of study, all 11 teachers in machining, all 12 teachers in electricity¹⁹, and all 11 teachers in electronics have a four-year university bachelor's degree or higher.

There are a total of 34 teachers (including assistants in college) in the supported 3 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are enough teachers because the number of students which a teacher manages is approximately 20 to 40.

6. Securing students (including class management)

Particularly in machining, there were times when the retention rate was less than 50% of the capacity and for electricity, the enrolment was also less than 80% from year to year. Moreover, securing students in the near future is likely to get even more difficult once HVC is transferred close by (refer to table 3-3, 2.2(2)). On the other hand, through the last 3 years in all the supported fields of studies, the number of students per class was mostly about 20-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6).

7. Necessary facilities for equipment installation

Although enough space can be secured for equipment installation, the strength of the first floor's slab is insufficient, thus installation of large equipment would require floor reinforcement work.

8. Existence of similar VC in the surrounding area

Including the target VC of this project: HaUI, HVC, HVCHT, it is confirmed that there are 5 other similar VCs in Hanoi²⁰.

< Other information >

9. Demographics at the target VC area

The population growth rate in Hanoi City has remained at about 1.5% in recent years, with a prediction of 89,000 18-years old population in 2020 (including 46,000 men, 17,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Hanoi City).

¹⁸ Source: General Statistics Office of Vietnam.

¹⁹ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

²⁰ HaUI, HVC, HVCHT, Hanoi VC of Electrical Machinery, The Central VC of No.1

On the other hand, for vocational training institute in Dong An region, an area in the suburb of Hanoi to where this VC is considering to transfer, from 2018, if the population growth caused by development is achieved as expected and the enrolment candidates of mid-level VC is segregated from those of junior college level VC thus no competition, it is expected that students can be secured under certain conditions.

10. Curriculum development

70% of the curriculum is developed by MOLISA and revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

Since 2013, training and company visits to HaUI have been carried out.

12. Equipment maintenance

Although equipment maintenance is entrusted to other companies, reducing the checklist item and stretching the inspection interval were inescapable due to budget limitation. There has been no equipment maintenance carried out by the teachers. There is no maintenance manual. Daily and periodic inspection is performed well, but no record making and record keeping are conducted. An annual maintenance plan was created for each piece of equipment only. In the future, it is advisable to review and to enhance the internal maintenance system.

13. Finance

Income from tuition fee has been increasing steadily. This is mainly caused by stable revenue in 2012 and 2013. Sales vary from year to year for business income, and revenue has been just a slight difference between profit and loss, thus the profit contribution is also small. Its ordinary profit in 2013 amounted to VND 1,016 million.

14. Support from other donor

There has been no support from other donor in the supported fields of study.

15. Others

Because of its location in the district of Dong An, a suburb of Hanoi, which is adjacent to an industrial park with an accumulating number of Japanese companies, cooperation with Japanese companies (in internships and employment) is strong.

Since the renewal of the campus organization (including President and Vice President), the rejuvenation of the management layer can be achieved. New methods were introduced and developed in management, training, and various other points from proactive scanning from HaUI. Efforts seems to have been taken to compensate for the organization's immaturity due to the shallowness of the establishment.

This VC is planned to be the Model School in technical cooperation project phase 3.

04 BRVTVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

From the 3 fields of study, this VC has machining and electrical.

Admission has been stopped in the last 3 years for the electronics field. This field is integrated with the electricity field because the number of applicants is extremely little.

3. Situation of Japanese Companies around the target VC

Currently, there are 17 Japanese companies registered in Ba Ria–Vung Tau Province²¹. Also, in the 3 fields of this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), there are only 7 Japanese companies confirmed to be registered²² (with an assumed scale of 700 employees in total), which can be considered as an employment opportunity. Since the number of companies present is few, it can be said that an employment opportunity will be influenced by the management activities and the financial situation of each company.

4. Economic growth at the target VC area

There have only been 2 Japanese-affiliated companies in recent years, showing much less new foreign direct investment compared to the previous year and FDI has been experiencing an ongoing decrease over the past 3 years (compared to 2013, the new foreign direct investment growth rate was -74.3%²³). Compared to other regions, the low growth rate of total industrial production remains a concern for future expansion (compared to 2013, the total industrial production growth rate was 104.5%²⁴ and Vietnam's national average was 121.4%).

5. Teachers sufficiency

Among the 2 supported fields of study, all 27 teachers in machining, and all 32 teachers in electricity have a four-year university bachelor's degree or higher²⁵.

There are a total of 59 teachers (including assistants in junior college) in the supported 2 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are enough teachers because the number of students that a teacher manages is approximately 20 to 40.

6. Securing students (including class management)

A maximum number of students have been secured for machining and electricity in 2013 and 2014. Moreover, the numbers of enrolment for both fields of study are 50% more than in other fields, suggesting a high demand in these fields. On the other hand, through the last 3 years in all the supported fields of studies, the number of students per class was mostly about 20-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6).

7. Necessary facilities for equipment installation

²¹ Source: Japanese Business Association of Ho Chi Minh.

²² Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

²³ Source: "2014 Vietnam General Situation" issued by JETRO.

²⁴ Source: General Statistics Office of Vietnam

²⁵ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

There is a demand to install equipment in the 2nd Campus of the New School Building. Based on the public notice from the People's Committee on October 31st 2014 (No. 2376/QĐ-UBND), the budget for this new building has been allocated by the People's Committee and the decision to carry out the project has been given (construction period: 2015-2018). It was confirmed that there is enough space to install equipment from the drawing of the 2nd Campus of the new building.

8. Existence of similar VC in the surrounding area

There is only 1 similar VC in Ba Ria–Vung Tau Province²⁶.

< Other information >

9. Demographics at the target VC area

The population growth rate in Ba Ria–Vung Tau Province has remained at about 1.3% in recent years, with a prediction of 17,000 18-years old population in 2020 (including 9,000 men, 4,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Ba Ria–Vung Tau Province).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

5S activities have been carried out since March 2012. Efforts of applying this in the entire VC were confirmed from both teachers and students through activities such as reserving the last 20 minutes of training for 5S activities, requiring each department to submit 5S activities report every month, and making 5S activities as a part of the 1st year of soft skills program by teaching it in classrooms. 5S activities teaching is given not only in classrooms but also in laboratories.

12. Equipment maintenance

There is no dedicated department for maintenance, so the task is shared within the VC's departments. There are maintenance manuals and daily and periodic inspections are carried out, but no record making and record keeping are conducted. The VC also has an annual maintenance plan. This college needs improvement. This college should start to make and keep record.

13. Finance

The annual revenue rate from tuition fee is 71.46%, the highest among all the 13 VCs. However, business income has not been stable: significantly decreased from 5,969 million VND to 2,124 million VND in 2012, resulting in a loss of 1,524 million VND. Its ordinary profit in 2013 amounted to VND 982 million.

14. Support from other donor

3 metal experts from CIESF are supported as advisors, with a plan of introducing EDM.

²⁶ Ninh Dinh VC of Mechanization.

15. Others

A job search support program for Japanese-affiliated companies has been started. Even though the number of Japanese companies around the area is limited, it can be observed that measures to strengthen cooperation through employment have been taken. In addition, implementation of training evaluation by neighbouring universities and companies, in the relationships with other neighbouring organizations, is considered to further establish the good image of vocational training schools.

05 HVCHT

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all the 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 570 Japanese Companies registered in Hanoi in 2014²⁷. Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), there are about 185 Japanese companies (confirmed to be registered²⁸ with an assumed scale of 105,000 employees in total), which can be considered as an employment opportunity.

4. Economic growth at the target VC area

The number of Japanese-affiliated number of companies (since 2012: 26 companies²⁹) has increased in recent years, with 79.4% of increase recorded in 2012 for new direct foreign investment. However, it decreased 42.5% in 2013, showing instability. But since the total industrial production has remarkably increased in recent years, (compared to 2013, the growth rate of the total industrial production was 113.3%³⁰, and Vietnam's national average was 121.4%), the industry and economy of Hanoi is steadily developing. Moreover, although direct foreign investment in Hanoi dropped in 2009, it has remained at about 1,000 million USD, which is still high. There were 359 investments in 2013.

Based on the above, industry and economic condition in Hanoi, where the target institution is located, are developing, with a possibility of a greater economic growth expected from foreign investment in a stable manner.

5. Teachers sufficiency

Among the 3 supported fields of study, all 18 teachers in machining, all 12 teachers in electricity, and all 13 teachers in electronics have a four-year university bachelor's degree or

²⁷ Source: Japanese Business Association of Hanoi.

²⁸ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

²⁹ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

³⁰ Source: General Statistics Office of Vietnam

There are a total of 43 teachers (including assistants in junior college) in the supported 3 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are enough teachers because the number of students that a teacher manages is approximately 20 to 40.

6. Securing students (including class management)

In the last 3 years in all the supported field of studies, the number of students per class was within approximately 10% of the capacity, about 30-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6).

7. Necessary facilities for equipment installation

This VC suffers from land subsidence. Regarding this, there should be no significant problem as long as the reinforcement work of the building frame can be carried out without causing delays in the academic schedule. Also, Vietnam is considered technically capable of conducting the reinforcement work of the building frame.

In April 2015, the proposal on fixing the damages due to land subsidence has been submitted by HVCHT to the People's Committee (81 billion VND). Following the revision in urban development method, the construction guideline for this project will also be changed, thus approval is planned to be issued after this revision. Completion is planned within 2016.

8. Existence of similar VC in the surrounding area

Including the target VC of this project: HaUI, VCTT, HIVC, it is confirmed that there are 5 other similar VCs in Hanoi³² .

< Other information >

9. Demographics at the target VC area

The population growth rate in Hanoi City has remained at about 1.5% in recent years, with a prediction of 89,000 18-years old population in 2020 (including 46,000 men, 17,000 men in cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Hanoi City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

Referral/ guidance from Toyota started in March 2014 and plans to introduce Kaizen (improvement) Activity started in December 2014. According to the work procedures of machining, lessons end after a cleaning session. Verification is done following a checklist for special tools.

³¹ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

³² HaUI, VC TT, HIVC, Hanoi VC of Electrical Machinery, The Central VC of No.1

12. Equipment maintenance

Equipment maintenance is shared among the teachers because there is no special department for maintenance. There are maintenance manuals and daily and periodic inspections are carried out, but no record making and record keeping are conducted. However, the record control system is currently being built. An annual maintenance plan was created for each piece of equipment.

13. Finance

Self-generated income growth is 47.45% whereas tuition fee income growth is 39.3%. Profit-making business was also started in 2012, steadily expanding business. In addition, the cumulative purchase of machinery and equipment is also increasing year by year, and since many of them are new, their lifetime rate is 23.04%. However, the increase in expense has exceeded the growth in revenue, resulting in a loss of 2,224 million VND in 2013. However, in case the VC's business continues to grow as mentioned above and the growth rate of expense decreases, its financial standing will be able to improve. Note that its profit before depreciation in 2013 amounted to VND 2,891 million in 2013 and it already has sufficient funds for financing.

14. Support from other donor

There are other support such as CAD/ CAM system from Korea, teacher training (18 companies in the field of welding and sheet metal visited this VC and conducted a short-term training for about 4-5 months) from Fukushima Enterprise Association, and other support from Japanese companies such as "Proaim", Texas Instruments, or support from Arizona University. However, there were mostly small-scale projects and overlapping with this ODA loan project is very unlikely.

15. Others

While the VC is new, it has a policy that says quality of training comes from the quality of the teachers, thus preferentially employs teachers from well-known VCs. Moreover, regarding student screening, a certain level admission-test is provided and those with outstanding remarks are granted enrolment. The fact that much support comes from companies including Japanese-affiliated companies such as equipment grant, human resource development, or introduction to 5S activities, suggests that strong partnerships have been developed. Also, the machining department has produced students who successfully passed class 2 skills training test, a certain level of achievement.

06 VPVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all the 3 fields of study.

3. Situation of Japanese Companies around the target VC

There were 15 Japanese Companies registered in Vinh Phuc Province in 2014³³. Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 12 Japanese companies are confirmed to be registered³⁴ (with an assumed scale of 6,000 employees in total). Even though the number of Japanese companies is little, the number of employees in each company is many, thus the employment opportunity is considered to be stable. On the other hand, in 2014, there was only 1 foreign investment by Japanese Company (0.86 million USD).

4. Economic growth at the target VC area

There has only been 1 Japanese-affiliated company in recent years. From the fact that the scale of new foreign direct investment is small compared to other areas and the previous year is greater in any year in the last three years (compared to 2013, new foreign direct investment growth rate: 62.1%³⁵), it can be said that it is greatly affected by the investment of 1 company. Although the total industrial production is not large compared to other areas, it has significantly increased (compared to 2013, the total industrial production growth rate was 125.0%³⁶ and the Vietnam's national average was 121.4%).

Compared to other regions, the low growth rate of total industrial production remains a concern for future expansion (compared to 2013, total industrial production growth rate: 104.5%³⁷).

Based on the above, although industry and economy in Vinh Phuc Province seem to be developing, it can be said that the VC is susceptible to the economic activity and financial situation of this 1 company and its investments.

5. Teachers sufficiency

Among the 3 supported fields of study, 18 out of 21 teachers in machining, all 31 teachers in electricity³⁸, and all 14 teachers in electronics have a four-year university bachelor's degree or higher.

There are a total of 66 teachers (including assistants in junior college) in the supported 3 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are enough teachers because the number of students that a teacher manages is approximately 20 to 40.

6. Securing students (including class management)

Due to the growing number of students, the electricity and electronics departments were separated in 2013. However, the students in metal-cutting and electricity are only 60% of the total capacity now, showing challenges in securing students. On the other hand, through the

³³ Source: Japanese Business Association of Ho Chi Minh.

³⁴ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

³⁵ Source: "2014 Vietnam General Situation" issued by JETRO.

³⁶ Source: General Statistics Office of Vietnam.

³⁷ Source: General Statistics Office of Vietnam.

³⁸ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

last 3 years in all the supported field of studies, the number of students per class was mostly about 20-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6).

7. Necessary facilities for equipment installation

It was confirmed that there is enough space for equipment installation. Apart from floor repair and electrical cable installation, there is no need for large-scale repair.

8. Existence of similar VC in the surrounding area

There is only 1 similar VC in Vinh Phuc Province³⁹.

< Other information >

9. Demographics at the target VC area

The population growth rate in Vinh Phuc Province has remained at about less than 1% in recent years, with a prediction of 15,000 18-years old population in 2020 (including 8,000 men and 2,000 women from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Vinh Phuc Province).

10. Curriculum development

70% of the curriculum is developed by MOLISA, which is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

5S activities are not conducted in this VC. However, they are planned to be introduced by inviting lecturers from the National Technical University of Hanoi, the Technical University of Hanoi, and the Provincial Vocational College, in addition to following HaUI's method.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (5 staff) with its own Person in Charge. The teachers also perform equipment maintenance. Some of the equipment has maintenance manuals, and daily and periodic inspections are performed, but no record making and record keeping is conducted. The VC also has an annual maintenance plan. Although the maintenance management is performed with the teachers, the recording is underdeveloped thus further improvement is necessary. In the future, it is advisable to review and to enhance the internal maintenance system.

13. Finance

Both self-generated income and tuition fee income increased slightly, whereas ordinary profit also recorded a stable surplus. Additionally, there has been an increase in fixed assets with an annual average of 10.99%. However, its increasing is based on the cumulative acquisition price, whereas the purchase expense of machinery and equipment was reduced by half, from 102,327 million VND to 53,654 million VND, to be allocated to other fixed assets. Its ordinary profit in 2013 amounted to VND 3,584 million.

14. Support from other donor

³⁹ VC of Agricultural Machinery.

There was support from Germany in the form of training dispatch in Germany or in Japan (from 2005) and provision of equipment such as machinery and electronics (2008 to 2012), but currently there is none. There were also: equipment provision as grant aid from KOICA (information technology equipment, language learning equipment, etc.) and teacher training (2008) and equipment provision from Japanese embassy in 2010 (welding equipment). However, overlapping support with this ODA loan project is very unlikely.

15. Others

Vinh Phuc City is located close to some industrial areas: Khai Quang, Ba Thien, Binh Xuyen, Yen Lac, Tam Duong, Quang Minh, Dong Son etc, a strategic location for a vocational school, considering the possibility of cooperating with these industrial areas in recruiting graduates. About 40% of the cooperation companies are automotive-related and about 44% of the students in machining department (automotive, welding, and cutting) are in the automotive field.

However, securing students for the cutting course supported by this loan project is not easy, as understood by the VC, because of its hard work image both in training and work (in the last 3 years, the number of students enrolled has only been about 60-68% of the capacity).

Note that this VC changed to its current name in October 2014. Prior to this, based on the instructions from Vinh Phuc Province (in order to cut operating costs, similar VCs located near each other were required to merge), this VC merged with a neighbouring mid-level VC. Based on the quick implementation of merging tasks: neighbourhood VC integration procedure (August 2014), renaming procedure (October 2014), asset transfer from pre-integration (November 2014), it is believed that this organization has certain management capabilities.

07 DNVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

Out of 3 fields of study, this VC has electricity and electronics.

It is in the process of applying to open a metal cutting department in the machining field of study.

3. Situation of Japanese Companies around the target VC

There are more than 60 Japanese Companies registered in Da Nang in 2014⁴⁰ Also, in the 3 fields of this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 20 Japanese companies are confirmed to be registered⁴¹ (with an assumed scale of 14,000 employees in total), which can be considered as an employment opportunity. Even

⁴⁰ Source: Japanese Business Association of Ho Chi Minh.

⁴¹ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

though the number of Japanese companies is little, the number of employees in each company is many, thus the employment opportunity is considered to be stable.

4. Economic growth at the target VC area

There has only been 2 Japanese-affiliated companies in recent years. New foreign direct investment has been decreasing in 2 consecutive years, remaining at 60 million USD (compared to 2013, new foreign direct investment growth rate: -44.8%⁴²). Although the total industrial production has significantly increased (compared to 2013, the total industrial production growth rate was 126.4%⁴³ and Vietnam's national average was 121.4%), it is 1/3 to 1/20 less compared to other area. Based on the above, there are still concerns remaining for future expansion due not only to the scale of industry and economy in Da Nang City but also the declining investment from abroad.

5. Teachers sufficiency

Among the 2 supported fields of study, all 24⁴⁴ teachers in electricity and electronics have a four-year university bachelor's degree or higher .

There are a total of 24 teachers (including assistants in junior college) in the supported 2 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are not enough teachers in the electricity field because a teacher in the electricity field sometimes has to manage more than twice the expected number of students in a class.

6. Securing students (including class management)

The enrolment in the electricity field in 2013 and 2014 was about double the capacity. On the other hand, the enrolment in the electronics field in 2013 and 2014 has been decreasing. However, despite the changing number of students, it is not possible to change the number of classes, thus there are times when the number of students enrolled in 1 class is double the capacity. Although this VC tried to cope with the situation by dividing the classes into 3 different times (7:00-13:00, 13:00-18:00, 18:00-22:00), it was not thoroughly successful. Also, in the 3rd class, lighting was not sufficient, particularly during training, which was an obstacle. It is necessary to improve class management in order to conduct training in an appropriate scale. (Ref. Annex-6).

7. Necessary facilities for equipment installation

This VC is creating a master plan for VC development, on which the plan of sequentially implementing facilities, equipment, and teacher training starting in 2015 is based. This master plan includes the necessary space for equipment installation from this loan project. According to the explanation of this master plan, in case the approval of this master plan takes time, necessary developments will be separated from the rest of the master plan to be implemented first while approval is being discussed for the rest of the master plan. This master plan is expected to have been discussed expected to be discussed at the evaluation meeting of the People's Committee in December 2014.

8. Existence of similar VC in the surrounding area

⁴² Source: "2014 Vietnam General Situation" issued by JETRO.

⁴³ Source: General Statistics Office of Vietnam.

⁴⁴ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

There is only 1 similar VC in Da Nang City⁴⁵.

< Other information >

9. Demographics at the target VC area

The population growth rate in Da Nang City has remained at about 2.5% in recent years, with a prediction of 12,000 18-years old population in 2020 (including 6,000 men, 5,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Da Nang City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

This VC does not carry out 5S activities. However, such activities were planned to be introduced by inviting teachers from HaUI in December 2014.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (20 staff) with its own Person in Charge. The teachers also perform equipment maintenance. Some of the equipment still have maintenance manuals, and daily inspection is conducted, but no periodic inspection, record making and record keeping are performed. The VC also does not have any annual maintenance plan. In the future, it is advisable to review and to enhance the internal maintenance system.

13. Finance

10.65% of tuition income growth was recorded and a steady increase is also seen in profit-making business, resulting in self-generated income growth of 6.6% in total. However, the increase in expenses exceeded the income that caused a loss of 3,157 million VND. However, this loss was due to the great depreciation, i.e., a transient cause. Its ordinary profit in 2013 amounted to VND 19,253 million.

14. Support from other donor

This VC received support from ADB: training equipment provision under ADB loan project in 2000-2006 (1.9 million USD) and teacher training; training equipment provision under ADB loan project in 2011-2015 (4.2 million USD) and teacher training. Some of the granted equipment in the electricity field overlaps with this project. CNC is planned to be granted in April 2015 (refer to Annex-14). There are also a provision of equipment intended for the sewing department and automotive department (grant aid 5,000 USD) from Vocational Association of Korea and a provision of small BOC from France (2008, 5,000 USD).

15. Others

This VC is located in Da Nang, the central area of Vietnam. There are several industrial development zones nearby and access from the city is convenient.

⁴⁵ VC of No.5.

08 CVCT

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

Out of the 3 fields of study, this VC has machining and electricity.

3. Situation of Japanese Companies around the target VC

There are more than 90 Japanese Companies registered in Hai Phong City in 2014⁴⁶. Also, in the 3 fields of this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 30 Japanese companies are confirmed to be registered⁴⁷ (with an assumed scale of 9,500 employees in total). Although the scale of the companies is not big in terms of number of employees, the number of Japanese-affiliated companies can be considered as an employment opportunity.

4. Economic growth at the target VC area

Because the number of Japanese-affiliated companies (since 2012: 7 companies⁴⁸), new direct foreign investment, and total industrial production have increased in recent years (compared to 2013, the growth rate of new direct foreign investment was 66.6%⁴⁹, and compared to 2013 the total industrial production was 116.7%⁵⁰ while Vietnam's national average was 121.4%), the industry and economy of Hai Phong Province is robustly developing.

5. Teachers sufficiency

Among the 2 supported fields of study, all 22 teachers in machining (welding and metal cutting), and 16 out of 19 teachers in electricity have a four-year university bachelor's degree or higher⁵¹.

There are a total of 41 teachers (including assistants in junior college) in the supported 2 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. Although the number of students in some classes does not reach the expected number of students, in the standpoint of sufficiency, it can be said that there are enough number of teachers.

