

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

**MINISTRY OF INDUSTRY AND TRADE
OF THE REPUBLIC OF HUNGARY**

**THE STUDY
ON
RESTRUCTURING
OF
THE STATE-OWNED AUTOMOTIVE PARTS
COMPANY
IN THE REPUBLIC OF HUNGARY**

(SUMMARY)

SEPTEMBER 1996

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Chapter 1 Introduction

1-1 The Background of the Study

1-1-1 Social and Economical Outline

Hungary has been reforming its economy including implementing an open economic policy well in advance of other eastern European countries. In the 1980's, a series of economic reform programs were initiated such as the introduction of management and administration systems for new enterprises (1984), the overall policy for economic reform (1984) and the renovation of the banking system (1987). In 1982, Hungary was admitted as a member of the IMF and the World Bank and is aiming at internationalization of its economy. However, due to the small domestic market and as it is not blessed with many natural resources, the Hungarian economy has to rely on foreign trade. The Hungarian economy has been suffering from economic stagnation since the 1980's, due to increase in the cost of imported crude oil, the reduction in the exports of agricultural products caused by the agricultural protection policies of the western European countries and the increased debts due to foreign loans. Because Hungarian industry developed under the system in which the production of selected commodities was concentrated in various COMECON economic block countries, the loss of the markets caused by the collapse of the block has given a strong blow to the Hungarian economy.

Even under such difficult economic circumstances, the transition of the Hungarian economy to a market oriented economy has been promoted. However, the country's economy faces the difficult issues such as the reduction of the subsidies for enterprises, the reorganization of the non-profitable companies and the privatization of the state-owned enterprises.

1-1-2 Industrial Structure and Industry

The level of industrialization in Hungary is an intermediate one among the east European countries and its economic structure shows the characteristics of such countries. Although the share of the agricultural production in the national income has shown a gradual decline as the industry of the country has grown, the agricultural population is still over 20% of the national working population and agricultural and dairy foodstuffs are very important export commodities.

Due to the development of industry, the industrial production amounted to 32.3% of the gross domestic products in 1990. However, in comparison with Czechoslovakia's 61% or Poland's 51%, both based on the World Bank data of 1992, the figure of 32.3% is still low. Therefore, it is forecast that the share of the industrial production in the GDP will definitely increase in future in Hungary.

Hungary does not have abundant natural resources. The only exportable natural resources are bauxite and manganese ores of which there are sufficient deposits. In Hungary where the energy and mineral resource bases are weak, efforts have been made to concentrate industrial power into industries requiring low energy consumption and further to make a special effort to produce high value added commodities. Thus, the major fields of the industrial production are the machinery industry, the food processing industry, light industry and chemical industry.

The industrial production in the 1970's achieved a very high rate of increase of 6.4% averaged over the period from 1971 to 1975, which was higher than the target rate of increase in the planned production for that period. During 1976 to 1980, the national economy suffered from stagnation due to the adverse effects of the oil price upheaval and industrial production also declined. In the 1980's, a tight money policy was adopted and the reduction in energy consumption in industrial activities was strongly implemented. The machinery industry, the food processing industry and the chemical industry were promoted accordingly. On the other hand, the energy intensive industries, the iron and steel industry, the non-ferrous metal industry and the construction material industry reduced their shares in the total national economy. Hungary has been consistently adopting the policy of encouraging the production of consumer goods. The ratio of the production of consumer goods to the total national industrial production is the highest of the East European countries. In 1990, the ratio of the production of light industry and the food processing industry was 32% of the production of the domestic industry. In 1990 when industry was restructured and the organizational establishment was reformed, industrial production was reduced. The metallurgical and the machinery industries reduced their production drastically, namely, by 19% and 13.7% compared with the previous year, respectively. In the case of the machinery industry, the reduction of the automotive industry was large, namely, 32.4% compared with the previous year. This was because Hungary was producing buses and the engines for commercial vehicles for the COMECON economic block and due to the collapse of the block, Hungary lost this market. Thus, the production of buses and automotive parts, mainly the engines for commercial vehicles, was reduced to an extreme extent.

1-1-3 Privatization and Restructuring of the State-owned Enterprises

In 1989, the law concerning the transformation of companies was enforced in order to promote the privatization of the state-owned enterprises. The State Property Agency was established in 1990 as the supervising authority to prevent possible confusion during the privatization of the state-owned enterprises and to accelerate the privatization at full speed. However, due to the lack of strong domestic capital and the non-existence of public funds to privatize the enterprises in a very short period, the dependency on foreign capital is high. In the second East-West Industry and Trade Ministers' Meeting held in April, 1993, Japan expressed her intention to carry out a study for the restructuring of a model state-owned enterprise for the purpose of supporting the privatization of the state-owned enterprises in Hungary.

1-1-4 The Subject Enterprise for The Study

It is anticipated that the Hungarian automotive industry will increase in importance for the domestic economy. However, most of the automotive parts industry which supports the automotive industry consists of Hungarian domestic enterprises. As in other socialist countries with planned economies, these Hungarian state-owned enterprises are facing many difficult problems to adjust themselves to a market oriented economy such as the privatization of the companies or factories and changing the attitudes of employees and employers.

The subject enterprise for this study, IKARUS Mori Autoparts Manufacturing Company (hereafter called IMAG), is one of the largest automotive part manufacturing companies in Hungary. They have 1,300 employees and its sales revenue in 1995 was 5,338 million forints. IMAG is one of 5 counsel companies of Hungarian Association of Automotive Parts Manufacturers. During COMECON economic regime, IMAG manufactured 500,000 to 600,000 seats for 15,000 buses per year, however since 1991 the production of buses in Hungary reduced to one tenth of the most prosperous age and the company faced with the extremely difficult conditions. On the other hand, IMAG succeeded in supplying passenger car seats and cable harnesses to the automobile assembly company of foreign capital who came to build their own factory in Hungary and IMAG could extricate themselves from the crisis conditions. IMAG still holds various financial and technical problems as a state-owned enterprise.

The state-owned enterprises including IMAG are urged to convert themselves to a company structure which can cope with a coming privatization. The study aims to implement the modernization of the corporate management of the state-owned company of Hungary. Furthermore, by the formulation of the factory modernization plan of IMAG who is the largest state-owned enterprise of automotive parts manufacturing companies in Hungary and the counsel company of the Association of Automotive Parts Manufacturing Companies, the secondary effect as supplementary influences to Hungary automotive parts industry can be expected.

1-2 The Purpose of the Study

The purpose of the study is to contribute to the development of the automobile industry of Hungary, through the formulation of the modernization plan for IMAG, a model enterprise of the state-owned automotive parts manufacturing companies in Hungary.

1-2-1 Formulation of the modernization plan

The purpose of the study is to conduct a factory diagnosis of the bus seat division and the passenger car seat division of IMAG in accordance with the request of the Hungarian government and to formulate a modernization plan for the production process, the production control and the corporate management of IMAG.

1-2-2 Implementation of Technical Transfer

At the same time, it is to aim to transfer technology to the staff and workers of IMAG in the areas of the production process, production control and corporate management.

During the first field survey, the study team prepared the short term modification plan covering 16 items as a series of the technical transfer programme. IMAG implemented the plan and carried out the factory modernization. The contents of the technical transfer and their implementation situation are shown in the appendix of the main report.

1-3 The Scope of the Study

The scopes of the study are as follows.