6. Securing students (including class management)

⁴⁶ Source: Japanese Business Association of Ho Chi Minh.

⁴⁷ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

⁴⁸ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

⁴⁹ Source: "2014 Vietnam General Situation" issued by JETRO.

⁵⁰ Source: General Statistics Office of Vietnam.

⁵¹ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

Due to the impact of the economic crisis throughout Vietnam in 2011-2012, the number of students has decreased significantly, and the condition has not yet recovered until now. Especially in machining, the number of students is scarce, as low as merely 10% in the metal cutting department in the last 3 years. The number of students per class in the industrial electricity department was mostly proper in scale about 20-40 students. On the other hand, the number of students per class in the machining department (welding and metal cutting) is very difficult to secure the enough students and the situation has not been changed. (Ref. Annex-6).

7. Necessary facilities for equipment installation

Extensive repair is not necessary for equipment installation.

8. Existence of similar VC in the surrounding area

Including the target VC of this project HPIVC⁵², it is confirmed that there are 2 other similar VCs in Hai Phong

< Other information >

9. Demographics at the target VC area

The population growth rate in Hai Phong City has remained at about 1.0% in recent years, with a prediction of 23,000 18-years old population in 2020 (including 12,000 men, and 5,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Hai Phong City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

From April 2014, 5S activities have been conducted following HaUI's method. Lessons end with a cleaning session. From inspection of the VC, 5S Activities are thoroughly carried out.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (11 staff) with 9 Persons in Charge. On the other hand, the teachers do not perform equipment maintenance. Some of the equipment still have and perform the maintenance manuals, daily and periodic inspection, as well as record making and record keeping. The VC also has an annual maintenance plan.

13. Finance

In 2011 3,606 million VND, in 2012 144 million VND of losses were recorded. However, in 2013, it finally reached a surplus of 122 million VND. The main factors of drop were the tuition fee income decline of 26.04%, but because the effort from profit-making business, revenue could be reached. Machinery, equipment, and other tangible fixed assets have been increasing steadily. Even though the average income rate in 3 years is 1,73% loss, once the condition consistently improves and manages to reach a turnaround, it can be said that there is no concern regarding school management. Fortunately, its profit and loss is improving as mentioned above and it is necessary for the VC to improve its financial standing. Its profit

⁵² HPIVC, Hai Phong Tourism and Service VC

before depreciation in 2013 amounted to VND 6,141 million in 2013 and it has already sufficient funds from a viewpoint of financing.

14. Support from other donor

Since 2009, this VC has received equipment provision (welding, electric, etc) from ADB. Although the equipment list and specification is created by this VC and submitted to each VC by the PMU, the VC does not understand when the equipment will be delivered because the schedule concerning the implementation of the project is not shared with the VC. Moreover, some of the equipment for electricity is overlapping with this project (refer to: Table 3-3, Annex-14).

15. Others

This VC is located in the shipbuilding area and the majority of the departments are related to shipbuilding industry. Therefore, heavy industry including shipbuilding industry greatly affects student admission.

09 HVCT

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 700 Japanese Companies registered in Ho Chi Minh City in 2014⁵³. Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 160 Japanese companies are confirmed to be registered⁵⁴ (with an assumed scale of 69,000 employees in total), which can be considered as an employment opportunity. Moreover, in 2014 (up to November 20th), foreign investment by Japanese Companies was 218 million USD (26 investments), the highest of all,⁵⁵ but merely 8.3 million USD (8 investments) of which was for manufacturing industry.

4. Economic growth at the target VC area

Based on the number of Japanese-affiliated companies (since 2012: 85 companies⁵⁶), new direct foreign investment, as well as the total industrial production have remarkably increased in recent⁵⁷ years, (compared to 2013, the growth rate⁵⁸ of new direct foreign investment was 58.6%⁵⁷, the total industrial production was 117.4%⁵⁸, while Vietnam's national average was

⁵³ Source: Japanese Business Association of Ho Chi Minh.

⁵⁴ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

⁵⁵ Based on the hearing at the JETRO Hanoi Office. It is also the same for data of other provinces/cities.

⁵⁶ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

⁵⁷ Source: "2014 Vietnam General Situation" issued by JETRO.

121.4%), the industry and economy of Ho Chi Minh City, where the target VC is located, are steadily developing.

5. Teachers sufficiency

Among the 3 supported fields of study, all 20 teachers in machining and all ⁵⁹22 teachers in electricity and electronics have a four-year university bachelor's degree or higher .

There are a total of 42 teachers (including assistants in junior college) in the supported 3 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are not enough teachers in target fields, because a teacher in target fields sometimes has to manage more than 40 students in a class.

6. Securing students (including class management)

Despite the fact that this VC is located in the city and competition in securing students among the other VCs is high, this VC continuously managed to get 100-125% students of its capacity. Also, the fact that the permission to increase 15% number of students annually from MOLISA has been obtained suggests the intention of actively trying to increase the number of students (for other VCs, 10% increase rate annually). On the other hand, because change in the number of students is relatively large each year, there were conditions where training was not performed in the proper scale, although the number of classes also increases. In the future, while forecasting future enrolment, it is desirable to develop an Operating Plan in which continuous proper scale training can be performed. (Ref. Annex-6).

7. Necessary facilities for equipment installation

There is no problem regarding space, electric supply, and water supply in terms of equipment installation though finishing and utility work is necessary for some parts.

8. Existence of similar VC in the surrounding area

Including the target VC of this project HCMVC, it is confirmed that there are 3 other similar VCs in Ho Chi Minh City ⁶⁰ .

< Other information >

9. Demographics at the target VC area

The population growth rate in Ho Chi Minh City has remained at about 2.5% in recent years, with a prediction of 92,000 18-years old population in 2020 (including 48,000 men, and 39,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Ho Chi Minh City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan

⁵⁸ Source: General Statistics Office of Vietnam.

⁵⁹ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

⁶⁰ HCMVC、Hung Vung Technology Secondary School、The Central Vocational College of No. 3

of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

5S activities have been introduced since December 2012 after getting advices from a Vietnamese consulting company. Each Head of the Department is monitoring their students' 5S Activities every week and this condition is managed by the Student Affairs Division. However, 5S activities are not yet thoroughly performed within the VC.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (17 staff) within the General Affairs Department, but there is no maintenance Person in Charge. The teachers also perform equipment maintenance. Some of the equipment have maintenance manuals, perform daily and (some) periodic inspections, and conducts record making and record keeping. However, the VC has no annual maintenance plan. The Testing and Training Quality Insurance Division conducts teaching material inspection and received an award as one of the excellent materials in 2013.

13. Finance

Reflecting the increase in enrolment, the tuition income growth rate is 53.9%, the second highest in the 13 VCs. In addition, the mechanical device for fixed assets has been steadily enhanced. This VC has a solid management. Its profit before depreciation in 2013 amounted to VND 6,991 million in 2013.

14. Support from other donor

Support from GIZ in the form of equipment provision, teaching material development, and teachers training (project period: 2003-2009, project cost: 200,000 EUR)

15. Others

Because of its location that is in the urban area of Ho Chi Minh City and the opportunity to receive facilities and equipment development under the support and auxiliary from MOLISA, this VC is quite well-known. This will lead to the ability of securing enough students.

10 VCM I

<Criteria Fulfilment>

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

Out of the 3 fields of study, this VC has machining and electricity.

3. Situation of Japanese Companies around the target VC

There are more than 120 Japanese Companies registered in Đồng Nai Province in 2014⁶¹. Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to

⁶¹ Source: Japanese Business Association of Ho Chi Minh.

the above), about 57 Japanese companies are confirmed to be registered⁶² (with an assumed scale of 34,000 employees in total), which can be considered as an employment opportunity. Moreover, in 2014 (up to November 20th), the foreign investment by Japanese Companies was 199 million USD (26 investments), investment in the manufacturing sector of 173 million USD (21 investments) has become the largest within the target area. 7 km from this VC is Bau Xeo, an industrial area where many Japanese-affiliated companies gather. This condition is not only an advantage in ensuring graduates employment but also such a favourable location for a vocational school.

4. Economic growth at the target VC area

Based on the number of Japanese-affiliated companies (since 2012: 13 companies⁶³), new direct foreign investment, as well as the total industrial production have remarkably increased in recent years (compared to 2013, the growth rate of new direct foreign investment was 17.1%⁶⁴, total industrial production was 118.2%⁶⁵, and Vietnam's national average 121.4%), the industry and economy of Ho Chi Minh City where the target VC is located is steadily developing.

5. Teachers sufficiency

Among the 2 supported fields of study, all 11 teachers in machining and all 19 teachers in electricity have a four-year university bachelor's degree or higher⁶⁶.

There are a total of 30 teachers (including assistants in junior college) in the supported 2 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are enough teachers because the number of students that a teacher manages is approximately 20 to 40.

6. Securing students (including class management)

Classes are full or 20% over the capacity, showing sufficient number of students. Through the last 3 years in all the supported field of studies, the number of students per class was mostly about 20-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6).

7. Necessary facilities for equipment installation

A new building will be constructed in the existing campus, where the equipment will be installed.

8. Existence of similar VC in the surrounding area

There are 3 other similar VCs in Đồng Nai Province⁶⁷.

< Other information >

⁶² Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

⁶³ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

⁶⁴ Source: "2014 Vietnam General Situation" issued by JETRO.

⁶⁵ Source: General Statistics Office of Vietnam

⁶⁶ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

⁶⁷ VC No.8, Llama VC No.2

9. Demographics at the target VC area

The population growth rate in Đồng Nai Province has remained at about 2.5% in recent years, with a prediction of 39,000 18-years old population in 2020 (including 20,000 men and 6,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Đồng Nai Province).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

This VC has been conducting 5S activities with its own six-step method since 2013. The VC's principal acts as the chairman and with 5 other people (total of 6 people) "The 5S Implementation Committee" will be formed and will hold a weekly meeting every Friday. Teachers, together with the students will work on practicing 5S. The teachers will be checked (in the form of a meeting) once a month by vice-principal, and the students once a week by the Student Affairs Division.

In 2013, the teachers and the students of this VC visited and had training in BRVTVC. Some of the students also took classes of 5S in HaUI, showing a positive attitude in getting information and updates regarding 5S activities. While handling equipment with care, actions such as cleaning and taking care of the equipment and display of the students' product carefully, the fact that 5S activities were actively involved were confirmed.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (6 staff), with its Person in Charge. However, the teachers do not perform equipment maintenance. The equipment has maintenance manuals, daily and periodic inspection are conducted, and record making and record keeping are held. The VC also has an annual maintenance plan. The maintenance system is very well developed.

13. Finance

Since this VC was privately managed until the end of August 2012, it did not receive grant from the government (after August 2012, it became financially independent). After the management changed to public, the same condition continued, and since tuition fee income did not increase, the ordinary income was getting lower year by year until finally suffered loss in 2012. Moreover, the useful lifespan degree (accumulative depreciation/ total fixed asset) of the tangible fixed assets is 57.93%, believed to be the oldest among the 13 VCs. Based on these, it can be concluded that the financial condition is severe. Although it lost VND 2,721 million in 2013, its financial standing is second best of the 13 colleges following HaUI because it does not receive ordinary subsidies. It is located in a good environment from a viewpoint of the number of enterprises surrounding, demographic change, etc. as mentioned earlier. In addition, it continues to replace facilities making use of the yen loan and the effect of the replacement is expected to be significant. Therefore, it seems that its financial standing improves within ten years of the yen loan deferment. Note that it lost VND 245 million before depreciation in 2013. The loss was not large, though. It seems due to transient expenses to transform into a public college because it earned VND 6,510 million in 2012.

14. Support from other donor

It is planned to receive support of 6, 5 million EUR and 2, 3 million EUR from KfW.

15. Others

More than 60 companies in Bau Xeo industrial area are working to cooperate in reviewing the curriculum and exchanging human resources. Geographically, not only is it easier to understand the needs of industry, but also this very advantage can be put to use in the VC's very own training activities and employment support.

Furthermore, MARD, the competent authority of this VC is recommending its own VCs to receive funding from aid agencies. This project also started from the contact made by MARD (International Relations) in September 2014 that indicates full support to this VC. Regarding on-lending, MARD has expressed an overall support (10-35%).

On the other hand, cooperation with Japanese companies in recent years (such as exchanging human resources) has become sparse (background: because of the continuing condition of graduates not being able to adapt to the strict discipline of Japanese companies, the employment number to Japanese companies from this VC has become zero in recent years. Also, compared to working in Japanese companies, there are tendencies to prefer working in Vietnam, Taiwan, or China). This VC has conducted a need survey of Japanese companies and the result showed that emphasis was put on learning soft-skills and has committed to the development of human resources that can adapt to the discipline of Japanese companies (in all grades, every Wednesday for 1 full day is reserved for soft-skills training). This VC is confident that now its graduates will satisfied the needs of Japanese companies and plans to resume and strengthen employment support to Japanese companies around 2015.

11 HaUI

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is not included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 570 Japanese Companies registered in Hanoi in 2014⁶⁸. Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 185 Japanese companies are confirmed to be registered⁶⁹ (with an assumed scale of 105,000 employees in total), which can be considered as an employment opportunity.

4. Economic growth at the target VC area

⁶⁸ Source: Japanese Business Association of Hanoi.

⁶⁹ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

The number of Japanese-affiliated number of companies (since 2012: 26 companies⁷⁰) has increased in recent years, 79.4% of increase recorded in 2012 for new direct foreign investment. However, it decreased 42.5% in 2013, showing instability. But since the total industrial production has remarkably increased in recent years, (compared to 2013, the growth rate of the total industrial production was 113.3%⁷¹ and Vietnam's national average was 121.4%), the industry and economy of Hanoi is steadily developing. Moreover, although direct foreign investment in Hanoi dropped in 2009, it has remained at about 1,000 million USD, which is still high. There were 359 investments in 2013.

Based on the above, it can be said that industry and economics condition in Hanoi, where the target institution is located, are developing, with a possibility of a greater economic growth expected from foreign investment in a stable manner.

5. Teachers sufficiency

Among the 3 supported fields of study, all 89 teachers in machining, all 80 teachers in electricity, all 48 teachers in electronics, and all 21 teachers in VJC have a four-year university bachelor's degree or higher⁷².

There are a total of 238 teachers (including assistants in junior college) in the supported 3 fields of study and VJC. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are enough teachers because the number of students that a teacher manages is approximately 20 to 40.

6. Securing students (including class management)

Because enrolment has been increasing in the supported field of studies in the last 3 years, the needs of training in the supported field of HaUI has been steady, if not growing. Moreover, through the last 3 years in machining, the number of students per class was mostly about 20-40 students⁷³, thus it can be said that the proper scale is being implemented in the vocational training⁷⁴. (Ref. Annex-6).

7. Necessary facilities for equipment installation

There is no problem regarding the building structure, though utility construction is necessary for equipment installation.

8. Existence of similar VC in the surrounding area

Including the target VCs of this project: HaUI, VCTT, HVCHT, it is confirmed that there are 5 other similar VCs in Hanoi⁷⁴.

< Other information >

9. Demographics at the target VC area

⁷⁰ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

⁷¹ Source: General Statistics Office of Vietnam.

⁷² The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

⁷³ In other fields, at the time of the end of January 2015, information had not been provided.

⁷⁴ VC TT, HIVC, HVCHT, Hanoi VC of Electrical Machinery, The Central VC of No.1.

The population growth rate in Hanoi City has remained at about 1.5% in recent years, with a prediction of 89,000 18-years old population in 2020 (including 46,000 men, 17,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Hanoi City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

5S activities have been conducted since 2011. Every Friday and the 25th of each month are set as 5S days, when 5S activities are checked and a number of bulletins are posted to stimulate 5S activities. Cleaning within VC and classrooms as well as greetings have been actively conducted, thus considered to have a positive impact in campus training environment and student living conditions.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (33 staff including facility maintenance manager), with its Person in Charge. The teachers also perform equipment maintenance. The equipment has maintenance manuals, daily and periodic inspections are performed, and record making and record keeping are conducted. The VC also has an annual maintenance plan. The maintenance system is very well developed.

13. Finance

There are about 45,000 students enrolled in HaUI, which scale is so big that is not comparable to any other VC. The value carried by the fixed asset by the end of 2013 was 725,408 million VND, about 10 times the scale relative to the average of the other 12 VCs. Moreover, the useful lifespan degree of the fixed assets (accumulative depreciation/ total fixed asset) is 20.1%, relatively new compared to the average of the other 12 VCs of 34.9%.

On the other hand, ordinary income has been declining in the last 3 years. This is caused by the slightly increasing expenses, in addition to the lower tuition revenue. Its profit before depreciation in 2013 amounted to VND 81,636 million in 2013.

14. Support from other donor

The building inside the 2nd Campus is supported by Korea. From 2007, Korea supported equipment provision for the welding and cutting division in the machining department as well as teachers training.

15. Others

Being affiliated to LETCO, a company that works in labour supply and has sent 1,100 human resources annually, a strong connection in internships and employment can be expected. Regarding skill test, the fact that it has become the accredited VC of machining centre (NC milling job) in 2014 suggests that a critical role in this field is expected.

In this VC, a technical cooperation project "Hanoi University of Industry Technician Training Support Project" (January 2010 to January 2013) was conducted under JICA with the aim to provide vocational training of Japan's Polytechnic College level mainly in machining, electricity and electronics, in support of building education and training systems in line with

the needs of the industry. As a result, from Japanese affiliated companies in Vietnam and graduates employment companies that conduct industry-university cooperation with HaUI, HaUI has been described as having an ability similar to that of a Polytechnic College in Japan. Since the vocational training knowledge and experience in the fields of machining, electricity, and electronics in HaUI will be transferred and spread to other VCs in Vietnam, Technical cooperation projects in accordance with the development of training programs and systems intended for teachers "Hanoi University of Technology Teacher Training Enhancements Project" (June 2013 to June 2016,) is being implemented. Furthermore, following this technical cooperation project, as well as in the next technical cooperation project, this VC will be the core VC and the knowledge and experience in vocational training are planned to be relocated and disseminate to other VCs in Vietnam.

12 HPIVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is not included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

This VC has all 3 fields of study.

3. Situation of Japanese Companies around the target VC

There are more than 90 Japanese Companies registered in Hai Phong City in 2014⁷⁵. Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), about 30 Japanese companies are confirmed to be registered⁷⁶ (with an assumed scale of 9,500 employees in total). Although the scale of the companies is not big in terms of number of employees, the number of Japanese-affiliated companies can be considered as an employment opportunity

4. Economic growth at the target VC area

Because the number of Japanese-affiliated companies (since 2012: 7 companies⁷⁷), new direct foreign investment, and total industrial production has increased in recent years (compared to 2013, the growth rate of new direct foreign investment was 66.6%⁷⁸, and the total industrial production was 116.7%⁷⁹ while Vietnam's national average was 121.4%), the industry and economy of Hai Phong Province is robustly developing.

5. Teachers sufficiency

Among the 2 supported fields of study, all 26 teachers in machining, and all 44 teachers in

⁷⁵ Source: Japanese Business Association of Ho Chi Minh.

⁷⁶ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD and "Industrial Park Data" issued by JETRO Vietnam Office.

⁷⁷ Source: "Japanese enterprises in Vietnam 2015" issued by COMM BANGKOK CO., LTD.

⁷⁸ Source: "2014 Vietnam General Situation" issued by JETRO.

⁷⁹ Source: General Statistics Office of Vietna.

electricity and electronics have a four-year university bachelor's degree or higher⁸⁰ .

There are a total of 70 teachers (including assistants in junior college) in the supported 2 fields of study. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. It seems that there are not enough teachers in the electronics field, because a teacher in the electronics field sometimes has to manage more than 50 students in a class.

6. Securing students (including class management)

Located in Hai Phong City, the same phenomenon as to what is happening to other VCs in the surrounding area (including CVCT), the number of mechanical students is decreasing. In other VCs close by, in which some are had no choice but to close the mechanical system courses, by setting the fact that this VC has been continuously been able to secure students (receive 50% more admission than its capacity), the future industrial development in Hai Phong ("Hai Phong City High Technology Planning" approved in 2012), or to support the industrial development in Hai Phong and Ba-ria Vung Tau and as the base for assistance and investment following the National policy as background, this VC predicts that the number of students will increase in the future. Also, through the last 3 years in machining, the number of students per class was mostly about 20-40 students, thus it can be said that the proper scale is being implemented in the vocational training. (Ref. Annex-6).

7. Necessary facilities for equipment installation

Following the equipment installation, sufficient space, power supply, and plumbing system were confirmed. Due to peeling mortar, repair work is necessary though not large-scale.

8. Existence of similar VC in the surrounding area

Including the target⁸¹ VC of this project CVCT, it is confirmed that there are 2 other similar VCs in Hai Phong .

< Other information >

9. Demographics at the target VC area

The population growth rate in Hai Phong City has remained at about 1.0% in recent years, with a prediction of 23,000 18-years old population in 2020 (including 12,000 men, and 5,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Hai Phong City).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

Since 2012, lesson about 5S activities are provided for 10 hours. This, according to JICA was started as part of the program "Strengthening Factory management force improvement

⁸⁰ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

⁸¹ CVCT, Hai Phong Tourism and Service VC

program factory management capacity of Hai Phong manufacturing”, a total of 450 students have attended until now.

12. Equipment maintenance

This VC has a dedicated Maintenance Department with its Person in Charge. The teachers also perform equipment maintenance. The equipment has maintenance manuals, daily and periodic inspections are performed, and record making and record keeping are conducted. The VC also has an annual maintenance plan. The maintenance system is very well developed.

13. Finance

The profit has been declining from period to period. In 2013, the ordinary income has reduced to 787 million VND, making it necessary to rebuild. Fixed assets such as machinery and equipment have been slightly increasing. Its ordinary profit in 2013 was VND 787 million. Note that its profit before depreciation in 2013 was VND 4,801 million and there is no concern of financing.

14. Support from other donor

Received CNC, electrical equipment provision (1.0 million EUR) and a construction of 5-storey building (300,000 EUR) from ADB's loan project (2002-2008). In addition, 1.95 million EUR of equipment provision (~2009) and facility construction support from AFD and 200,000 USD of equipment provision from Finland (~2000) were received. Additionally, as JICA Grass-roots Technical Cooperation, product management instruction for trainers has been conducted from 2012 to 2014.

15. Others

Most of the current equipment were granted by AFD, and are already old.

13 HNVC

< Criteria Fulfilment >

1. Consistency with the 45 VC's list which Vietnam has requested Japan to support

This VC is not included in the list of 45 VCs.

2. Consistency with the vocational training field that Japan is strong (machining, electricity, electronics)

Out of the 3 fields of study, this VC has electricity.

3. Situation of Japanese Companies around the target VC

There are 33 Japanese Companies registered in Ha Nam Province in 2014⁸². Also, in the 3 fields this ODA loan project support (machining, electricity, and electronics) and even in Manufacture & Processing Industry (including resin and big steel in addition to the above), only 10 Japanese companies are confirmed to be registered⁸³ (with an assumed scale of 900 employees in total), which is very limited to be considered as an employment opportunity.