- (1) Review of existing institutional and promotional policies relevant to automotive industry development
 - 1-1 Institutional set up (administrative system, policy making body)
 - 1-2 Financial policies (taxation system, subsidies and customs duties)
 - 1-3 Privatization policy
 - 1-4 Industrial standards applied to the automotive parts manufactured in Hungary
- (2) Study on the present status of the automotive parts industry
 - 2-1 Number of enterprises by scale
 - 2-2 Products of the automotive parts industry
 - 2-3 Production volume (quantity and value)
 - 2-4 Export and import volume (quantity and value)
 - 2-5 Profiles of the leading enterprises
 - 2-6 Progress of the privatization
 - 2-7 Trends of automotive parts companies in other European countries
 - 2-8 Difference between the industrial standards applied to the automotive parts manufactured in Hungary and in EU
- (3) Study on the present situation and problems of the divisions concerned of IMAG
 - 3-1 Outline of the divisions to be studied
 - Factory layout
 - Products and manufacturing facilities
 - Organization and manpower
 - Procurement of raw materials
 - Sales
 - Production planning and business achievements
 - 3-2 Manufacturing lines and processes
 - Technical skills including technology gap
 - Assembling
 - Inspection
 - Delivery
 - 3-3 Production management and quality control
 - Product development and design
 - Inventory management
 - Quality control

- 3-4 Management
 - Decision making processes
 - Human resources development
 - Labor management
 - Financial management
- 3-5 Information processing systems
- 3-6 Evaluation of the original modernization plan of the seat manufacturing divisions made by IMAG
- 3-7 Cost analysis
- (4) Formulation of a plan for modernization of the divisions concerned
 - 4-1 Targets and direction of modernization
 - 4-2 Modernization of manufacturing lines and processes
 - 4-3 Modernization of production control
 - Product development and design
 - Inventory management
 - Quality control
 - 4-4 Modernization of corporate management
 - Human resources development
 - Labor management
 - Financial management
 - 4-5 Modernization of information processing systems
 - 4-6 Marketing promotion including strategy for exports
 - 4-7 Implementation schedule
 - 4-8 Cost estimation
- (5) Financial evaluation of the project
- (6) Conclusions and recommendations

1-4 Member of the Study

The number of the study team are as follows.

NAME	ASSIGNMENT	COMPANY
Nobuo ISHII	Team Leader Auto-parts Industry Modernization Plan	Techno Consultants, Inc.
Yoshiyuki KATO	Production Process for Seat	Houwa Kogyo Co., LTD.
Yuhachiro OHNISHI	Production Process for Metal Works	Houwa Kogyo Co., LTD.
Yoshio HORIMOTO	Production Control	Techno Consultants, Inc.
Wakio HURUHASHI	Corporate Management (Marketing)	Techno Consultants, Inc.
Shizuo KAMIKURA	Corporate Management (Financial and Economic Appraisal)	Techno Consultants, Inc.

1-5 Study Schedule

The study will be carried out according to the following schedule.

(1) Field survey in Hungary

The first field survey : December 5 to December 22, 1995

The second field survey : February 8 to March 13, 1996

(2) Study work in Japan

The first phase of the
study work in Japan : December 23, 1995 to February 21, 1996

The second phase of the
study work in Japan : March 14 to June 21, 1996

(3) Presentation of the draft final report in Hungary: July 28 to August 7, 1996

(4) Submission of the final report : The end of September, 1996

Chapter 2 Economic Situation and Auto Manufacturing Industry in Hungary

2-1 Outline of Economic Situation

2-1-1 Economic Trends

Hungary has actively carried out economic reforms, geared towards a market economy since the latter half of the 1980s. The Hungarian economy in the 1980s continued to grow in terms of real GNP although the average annual growth rate was as low as 1.7%. However, after the growth rate turned to a negative figure of -3.5% in 1990 in comparison with the previous year, negative growth continued. Industrial production in particular continued to reduce after 1987, and there was a large reduction of 12% in 1991. This is attributed to the economic confusion in the former Soviet Union and East Europe; dissolution of COMECON that was the largest market for Hungary; and reduction in exports to West Europe due to, for example, the stagnation in the economy of Germany which is one of Hungary's largest export markets. The real GNP that had decreased since 1990 increased 2.9% in 1994 compared to the previous year. Also, the gross industrial product hit bottom in 1992 and turned upwards in 1993.

Table 2-1-1 Main Economic Indicators

	(Real base, Previous year = 100%)				
	1990	1991	1992	1993	1994
Gross Domestic Product	96.5	88.1	97.0	99.2	102.9
(at current prices, HFT billion)	2,089.3	2,308.4	2,935.1	3,537.8	4,350.9
Manufacturing Product	92.4	82.2	93.3	106.3	103.7
Investment	90.2	87.7	98.5	102.5	112.3
External Trade					
(Export)	95.9	95.1	99.0	86.9	116.6
(Import)	94.8	94.5	92.4	120.9	114.5
Per Capita GDP					
(HFT Thousands)	195	223	284	343	424
(US\$)			3,599	3,734	4,019
Consumer Price Index (1986-1990)	14.8	35.0	23.0	22.5	18.8
Total Population (Thousands)	10,375	10,355	10,337	10,310	10,277
Economic (Thousands)	5,472	5,304	4,796	4,352	4,136
Registered Unemployment (Thousands)	24.2	100.5	406.1	663.0	632.1

Source: Statistical Yearbook of Hungary 1994

This is attributable to the fact that exports grew as much as 120.6% compared to the previous year. After peaking at 35% in 1991, the average annual increase in the Consumer Price

Index fell gradually until it reached 18.8%. Producer prices increased 11.3% relative to the previous year. Per capita GNP reached US \$4,000 in 1994.

Thus, the Hungarian economy shows signs of improvement after 1993. However, the trade deficit that has continued since 1991 has not been improved. It reached 408 billion forints, or 9.4% of the GNP, in 1995.

2-1-2 Economic Policy

In Hungary, structural reform of politics and the economy occurred earlier than in the other East European countries and before Perestroika in Soviet Russia in 1989. Following the free election in 1990, the coalition cabinet led by the Liberal Forum party which acquired a landslide victory maintained a relatively stable political power and promoted economic reform. However, in the course of transition to a market economy which required liberalization and rationalization, it was clear that the national deficits had become large and getting larger and the elimination of subsidies and the restructuring of non-profitable divisions in the companies generated a large amount of unemployment. In the election of 1994, the achievements of the 4 year administration after structural reform were evaluated and the Socialist Party, the ruling party of the old regime, by appealing for the protection of socially weak people and the recovery from the prolonged economic recession, became the governing party. The government established stable political power by forming a coalition cabinet with the Liberal Democratic League and declared it would implement the following major economic policies.

- (a) the structural reform of public financing and the effective usage of public funds
- (b) the restructuring and integration of the state owned enterprises which are currently in financially difficult conditions, in a manner suitable to their present status.
- (c) the reformation of the banking system and the privatization of the commercial banks
- (d) the promotion of the privatization and administration of the remaining state property in accordance with market principles and the reform of the privatization method and the organization
- (e) the promotion of investments and savings
- (f) the preparation for entry to the EU
- (g) the halting of the trend to reduce the amount of agricultural land and the development of the agricultural regions
- (h) the development of infrastructures such as transportation, telecommunications, information technology, roads, housing, and tourist facilities

By carrying out these economic policies, the government aims to accomplish the following;

- (a) the recovery from the present economic crisis

- (b) the acceleration of the transition to a market oriented economy
- (c) the adjustment of the various conditions required for sustainable economic growth
- (d) the reduction of inflation and unemployment
- (e) the control of the financial deficits and the deterioration of the foreign trade unbalance
- (f) the promotion of investments and savings

Externally, Hungary aims to become a member of EU and fully rejoin Europe. In December, 1991, Hungary concluded the Union Agreement with EU and in March, 1992, the trade article in the agreement became effective. From February, 1994, the freedom of trade and the movement of business people was authorized. The Parliament of Hungary ratified the Rome Agreement with EU on February 8, 1994 and modified the regulations concerning patent rights and copyrights. Further, based upon the Agreement, the first Union Agreement meeting between EU and Poland-Hungary was held in March, 1994. At the same time, the foreign ministers meeting of EU confirmed the purpose of promoting political dialogue concerning a common diplomacy and a mutual security policy towards the central and eastern Europe countries who had signed the Union Agreement. After approval of the Parliament ratification, the formal application for membership of EU was made and Hungary will become a full member of EU in the year 2000.