4. Economic growth at the target VC area

⁸² Source: Japanese Business Association of Ho Chi Minh.

⁸³ Source: “Japanese enterprises in Vietnam 2015” issued by COMM BANGKOK CO., LTD and “Industrial Park Data” issued by JETRO Vietnam Office.

Although the foreign direct investment has been increasing in the last 3 years, total investment has remained flat. On the other hand, GDP has shown continuous growth of more than 12% from 2008, making it the region with the highest GDP in Vietnam⁸⁴.

According to the documents from Ha Nam province, there are 33 Japanese-affiliated companies, although new direct foreign investment has increased in the last 3 years, the total industrial production has remained the same (compared to 2013, the growth rate of new direct foreign investment was 161.5%⁸⁵, compared to 2013 the total industrial production was 124.9%⁸⁶ and Vietnam's national average was 121.4%). On the other hand, the total industrial production of 2013 is 1,058% compared to 2005, which is another highest growth rate in Vietnam.

5. Teachers sufficiency

All 30 teachers in machining have a four-year university bachelor's degree or higher⁸⁷.

There are a total of 30 teachers (including assistants in junior college) in the supported fields of machining. However, since each teacher is in charge of vocational training in various levels, it is difficult to measure their sufficiency. Although the number of students in some classes does not reach expected number of students in the machining field, in the standpoint of sufficiency, it can be said that there are enough teachers in the target fields.

6. Securing students (including class management)

Responding to company needs, this VC has started new divisions in welding and sheet metal under the machining department. However, there are few students in these divisions (in the last 3 years, there were only 10 people or less for a classroom for 25). The VC thought that the reason was because the students think they can get employment even without junior college-level training, and that the training content is not good for health. Through the last 3 years in electricity, the number of students per class was mostly about 30 students, thus it can be said that the proper scale is being implemented in the vocational training (Ref. Annex-6).

7. Necessary facilities for equipment installation

Following the equipment installation, sufficient space, power supply, and plumbing system were confirmed. Tile repair work is necessary though not large-scale.

8. Existence of similar VC in the surrounding area

Including the target VC of this project, the 3rd Campus of HaUI was confirmed.

< Other information >

⁸⁴ Reference value of GDP is shown below.

	2008	2009	2010	2011	2012	2013
Ha Nam	13.0%	15.0%	14.0%	13.7%	12.4%	-
Hanoi	10.9%	6.7%	11.0%	10.1%	8.1%	-
Ho Chi Minh	-	-	-	10.3%	9.2%	9.3%

Source: "Industrial Park Data" issued by JETRO Vietnam Office, information of People's Committee, Information of Communist Party of Vietnam

⁸⁵ Source: "2014 Vietnam General Situation" issued by JETRO.

⁸⁶ Source: General Statistics Office of Vietnam.

⁸⁷ The vocational training teachers of junior college's level are prescribed by GDVT to have a four-year university bachelor's degree or higher.

9. Demographics at the target VC area

The population growth rate in Ha Nam Province has remained at about 0.62% in recent years, with a prediction of 12,000 18-years old population in 2020 (including 6,000 men, and 1,000 men from cities, refer to 2.2(4)). Since the school-age population is expected to increase steadily and naturally, from the demographics' point of view, there seems to be no real problem of securing students in the target VC's location (Ha Nam Province).

10. Curriculum development

70% of the curriculum is developed by MOLISA and is revised once every 3 years. Even though 30% of the curriculum not developed by MOLISA is set at each VC, there is not much difference in training content, revision frequency etc. among the 13 VCs. The Equipment Plan of this ODA loan project and its connection with the curriculum is shown in Chapter 4.

11. 5S Activities

5S activities have been conducted since April 2014 using textbooks from HaUI.

A Steering Committee was established within the VC and in each department, conducting weekly activities and monthly monitoring.

12. Equipment maintenance

This VC has a dedicated Maintenance Department (6 staff) with no Person in Charge. The teachers also perform equipment maintenance. The equipment has maintenance manuals, daily inspection are performed, and record making and record keeping are conducted, but no periodic inspection is performed. The VC also has an annual maintenance plan.

13. Finance

The tuition income has been declining in 3 years from 2011: 3,582 million VND→3,025 million VND→ 900 million VND. For this reason, ordinary income has also been declining though not much: 493 million VND→-73million VND→ -91 million VND resulting in loss in the last 2 years. Regarding tuition income, which was considered the main cause for loss, the decline was particularly big in 2013 because the tuition income from intermediate/ junior college level and from beginner level/ other training was divided. It founded a centre for a profitable business and it takes account of the centre's bottom line only in the college's financial statement. Its ordinary profit and loss in 2013 was in the red as mentioned above. However, it seems that the VC will be able to pay the on-lending from a viewpoint of financing because its profit before depreciation in 2013 amounted to VND 13,454 million.

14. Support from other donor

The VC received loan assistance support from Saudi Arabia. The project costed: 18,2 million USD (covered 50:50 by both Saudi Arabia and Vietnam), and the project period was 2011-2018. In 2015, the 2nd quarter will be conducted by the fund from Vietnam's side. The support is in classroom building, workshops, and new building construction, such as dormitory. The electricity field that will be the supported subject of this ODA loan project was built by this support.

15. Others

Once it has been decided that this VC will receive equipment of mechanical engineering course from ODA, the VC will apply to open the mechanical course. Now there is only a welding course, there is no targeted field in machining field of this project. The electricity field and the electronics field have been divided, and there is no targeted subject in the electronics field. Based on the above, at present the supported field is only electricity field.

Annex-12

Information from DOLISA
about New Construction Work for HCMVC
(English and Vietnamese)

Annex-12

DEPARTMENT OF LABOR, INVALID AD
SOCIAL AFFAIRS (HCMC)
**INVESTMENT & CONSTRUCTION
PROJECTS MANAGEMENT UNIT**

No. 309/BQL

*Sub: Construction Plan of 2nd Campus of
Ho Chi Minh City Vocational College*

THE SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom - Happiness

Ho Chi Minh City, 3rd December 2014

TO: HO CHI MINH CITY VOCATIONAL COLLEGE

The Investment and Construction Projects Management Unit under the Department of Labor, Invalid and Social Affairs (DOLISA) of Ho Chi Minh City has received a letter No.227/CDN from Ho Chi Minh City Vocational College requesting confirmation of budget planning for construction of 2nd campus of HCMC Vocational College at the address No. 48/43 Chuong Duong Street, Thu Duc District, Ho Chi Minh City; we would like to answer your request as follows:

DOLISA of Ho Chinh Minh City has proposed a medium-term budget plan (2015-2020) to submit Ho Chi Minh City People's Committee for the Project on New Construction of 2nd Campus of Ho Chi Minh City Vocational College at the address 48/43 Chuong Duong Street, Thu Duc District, Ho Chi Minh City as details:

+ Total Investment Budget	: VND 300 billion
+ Training Scale	: 800 students
+ Preparation and Design Period	: 2015
+ Construction Period	: 2016 – 2018

We would like to inform the above information and plan for your understanding and reference.

Sincerely,

PMU DIRECTOR
Tran Van Hieu (signed and sealed)

**SỞ LAO ĐỘNG
THƯƠNG BINH VÀ XÃ HỘI
BAN QUẢN LÝ DỰ ÁN
ĐẦU TƯ XÂY DỰNG CÔNG TRÌNH**

Số : 309/BQL

Về việc : *Kế hoạch xây dựng
Trường cao đẳng nghề cơ sở 2*

**CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc**

Thành phố Hồ Chí Minh, ngày 03 tháng 12 năm 2015

Kính gửi : Trường Cao đẳng nghề TP Hồ Chí Minh

Ban Quản lý đầu tư xây dựng công trình Sở Lao động - Thương binh và Xã hội nhận được công văn số 227/CĐN về việc xác nhận ghi vốn xây dựng cơ sở 2 tại số 48/43 đường Chương Dương, Quận Thủ Đức thành phố Hồ Chí Minh; Ban Quản lý đầu tư xây dựng công trình Sở Lao động - Thương binh và Xã hội xin có ý kiến như sau :

Sở Lao động - Thương binh và Xã hội đã có kế hoạch đầu tư xây dựng cơ bản trung hạn 5 năm (2015-2020) trình Ủy Ban nhân dân thành phố, theo đó Trường Cao đẳng nghề địa chỉ số 48/43 đường Chương Dương, Quận Thủ Đức thành phố Hồ Chí Minh được đầu tư xây dựng mới với kế hoạch :

- + Tổng mức đầu tư : 300 tỷ đồng
- + Qui mô : 800 học sinh
- + Thời gian chuẩn bị đầu tư, thiết kế : 2015
- + Thời gian khởi công hoàn thành : 2016 – 2018

Ban Quản lý đầu tư xây dựng công trình thông báo đến Trường Cao đẳng nghề gồm các nội dung nêu trên.

Trân trọng,

Nơi nhận :

- Nơi nhận
- Lưu

GIÁM ĐỐC



TRẦN VĂN MIÊU

Annex-13

Summarization of the Report on Rehabilitation of Subsidence problem of HVCHT

Annex-13

SUMMARIZATION OF THE REPORT ON REHABILITATION OF SUBSIDENCE PROBLEM IN HANOI VOCATIONAL COLLEGE OF HIGH TECHNOLOGY

BACKGROUND:

The original project of Construction of Training Campus for Hanoi Vocational College of High Technology (Hanoi VC of HighTech) was conducted from August 2007 to October 2010. The Employer was DOLISA. After completion of construction, the campus was handed over to Hanoi VC of HighTech in December 2010 for starting servicing and operation. However, at present, after 4 years of operation, there are several locations in the campus having serious damages and deterioration.

Under the above circumstance, an inspection on the actual damages and deterioration was carried out the Department of Construction (Hanoi People's Committee). Accordingly, the Department of Construction prepared an Inspection Report and submitted the report to the Chairman of Hanoi People's Committee on **27th Nov. 2014**.

REPORT NAME: "The Report on Damaged and Deteriorated Conditions in Hanoi Vocational College of High Technology"

Original Employer: DOLISA

Construction Location: Tay Mo Ward, Nam Tu Liem District, Hanoi

REPORT CONTENTS:

- I. Outline of Original Project: Employer name (DOLISA), Project Location, Scope of Investment, Construction Stage...
- II. Construction Contractors in Charge: Project Packaging and Contractor for each package.
- III. Inspection Results:
 1. Evaluation on capacities of consultant firms and contractors
 2. Review of Acceptance process by each construction stage
 3. Review of Quality Control process
 4. Review of Warranty and Maintenance process
- IV. Deterioration Situation and Its Estimated Reasons
 1. Deterioration Situation
 2. Inspection by drilling holes
 3. Estimated reasons of damages
 4. Some rehabilitation works made by the user (Hanoi VC of HighTech)
 5. General Assessment
- V. Inspection Conclusion
 1. Responsibility of the Employer – DOLISA
 2. Responsibility of Design Consultants – Consultants of University of Civil Construction

3. Responsibility of Supervision Consultants – Vietnam Financial and Construction Investment Company Jsc; Hanoi Urban Architecture Company Jsc; Cultural Work Construction Company; Aviation Work Construction Company.
4. Responsibility of the User (Hanoi VC of HighTech)

VI. Recommendation

1. Technical countermeasures
2. Recommendation:

“In order to ensure safety condition for the user (teachers, staff, students) and the equipment, as well as to furnish the demand on the classroom quality for the training activities in long future of servicing life, the Department of Construction would like to recommend Hanoi People’s Committee the following:

- To nominate Hanoi VC of HighTech as a new Employer in formulation and implementation of the project on rehabilitation, improvement of subsidence locations as described above (the policy of nomination to Hanoi VC of HighTech was stated in the Document No.7546/VP-VX dated 6th November 2014 issued by Hanoi PC);
- To permit new Employer to implement the project as early as possible within the year 2015 in order to timely repair and rehabilitate the damaged and deteriorated locations to ensure safety condition for the human and equipment.
- The Employer is requested to review the defects of all work items and propose the measures of repair or rehabilitation in consideration of overall systematic view to ensure synchronism of operation, efficiency and safety for human and equipment, then to submit the report to Hanoi PC for approval.”

**ON BEHALF OF DIRECTOR OF DOC
VICE DIRECTOR (Signed and sealed)**

LIST OF DAMAGES AND DETERIORATION LOCATIONS

Through the inspection, it is obviously observed that the deterioration and damaged are mainly appeared at the ground floor, the damages include of ground subsidence, tiles cracking or breaking, wall cracking. Other floors are in satisfactory condition in general.

1.1 The 11-floor Building for Office and Theoretical Classes

- The ground at the lobby is settled, however it was re-filled and tiled by the contractor;
- Tertiary was broken and is repaired now;
- The edges at the toilet doors were skew cracked, and it was mortared.

1.2 The Workshop Block – Class A:

- The floors of most workshops are settled and cracked. The center point of settlement is mostly about 3-4cm comparing to the wall edge, in some particular room, it is 8cm. The floor crack width is about 9mm. The joint section between floor and wall is also settled and the wall foundation is exposed up to 3-4cm (machining practice room);
- Tertiary is settled severely to 10cm that cause the steps broken;
- Glass wall and glass windows are settled and cause difficulties when using.

1.3 The Workshop Block – Class B:

- The damage on the workshop floor is not appeared but the tertiary, ramp and outer corridor are settled. Most of brick handrails are broken, cracked or exposed wall foundation. There are some cracks having width of 4cm.

1.4 The Workshop Block – Class C:

- There cross cracks on the floor of machining workshop. The wall foundations are exposed due to floor settlement;
- Tertiary, ramps and brick handrails are cracked and broken, wall foundation exposed;
- The walls and doors of the toilet areas have long cracks;
- The partition wall with 110mm thickness has a cross crack in full length of the wall. The crack width is about 5cm.

1.5 Library Building and Conference Hall:

- Tertiary, brick handrail and outer flower base are broken severely;
- The outer corridor of library is settled and inclined 6cm;
- The floors in most of rooms in library building are settled and deflected causing tile broken. The deflection at the center of the floor is about 3-5cm compared to the wall foot, especially the deflection in the Book Storage Room is measured of 10cm;
- The wall at some locations are cracked and melted due to water absorbance.

1.6 Physical Practice Hall

- Tertiary are settled severely causing tile broken;
- There are longitudinal cracks on the floor of practice room, the floor paint layer is peeled out;
- The floors of accessories rooms is settled about 3-5cm causing tile broken;
- Walls of toilet are melted due to water absorbance.

1.7 Dormitory and Canteen

- The tiles are peeled out in some locations;
- Toilet walls are melted and water absorbed, mortar is peeled out;

- The damages in the dormitory are mainly handrails, balcony, and stairs. The handrails are made from box steel and pipe steel which are rusted now and weld joints are destroyed; at some locations, handrails are broken in large pieces that cause risks.

1.8 Outdoor Technical Infrastructure:

- The corridor adjacent to the building has 15cm settlement and not same appearance at all locations;
- All tertiary, ramps are settled and cause step broken (although the contractor used to repair by removal of all steps and provide additional reinforcement by bamboo piles.)
- The ditches for discharging rainwater are not provided in the outdoor ground, it cause water stagnant when raining;
- Some plastic joint of the roof water discharge pipe are broken due to ground settlement;
- A tower base, which was prepared during construction period, is not demolished because of non-affected to the college activities, however, the base become raising up due to ground settlement;
- The ramp to the parking area is settled and broken;
- The surface water discharge ditch was stagnant of sand and soil that causes difficulties in discharging when raining.

Annex-14

Duplication with ADB's support
(technical cooperation and equipment procurement)

Annex 14 - Duplication with ADB's support (technical cooperation)

Comparison between ADB Skills Enhancement Project and JICA Technical Cooperation

	ADB Skills Enhancement Project In operation and proposed	JICA Phase 3 In operation	JICA/Others Grass-roots assistance etc.	JICA Phase 4 Proposed	Comparison (Observation)
Project Design					
Impact	Reduction in skills shortages in 15 key occupations.	There is the certain number of vocational training institutions which provides vocational training at the international level		There is the certain number of vocational training institutions which provides vocational training at the international level	JICA Phase 4 component is overlapped at CVCT and DNVC.
Outcome/ Project Purpose	Higher-level skills training in 15 key occupations established for males and females. (automotive technology, electrical manufacturing, hospitality and tourism, information and communication technology (ICT), mechanical manufacturing, and navigation and shipping)	Hanoi University of Industry (HaUI) can properly manage technical transfer to other technical and vocational education and training (TVET) institutions in occupations such as machining, electronics and electricity in Vietnam, as an advanced model of Japanese leveled TVET institution.		For vocational training in the machinery, electric, and electronic areas, the main model school (HaUI/VJC) and the model schools in the north (Hanoi) and south (Ho Chi Minh City) transfer techniques, skills, and training management methods to other target schools, improving the operations and management systems at these schools and allowing them to offer vocational trainings at international standard	ADB aims to establish higher-level skills training in 15 key schools. Meanwhile, JICA aims to improve training ability at the model schools to spread the international level training. JICA Phase 4 component is overlapped at CVCT and DNVC. In terms of occupation, machining and electricity are overlapped.
Output	Quality and management of vocational training improved.	An effective model of training schemes for trainers' upgrading and/or updating for TVET is developed, in harmonization of various ministries and agencies.		The model and target schools understand and implement the training improvement system by means of PDCA and CUDBAS	JICA Phase 4 component is overlapped at CVCT and DNVC.
	VCs upgraded to deliver priority occupational training programs.	HaUI develops new training program for trainers' upgrading and/or updating in occupations such as machining, electronics and electricity for other TVET institutions by fully utilizing a management cycle approach.		The capacity of the trainers of the model and target schools is enhanced through the promotion of vocational training structure and system. Final examination with the 3 rd level of the Japanese skill test is	JICA Phase 4 component is overlapped at CVCT and DNVC.

	ADB Skills Enhancement Project In operation and proposed	JICA Phase 3 In operation	JICA/Others Grass-roots assistance etc.	JICA Phase 4 Proposed	Comparison (Observation)
A14-2				implemented.	
	Partnerships with the private sector strengthened.		Vietnam-Japan Center	The Kaizen method at the model and target schools is established through the evaluation of graduates by enterprises. The employment support system database is developed at the model and target schools. Not only internship but training needs at each area is comprehended Feedback from the graduates is gathered. Obtained Information such as enterprises' needs is analysed by 6W2H method and shared with the related vocational colleges.	JICA Phase 4 component is overlapped at CVCT and DNVC. Kaizen method is by JICA Phase 4 component only
		HaUI and Hanoi Technique and Technology Vocational College (TTC) share knowledge, techniques and know-how for TVET through full-time co-work in the Project.			Cooperation with the model and target schools is by JICA Phase 4 component only
				5S activities are implemented at the model and target schools.	5Sactivities are by JICA Phase 4 component only
Consulting Services/Activities					
	DT02: Regional study tours the recruitment of training providers for the regional study tours				By ADB only.
	DT03: Training on Skill Testing and Certification		Advisor on Vocational Training system Leadership Development Project in the Education of Machinery Techniques and Skills at Hanoi Industrial Vocational College	Core VC, Hub VCs and target VCs are provided with the requirements of the skill test implementation location. Instructors of Core VC, Hub VCs and target VCs get the evaluation personnel qualification of skills	JICA Phase 4 component is overlapped at CVCT and DNVC.


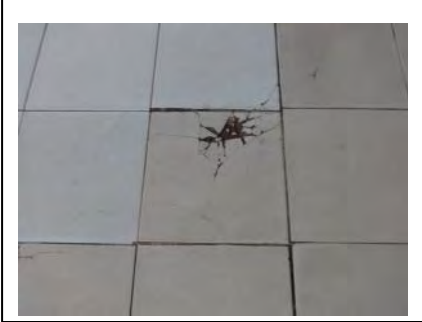


	ADB Skills Enhancement Project In operation and proposed	JICA Phase 3 In operation	JICA/Others Grass-roots assistance etc.	JICA Phase 4 Proposed	Comparison (Observation)
				test.	
	DT04: Vocational Teachers Training for Material Development	2-3.Haui develops curriculum and instructional materials for training for trainers' upgrading and/or updating.		Teaching material for the improvement of training is distributed.	JICA Phase 4 component is overlapped at CVCT and DNVC.
	DT05A, B: Vocational Teacher's Development Program	2-1.HaUI assesses capacity of trainers at HaUI and other vocational training institutions. 2-2.HaUI identifies target trainers and training fields for training for trainers' upgrading and/or updating based on 2-1. 2-4.HaUI trains trainers for training for trainers' upgrading and/or updating. 2-5.HaUI organizes and delivers training (s) for trainers' upgrading and/or updating for target trainers, using the developed curriculum and instructional materials for trainers' upgrading and/or updating. 2-6.HaUI evaluates the results and feedbacks the training(s) and finalizes training programs for trainers' upgrading and/or updating.		Teaching method transferred from HaUI/VJC is reconfirmed. The number of seminar is increased. Trainer who received the seminar transfers the teaching method to other trainer in his school. Training material for training improvement at the model schools is transferred.	JICA Phase 4 component is overlapped at CVCT and DNVC. Development method of training material for improvement of trainer at the model schools is the one to be transferred.
	DT01: Management Training	1-1.To develop a model of training schemes for trainers' upgrading and/or updating, HaUI sets up a working group (WG), inviting concerned agencies such as TTC. 1-2.From the viewpoints of logistics (procedures and cost sharing) and institution (roles and authorities of related agencies), the WG reviews current schemes to implement training for trainers'		Development of evaluation method of trainers' skill level. Training for enhancement of creativity. Training management method especially the management of database of enrolment and graduates Examination in order to confirm the reason for delayed training process. Development of curriculum.	ADB: Top down JICA: Bottom up





	ADB Skills Enhancement Project In operation and proposed	JICA Phase 3 In operation	JICA/Others Grass-roots assistance etc.	JICA Phase 4 Proposed	Comparison (Observation)
		<p>upgrading and/or updating among vocational training institutions under the management of different agencies.</p> <p>1-3.The WG prepares a draft of desirable schemes under which training for trainers' upgrading and/or updating will be implemented among vocational training institutions under the management of different agencies.</p> <p>1-4.The WG implements it on a trial basis</p> <p>1-5.The WG improves and finalizes a proposed model of the training schemes for trainers' upgrading and/or updating through the implantation of the Project.</p> <p>1-6.The WG exchanges information and opinions with concerned stakeholders such as MOIT, MOLISA and others to implement the activities 1-2 to 1-5.</p> <p>1-7. The WG inputs the developed model of the training schemes for MOLISA to improve current training schemes for trainers' upgrading and/or updating.</p>		<p>Improvement of training program planning.</p> <p>Implementation of CUDBAS method</p> <p>Confirmation of trainers'skill</p> <p>Introduction of 5S activities' necessity and the cleaning by trainers.</p>	
	TV04: Midterm and final impact studies				By ADB only
	TV07: VET financing/Program cost norm studies				By ADB only
	TV08: Enterprise-based Training /Training Levy Study				By ADB only
	TV09: Teacher incentives study				By ADB only





	ADB Skills Enhancement Project In operation and proposed	JICA Phase 3 In operation	JICA/Others Grass-roots assistance etc.	JICA Phase 4 Proposed	Comparison (Observation)
	<p>TV10A-B : Social marketing campaign.</p> <p>TV10A: Engagement of a Firm or Institution to Design and Implement a Social Marketing Campaign and Train VET Staff in Marketing</p> <p>TV10B: Engagement of Individual consultants (or firm) to Develop Career Guidance Materials for the VCs and to prepare a program and Train VC staff in the use of Transition-to Work materials for VC Students</p>			Improvement of marketing ability.	<p>ADB: Promotion to enterprises</p> <p>JICA: Confirmation of enterprises' needs</p>
		<p>3-1.TTC sends its staff to HaUI, and HaUI accepts them as members of the Project.</p> <p>3-2.HaUI sets job descriptions and annual performance targets for TTC staff dispatched to HaUI with TTC, and monitors the achievements of the performance targets with TTC.</p> <p>3-3.TTC regularly conducts seminars and workshops at TTC to disseminate knowledge, techniques and know-how for TVET which its staff acquired through full-time co-work in the Project.</p> <p>3-4.TTC conducts training(s) for trainers' upgrading and/or updating at TTC on a trial basis under the technical support from HaUI.</p>			Cooperation with the model and target schools is by JICA Phase 4 component only





Annex-15

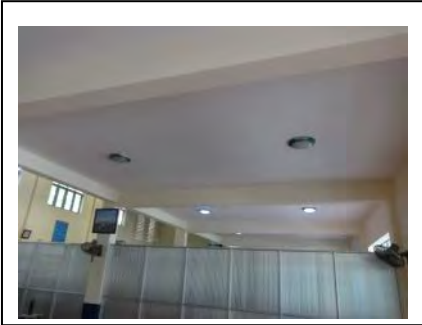
Verification Sheet


Name of Institution	Hanoi Industrial Vocational College		
Authorized Agency	Hanoi PPC		
Location	Hanoi city	Course	Electricity
Name of Room and Equipment installed	Electricity workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others(Electrical cable tray system/Air conditioners/Tile Layer)		
Condition of the space	as of <u>November 24, 2014</u>		
	 Wall crack	 Broken tile	
	 Wall peeling	 Building appearance	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor, wall • Ventilation system should be set. • Interior painting 		
Remark	<ul style="list-style-type: none"> • Progress of concrete structure neutralization is a concern because facility is aging and many cracks and finishing material peelings are caused. 		

Name of Institution	Hanoi Industrial Vocational College		
Authorized Agency	Hanoi PPC		
Location	Hanoi city	Course	Electronics
Name of Room and Equipment installed	Electronics Workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others(Electrical cable system/ air condition)		
Condition of the space	as of <u>November 24, 2014</u>		
	 Wall crack	 Broken tile	
	 Wall peeling	 Exterior wall crack	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor, wall • Ventilation system should be set. • Interior painting 		
Remark	The current electronics workshops are in building D (5 stories). Tile and wall cracks are found at somewhere.		


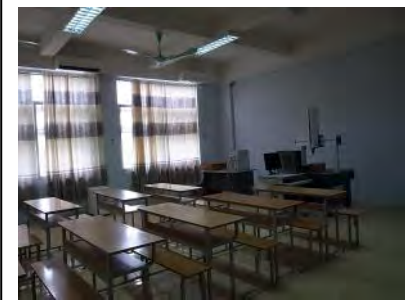
Name of Institution	Hanoi Industrial Vocational College		
Authorized Agency	Hanoi PPC		
Location	Hanoi city	Course	Machining
Name of Room and Equipment installed	Machining workshop		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (Slab floor renovation)		
Condition of the space	as of <u>November 24, 2014</u>		
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Workshop appearance</p> </div> <div style="text-align: center;">  <p>Old electric wiring system</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>NC room[no air-conditioner]</p> </div> <div style="text-align: center;">  <p>Floor mortar peeling</p> </div> </div>		
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air conditioning installation for NC room. • Repair work for electrical cable system • Repair work for cracks and mortar peeling of the floor • Dust-proof paint on the floor. • Air conditioning installation for new measurement equipment room. New mechanical workshop for measurement equipment is necessary. It is supposed to set in 2nd floor of administration building. More air-conditioner should be set. 		
Remarks	<p>Machining faculty workshop building</p> <ul style="list-style-type: none"> • Machining faculty workshop building was built before 1990. There is no crack on the floor surface but leveling is not so good. <p>Building D (5 stories)</p> <ul style="list-style-type: none"> • NC room and CAD/CAM room are in 1st floor and 2nd floor of building D (5 stories). • There are some cracks found on the ground floor • Ground floor is in minor settle status but it was replaced by new floor layer. 		



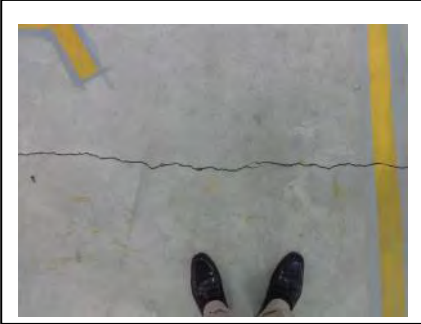

Name of Institution	Vocational College of Technique and Technology / Campus 2		
Authorized Agency	Ministry of Labor, Invalids and Social Affairs (MOLISA)		
Location	Hanoi city	Course	Machining
Name of Room and Equipment installed	Machining workshop - 1 st floor		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input checked="" type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> 0 thers (Floor)		
Condition of the space	as of <u>November 17, 2014</u>		
			
	Floor attrition and peeling	Mortar peeling of column	
			
	Blasting caused by electric wiring	Cracks on the surface	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Strengthening work for 1st floor slab. The current 1st floor is 10cm thickness without rebar which cannot bear the load of heavy machine. • Repair work for cracks of the floor, wall, column, ceiling • Dust-proof paint on the floor • Repair work for electrical cable system (Part) • Interior painting • Exhaust fan installation 		
Reamark	<ul style="list-style-type: none"> • Minor settlement is found as observed visually but structure doesn't have any influence. • NC room is kept in good condition, air-conditioned and double door. 		



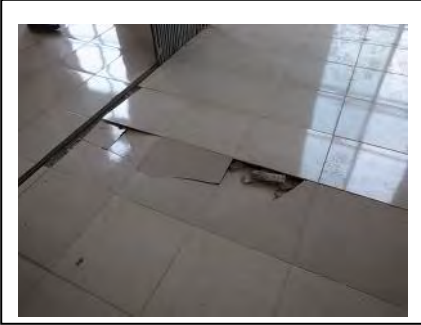

Name of Institution	Ba Ria Vung Tau Vocational College / Existing Campus 1		
Authorized Agency	Ba Ria-Vung Tau PPC		
Location	Vung Tau Province	Course	Electricity
Name of Room and Equipment installed	Electricity Workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others(Air conditioner or ceiling fan, Electrical cable tray system)		
Condition of the space	as of <u>November 11, 2014</u>		
	 Electricity workshop building	 No ceiling fan and air conditioner	
	 Floor is in good condition	 Additional socket is required	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air fan installation • Air conditioning installation • Electrical cable tray system installation • Additional electric outlet • Additional light fixture 		
Remark	Nothing		



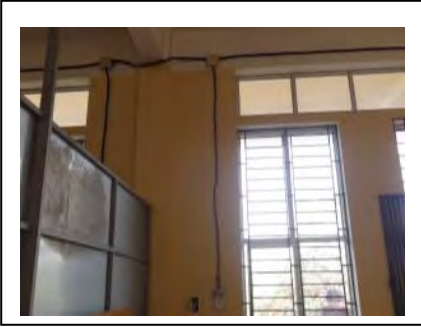

Name of Institution	Ba Ria Vung Tau Vocational College / Existing Campus 1		
Authorized Agency	Ba Ria-Vung Tau PPC		
Location	Vung Tau Province	Course	Electronics
Name of Room and Equipment installed	Electronics Workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (Air conditioner or ceiling fan, Electrical cable tray system)		
Condition of the space	as of <u>November 11, 2014</u>		
			
	<div style="border: 1px dashed black; padding: 5px;">Electronic workshop building</div>	<div style="border: 1px dashed black; padding: 5px;">Electronic Room</div>	
			
	<div style="border: 1px dashed black; padding: 5px;">Additional socket is required</div>	<div style="border: 1px dashed black; padding: 5px;">Lighting system is not enough</div>	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air fan installation • Air conditioning installation • Electrical cable tray system installation • Additional electric outlet • Additional light fixture 		
Remark	Nothing		

Name of Institution	Ba Ria Vung Tau Vocational College / Existing Campus 1		
Authorized Agency	Ba Ria-Vung Tau Provincial People's Committee		
Location	Vung Tau Province	Course	Machining
Name of Room and Equipment installed	Machining workshop		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input checked="" type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input type="checkbox"/> ceiling fan/ air conditioner/ electrical cable system		
	as of <u>November 11, 2014</u>		
Condition of the space			
	Workshop building appearance	The floor is in good condition	
			
	Additional ventilation system required	Additional ceiling fan and lights required	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Exhaust fan installation • Air fan installation • Additional light fixture 		
Remark	<ul style="list-style-type: none"> • Foundation to be checked for support new equipment 		




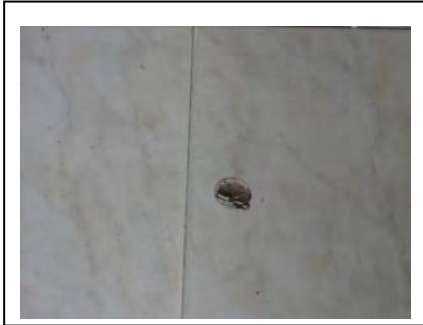
Name of Institution	Hanoi High Technology Vocational College		
Authorized Agency	Hanoi PPC		
Location	Hanoi city	Course	Electronics
Name of Room and Equipment installed	Electronics Workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input type="checkbox"/> Others ()		
Condition of the space	as of <u>November 18</u> , 2014		
			
	Building appearance	Workshop	
			
	Class room	Ceiling fan	
Necessary rehabilitation/ construction for facility	No need for repairing		
Remark	<p>Electronics workshop condition is same to electricity workshop condition. These are located in same building.</p> <ul style="list-style-type: none"> • Floor is in good condition for new equipment installation • Space is enough for installation <p>Although machining workshop which is located in first floor is affected by settlement, structure of second floor or more is not affected. There is no possibility of unequal setting.</p>		


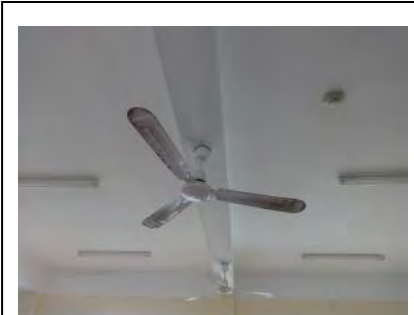


Name of Institution	Hanoi High Technology Vocational College		
Authorized Agency	Hanoi PPC ‘		
Location	Hanoi city	Course	Machining
Name of Room and Equipment installed	Machining workshop		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input checked="" type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input type="checkbox"/> floor <input type="checkbox"/> Demolition		
Condition of the space	as of <u>November 18, 2014</u>		
	 <p style="text-align: center;">Settlement influence [Indoor]</p>	 <p style="text-align: center;">Settlement influence [Outdoor]</p>	
	 <p style="text-align: center;">Floor crack</p>	 <p style="text-align: center;">Wall crack</p>	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor, wall, column, ceiling • Dust-proof paint on the floor • Repair work for electrical cable system 		
Remark	<ul style="list-style-type: none"> • Deep settlement is confirmed. • Water supply system of outdoor facility is influenced by settlement. • Drainage water system of outdoor facility is influenced by settlement. <p>Settlement impact to workshop in which we are expecting to install equipment and some problems are reported in PPC geotechnical report/defectiveness list. Although method of repair and strengthening work are proposed, construction schedule is not mentioned.</p>		


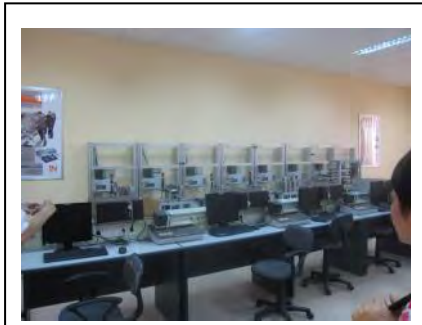
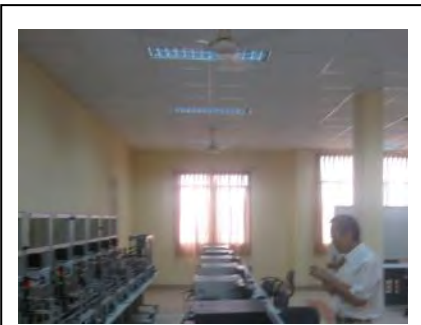
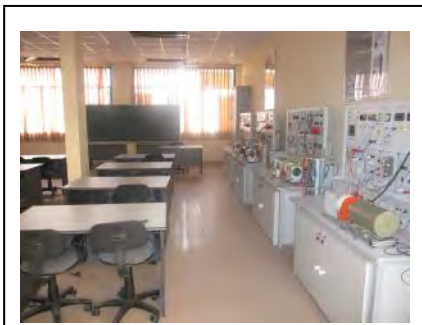
Name of Institution	Vinh Phuc Vocational College / Campus B (Vietnam-German Vocational College)		
Authorized Agency	Vinh Phuc PPC		
Location	Vinh Phuc Province	Course	Electricity
Name of Room and Equipment installed	Electricity workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others(tile/ Electrical cable tray)		
Condition of the space	as of <u>November 21, 2014</u>		
			
	Building appearance		Workshop
			
	Broken tile		Mortar peeling of wall
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for electrical cable system • Repair work for floor tile • Exhaust fan installation 		
Remark	<ul style="list-style-type: none"> • The current electrical equipment is in 3rd floor of the building in campus B and 2nd floor of the building in campus A. • The electricity workshop which the college planed for new equipment is at 3rd floor of 3 stories building located in campus B. Existing electrical equipment will be replaced to the floor. 		





Name of Institution	Vinh Phuc Vocational College / Campus A (Vietnam-German Vocational College)		
Authorized Agency	Vinh Phuc PPC		
Location	Vinh Phuc Province	Course	Electronics
Name of Room and Equipment installed	Electronics Workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (electrical cable tray system/ Re-installation of floor tile)		
Condition of the space	as of <u>November 21, 2014</u>		
	 Building Appearance	 Broken tile	
	 Electrical cable system	 Workshop	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Electrical cable tray system installation • Repair work for floor tile • Interior painting for crack repair finishing • Exhaust fan installation 		
Remark	<ul style="list-style-type: none"> • The current electronics workshop is in 3rd floor of the building in 2nd campus and 2nd floor of the building in 1st campus. 		




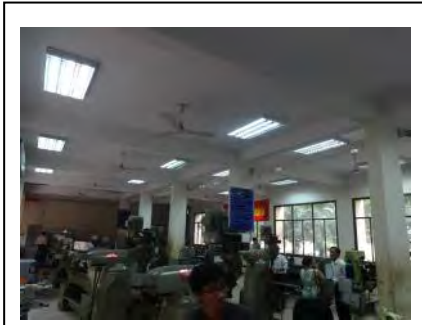
Name of Institution	Vinh Phuc Vocational College / Campus B (Vietnam-German Vocational College)		
Authorized Agency	Vinh Phuc PPC		
Location	Vinh Phuc Province	Course	Machining
Name of Room and Equipment installed	Machining workshop		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (slab floor renovation)		
Condition of the space	as of <u>November 21, 2014</u>		
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Building appearance __ (Campus B)</p> </div> <div style="text-align: center;">  <p>Workshop [Not smooth slab]</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Workshop [Insufficient electrical cable]</p> </div> <div style="text-align: center;">  <p>Ceiling [no Air-conditioner]</p> </div> </div>		
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Leveling work on the floor • Repair work for cracks of the floor, wall, column, ceiling • Dust-proof paint on the floor • Repair work for electrical cable system • Air conditioning installation • Exhaust fan installation • Partition wall installation 		
Remark	<ul style="list-style-type: none"> • The mechanical workshop which the college planned for new equipment is at 1st floor of 3 stories building located in campus B. • Existing mechanical equipment at campus A will be relocated to 1st floor of 3 stories building located in campus B. 		




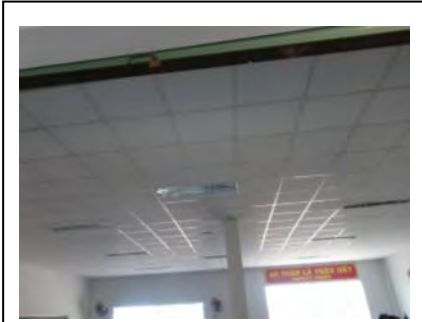
Name of Institution	Da Nang Vocational College		
Authorized Agency	Da Nang PPC		
Location	Da Nang city	Course	Electricity
Name of Room and Equipment installed	Electricity workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> (electrical cable / ceiling fans)		
Condition of the space	as of <u>November 22, 2014</u>		
			
	Building appearance	Ceiling fans (Rust)	
			
	Temporary electrical cable tray	Broken tile	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Electrical cable tray system installation • Repair work for floor tile • Exhaust fan installation 		
Remark	<p>Electricity and electronics workshop are located in same building and there is no specific distinction between them. These workshop condition are same.</p> <ul style="list-style-type: none"> • The current electrical workshops were built from 2000 and 2006. • However the facility is in normal condition and can be used for new electrical equipment. 		


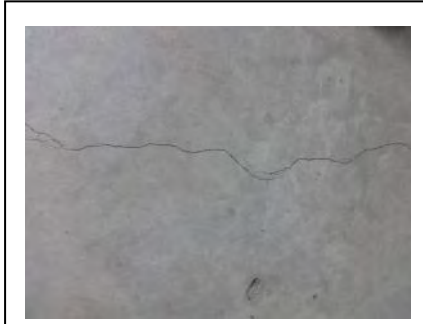

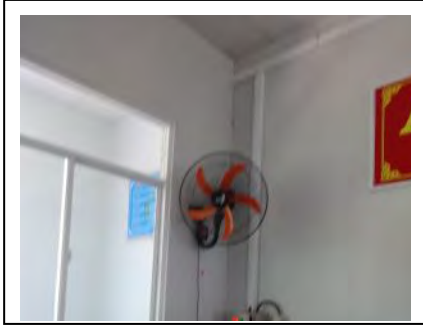
Name of Institution	Da Nang Vocational College		
Authorized Agency	Da Nang Provincial People's Committee		
Location	Da Nang	Course	Electronics
Name of Room and Equipment installed	Electronics Workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> (electrical cable / ceiling fans)		
Condition of the space	as of <u>November 22, 2014</u>		
			
	Building appearance	Ceiling fans to be replaced.	
			
	Temporary electrical cable tray	Broken tile	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Electrical cable tray system installation • Repair work for floor tile • Exhaust fan installation 		
Remark	<p>Electricity and electronics workshop are located in same building and there is no specific distinction between them. These workshop condition are same.</p> <ul style="list-style-type: none"> • The current electrical workshops were built from 2000 and 2006. • However the facility is in normal condition and can be used for new electrical equipment. 		

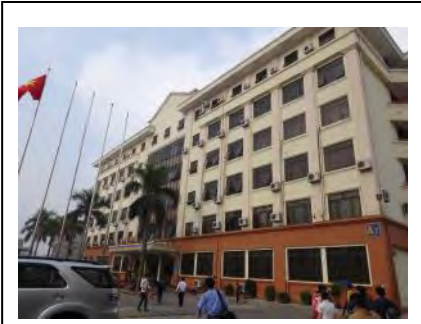

Name of Institution	Ho Chi Minh Vocational College of Technology		
Authorized Agency	Ministry of Labor, Invalids and Social Affairs (MOLISA)		
Location	Ho Chi Minh city	Course	Electricity
Name of Room and Equipment installed	Electricity Workshop (2 st story)		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (air conditioner)		
Expected location to install the equipment	Electricity workshop		
Condition of the space	as of <u>November 13, 2014</u>		
			
	Building appearance	Workshop	
			
	Insufficient ventilation system	Good floor condition	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air conditioning installation, • Exhaust fan installation 		
Remark	<p>Electricity workshop condition is same to electronics workshop condition. These are located in same building.</p> <p>The college has a good infrastructure.</p> <p>Floor of all workshops is in good condition for new electrical equipment placement as checking in visually.</p>		

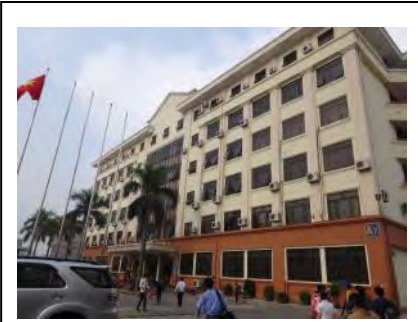

Name of Institution	Ho Chi Minh Vocational College of Technology		
Authorized Agency	Ministry of Labor, Invalids and Social Affairs (MOLISA)		
Location	Ho Chi Minh city	Course	Electronics
Name of Room and Equipment installed	Electronics Workshop (3 st story)		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (Air conditioner)		
Expected location to install the equipment	Electronics Workshop		
Condition of the space	as of <u>November 13, 2014</u>		
	 Building appearance	 Workshop	
	 Insufficient ventilation system	 Skill Evaluation Center	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air conditioning installation, • Exhaust fan installation 		
Remark	General: The college has a good infrastructure. Floor of all workshops is in good condition for new electronics equipment placement as checking in visually.		

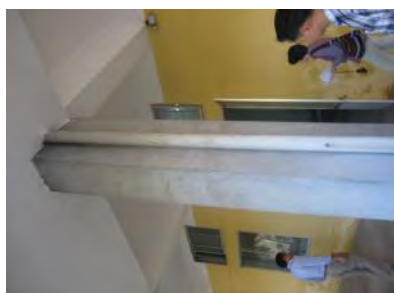



Name of Institution	Ho Chi Minh Vocational College of Technology		
Authorized Agency	Ministry of Labor, Invalids and Social Affairs (MOLISA)		
Location	Ho Chi Minh city	Course	Machining
Name of Room and Equipment installed	Machining Workshop (1 st story)		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input checked="" type="checkbox"/> noise <input type="checkbox"/> vibration <input checked="" type="checkbox"/> radio disturbance <hr/> <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input checked="" type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input type="checkbox"/> Others ()		
	Condition of the space as of <u>November 13, 2014</u>		
			
	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">Electrical cable (Embedment)</div>	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">Floor finishing(Dust proof)</div>	
			
	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">Natural ventilation</div>	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">Insufficient ventilation system</div>	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air conditioning installation • Exhaust fan installation 		
Remark	General: The college has a good infrastructure Floor of all workshops is in good condition as checking in visually.		