Despite the above mentioned economic policies and membership of EU, the Hungarian economy is not necessarily developing smoothly as planned. In 1993 and 1994, both the international revenue and expenditures and the financial revenue and expenditures showed large deficits. The domestic economic conditions deteriorated. This is because the international competitive power of Hungary is not strong enough. Without reforming the existing economic structure, it will be impossible to expect economic growth. The government recognizes fully that the various economic problems can only be solved by the sustained growth of the economy. In 1995, the government published its medium term economic policy. This policy aims to mitigate the temporary problems caused by the unbalance of the financial revenue and expenditures and to promote the sustained growth of the economy. One of the most important points of this medium term economic policy was that, by controlling the rate of inflation, it was planned to increase the reliability of the economic forecast indexes published by the government and to promote the capital investment by the private sector and from foreign countries.

Under the medium term economic policy, the government devalued the Hungarian forint in March, 1995 and adopted the policy of introducing an import surcharge system and formulating a draft budget modification. As a result, the trade unbalance has slightly improved and the rate of increase of the deficits of the financial revenue has also improved since April. During the last one year, the deficits of the general account revenue and expenses as a fraction of the GDP were reduced from 8% to 6.5% and the deficits of the international revenue and expenses were also

reduced from 9.5% to 7%. The most important issue of the medium term economic policy was to achieve a balance in the trade and financial revenue and expenditures. It is planned to reduce the deficit in the international revenue and expenditures by 800 to 1,000 million HUF in 1996, and to bring it down to 4.5% of the GDP. In 1997 and 1998, it is planned to maintain the deficit in the international revenue and expenditures at 1.5 billion US dollars which is equivalent to the amount of investment by foreign companies and to keep it within 3% of the GDP. It is also planned that the deficit of the general income and expenditures shall be kept at 4% of the GDP in 1996 and less than 3% of the GDP after 1997. The rate of the inflation will be reduced to 15% in 1998 from the present annual rate of 28 to 30 %.

In addition to the above medium-term economic policy, the government is currently formulating a long term economic modernization policy to cover the period of 10 to 15 years and is going to make its long term social and economic vision clear to the public.

2-1-3 Direct Investment of Foreign Capital

1) Overview of the Introduction of foreign capital into Hungary and neighboring countries.

Foreign capital played an important role in the transition to a market economy and privatization of state enterprises that Hungary has proceeded with since 1989. As shown in Figure 2-1-1, the direct investment of foreign capital in Hungary is increasing. The factors behind this include the existence of favorable conditions (listed below) for introduction of foreign capital, as well as the economic reforms and the changes in social systems that the Hungarian Government has been actively carrying out.

- (a) Hungary started economic reforms early, and its transition to a market economy has been rapid as shown, for example, by the introduction of new tax and financial systems.
- (b) Hungary is located at the center of Europe and is easily accessible by land, air, and water.
- (c) Hungary abounds in cheap highly-skilled manpower.
- (d) The infrastructure is more developed and the country is more peaceful than neighboring countries.

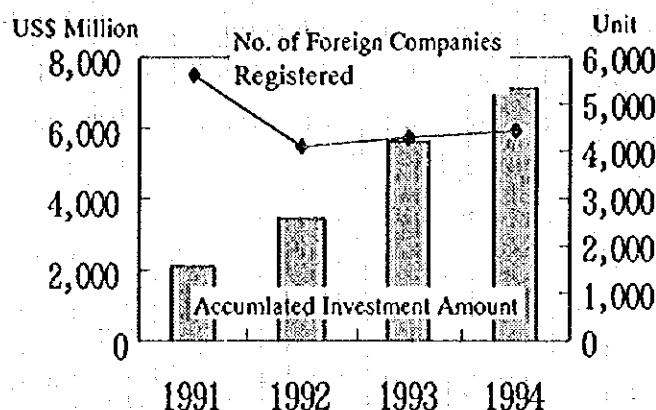


Figure 2-1-1 Changes In Direct Investment of Foreign Capital, 1991-1994

Hungary has received the largest amount of direct investment of the six former East European countries, accounting for 40% of the investment in the entire block. Recently, however, Hungary is losing its advantage because of the widening gaps in wages between Hungary and neighboring countries as well as the economic development and political reforms taking place in neighboring countries. Poland, which has a large market, and Czech which is showing a good economic performance, are attracting attention. Rumania is actively pursuing a policy of attracting foreign capital. Table 2-1-2 compares the economies of four East European countries.

Table 2-1-2 Comparison of the Economies of Four East European Countries (1994)

	Hungary	Poland	Czece Rep.	Slovakia
Gross Domestic Product (US\$ billion)	39.3	86.3	37.0	13.9
GNP per Capita (US\$)	3,840	2,470	3,210	2,230
Direct Investment Accumulated (US\$ billion)	7.1	4.3	3.7	0.6
Average Wages & Salaries (Nominal, US\$/Month)	300.7	224.5	245.8	201.2
Population (Thousands)	10,246	38,581	10,333	5,356

Source : Statistical Bulletin 1995/3

Direct Investment 1993-1996, Japan

2) Direct investment in the automobile and automotive parts industries

As described above, direct investment in East European countries began to increase rapidly at the beginning of the 1990s when the market-opening policy swung into full gear. Each country actively introduced technology and capital from West European countries into the automobile

and automotive parts industries because of the important role the automobile industry would play in the reconstruction of the industrial sector. On the other hand, for the developed enterprises of the West, advance into East European countries means the creation of new markets and the establishment of overseas footholds for production based on cheap and highly-skilled labor. Thus, the investment in the automobile and automotive parts manufacturers constitutes a very large proportion of the total.

The main impetus for the direct investment in Hungary is to make it a platform for exporting into the EU market because of the country's small domestic market and its high technological level. The track record of investment in the automobile and automotive parts industries of East European countries is given below. As can be seen from this track record, direct investment in automobile-related industries is spreading to all the East European countries and the competition for attracting foreign capital will get increasingly fierce.

(1) Hungary

- (a) In 1990, the U.S. company, General Motors (GM), set up a joint-venture assembly plant for engines and passenger cars with RABA. Isuzu of Japan assembles pickup trucks within RABA.
- (b) Magyar Suzuki, established in 1991, was the first Japanese automaker to advance into Eastern or Central Europe in earnest. It is the largest direct investment by a Japanese company.
- (c) Audi, of the German Volkswagen Group, established Audi Hungary Motor (AHM) and produced 750 engines a day in 1994. It will eventually produce 2,000 engines a day.

Note: Direct investments in the automotive parts industry are discussed in Chapter 3.

(2) Poland

- (a) In 1992, Fiat of Italy established Fiat Poland, a joint venture with the Polish company FSM, and started production of compact passenger cars. It is the largest joint venture in East Europe.
- (b) In 1992, Ford built a car accessory plant.
- (c) Peugeot began to assemble 10,000 passenger cars a year in 1993.
- (d) In 1993, Volkswagen set up a joint venture for assembling VW vans. It produced 5,000 in the first year. It will produce 25,000 cars per year in future.
- (e) Mercedes-Benz built an assembly plant in 1993 to expand local production.

- (f) In 1994, General Motors and FSO of Warsaw established a joint venture and began assembly of the Opel Astra with an annual output of 10,000 cars.
- (g) In 1995, the South Korean company Daewo purchased a plant, and reached an agreement with the FSO group concerning a joint-venture plant for automobiles and related parts.
- (h) In addition, Volvo of Sweden, Renault of France, and Saab-Scania of Sweden are negotiating with local companies to produce or increase the production of large commercial vehicles such as trucks or buses.