Name of Institution	Vocational College of Mechanics and Irrigation		
Authorized Agency	Ministry of Agriculture and Rural Development (MARD)		
Location	Dong Nai Province	Course	Electricity
Name of Room and Equipment installed	Electricity workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others (floor)		
Condition of the space	as of <u>November 12, 2014</u>		
			
	Workshop building appearance	Cracks on the floor at all	
			
	Fan	Ceiling (Insufficient air-conditioning system)	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor. • Air conditioning installation • Exhaust fan installation 		
Remark	Vocational college has a master plan including new workshop building construction. Although they are planning construction period is from Apr. 2015 to 2016, they do not share the room plan which is need for checking equipment layout plan to us.		




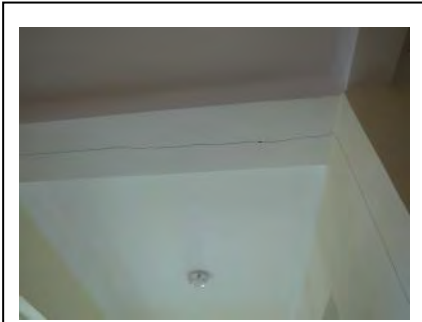
Name of Institution	Vocational College of Mechanics and Irrigation		
Authorized Agency	Ministry of Agriculture and Rural Development (MARD)		
Location	Dong Nai Province	Course	Machining
Name of Room and Equipment installed	Machining workshop		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> Others(Floor)		
Condition of the space	as of <u>November 12, 2014</u>		
			
	Building		
			
	Distribution panel is not enough		
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor. • Dust-proof paint on the floor • Air conditioning installation • Strengthening work for 1st floor slab • Additional distribution board 		
Remark	<ul style="list-style-type: none"> • Vocational college has two equipment installation plan. — Option 1 – New building completed as schedule: All machinery will be moved to the new workshop building. — Option 2- New building will be not completed as schedule: All machinery will be moved to the first story of existing electricity-electronic workshop building. Machining equipment will be relocated to new building after finishing construction. • Workshops in the existing building is checked in this survey. 		

Name of Institution	Hanoi University of Industry		
Authorized Agency	Ministry of Industry and Trade		
Location	Hanoi city	Course	Electricity
Name of Room and Equipment installed	Electricity Workshop (A1 Building)		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input type="checkbox"/> floor		
Condition of the space	as of <u>November 14, 2014</u>		
	 <div style="border: 1px dashed black; padding: 5px; width: fit-content; margin: auto;">Building appearance</div>	 <div style="border: 1px dashed black; padding: 5px; width: fit-content; margin: auto;">Workshop</div>	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air conditioning installation • Exhaust fan installation 		
Remark	<p>The college has a good infrastructure for arrangement of new electrical equipments</p> <p>Good floor condition, enough space.</p> <p>However, Ventilation, air conditioner and fire extinguisher should be improved.</p>		

Name of Institution	Hanoi University of Industry		
Authorized Agency	Ministry of Industry and Trade (MOIT)		
Location	Hanoi city	Course	Machining
Name of Room and Equipment installed	Machining Workshop (A1 Building)		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input checked="" type="checkbox"/> noise <input type="checkbox"/> vibration <input checked="" type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input checked="" type="checkbox"/> drainage supply <input checked="" type="checkbox"/> duct/ventilation <input type="checkbox"/> Others ()		
Condition of the space	as of <u>November 14, 2014</u>		
	 <div style="border: 1px dashed black; padding: 5px; text-align: center;">Building appearance</div>	 <div style="border: 1px dashed black; padding: 5px; text-align: center;">Floor is in good condition protected by epoxy layer</div>	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Air conditioning installation • Exhaust fan installation 		
Remark	<ul style="list-style-type: none"> • The college has a good infrastructure for arrangement of new electronics equipments. There is no need to big repair. • Workshop floor is in good condition protected by epoxy layer at heavy machine room. • There are enough space for installation. • Doors in CNC room are not in good condition. 		

Name of Institution	Hai Phong Industrial Vocational College		
Authorized Agency	Hai Phong PPC		
Location	Hai Phong City	Course	Electricity
Name of Room and Equipment installed	Electricity faculty		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input checked="" type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input type="checkbox"/> others ()		
Condition of the space	November 25 th , 2014		
			
	Column, beam of 1 st floor		Mortar peeled off
			
	Stair hall		Crack on the beam
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor, wall, column, ceiling • Repair work for floor tile • Interior painting • Air conditioning installation • Air fan installation 		
Remark	<ul style="list-style-type: none"> • Electricity faculty is situated at the 1st and 2nd floor of 5-floor building which was built in 2002. • Structure is cast in-situ reinforced concrete beam, flooring panel system, brick masonry wall, cement tile. • The beam, floor structure is still in good condition. • The tiles of 2nd floor are almost peeled off and need to be repaired. Need to re-paint the wall due to mold and mortar peeling off. • The power supply system meets the requirement for new equipment installation 		

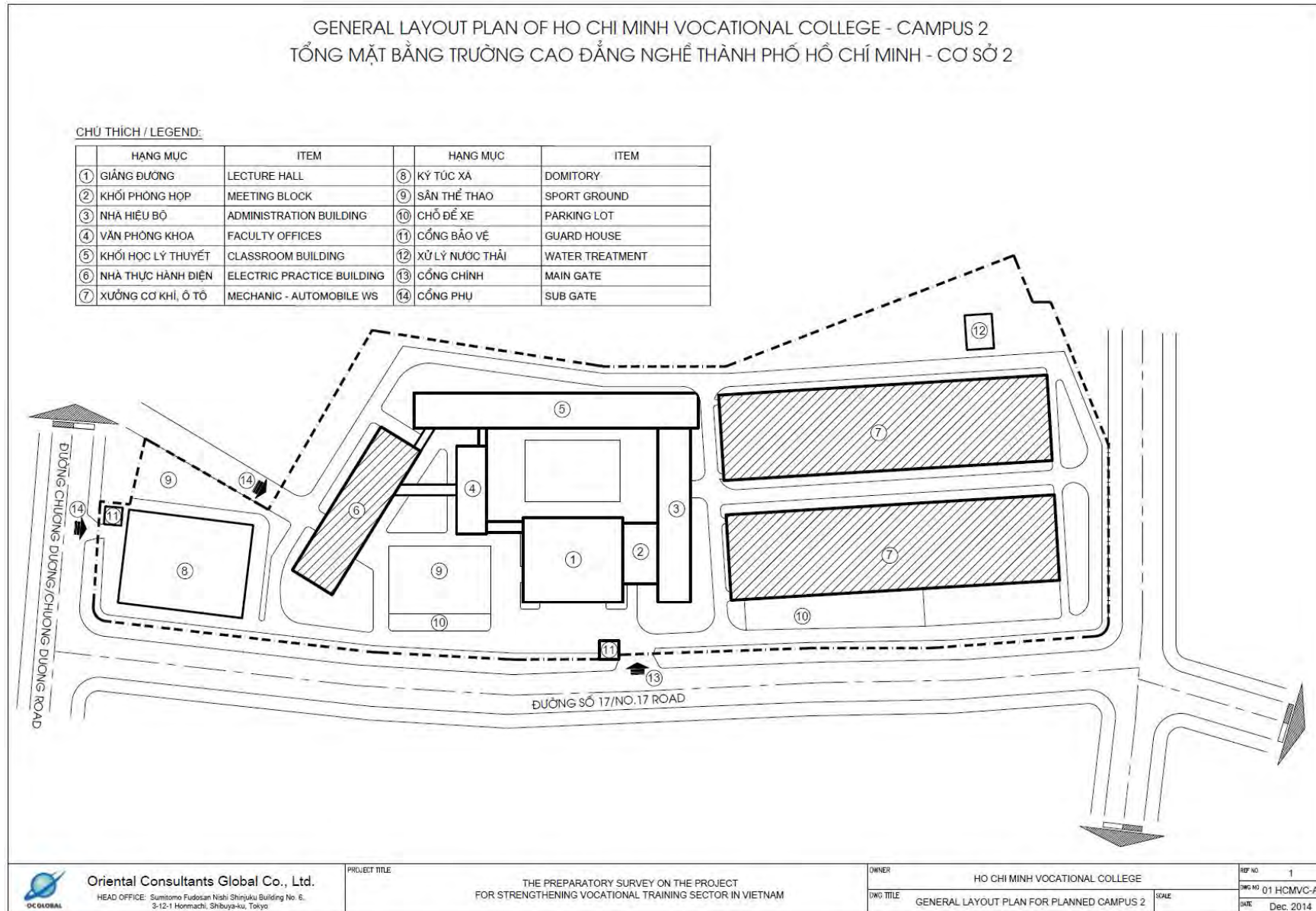
Name of Institution	Hai Phong Industrial Vocational College		
Authorized Agency	Hai Phong PPC		
Location	Hai Phong City	Course	Machining
Name of Room and Equipment installed	Machining faculty workshop		
Remarks/Requirements for facility	<input checked="" type="checkbox"/> heavy machine <input checked="" type="checkbox"/> noise <input checked="" type="checkbox"/> vibration <input type="checkbox"/> radio disturbance <input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input type="checkbox"/> others ()		
Condition of the space	November 25 th , 2014		
			
	Machining workshop	Ventilation system	
			
	Machining workshop building	CNC room	
Necessary rehabilitation/ construction for facility	<ul style="list-style-type: none"> • Repair work for cracks of the floor, wall, column, ceiling • Dust-proof paint on the floor • Repair work for floor tile • Interior painting • Air conditioning installation 		
Remark	<ul style="list-style-type: none"> • Mechanic faculty is situated at 1-floor workshop and 3-floor building which was built in 2005 【1-floor workshop】 <ul style="list-style-type: none"> • The structure of is steel beam, truss, metal sheet roof, brick masonry wall and concrete floor. Structural steel is still good and ensures bearing capacity. There are some cracks on the wall due to the shrinkage between wall and steel column, but these cracks don't affect the bearing capacity of the structure. The power supply system meets the requirements for new equipment installation. 【3-floor workshop】 <ul style="list-style-type: none"> • Structure is cast in-situ reinforced concrete beam, flooring panel system, brick masonry wall, cement tile. The 1st floor is equipped with 3D measuring machine, CNC milling machine. The 2nd and 3rd floor is classrooms and vacant rooms. • Concrete structure is in good condition. No settlement. • The tiles are peeled, need to repair. • The power supply system meets the requirements for new equipment installation 		

Name of Institution	Ha Nam Vocational College		
Authorized Agency	Ha Nam Provincial People's Committee		
Location	Ha Nam province	Course	Electricity
Name of Room and Equipment installed	Electricity workshop		
Remarks/Requirements for facility	<input type="checkbox"/> heavy machine <input type="checkbox"/> noise <input type="checkbox"/> vibration <input type="checkbox"/> radio disturbance		
	<input type="checkbox"/> electricity power supply <input type="checkbox"/> water supply <input type="checkbox"/> drainage supply <input type="checkbox"/> duct/ventilation <input checked="" type="checkbox"/> other ()		
Condition of the space	as of <u>November 19, 2014</u>		
			
	Workshop building appearance	Workshop in good condition	
			
	Tile bump	Crack (Expansion joint)	
Necessary rehabilitation/ construction for facility	Repair work for floor tile		
Remark	<ul style="list-style-type: none"> • The electricity workshop is in good condition for new equipment • Almost all floor is in good condition for new equipment installation. • Only one bumps is on the floor • Space is enough for installation 		

Annex-16

Outline Design Drawings

Annex-16 Outline Design Drawings



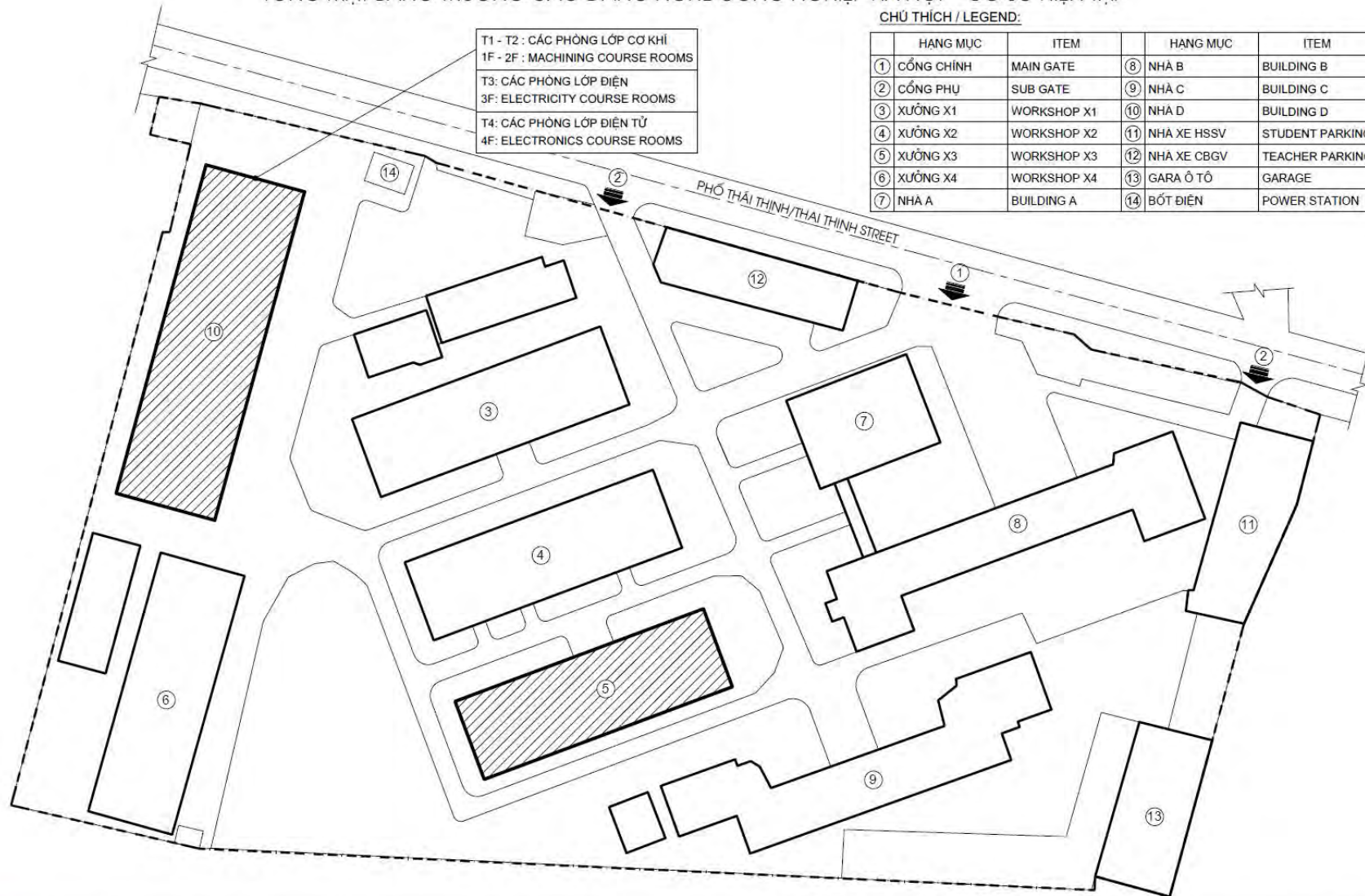
GENERAL LAYOUT PLAN OF HA NOI INDUSTRIAL VOCATIONAL COLLEGE - EXISTING CAMPUS

TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ CÔNG NGHIỆP HÀ NỘI - CƠ SỞ HIỆN TẠI

CHŨ THÍCH / LEGEND:

T1 - T2 : CÁC PHÒNG LỚP CƠ KHÍ
1F - 2F : MACHINING COURSE ROOMS
T3: CÁC PHÒNG LỚP ĐIỆN
3F: ELECTRICITY COURSE ROOMS
T4: CÁC PHÒNG LỚP ĐIỆN TỬ
4F: ELECTRONICS COURSE ROOMS

HANG MỤC	ITEM	HANG MỤC	ITEM
①	CỔNG CHÍNH MAIN GATE	⑧	NHÀ B BUILDING B
②	CỔNG PHỤ SUB GATE	⑨	NHÀ C BUILDING C
③	XƯỞNG X1 WORKSHOP X1	⑩	NHÀ D BUILDING D
④	XƯỞNG X2 WORKSHOP X2	⑪	NHÀ XE HSSV STUDENT PARKING LOT
⑤	XƯỞNG X3 WORKSHOP X3	⑫	NHÀ XE CBGV TEACHER PARKING LOT
⑥	XƯỞNG X4 WORKSHOP X4	⑬	GARA Ô TÔ GARAGE
⑦	NHÀ A BUILDING A	⑭	BỐT ĐIỆN POWER STATION



A16-2



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

HA NOI INDUSTRIAL VOCATIONAL COLLEGE

REF. NO.

1

DWG. TITLE

GENERAL LAYOUT PLAN

SCALE

DWG. NO.

02.HIVC-A

DATE

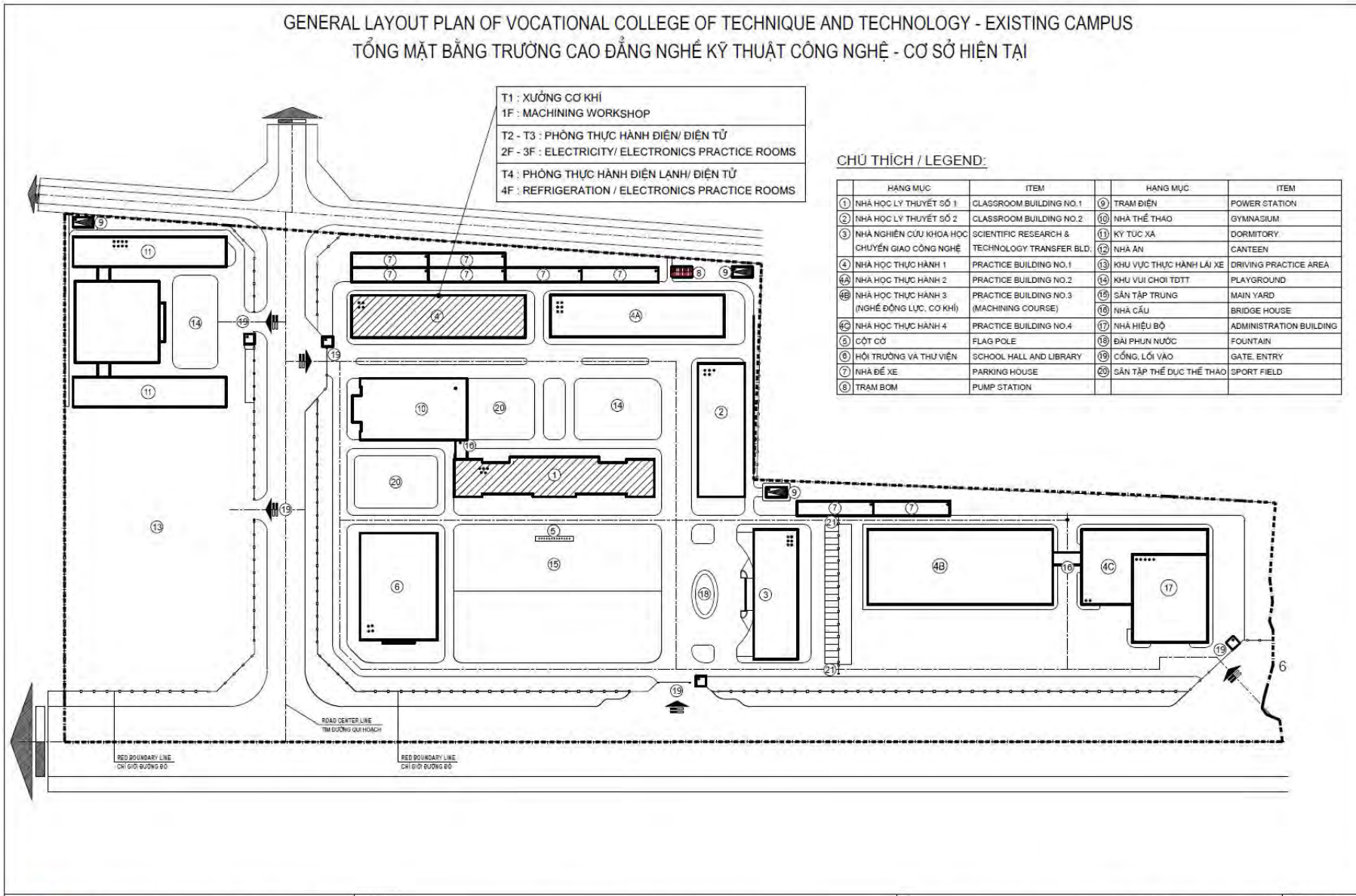
Dec. 2014

GENERAL LAYOUT PLAN OF VOCATIONAL COLLEGE OF TECHNIQUE AND TECHNOLOGY - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ KỸ THUẬT CÔNG NGHỆ - CƠ SỞ HIỆN TẠI

T1 : XƯỞNG CƠ KHÍ
1F : MACHINING WORKSHOP
T2 - T3 : PHÒNG THỰC HÀNH ĐIỆN/ ĐIỆN TỬ
2F - 3F : ELECTRICITY/ ELECTRONICS PRACTICE ROOMS
T4 : PHÒNG THỰC HÀNH ĐIỆN LẠNH/ ĐIỆN TỬ
4F : REFRIGERATION / ELECTRONICS PRACTICE ROOMS

CHỮ THÍCH / LEGEND:

HANG MỤC	ITEM	HANG MỤC	ITEM
①	NHÀ HỌC LÝ THUYẾT SỐ 1 CLASSROOM BUILDING NO.1	⑨	TRẠM ĐIỆN POWER STATION
②	NHÀ HỌC LÝ THUYẾT SỐ 2 CLASSROOM BUILDING NO.2	⑩	NHÀ THỂ THAO GYMNASIUM
③	NHÀ NGHIÊN CỨU KHOA HỌC CHUYỂN GIAO CÔNG NGHỆ SCIENTIFIC RESEARCH & TECHNOLOGY TRANSFER BLD.	⑪	KY TỤC XÁ DORMITORY
④	NHÀ HỌC THỰC HÀNH 1 PRACTICE BUILDING NO.1	⑫	NHÀ ĂN CANTEEN
4A	NHÀ HỌC THỰC HÀNH 2 PRACTICE BUILDING NO.2	⑬	KHU VỰC THỰC HÀNH LẠI XE DRIVING PRACTICE AREA
4B	NHÀ HỌC THỰC HÀNH 3 (NGHỀ ĐỘNG LỰC, CƠ KHÍ) PRACTICE BUILDING NO.3 (MACHINING COURSE)	⑭	KHU VUI CHƠI TDTT PLAYGROUND
4C	NHÀ HỌC THỰC HÀNH 4 PRACTICE BUILDING NO.4	⑮	SÂN TẬP TRUNG MAIN YARD
⑤	CỘT CỜ FLAG POLE	⑯	NHÀ CẦU BRIDGE HOUSE
⑥	HỘI TRƯỞNG VÀ THƯ VIỆN SCHOOL HALL AND LIBRARY	⑰	NHÀ HIỆU BỘ ADMINISTRATION BUILDING
⑦	NHÀ ĐỂ XE PARKING HOUSE	⑱	ĐÀI PHUN NƯỚC FOUNTAIN
⑧	TRẠM BƠM PUMP STATION	⑲	CỔNG, LỐI VÀO GATE, ENTRY
		⑳	SÂN TẬP THỂ DỤC THAO SPORT FIELD



A16-3



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Hommachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

VOCATIONAL COLLEGE OF TECHNIQUE AND TECHNOLOGY

DWG TITLE

GENERAL LAYOUT PLAN

SCALE

REF. NO.