(3) Czech

- (a) In 1991, Volkswagen and Skoda started production of passenger cars in accordance with a joint-venture agreement.
- (b) Daewo-Steir (Austria) Consortium acquired shares of Avia. They will produce 5,000 trucks in 1995 and 20,000 trucks in 2000.

(4) Slovakia

Volkswagen produces automobiles, TP of Czech produces automotive parts, and Yazaki Sogyo produces wire harnesses.

(5) Bulgaria

Lodacar that was set up in 1992 as the joint venture between Rover and the Dule Group plans to produce 10,000 cars in 1997.

(6) Rumania

Daewo and Olcit Kleiover plan to produce 75,000 cars annually starting from 1996.

Figure 2-1-2 shows statistics for the production of passenger cars and commercial vehicles and the main foreign affiliates in East European countries.

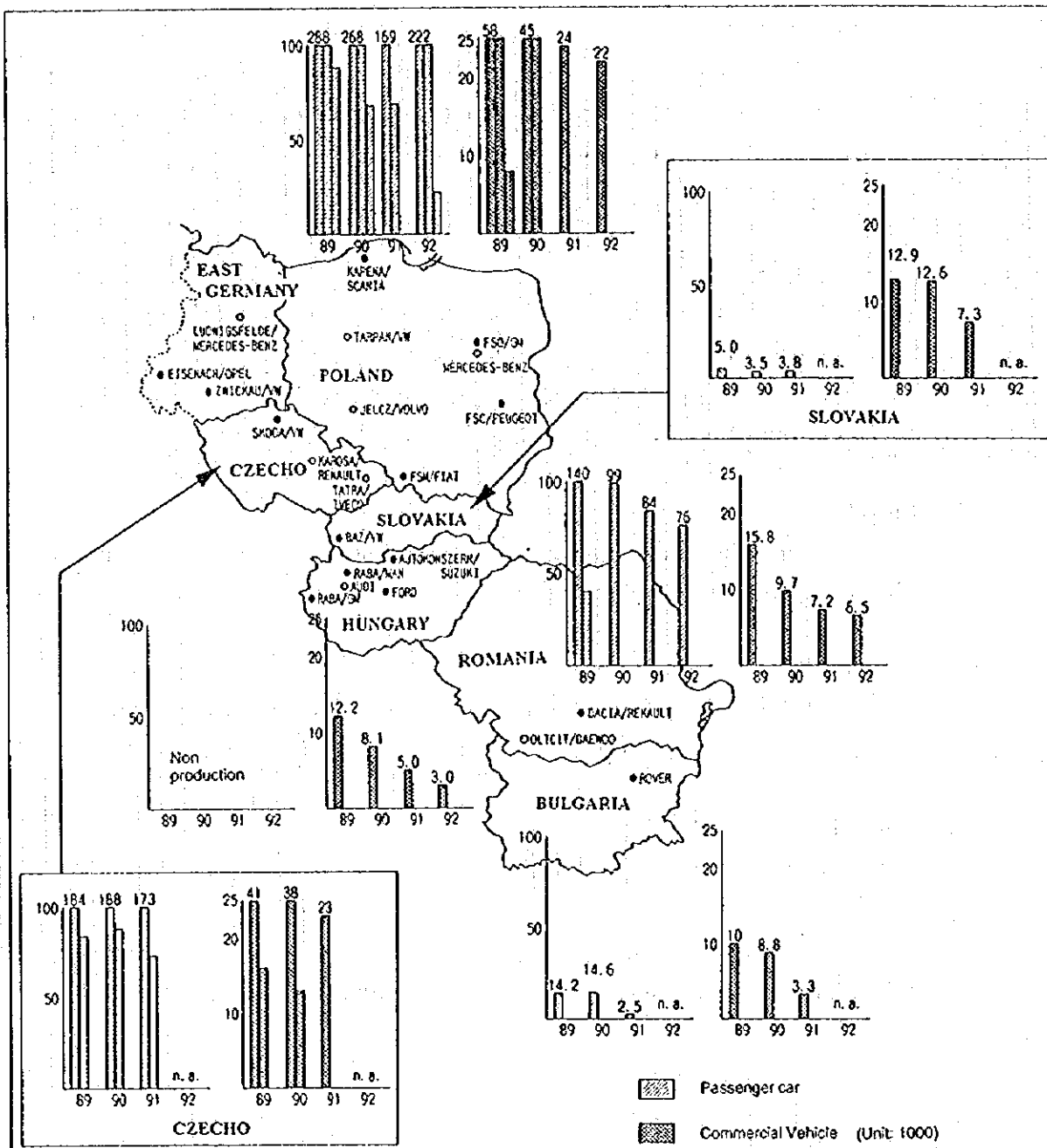


Figure 2-1-2 Statistics for Production of Passenger Cars and Commercial Vehicles and the Main Foreign Affiliates in East European Countries

2-2 Present Status of the Auto Manufacturing Industry in Hungary

2-2-1 Auto Manufacturing Industry

The automobile industry in Hungary started with the production of buses in 1895. The company which made the first bus was Uhri Imres Body Building Shop, the origin of the present IKARUS. The Hungarian automobile industry grew up gradually and before World War I, Marhab and Csepel also commenced the production of automobiles in addition to Uhri and Raba. The production of automobiles reached its peak during the second world war and recorded an annual production of 2,400 trucks, 1,000 trailers and 130 buses.

1) Truck and Buses

The trucks were manufactured by Raba and the buses were manufactured by IKARUS, exclusively in Hungary.

The production facilities were completely destroyed during the second world war. In the course of its reconstruction, the Hungarian auto manufacturing industry concentrated on the production of buses and trucks and the supply of auto parts in accordance with the divided production system within the COMECON economic structure. Table 2-2-1 shows the historic production record of trucks and buses.

Table 2-2-1 Production of Trucks and Buses

(Units: number)			
Year	Trucks	Buses	Total
1949	100	500	600
1954	1,100	500	1,600
1960	2,900	1,900	4,800
1965	2,600	2,700	5,300
1970	2,860	8,843	11,703
1975	2,225	12,940	15,165
1980	1,608	15,163	16,771
1985	1,890	13,226	15,116
1986	1,833	13,586	15,419
1987	1,580	12,923	14,503
1988	2,063	12,350	14,413
1989	1,087	11,930	13,017
1990	953	8,057	9,010
1991	1,256	5,001	6,757
1992	758	3,546	4,304
1993	183	3,150	3,333
1994	60	1,500	1,560
1995	68	1,305	1,373

Source: National statistics, interview data are combined and adjusted.

The production of passenger cars in Hungary was started in 1902. By the 1920's, Hungary had exported some passenger cars, however the real passenger car production per se was started quite recently when GM and Suzuki began production. Table 2-2-2 shows the production of passenger cars since 1992, started by foreign capital.

Table 2-2-2 Production Trend of Passenger Cars

(Unit: number)			
Year	Magyar-Suzuki	GM (Opel)	Total
1992	916	9,936	10,932
1993	12,555	13,000	26,151
1994	19,371	12,300	40,300
1995	36,051	12,500	49,033
1996 (plan)	50,000	12,500	62,500

Source: MSC, GM interview data.

Detailed production activities are given in the Appendices.

2-2-2 Policy and Administration Concerning the Auto Manufacturing Industry

The real popularization of cars in Hungary started from the later half of the 1960's. In 1967, the number of cars owned by private drivers was only 126,000 cars, which increased to 550,000 cars in 1975 and increased by about 100,000 cars on average every year after that.

All kinds and models of cars are imported to Hungary from car manufacturers all over the world. The number of cars registered in 1991 in Hungary was 110,394 in total. The number of new and used cars and the number of cars registered for each make are shown in table 2-2-3 Passenger Car Registration in Hungary. Cars manufactured by 43 companies were imported, namely, 18 companies from Western Europe, 12 companies from Russia and East Europe, 3 big American companies, 8 companies from Japan, 1 company each from Korea and India. After 1992, in addition to the above companies, the locally manufactured new cars from GM/OPEL and Magyar-Suzuki were introduced to the market.

The number of registered passenger cars, trucks and buses in 1995 are approximately as follows:

Passenger cars	2,179,000
Trucks	258,000
Buses	21,500
total	2,458,500

Under the planned economy, the import of cars from the USSR and East Europe was a monopoly of the state-owned company called Mogurt and car sales were also monopolized by a government company called Merkur.

Hungary used to pay for the cars imported from other socialist countries by trading technical products such as IKARUS buses and other automotive components. In the 1970's and 1980's, passenger cars were always in short supply in Hungary. In the late 1980's, the government reduced the import duty of new and used passenger cars from 40% to 10% in order to cope with the demands of the market. Further to this, the government introduced the free foreign currency deposit system for individual persons in Hungary in September, 1989, thus the barrier preventing imports by individual Hungarians was removed. The amount of foreign currency used by individuals for cars bought abroad and brought into Hungary was the astonishing figure of 300 million US dollars in 1989. From January 1, 1990, the government imposed a VAT of 25% in order to prevent the out-going flow of foreign currency and stop the import of environmentally unacceptable used cars which were not equipped with pollution control devices and yet the importation of used cars from Western Europe did not decrease.

Table 2-2-3 Passenger Car Registration in Hungary

Type	New	2-4 yrs	Above 4 yrs	Total
GM/Opel	2,016	1,062	7,365	10,443
Vauxhall	4	3	4	11
Saab	7	14	98	119
GM/USA made	63	183	283	529
Ford	1,420	1,558	6,322	9,300
Volkswagen	2,080	898	9,849	12,827
Audi	322	397	3,321	4,040
Seat	48	124	251	423
BMW	481	323	2,761	3,565
Mercedes	421	748	3,837	5,006
Porsche	5	15	191	211
Wartburg*	1,955	412	44	2,411
Trabant*	367	16	83	615
Renault	1,235	934	4,018	6,187
Citroen	305	469	2,611	3,385
Peugeot	1,279	1,023	2,089	4,391
Talbot	3	0	562	565
Fiat	1,079	1,401	7,148	9,628
Alfa Romeo	52	253	1,383	1,688
Lancia	79	145	743	965
Rover	17	14	98	129
Volvo	170	110	970	1,250
Skoda*	1,425	169	83	1,677
Moskvich*	768	48	6	822
Volga*	11	3	4	18
Zaporozhetz*	5	8	2	15
Dacia*	744	340	257	1,341
Aro*	41	18	8	67
Zastava*	226	10	9	245
Yugo*	394	7	1	402
Lada*	7,135	1,246	1,034	9,415
Polski*	468	76	19	563
Crysler	24	41	58	123
Honda	723	232	885	1,838
Toyota	728	339	1,560	2,627
Nissan	442	299	1,787	2,528
Mazda	514	349	1,937	2,800
Daihatsu	740	92	223	1,055
Mitsubishi	782	279	1,580	2,641
Subaru	61	29	407	497
Isuzu	5	32	29	66
Hyundai	734	45	21	800
Maruti	3,144	18	4	3,166

* Eastern Europe models.

In April, 1990, the government finally introduced the free market principle and the sales of imported automobiles were liberalized in Hungary. Now that there was complete freedom for car sales, a number of domestic and foreign car dealers were established and started the car import sales business. Mogurt and Merkur terminated their monopolies of car imports and sales at this time and companies like Mobil, Autoker and Autotechnika began to enter the auto trade and sales business. The international institutional agencies and financial agencies highly evaluated this government policy of complete freedom for car imports, coupled with the countermeasures to remedy the car shortages in the domestic market in Hungary, as a success.

In 1992, the import duty on privately owned cars was increased and the importation of used cars was controlled. The increase in the import duty on cars helped to protect the domestic car manufacturers who had just started the production of passenger cars in Hungary. The import duty imposed was 18% for gasoline cars up to 1,600 cc and diesel cars up to 2,000 cc, 28% for gasoline cars up to 2,000 cc and diesel cars up to 2,500 cc and 48% for other cars. The import duty was reduced by 5% for cars equipped with catalytic converter pollution control devices. A special duty of 30% was imposed on used cars of 4 years old or more. In 1992, an overall consumption quota system for individual persons was introduced for the import of passenger cars. Import permits were issued without any limitation for new cars, but the import permits for used cars were only issued for cars 6 years old or less because the demand for imported used cars was strong. Since January, 1993, cars more than 6 years old were only permitted for registration after passing various tests to check the functioning of the anti-pollution devices. In spite of these stringent import control measures, the import of used cars more than 6 years old increased.

On the other hand, the price of new cars has doubled since 1992 due to the price rise of new cars and the introduction of the value added tax. The passenger cars made in East Europe are no longer sold in Hungary because the untaxed COMECON trade has ended and hard currency in US dollars is used for the settlement of payment. Instead, the importation of used cars from West Europe and Japan has increased.

The Hungarian government is concerned about how to bring down the increased new car prices to a level the ordinary citizen can afford. The government considers the problem will be solved as the national economy grows and the income of the people increases.

In Hungary, there were two different opinions about how to secure the supply of automobiles. One was to manufacture a large amount of the automotive components and sell these goods to the leading automobile manufacturers in West Europe and East Europe and use the foreign currency so gained for the purchase of new cars from abroad. The other opinion was that Hungary should itself become an automobile manufacturing country. The former option had

been experienced in the past in Hungary. A number of Hungarian companies manufactured auto components under a cooperation plan for the Volga Automobile Factory(VAZ) of the Soviet Russia and had supplied components for the Lada and had received new cars as payment for the components. The latter opinion was further divided into 2 groups. One opinion was to promote the automobile production by cooperation with the old COMECON countries and the other opinion was to promote the new automobile industry with the cooperation of the enterprises who possess the most modern up-to-date technology. The method of pursuing this aim was by establishing joint venture companies with the USA, Germany and Japan, and not through technical collaboration agreements. This method was materialized eventually. The partner companies, GM and Suzuki, regarded Hungary as the strategic location for production in central Europe to meet their own company strategies. The Hungarian government and local municipalities offered various incentives to the new companies and supported them favorably in many ways. The actual production records for the past 4 to 5 years were presented in the previous section and this proved that the last correct choice was made.

The government, for the national industrial promotion policy, has selected four special industrial sectors on which to place the maximum importance. The four sectors selected by the Ministry of Industry and Trade are as follows;

(1) automotive parts industry, (2) electronics industry (3) food processing industry (4) hotel construction. The automotive industry and automotive parts industry are worth promoting intensively since a wide range of sub-sectors is affected. Because the effects are so great and widespread, the government has a keen interest in the development of the automotive industry and automotive parts industry and provides special incentive measures. The government provides tax incentives to foreign enterprises to come and invest in Hungary.

1) Tax Incentives

The corporate tax rate in Hungary is 33 %, whereas in Poland and Slovakia the corporate tax is 40% , 42% in Czech and 45% in Rumania. Further, the tax imposed on joint venture companies with foreign capital is 18% of the corporate profits plus a maximum of 5% tax on the corporate reserves remaining after paying the dividends to the share holders, for foreign companies from countries with which Hungary has concluded tax agreements already. Therefore, for most of the foreign companies investing in Hungary, the maximum corporate tax is 23%.

2) Incentives for investment promotion

From 1996, the government has introduced the new incentive policy for investment promotion. The government started the discussion of the draft in the Parliament from November, 1995 and the draft was approved by the Parliament in January, 1996. The outline of the government

policy, mainly relating to a modification of the tax system is as follows;

- (a) The ratio of the tax revenue to the GDP is not to be lowered.
- (b) Regarding the corporate tax, there will be no need to change the fundamental structure.
- (c) Regarding the system of income tax for individual persons, the income tax will not be reduced, but the policy of achieving more fairness in the tax burden on individuals should be maintained and pursued.
- (d) The tax rate of the general revenue tax will not be reduced, but the tax rate of the consumption tax is to remain unchanged.
- (e) The role of the local government tax is to be increased.