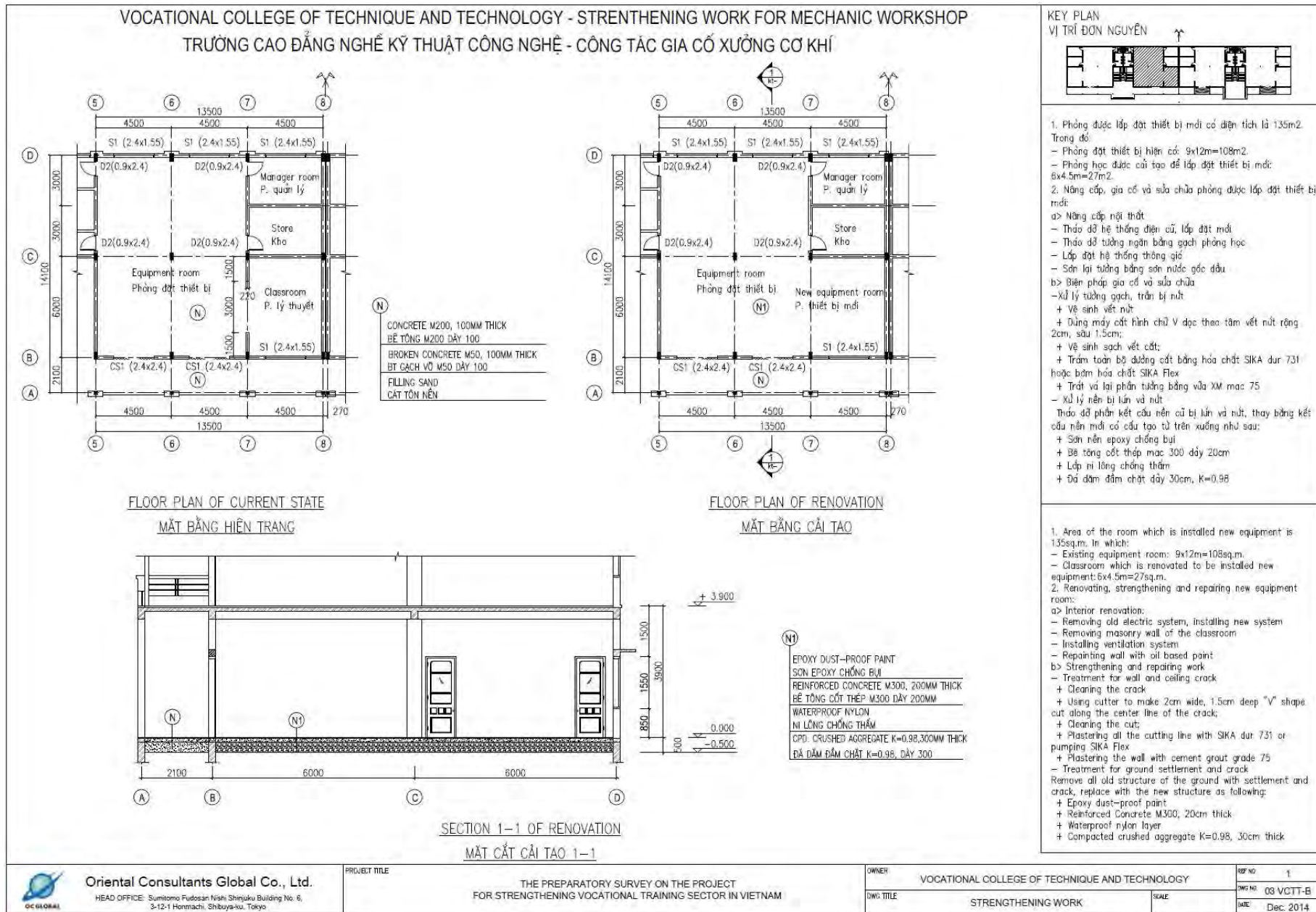
1

DWG. NO.

03 VCTT-A

DATE

Dec. 2014



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

VOCATIONAL COLLEGE OF TECHNIQUE AND TECHNOLOGY

DWG. TITLE

STRENGTHENING WORK

SCALE

REF. NO.

1

DWG. NO.

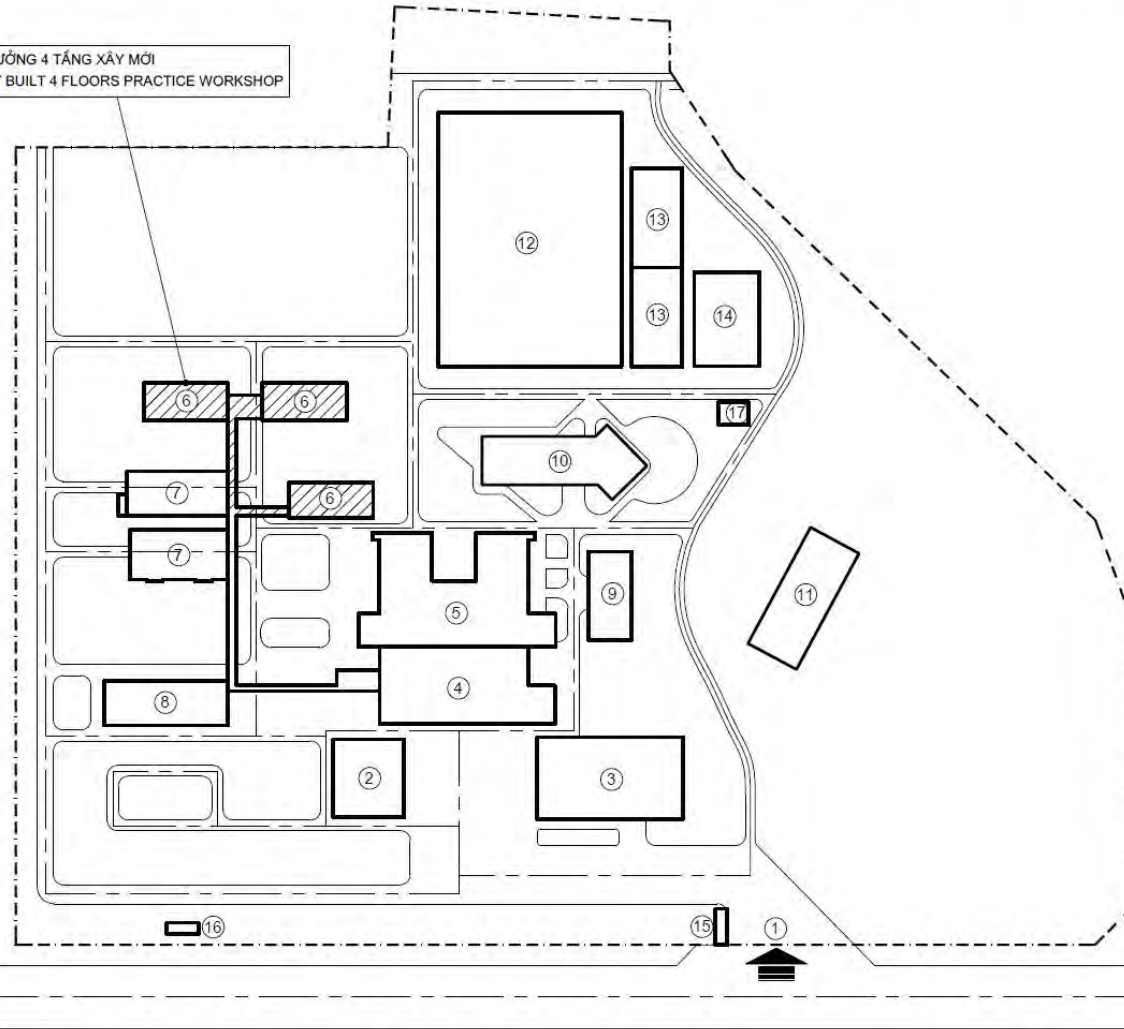
03 VCTT-B

DATE

Dec. 2014

GENERAL LAYOUT PLAN OF BA RIA - VUNG TAU VOCATIONAL COLLEGE - COMMUNITY COLLEGE CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ BÀ RỊA - VÙNG TÀU - CƠ SỞ TRƯỜNG CAO ĐẲNG CỘNG ĐỒNG

KHU XƯỞNG 4 TẦNG XÂY MỚI
NEWLY BUILT 4 FLOORS PRACTICE WORKSHOP



CHÚ THÍCH / LEGEND:

HANG MỤC	ITEM
① CỔNG CHÍNH	MAIN GATE
② NHÀ HIỆU BỐ	ADMINISTRATION BUILDING
③ HỘI TRƯỞNG	AUDITORIUM HALL
④ KHU GIẢNG ĐƯỜNG	LECTURE HALL
⑤ KHU LỚP HỌC	CLASSROOM BLOCK
⑥ XƯỞNG THỰC HÀNH	WORKSHOP
⑦ XƯỞNG THỰC NGHIỆM	RESEARCH LAB
⑧ LỚP HỌC THỰC NGHIỆM	RESEARCH ROOM
⑨ THƯ VIỆN	LIBRARY
⑩ CÀNG TÌN	CANTEEN
⑪ NHÀ ĐỂ XE	PARKING LOT
⑫ SÂN BÓNG ĐÁ	SOCCER FIELD
⑬ SÂN TENNIS	TENNIS COURT
⑭ SÂN BÓNG RỔ	BASKET BALL FIELD
⑮ NHÀ BÁO VỆ	GUARDHOUSE
⑯ TRẠM BIẾN THẾ	POWER STATION
⑰ TRẠM XỬ LÝ NƯỚC THẢI	WASTE WATER TREATMENT PLANT

A16-5



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

BA RIA - VUNG TAU VOCATIONAL COLLEGE

REF NO

1

DWG TITLE

GENERAL LAYOUT PLAN FOR PLANNED CAMPUS

SCALE

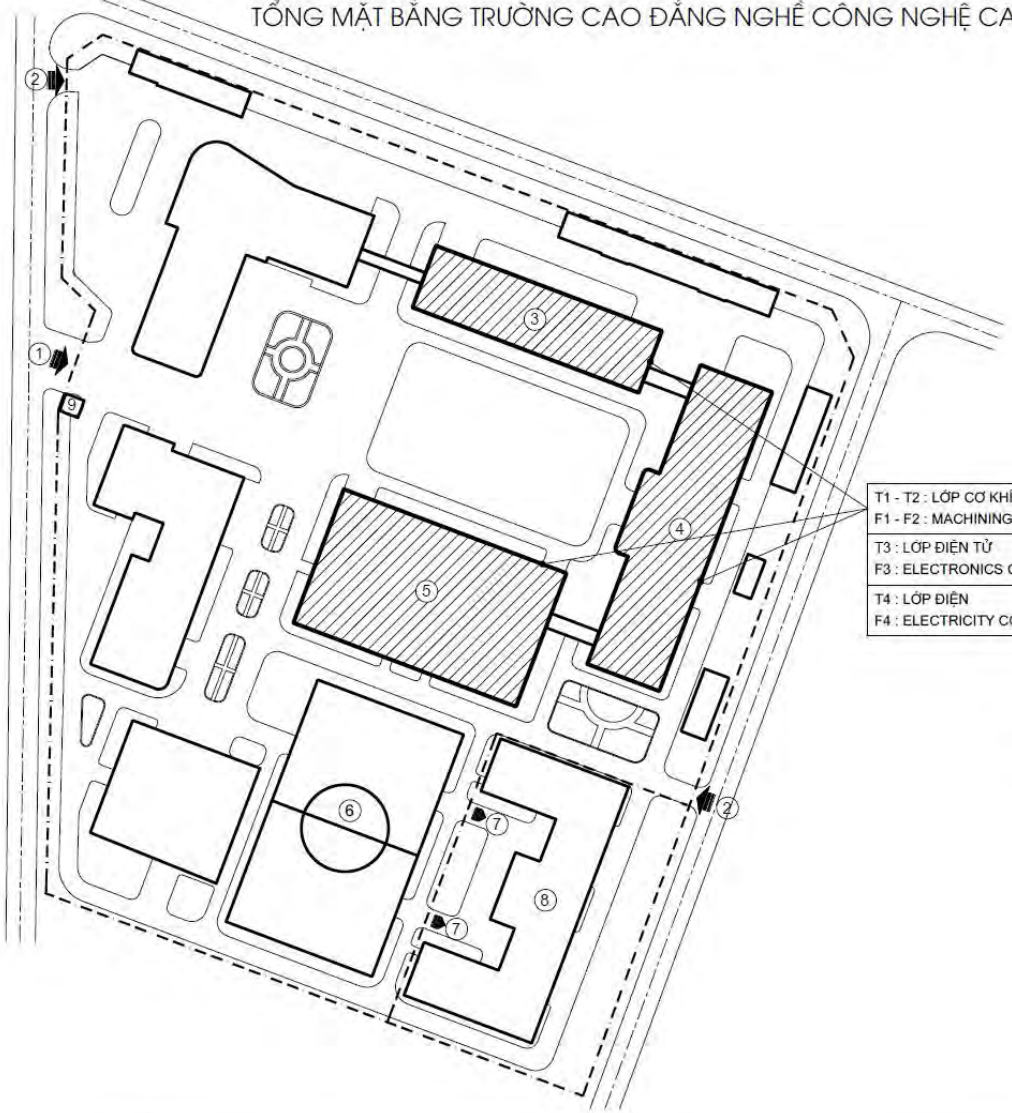
DWG NO

04 BRVT/CA

DATE

Dec. 2014

GENERAL LAYOUT PLAN OF HA NOI VOCATIONAL COLLEGE OF HIGH TECHNOLOGY - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ CÔNG NGHỆ CAO HÀ NỘI - CƠ SỞ HIỆN TẠI



T1 - T2 : LỚP CƠ KHÍ
F1 - F2 : MACHINING COURSE
T3 : LỚP ĐIỆN TỬ
F3 : ELECTRONICS COURSE
T4 : LỚP ĐIỆN
F4 : ELECTRICITY COURSE

CHÚ THÍCH / LEGEND:

HANG MỤC	ITEM
① CỔNG CHÍNH	MAIN GATE
② CỔNG PHỤ	SUB GATE
③ NHÀ A	BUILDING A
④ NHÀ B	BUILDING B
⑤ NHÀ C	BUILDING C
⑥ SÂN BÓNG	FOOTBALL FIELD
⑦ CỬA VÀO KHU KÝ TỨC	DORMITORY GATE
⑧ KHU KÝ TỨC XÁ	DORMITORY AREA
⑨ PHÒNG BẢO VỆ	GUARDHOUSE

A16-6



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

HA NOI VOCATIONAL COLLEGE OF HIGH TECHNOLOGY

REF. NO.

1

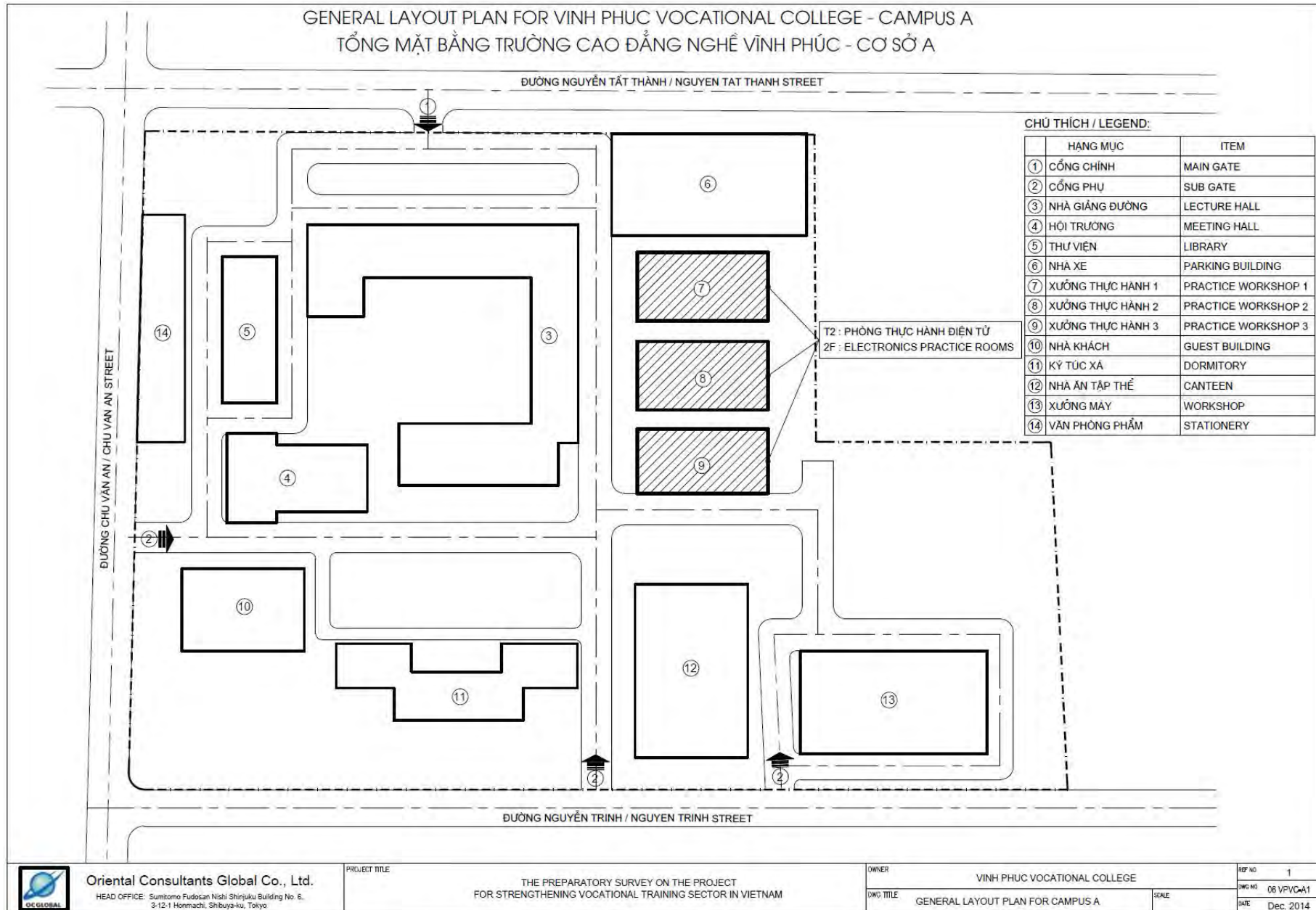
DWG TITLE

GENERAL LAYOUT PLAN

SCALE

DATE

05 HVCHT-A
Dec. 2014



A16-7



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

VINH PHUC VOCATIONAL COLLEGE

REF. NO.

1

DWG. TITLE

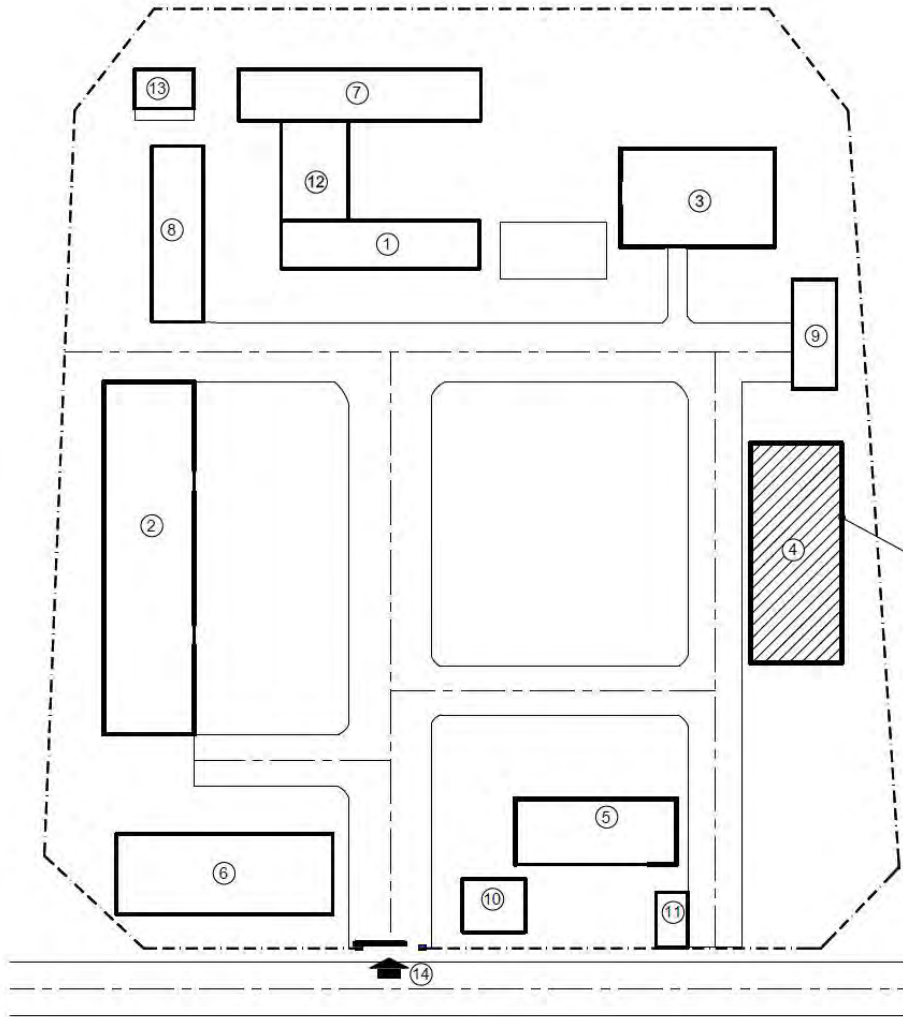
GENERAL LAYOUT PLAN FOR CAMPUS A

SCALE

DATE

06 VP/CA1
Dec. 2014

GENERAL LAYOUT PLAN FOR VINH PHUC VOCATIONAL COLLEGE - CAMPUS B
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ VINH PHÚC - CƠ SỞ B



CHỮ THÍCH / LEGEND:

	HANG MỤC	ITEM
①	NHÀ HIỆU BỘ	ADMINISTRATION BUILDING
②	NHÀ LỚP HỌC 4 TẦNG	4 FLOORS CLASSROOM BUILDING
③	NHÀ LỚP HỌC 3 TẦNG	3 FLOORS CLASSROOM BUILDING
④	XUỐNG THỰC HÀNH	PRACTICE WORKSHOP
⑤	NHÀ THỰC HÀNH TIN HỌC	COMPUTER PRACTICE BUILDING
⑥	NHÀ XE HỌC SINH	STUDENT PARKING LOT
⑦	NHÀ ĂN	CANTEEN
⑧	NHÀ ĐỂ XE Ô TÔ	GARAGE
⑨	NHÀ KHO	STORE
⑩	NHÀ BẢO VỆ	GUARD HOUSE
⑪	NHÀ KHO	STORE
⑫	NHÀ ĐỂ XE	PARKING LOT
⑬	WC	WC
⑭	CỔNG	MAIN GATE

T1 : XUỐNG CƠ KHÍ
1F : MACHINING WORKSHOP
T3 : PHÒNG THỰC HÀNH ĐIỆN
3F : ELECTRICITY PRACTICE ROOMS

A16-8



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

VINH PHUC VOCATIONAL COLLEGE

REF NO

1

DWG TITLE

GENERAL LAYOUT PLAN FOR CAMPUS B

SCALE

DATE

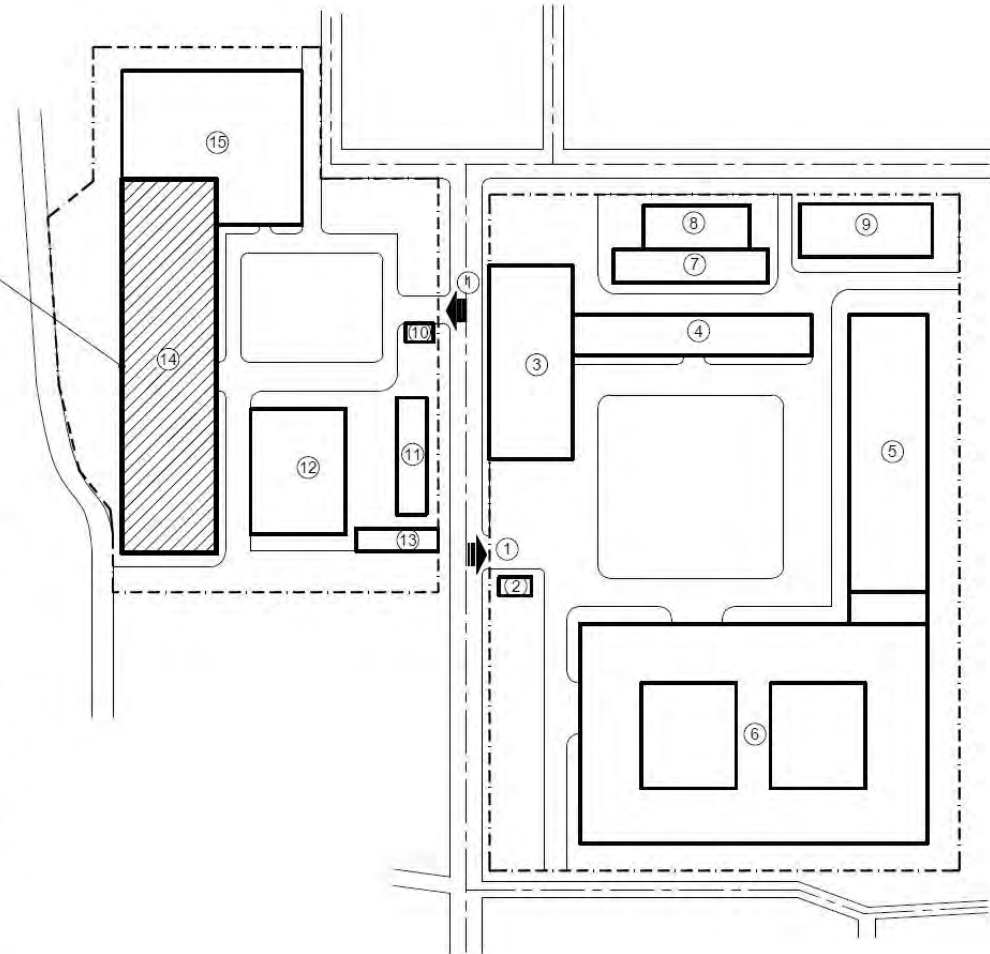
06 VPVC-A2
Dec. 2014

GENERAL LAYOUT PLAN OF DA NANG VOCATIONAL COLLEGE - CAMPUS 1 & CAMPUS 2
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ ĐÀ NẴNG - CƠ SỞ 1 & CƠ SỞ 2

T1 : XƯỞNG CƠ KHÍ 1F : MACHINING WORKSHOP
T2 : PHÒNG THỰC HÀNH ĐIỆN TỬ 2F : ELECTRONICS PRACTICE ROOMS
T3 : PHÒNG THỰC HÀNH ĐIỆN 3F : ELECTRICITY PRACTICE ROOMS
T4 : PHÒNG THỰC HÀNH ĐIỆN/ ĐIỆN TỬ 4F : ELECTRICITY/ ELECTRONICS PRACTICE ROOMS

CHÚ THÍCH / LEGEND:

	HẠNG MỤC	ITEM
①	CỔNG VÀO	ENTRY GATE
②	NHÀ BẢO VỆ	GUARD HOUSE
③	NHÀ XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
④	NHÀ XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
⑤	NHÀ HỌC LÝ THUYẾT	CLASSROOM BUILDING
⑥	NHÀ HỌC + NHÀ HIỆU BỘ	CLASSROOM + ADMINISTRATION BLD.
⑦	XƯỞNG CƠ KHÍ	MACHINING WORKSHOP
⑧	XƯỞNG CƠ KHÍ	MACHINING WORKSHOP
⑨	NHÀ KHÁCH	GUEST HOUSE
⑩	NHÀ BẢO VỆ	GUARD HOUSE
⑪	TRUNG TÂM ỨNG DỤNG THỰC HÀNH	PRACTICAL APPLICATIONS CENTRE
⑫	XƯỞNG CÔNG NGHỆ Ô TÔ	AUTOMOBILE TECHNOLOGY WS.
⑬	NHÀ ĐỂ XE	PARKING LOT
⑭	NHÀ XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
⑮	NHÀ XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP



A16-9



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

DA NANG VOCATIONAL COLLEGE

REF. NO.

1

DWG. TITLE

GENERAL LAYOUT PLAN

SCALE

DWG. NO.

07 DNVC-A

DATE

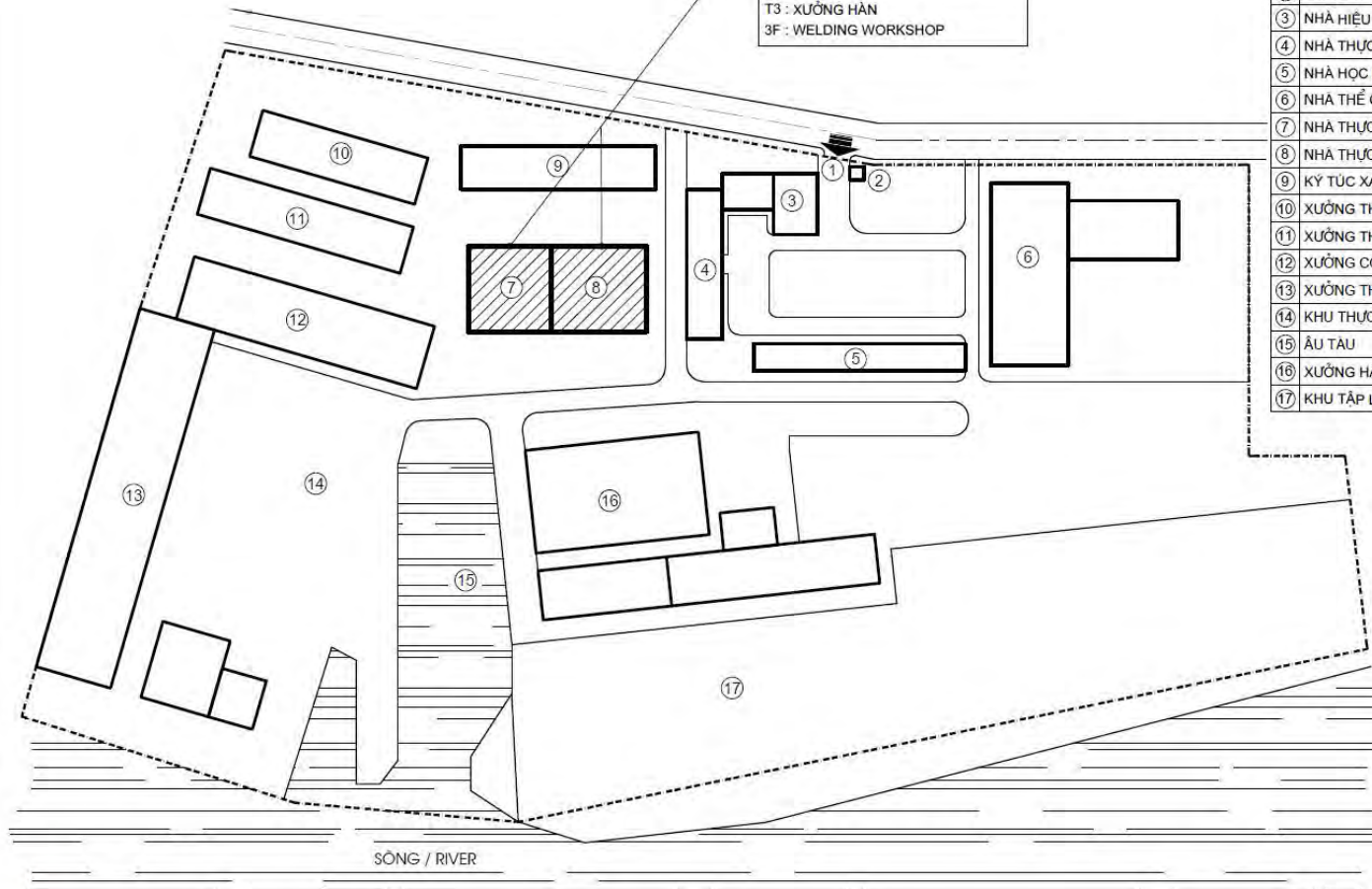
Dec. 2014

GENERAL LAYOUT PLAN OF THE CENTRAL VOCATIONAL COLLEGE OF TRANSPORT NO.2 - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ GIAO THÔNG VẬN TẢI TRUNG ƯƠNG 2 - CƠ SỞ HIỆN TẠI

T1 : XƯỞNG CƠ KHÍ 1F : MACHINING WORKSHOP
T2 : PHÒNG THỰC HÀNH ĐIỆN 2F : ELECTRICITY PRACTICE ROOMS
T3 : XƯỞNG HÀN 3F : WELDING WORKSHOP

CHÚ THÍCH / LEGEND:

	HANG MỤC	ITEM
①	CỔNG VÀO	ENTRY GATE
②	NHÀ BẢO VỆ	GUARD HOUSE
③	NHÀ HIỆU BỘ	ADMINISTRATION BUILDING
④	NHÀ THỰC HÀNH	PRACTICE BUILDING
⑤	NHÀ HỌC LÝ THUYẾT	CLASSROOM BUILDING
⑥	NHÀ THỂ CHẤT	GYMNASIUM
⑦	NHÀ THỰC HÀNH MỚI	NEW PRACTICE WORKSHOP
⑧	NHÀ THỰC HÀNH MỚI	NEW PRACTICE WORKSHOP
⑨	KÝ TÚC XÁ	DOMITORY
⑩	XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
⑪	XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
⑫	XƯỞNG CƠ KHÍ	MECHANIC WORKSHOP
⑬	XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
⑭	KHU THỰC TẬP ĐỒNG TÀU	SHIP BUILDING PRACTICE AREA
⑮	ẤU TÀU	DOCK
⑯	XƯỞNG HÀN	WELDING WORKSHOP
⑰	KHU TẬP LÁI XE	DRIVING PRACTICE AREA



A16-10



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

THE CENTRAL VOCATIONAL COLLEGE OF TRANSPORT NO.2

REF NO

1

DWG TITLE

GENERAL LAYOUT PLAN

SCALE

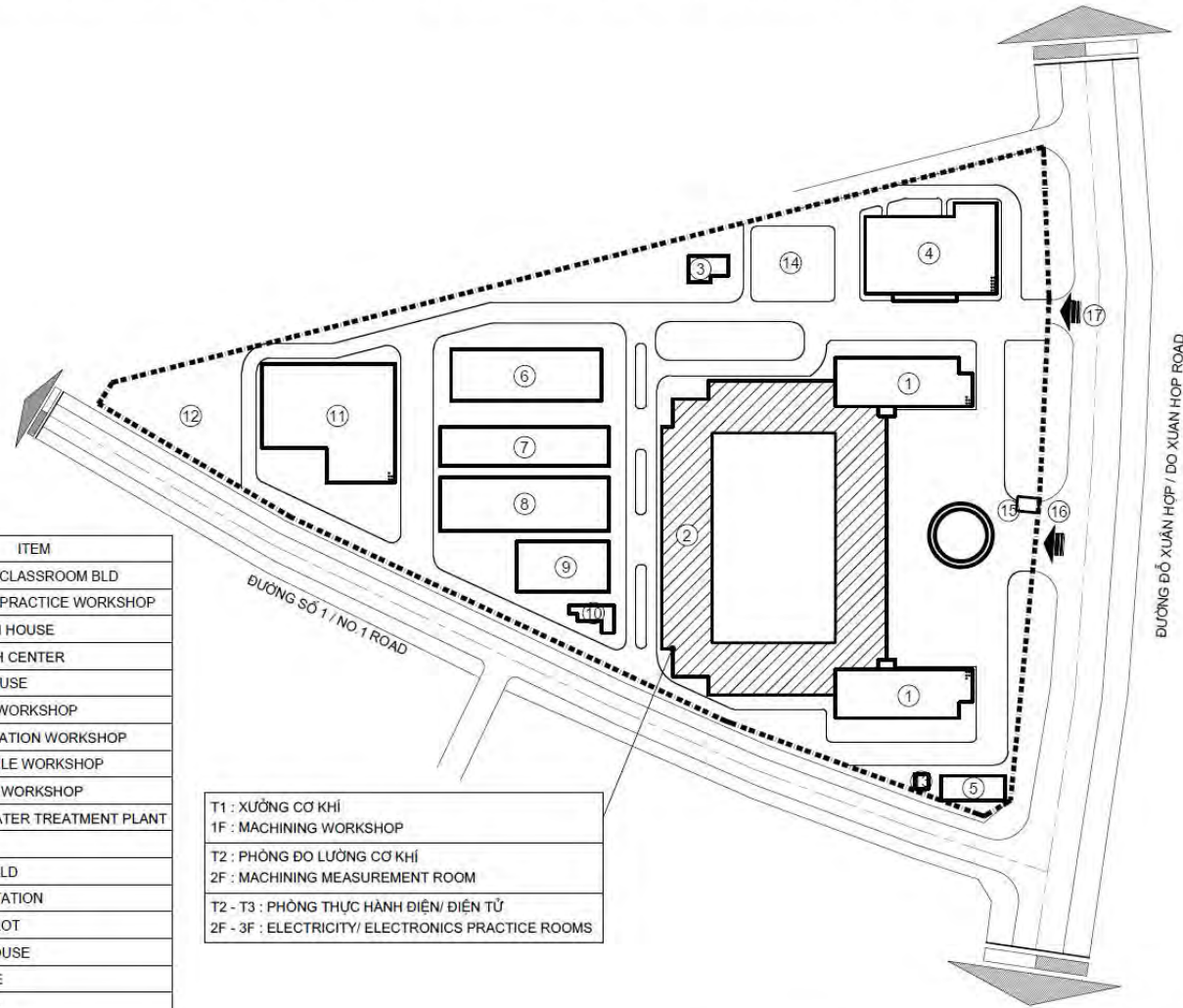
DWG NO

08 CVCT2-A

DATE

Dec. 2014

GENERAL LAYOUT PLAN OF HO CHI MINH VOCATIONAL COLLEGE OF TECHNOLOGY - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ KỸ THUẬT CÔNG NGHỆ THÀNH PHỐ HỒ CHÍ MINH - CƠ SỞ HIỆN TẠI



CHÚ THÍCH / LEGEND:

	HANG MUC	ITEM
①	KHỐI LỚP HỌC 5 TẦNG	5 FLOORS CLASSROOM BLD
②	XƯỞNG THỰC HÀNH 4 TẦNG	4 FLOORS PRACTICE WORKSHOP
③	NHÀ TRUYỀN THỐNG	TRADITION HOUSE
④	TRUNG TÂM NC KHOA HỌC	RESEARCH CENTER
⑤	NHA KHÁCH	GUEST HOUSE
⑥	XƯỞNG GỖ HÀN	WELDING WORKSHOP
⑦	XƯỞNG ĐIỆN LẠNH	REFRIGERATION WORKSHOP
⑧	XƯỞNG Ô TÔ	AUTOMOBILE WORKSHOP
⑨	XƯỞNG THỰC HÀNH	PRACTICE WORKSHOP
⑩	TRẠM XỬ LÝ NƯỚC THẢI	WASTE WATER TREATMENT PLANT
⑪	THƯ VIỆN	LIBRARY
⑫	SÂN THỂ THAO	SPORT FIELD
⑬	TRẠM BIẾN THÉ	POWER STATION
⑭	B I XE	PARKING LOT
⑮	NHÀ BẢO VỆ	GUARD HOUSE
⑯	CỔNG CHÍNH	MAIN GATE
⑰	CỔNG PHỤ	SUB GATE

T1 : XƯỞNG CƠ KHÍ
1F : MACHINING WORKSHOP
T2 : PHÒNG ĐO LƯỜNG CƠ KHÍ
2F : MACHINING MEASUREMENT ROOM
T2 - T3 : PHÒNG THỰC HÀNH ĐIỆN/ ĐIỆN TỬ
2F - 3F : ELECTRICITY/ ELECTRONICS PRACTICE ROOMS

A16-11



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

HO CHI MINH VOCATIONAL COLLEGE OF TECHNOLOGY

REP. NO.

1

DWG. TITLE

GENERAL LAYOUT PLAN

SCALE

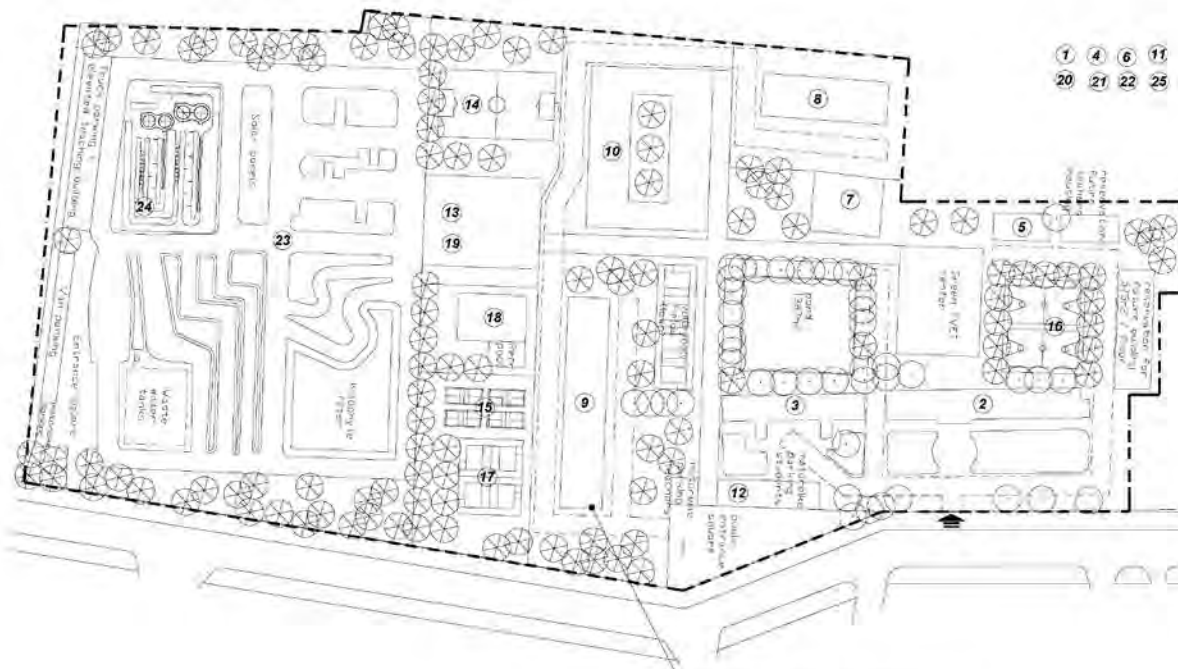
DWG. NO.