The above is the policy of the government for the tax system for 1996 and the incentive measures and the tax regarding the automotive industry are summarized below.

(a) Corporate Tax

The modifications to the corporate tax in 1996 will not give any fundamental impact on the tax system nor on the total amount of the tax. However, it is intended that the tax system adopted in Hungary or to be adopted in the future shall be coordinated and adjusted to tax systems in foreign countries. The major modifications to the tax systems are the incentive measures designed to stimulate investments and to encourage exports as outlined below.

- (i) For all companies in Hungary, an accelerated depreciation rate with a maximum of 30 % per year will be applied to all machinery and equipment purchased and put into operation after January 1, 1996. However, the depreciation rate for buildings shall be 10 % per year.
- (ii) For projects commencing in 1996, concerned with a manufacturing business with an investment of more than 1 billion HUF, and the amount exported exceeds the amount of the previous year or if the amount exported exceeds 600 million HUF, then 50 % of the corporate tax will be exempted for a period of 5 years.
- (iii) For the companies who are going to establish factories or offices in the economically depressed areas which the government classifies as areas where the unemployment rate is more than 15% , 100% of the corporate tax imposed on the sales profits will be exempted for a period of 5 years after the completion of the project. The projects which can benefit from this incentive include not only manufacturing projects but also projects in which sales profits are generated by the production of goods and in which profits are generated by merchandising activities in the above designated areas.
- (iv) For the companies who are going to establish factories in areas which invite enterprises such as the industrial zones, 6 % of the total investment amount of the machinery and

equipment as well as the building cost of projects which start operating after January, 1996 will be exempted from the tax for a period of 5 years. However this is subject to the condition that an amount equal to the amount of the tax exemption shall be invested in the same designated zones within 3 years.

- (v) The interest on the loans approved by the economic development program and borrowed from Hungarian financial organizations can be included as expenses in the accounts. Until now, 12 % of the calculated interest was exempted from the tax to be paid and this will be modified to 18 % of the tax payable.

(b) General Sales Tax

There will be no fundamental modifications to the general sales tax in this financial year.

(c) Consumption Tax

The regulations provide for an average 15% tax. This tax rate is imposed on consumption, however this rate is lower than the inflation rate.

(d) Automobile Tax

The total amount of the automobile tax will go to local governments from this year. Until now, the automobile tax revenues were divided between the central government and the local governments to be included in their budgets.

3) Establishment of an Economic Development Fund

The government established an economic development fund in order to grant subsidies to the enterprises who contributed to the promotion and development of industries in 1995. The funds are raised from government financial sources. The government grants subsidies for investments in the infrastructure required to build new factories, and to reduce the interest on loans. This is a very good incentive in a country with high interest rates like Hungary where the annual interest rate is 30 % per year. It is planned to apply this system to the large investments made by foreign companies. When the foreign enterprises come to the industrial zones for investment, the government considers offering a subsidy from the funds.

4) Support by Local Municipal Governments

The local municipalities welcome foreign companies which come to their areas and generate employment opportunities. Therefore, the municipal governments support the foreign companies by means of various incentives and supporting policies, such as the granting of a direct subsidy, providing the required land free of charge, or a combination of the two. For example in case of Magyar-Suzuki, the local government granted an employment subsidy because the company generated a large amount of employment in the region. It is reported that similar support measures were taken by the city of Szentgotthard when GM/OPEL established their factory there.

2-3 Privatization Policy and Current Situation

2-3-1 Privatization Policy

The government of Hungary is promoting the privatization of state owned companies as a part of its economic reform policy. For this purpose, the government has developed the legal procedures and established a coordinating agency to administrate the privatization and is arranged an organization to promote privatization. In October 1988, the law concerning private companies was established as the first step towards a market oriented economy and in 1989, the company conversion law became effective and it became possible to convert state owned companies into private companies. In 1990, the private enterprise law became effective and any private persons who wished to start the private business could operate their own business by submitting applications. For the purpose of privatizing state owned enterprises, it is possible to privatize an enterprise if three quarters or more of the votes are obtained in a general assembly meeting. A part of an enterprise can be privatized if more than two thirds of the employees of the said portion agree to privatize that portion of the enterprise.

The government established the state property administration agency in 1990. The role of the agency was to support and supervise the privatization of the state owned enterprises. The number of state owned enterprises in 1990 was 2,200 and the book value assets was 26.7 billion US dollars. The number of the enterprises under the control of the agency was 1,840. The government adopted the policy of participating aggressively in the privatization program. The outline of the privatization is as follows:

(1) Active Privatization

The state property administration agency selected and made public in September, 1990, twenty enterprises to be privatized chosen from the manufacturing industry, the tourist industry, the commercial business and the trade business which were in an excellent financial condition and would be attractive to foreign capital. The agency called for consultants who would guide these enterprises regarding practical methods of privatization, the preparation of the drafts for organization changes, and the establishment of management policies. The agency selected 20 consultant companies from abroad and 2 companies domestically. Since the privatization procedures were complicated and time consuming, only 6 state owned enterprises were privatized and the results were far from expected.

(2) Pre-Privatization

In parallel to the active privatization, the government launched a program for privatizing small scale enterprises. In accordance with the privatization law for small scale state owned enterprises formulated in September, 1990, the small scale enterprises such as restaurants with

15 employees or less, and stores with 10 employees or less were sold to Hungarian nationals. Approximately 10,000 enterprises were privatized by the end of 1994. The government made it a rule to privatize the small scale enterprises based on the privatization law of small scale state owned enterprises and the other 1,840 large scale enterprises under the management of the state property administration agency.

(3) Privatization initiated by investors

This is the method of privatization introduced by the state property administration agency in February, 1991. Foreign and Hungarian investors purchase a part or all of state owned enterprises which have been transformed into the form of a company after obtaining the approval of the agency. Most of the state owned enterprises are currently privatized by this method.

(4) Self Privatization

This method was introduced from March, 1991. 403 enterprises were selected from enterprises which had less than 300 employees and had sales revenue of more than 800 million HUF and these were entrusted to about 100 consultant firms selected by the agency for privatization. The criterion of the selection of the enterprises were later changed to the companies with less than 1,000 employees and an additional 270 enterprises were selected.

This method, together with the method of privatization mentioned in (3) above, are the main procedures for privatization of the state owned enterprises.

By the end of 1995, about half of the state owned property had been privatized. Half of the state properties sold for privatization to date have been purchased by foreign capital from Germany, America, Austria and other countries. One of the outstanding points of the privatization in Hungary is that an extremely high proportion has been purchased by foreign capital.

2-3-2 Current Status of Privatization

Privatization in Hungary has mainly taken place in the privatization of small scale enterprises and privatization conversion of small and medium scale state owned enterprises. Although some inconvenient and unsuccessful cases have been reported, it is recognized that the privatization was generally successful. However, the privatization of the large scale state owned enterprises has been delayed to a large extent. The complicated company structures, the scale of their enterprises, and the varieties of their business operations has made privatization of the large enterprises difficult and time consuming in comparison to the privatization of the small scale enterprises. To the investors, the privatization of the large companies is not attractive enough to overcome these complications, and the time and trouble involved. In order to attract the interest of the investors, it is necessary to stabilize the financial conditions of the enterprises and to

provide tax incentives to enable them to restructure the enterprises.

In May, 1995, the government launched a program to promote privatization more intensively and issued a new law and regulations. Under the new law, the government integrated the State Property Administration Agency and State Holding Company Limited and formed the new State Privatization and Holding Company Limited by Shares (APV Rt). In June, 1995, a total of 819 state-owned enterprises and assets of 110 billions HUF (US\$ 8,700 million) were under the control of APV Rt for privatization.