09 HCM/CT-A

DATE

Dec. 2014

GENERAL LAYOUT PLAN OF VOCATIONAL COLLEGE OF MECHANICS AND IRRIGATION - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ CƠ GIỚI VÀ THỦY LỢI - CƠ SỞ HIỆN TẠI



CHÚ THÍCH / LEGEND:

	HẠNG MỤC	ITEM
1	CỔNG - NHÀ BẢO VỆ	GATE - GUARD HOUSE
2	NHA HIỆU BỘ	ADMINISTRATION BUILDING
3	NHA HỌC LÝ THUYẾT SỐ 1	CLASSROOM BUILDING NO.1
4	NHA HỌC LÝ THUYẾT SỐ 2	CLASSROOM BUILDING NO.2
5	NHA Ở GIÁO VIÊN	TEACHER HOUSE
6	NHA CÔNG VỤ CHUYÊN GIA	ELECTRIC PRACTICE BUILDING
7	NHA ĂN	CANTEEN
8	KỶ TỨC XÁ	DOMITORY
9	NHA XƯỞNG SỐ 1	WORK SHOP NO.1
10	NHA XƯỞNG SỐ 2	WORK SHOP NO.2
11	NHA XƯỞNG SỐ 3	WORK SHOP NO.3
12	NHA ĐỂ XE	PARKING LOT
13	NHA LUYỆN TẬP THỂ CHẤT	GYMNASIUM
14	SÂN BÓNG ĐÁ MINI	MINI FOOTBALL FIELD
15	SÂN CẦU LÔNG	BADMINTON COURT
16	SÂN BÓNG RỔ	BASKETBALL COURT
17	SÂN BÓNG CHUYỀN	VOLLEYBALL COURT
18	BỂ BƠI NGOÀI TRỜI	OUTDOOR SWIMMING POOL
19	NHA TẮM	BATHROOM
20	VĂN PHÒNG KHOA CƠ GIỚI	MECHANIC FACULTY OFFICE
21	KHU BÀI TẬP THI CÔNG	CONSTRUCTION PRACTICE AREA
22	GARA Ô TÔ, MÁY THI CÔNG	GARAGE
23	BÀI TẬP XE Ô TÔ	AUTOMOBILE PRACTICE AREA
24	BÀI TẬP XE MÁY	MOTORBIKE PRACTICE AREA
25	MÁY BOM, TRẠM BIẾN ÁP	PUMP STATION, POWER STATION

T1: XƯỞNG CƠ KHÍ
1F: MACHINING WORKSHOP
T2: PHÒNG THỰC HÀNH ĐIỆN
2F: ELECTRICITY PRACTICE ROOMS

A16-12



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nashi Shinjuku Building No. 9,
2-12-1 Hamaeashi, Shinjuku-ku, Tokyo

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

VOCATIONAL COLLEGE OF MECHANICS AND IRRIGATION

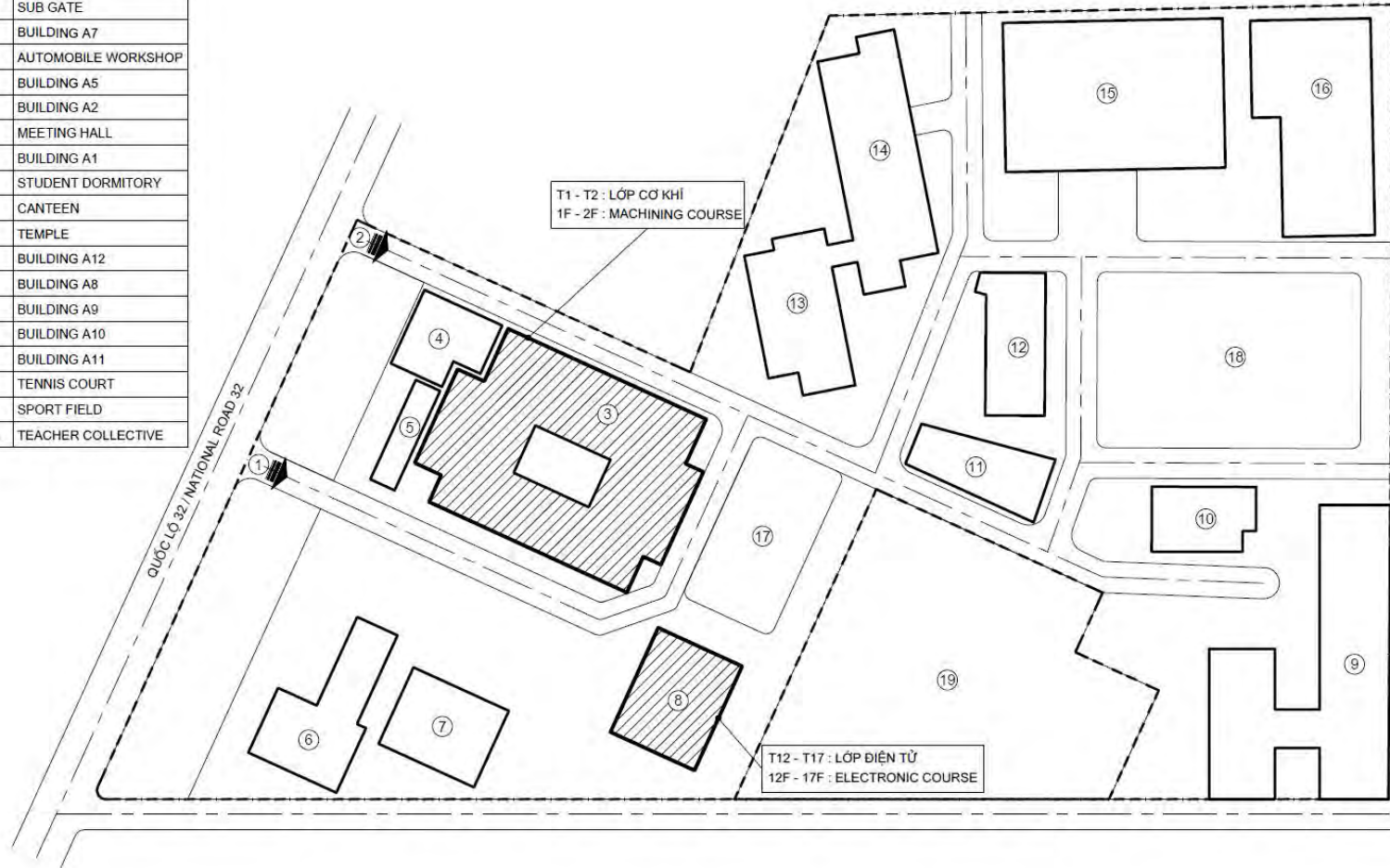
GENERAL LAYOUT PLAN

1
10 VCM-A
Dec. 2014

GENERAL LAYOUT PLAN OF HANOI UNIVERSITY OF INDUSTRY - CAMPUS 1
TỔNG MẶT BẰNG TRƯỜNG ĐẠI HỌC CÔNG NGHIỆP HÀ NỘI - CƠ SỞ 1

CHÚ THÍCH / LEGEND:

	HANG MUC	ITEM
①	CỔNG CHÍNH	MAIN GATE
②	CỔNG PHỤ	SUB GATE
③	NHÀ A7	BUILDING A7
④	XƯỞNG Ô TÔ	AUTOMOBILE WORKSHOP
⑤	NHÀ A5	BUILDING A5
⑥	NHÀ A2	BUILDING A2
⑦	HỘI TRƯỞNG	MEETING HALL
⑧	NHÀ A1	BUILDING A1
⑨	KHU KÝ TỨC XÁ	STUDENT DORMITORY
⑩	CÀNG TIN	CANTEEN
⑪	MIẾU	TEMPLE
⑫	NHÀ A12	BUILDING A12
⑬	NHÀ A8	BUILDING A8
⑭	NHÀ A9	BUILDING A9
⑮	NHÀ A10	BUILDING A10
⑯	NHÀ A11	BUILDING A11
⑰	SÂN TENNIS	TENNIS COURT
⑱	SÂN THỂ THAO	SPORT FIELD
⑲	KHU TẬP THỂ GIÁO VIÊN	TEACHER COLLECTIVE



A16-13



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

HANOI UNIVERSITY OF INDUSTRY

REF NO

1

DWG TITLE

GENERAL LAYOUT PLAN

SCALE

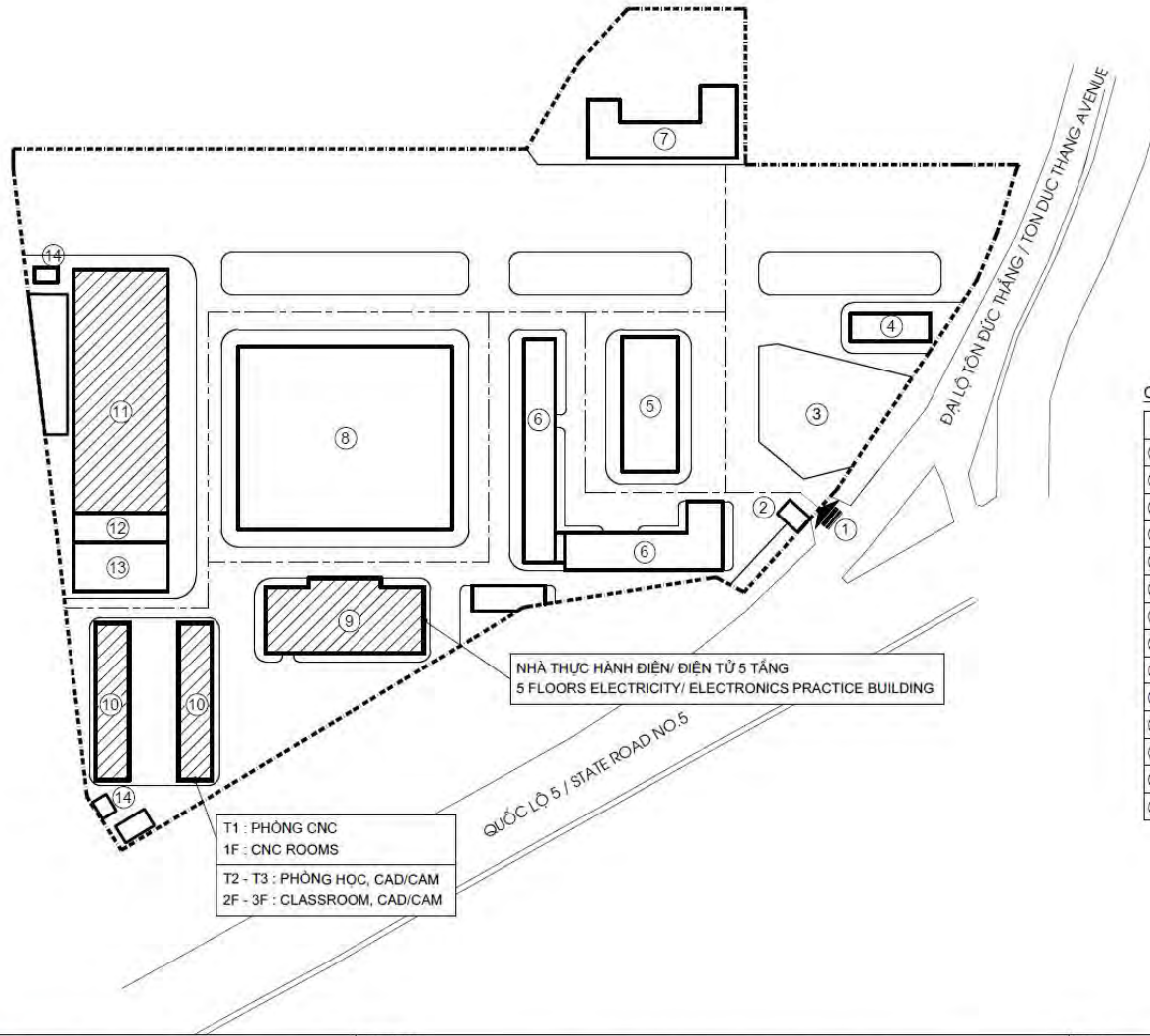
DWG NO

11 HAU-A

DATE

Dec. 2014

GENERAL LAYOUT PLAN OF HAI PHONG INDUSTRIAL VOCATIONAL COLLEGE - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ CÔNG NGHIỆP HẢI PHÒNG - CƠ SỞ HIỆN TẠI



CHỮ THÍCH / LEGEND:

HANG MỤC	ITEM
①	CỔNG CHÍNH MAIN GATE
②	PHÒNG BẢO VỆ GUARD HOUSE
③	VƯỜN HOA GARDEN
④	NHA XƯỞNG WORKSHOP
⑤	NHA HIỀU BỘ ADMINISTRATION BUILDING
⑥	NHA HỌC LÝ THUYẾT LECTURE BUILDING
⑦	KÝ TÚC XÁ SINH VIÊN STUDENT DORMITORY
⑧	HỒ NƯỚC POND
⑨	NHA HỌC THỰC HÀNH PRACTICE BUILDING
⑩	NHA HỌC THỰC HÀNH PRACTICE BUILDING
⑪	XƯỞNG CƠ KHÍ MECHANIC WORKSHOP
⑫	KHO STORE
⑬	XƯỞNG Ô TÔ AUTOMOBILE WORKSHOP
⑭	TRẠM ĐIỆN POWER STATION

T1 : PHÒNG CNC
1F : CNC ROOMS
T2 - T3 : PHÒNG HỌC, CAD/CAM
2F - 3F : CLASSROOM, CAD/CAM

NHA THỰC HÀNH ĐIỆN/ ĐIỆN TỬ 5 TẦNG
5 FLOORS ELECTRICITY/ ELECTRONICS PRACTICE BUILDING

A16-14



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Hommachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

HAI PHONG INDUSTRIAL VOCATIONAL COLLEGE

REP. NO.

1

DWG. TITLE

GENERAL LAYOUT PLAN

SCALE

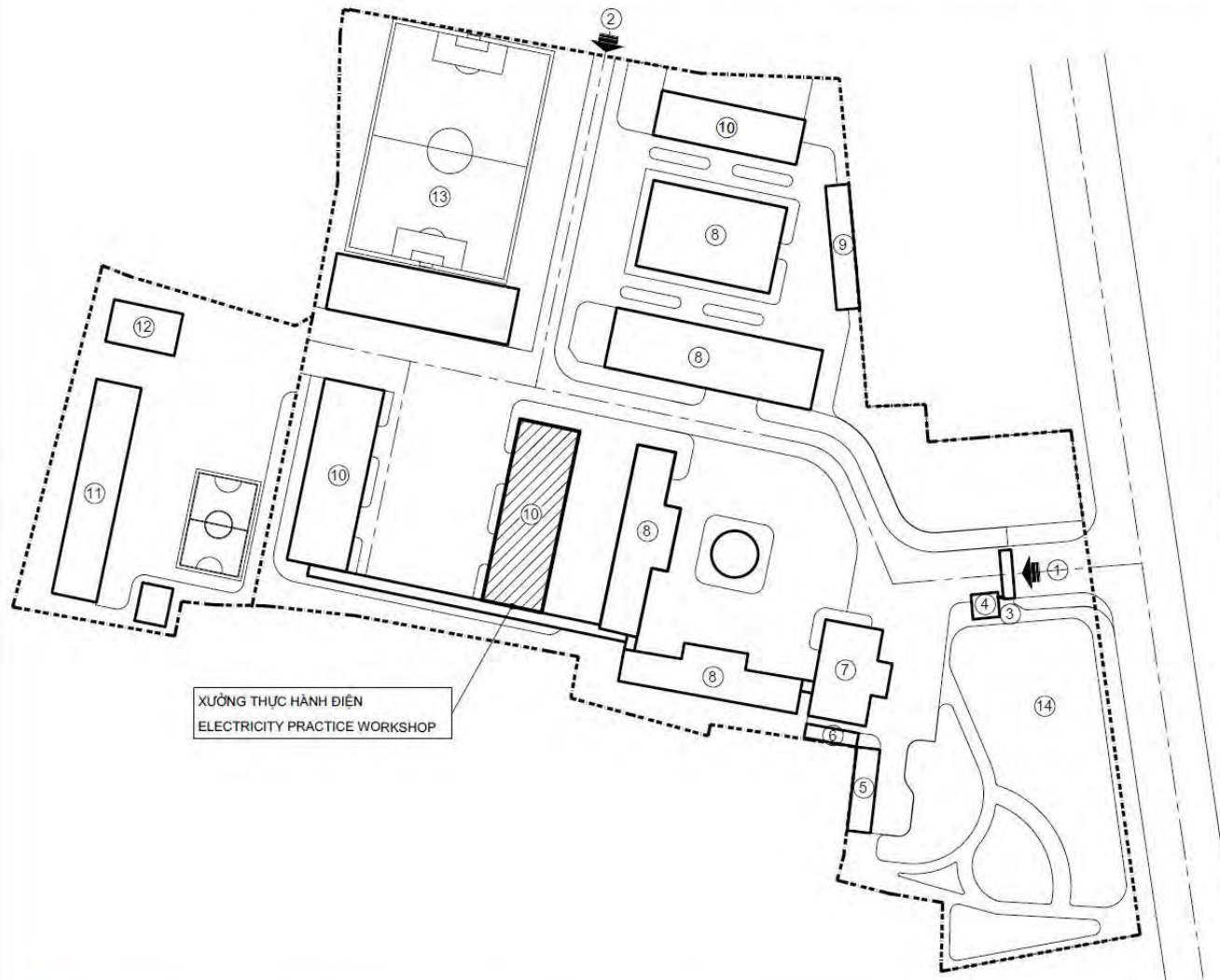
DWG. NO.

12 HP/IVC-A

DATE

Dec. 2014

GENERAL LAYOUT PLAN OF VOCATIONAL COLLEGE OF HA NAM - EXISTING CAMPUS
TỔNG MẶT BẰNG TRƯỜNG CAO ĐẲNG NGHỀ HÀ NAM - CƠ SỞ HIỆN TẠI



CHỮ THÍCH / LEGEND:

	HANG MỤC	ITEM
①	CỔNG CHÍNH	MAIN GATE
②	CỔNG PHỤ	SUB GATE
③	TRẠM BIẾN ÁP TREO	SUB STATION
④	PHÒNG BẢO VỆ	GUARD HOUSE
⑤	GARA Ô TÔ	GARAGE
⑥	NHÀ XE GIÁO VIÊN	TEACHER PARKING LOT
⑦	NHÀ HIỆU BỘ	ADMINISTRATION BUILDING
⑧	NHÀ HỌC LÝ THUYẾT	LECTURE BUILDING
⑨	NHÀ XE SINH VIÊN	STUDENT PARKING LOT
⑩	XƯỞNG THỰC HÀNH	WORKSHOP
⑪	KÝ TỤC XÁ SINH VIÊN	STUDENT DORMITORY
⑫	NHÀ ĂN SINH VIÊN	STUDENT CANTEEN
⑬	SÂN BÓNG	SPORT FIELD
⑭	HỒ NƯỚC	POND

A16-15



Oriental Consultants Global Co., Ltd.
HEAD OFFICE: Sumitomo Fudosan Nishi Shinjuku Building No. 6,
3-12-1 Honmachi, Shibuya-ku, Tokyo

PROJECT TITLE

THE PREPARATORY SURVEY ON THE PROJECT
FOR STRENGTHENING VOCATIONAL TRAINING SECTOR IN VIETNAM

OWNER

HA NAM VOCATIONAL COLLEGE

REF. NO.

1

DWG. TITLE

GENERAL LAYOUT PLAN

SCALE

DWG. NO.

13 HNVC-A

DATE

Dec. 2014

Annex-17

Decision on Duty Assignment
for Preparation of ODA Loan Project

Annex-17

MINISTRY OF LABOUR, INVALIDS
AND SOCIAL AFFAIRS
GENERAL DEPARTMENT
OF VOCATIONAL TRAINING

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness
=====

No.: 545/QD-TCDN

Hanoi, August 1st 2014

DECISION

**on duty assignment for preparation of ODA loan project for strengthening of
vocational training sector to be financed by Japanese ODA**

GENERAL DIRECTOR OF GENERAL DEPARTMENT OF VOCATIONAL TRAINING

- Based on Decision 43/2013/QD-TTg dated 16/07/2013 by Prime Minister stipulating the functions, duties, authority and organization structure of General Department of Vocational Training under Ministry of Labour, Invalids and Social Affairs;
- Based on Decision 837/QD-LDTBXH dated 26/06/2008 by Minister of Labour, Invalids and Social Affairs on the establishment of ODA funded vocational training project management unit (ODA PMU);
- Based on the relevant discussions between Ministry of Labour, Invalids and Social Affairs / General Department of Vocational Training and Japan International Cooperation (JICA) on the project;
- At the proposal by Director of ODA PMU,

DECIDES

Article 1: To assign ODA PMU to prepare ODA loan project for strengthening of vocational training sector to be financed by Japanese ODA with details as follows:

- To prepare detailed TOR for ODA loan project for strengthening of vocational training sector for submission to Ministry of Labour, Invalids and Social Affairs for further submission to Ministry of Planning and Investment and Prime Minister for approval;
- To prepare the feasibility study of the project for submission to Ministry of Labour, Invalids and Social Affairs for approval.

Article 2: Costs for the implementation of those specified under Article 1 shall be covered by counter budget allocated to ODA PMU.

Article 3: ODA PMU, Planning and Financing Department, heads of related departments and relevant officers are under obligation for executing this Decision.

Approved by General Director Duong Duc Lan

BỘ LAO ĐỘNG THƯƠNG BINH VÀ XÃ HỘI **CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM**
TỔNG CỤC DẠY NGHỀ **Độc lập - Tự do - Hạnh Phúc**

Số: 545/QĐ-TCĐN

Hà Nội, ngày 1 tháng 8 năm 2014

QUYẾT ĐỊNH

Về việc giao nhiệm vụ chuẩn bị dự án vốn vay ODA để tăng cường lĩnh vực đào tạo nghề ở Việt Nam sử dụng vốn ODA của Chính phủ Nhật Bản

TỔNG CỤC TRƯỞNG TỔNG CỤC DẠY NGHỀ

Căn cứ Quyết định số 43/2013/QĐ-TTg ngày 16/7/2013 của Thủ tướng Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Tổng cục Dạy nghề thuộc Bộ Lao động - Thương binh và Xã hội;

Căn cứ Quyết định số 837/QĐ-LĐTĐ ngày 26/6/2008 của Bộ trưởng Bộ Lao động - Thương binh và Xã hội về việc thành lập Ban Quản lý các dự án Dạy nghề vốn ODA;

Căn cứ nội dung các cuộc họp liên quan giữa Bộ Lao động - Thương binh và Xã hội/Tổng cục Dạy nghề và Cơ quan hợp tác quốc tế Nhật Bản về dự án;

Xét đề nghị của Vụ trưởng, Giám đốc Ban Quản lý các dự án Dạy nghề vốn ODA,

QUYẾT ĐỊNH:

Điều 1. Giao Ban Quản lý các dự án Dạy nghề vốn ODA thực hiện các công việc chuẩn bị dự án vốn vay ODA để tăng cường lĩnh vực đào tạo nghề ở Việt Nam sử dụng vốn ODA của Chính phủ Nhật Bản, cụ thể như sau:

- Lập Đề cương chi tiết dự án vốn vay ODA để tăng cường lĩnh vực đào tạo nghề ở Việt Nam trình Bộ Lao động - Thương binh và Xã hội gửi Bộ Kế hoạch và Đầu tư trình Thủ tướng Chính phủ phê duyệt;

- Lập Báo cáo nghiên cứu khả thi dự án vốn vay ODA để tăng cường lĩnh vực đào tạo nghề ở Việt Nam trình Bộ Lao động - Thương binh và Xã hội phê duyệt.

Điều 2. Kinh phí thực hiện các công việc nêu tại Điều 1 được lấy từ nguồn vốn đối ứng giao cho Ban Quản lý các dự án Dạy nghề vốn ODA.

Điều 3. Ban Quản lý các dự án Dạy nghề vốn ODA, Vụ Kế hoạch - Tài chính, Thủ trưởng các đơn vị và cá nhân có liên quan chịu trách nhiệm thi hành Quyết định này. /*ML*

Nơi nhận:

- Như Điều 3;
- Lưu: VT, BQLCDA.

TỔNG CỤC TRƯỞNG

Dương Đức Lân