The government stated that in the privatizing the gas and electricity utilities, 40% of the stock would be allocated to municipal governments, 9 % to the employees and the balance of 51% to foreign capital. The government also made it clear that the European Bank for Reconstruction and Development (EBRD) would make loans of US\$ 90 million to the state-owned gas company, and US\$ 300 million to the state-owned electricity company and would also cooperate in the privatization of banks.

2-3-3 Privatization of IKARUS

The privatization of IKARUS, the parent company of IMAG, has been discussed among the ministries concerned. The State Privatization and Holding Company Limited has set a firm schedule for privatization and started to take the necessary actions.

1) Company profile and share holders

IKARUS manufactured 12,000 to 14,000 buses in the 1970's and 1980's and supplied them to the market of COMECON. For a period of more than 20 years, IKARUS was ranked as the 4th or 5th bus manufacturer in the world. Due to the collapse of the planned economy of the Soviet Union and East Europe in 1990, the production and sales of IKARUS buses dropped to one tenth suddenly. From this time, IKARUS accumulated a vast financial losses. In August, 1990, IKARUS was placed under the control of the finance minister and started their struggle for revival. Table 2-3-1 shows the Profit and Loss situation of IKARUS for the last 4 years.

Table 2-3-1 Profit and Loss Data for IKARUS

Year	(Unit 1,000 HFT)			
	1992	1993	1994	1995
Sales revenue	21,306,963	22,941,749	17,055,915	20,625,649
After-tax profit	-3,477,923	1,253,714	-925,120	-2,292,755
Workforce, persons	8,416	6,316	4,796	3,924
Subscribed capital	11,500,000	11,500,000	11,500,000	11,500,000
Equity	7,751,659	9,002,399	8,068,437	5,772,681

During the course of reviving the company, a new company was established on August 30, 1991 and all business has been transferred to the new company. The capital was 11,500 million HUF in total, of which 7,000 million HUF was owned by IKARUS and 3,500 million HUF was owned by Atex Rt. of Russia. Table 2-3-2 shows the Share Holders of IKARUS as of December, 1995.

Table 2-3-2 Share Holders of IKARUS

Shareholders	Share, HFTx1,000	Shareholding, %
APV Rt(Hungarian State)	7,348,500	63.90
Atex Rt(Russian Capital)	3,500,000	30.43
CEIC Holding Ltd	149,000	1.30
MHB(Hungarian Credit Bank)	500,000	4.35
Predecessor(IKARUS)	2,500	0.02
Total	11,500,000	100.00

2) Restructuring Plan

Although the APV Rt is the major share holder, having a 64% share, their rights are restricted by the company by-laws. According to the agreement between the revival committee and the foreign share holder, it is necessary to have a majority of more than 75% of the vote for any important subject and the majority of the Hungarian government alone is insufficient. According to the original revival plan, it was forecast that 8,000 buses would be manufactured annually and 6,000 buses would be sold to ex-Soviet and East Europe markets. This sales volume was used as the basis of the revival plan for employment and investment in production facilities. In 1991, it was planned that the accumulated loss of 10,760 million HUF would be taken care of by cash revenues and the sale of assets. In 1991, however, the loss was 365 million HUF. In 1992 and 1993, the situation became worse and it was clear that the company could no longer continue as it was. IKARUS accepted the restructuring plan prepared by the crisis management committee. The plan was to manufacture 3,000 buses per year and based on this production volume the number of employees would be reduced, the cost reduction would be made and the company would revive within the very short period of one year. By the end of 1993, a profit of 1,245 million HUF was achieved, but in 1994, there was again a loss of 925 million HUF. This was because the sales plan made by the crisis management committee was based upon the production of 2,500 to 3,000 buses per year, but the actual number sold was only 1,574 buses in 1994. The government exempted 747 million HUF out of IKARUS's 1,690 million HUF total debt, through APV Rt. And in 1995, a further 943 million debt was exempted by the government.

3) Privatization Bid of IKARUS

The privatization program was promoted with the support of APV Rt and the recent developments were as follows:

- On November 1, 1995, the bid invitation note was published in the London Times stating that-

- (a) IKARUS will sell 80 % of its 9,200 million HUF stock.
- (b) In addition, applicants should make a cash contribution.
- (c) Bid documents can be purchased at the cost of US 800 dollars from November 6, 1995.
- (d) Bid closing date will be January 8, 1996.
- (e) Bids should be valid for a period of 120 days after submission.
- (f) Bids will be evaluated by the Hungarian Privatization and State Holding Company- APV Rt and a consultant company, Ernst & Young Ltd.

-On February 9, 1996, Hungary ECONews reported the following:

- (a) Five foreign companies and one domestic company participated in the bid.
 - Volvo (Sweden)
 - Scania (Sweden)
 - Daimler-Benz (Germany)
 - DAF (France)
 - Raba Kft (Hungary)
 - One other
- (b) One company submitted a letter of intent but it was rejected. It is reported that the company that submitted the letter of intent was Raba Kft of Hungary.
- (c) Volvo showed interest only in the Szekesfehervar Factory and an other company showed interest only in the Budapest Factory. It is also reported that another company showed interest in a venture which IKARUS had invested in. However IKARUS required this to be a privatization bid for the company as an integral unit and indicated that piece meal deal would not be accepted.
- (d) Finally the privatization bid for IKARUS failed this time.

Chapter 3 Automotive Parts Industry

3-1 Outline of Automotive Parts Industry

In accordance with the special agreement concluded with the old COMECON member countries during the planned economic regime, Hungary had manufactured and exported its products to the USSR and COMECON market as the main supplier of buses and trucks. In addition to exporting completed buses and trucks, the Hungarian automotive parts industry played a large role as the major supplier of the automotive parts in COMECON countries. As the collateral exchange goods of the supply of automotive parts to COMECON countries, Hungary had received complete passenger cars from these countries.

In the late 1980's, the total automotive parts revenue reached 45 % of the total revenue of the auto industry in Hungary. This ratio of the automotive parts revenue to the national auto industry revenue in Hungary is an extremely high number compared with the automotive parts industries of other COMECON countries. In COMECON countries, automotive parts supply factories were clustered in the vicinity of the parent automobile assembly factory and the fact that the manufactured auto parts products were mainly supplied to the automobile assembly factory was completely different from the situation in Hungary.

After the collapse of the COMECON market, trade among the east European countries was paid for in dollars and, due to the shortage of convertible foreign currencies, the trade of automobiles decreased drastically. During the COMECON market time, Hungary had supplied automotive parts for LADA cars manufactured in the Volga Automobile Factory (VAZ) of the Soviet Union, such as ignition switches, ignition timers, wiper sets for front wind shields, horns, dashboards, door keys, engine keys, cylinder locks for trunks, batteries and so on. In addition to the LADA cars, Hungary had supplied similar automotive parts for the Fiat car produced by the FSO factory and other Fiat cars produced by the FMS factory, both in Poland, the Dacia car in Rumania, and the Zastava car in Yugoslavia. Even during those days, Hungary had a strong desire to enter into technical collaboration agreements with west European automotive parts suppliers and there were some cases in which technical license agreements were concluded, however no long term relationship such as the formation of a joint venture company was established with any west European automotive parts suppliers until the early 1980's.

In the mean time, the market share of the LADA car greatly decreased, the automobile assembly factories of Poland were privatised, and Yugoslavia entered into a civil war between ethnic groups and these events terminated the good old days of the mass supply of automotive parts from Hungary and lead to a time of supplying small quantities of wide variety of automotive

parts which were sold to small markets.

3-2 Automotive Parts Industry of Hungary in the 1990's

The Hungarian automotive parts industry became active in the 1990's. There was very active foreign capital investment from the west European countries and these foreign investments were concentrated in the fields of the automobile and automotive parts industries.

- (a) Suzuki of Japan constructed a full scale automobile assembly factory in Esztergom City.
- (b) GM/OPEL constructed a complete automobile assembly factory and an engine manufacturing factory in Szentgotthard City.
- (c) Ford constructed an electric and electronic components manufacturing factory for automobiles in Szekesfehervar City.
- (d) Audi constructed an engine manufacturing factory in Gyor City.

Along with the capital investment by these giant multi-national automobile companies, a number of smaller entrepreneurs invested capital in the Hungarian automotive parts manufacturers or established joint venture companies. By 1994, the large automotive parts suppliers had come to Hungary one after the other. Some examples are as follows:

- (a) ITT Automotive Europe GmbH constructed a factory in Veszprem City, which manufactures switches, cable harnesses, ABC sensors, door lock devices and so on.
- (b) AUDI constructed a factory in Gyor City, which manufactures cylinder heads, in addition to engine assembly.
- (c) Southtech Company of the U.S.A. constructed a factory in Tataanya City, which produces aluminium wheels for passenger cars.
- (d) VAW of Germany constructed a factory in Gyor City, which manufactures cylinder heads for GM OPEL.
- (e) Linamar Machine Ltd. of Ontario, Canada, purchased a Hungarian agricultural machine factory in Oroshaza City and converted it to a factory which manufactures electronic components for the fuel pumps for Ford Motor Company and European and Canadian markets.
- (f) ZF Company of Germany purchased the old Csepel factory and established a factory in Eger City which manufactures heavy duty transmissions for buses and trucks.

As a matter of fact, the Hungarian automobile assembly companies are seeking good automotive parts suppliers to reduce the total cost of complete cars to make their cars competitive in the international markets. This means that the Hungarian automotive parts suppliers are able

to supply their products not only to the Hungarian automobile assembly companies, but also to automobile assembly companies in west Europe and world wide. The government of Hungary is very eager to promote the sales of automotive parts to develop the economy of the country. The Hungarian government considers that the automobile and the automotive parts industries in Hungary were successful as a whole in the 1990's. The main reason for this success was that the Hungarian automotive parts industry could attract a large inflow of foreign capital from west Europe.

It was considered that the Hungarian automotive parts industry possessed the high technical capability needed to satisfy the severe regulations and high standards specified by the west European automobile makers, thus attracting investments from western enterprises.

Actually, the Hungarian automotive parts manufacturers could cope with issues concerning the structural aspects of auto components and possessed the necessary technical capability, marketing capability, quality control of products and so on. There are many examples of Hungarian automotive parts companies that have grown up by themselves by solving the technical, commercial and financial problems raised by customers and partners. The Hungarian automotive parts industry is considered, in fact, to be located in a very competitive and strategic position. The government of Hungary estimates that there are approximately 300 to 350 companies who are manufacturing and producing automotive parts in some way, or another. The total revenue of these automotive parts enterprises was estimated to be 500 million US dollars in 1994 and 600 million US dollars in 1995. Taking the manufacture of the automobile engines alone as an example, it is estimated that 1,000,000 units will be produced in 1998.

As explained above, it is considered that the automotive parts industry is the industry with the highest growth in Hungary. The automotive parts industry announced that they had established clearly the fundamental policy of producing high quality products and that each company guaranteed their products would maintain a level of technical standard equal to that of the west European automotive parts manufacturers and would satisfy the customers' standards and specifications. With this background, Japanese and west European automobile makers came to Hungary and purchased component products from these automotive parts companies for assembly into their complete cars. Furthermore, in addition to maintaining the quality of the products at a high level, Hungarian automotive parts manufacturers have struggled to restructure themselves and to adopt revised organizations and revised methods of cost control, in order to achieve internationally competitive prices for their products. Today, automotive parts are internationally traded goods and, if the prices, as well as the product quality, are not competitive, the suppliers will not survive and the Hungarian automotive industry is very aware of this.

3-3 Outline for the Automotive Parts Industry

The intention to invest in the automobile assembly industry and the automotive parts industry in Hungary is very high and it is rather difficult to forecast the future outlook of the automotive parts industry as well as future trends, export trends, and future employment situations in the automotive parts industry. However, the government of Hungary forecasts as follows:

- (a) The growth rate of the automotive parts industry was 12 % in 1995 and it will increase to 14 to 15 % for the next 3 years .
- (b) The growth rate of the exports of the automotive parts industry is estimated to be at the annual rate of 7 to 10 % for the time being.

(1) The Case of Magyar-Suzuki

In October, 1992, the Magyar-Suzuki Swift car had a locally procured contents of 22 % for press work, welding, painting and assembly works done within Magyar-Suzuki's own factory and 7 % of the materials were domestically procured giving a total of 29 % of the cost of the car. The local content became 50 % in October, 1993 and reached 53 % at the end of 1995. The automotive parts being supplied by Hungarian companies to Magyar-Suzuki are batteries, seats, press work, horns, front windshield wipers, wire harnesses, glass, painting, interiors and so on.

(2) The Case of OPEL Hungary

The OPEL Astras car manufactured in the Szentgotthard Factory were made initially of almost entirely imported automotive components. In 1992 when the car assembly work started, the domestic Hungarian automotive parts used in its production amount to only 4 % of the cost. In 1994, the local content of automotive parts had increased to 14 % of the price of the complete Astra car, and consisted of batteries, speakers, press work, painting and so on. OPEL Hungary intends to increase the local content and endeavors to adopt domestically manufactured components.

The automotive parts suppliers who furnish their products to OPEL Hungary are approved by OPEL to supply the products, not only to the Szentgotthard Factory, but also to all GM factories in Europe. This means that the sales channels are wide open to qualified Hungarian automotive parts suppliers. In fact, the amount of Hungarian automotive parts sold to European GM factories in 1994 was 100 million Deutch Marks. In 1995, this figure had increased to 300 million Deutch Marks, which was several times more than the amount sold to the Szentgotthard Factory.

3-4 Promotion Policy of Automotive Parts Industry

The policy of promoting the automotive parts industry is considered to be the most important industrial policy for central European countries. Most of the central European countries have a fairly strong automobile and automotive parts industries.

The government of Hungary recognizes very well the importance of the policy of promoting automobile and the automotive parts industries from the following two viewpoints.

- (a) The automobile and automotive parts industries have a powerful influence on a wide range of supporting industries. The auto industry uses various kinds of goods such as steel products, mechanical components, rubber products, glasses, plastic materials, electric and electronic components and non-ferrous metals. Many kinds of technology developments and innovations are thereby introduced into these industries.
- (b) The automobile and the automotive parts industries are on a global scale. Huge investments will be necessary for installing the massive equipment and facilities. The trade and logistics are decided by a small number of giant enterprises.
The government considers that they can exercise some kind of influence over the selection of plant sites and the amount of trade.

The Hungarian industrial world expects that the automotive parts industry will achieve dynamic growth and development. In order to accomplish this goal, the quality of basic materials, such as steel products, copper and aluminium materials, plastic materials, glass and rubber materials and paint must inevitably be improved. For this purpose, the technical ability of the whole country is indispensable.

Up until now, the development of the automotive parts industry has depended upon technological innovation. The manufacturers who have been successful as automotive parts suppliers have recognized the importance of maintaining the quality of products at a high level and aggressively incorporating technology innovations. They also recognize the importance of improving their products by uninterrupted technical development and making continuous efforts to reduce the cost of the products.

Among the automotive parts suppliers, there are a number of small and medium size companies. In order to promote the technical capability of these small and medium scale companies and prevent them from dropping out of research and development activities, the government of Hungary intends to guide these companies by its industrial policy so that they will carry out research and development work on a co-operative basis. As practical aspects of this policy, the government set up the policies of supporting the greater use of international

technical data banks, establishing an information and data gathering centre and establishing a special technology development centre and so on.

The government is promoting a so called horizontal industrial policy, namely, promoting exports, promoting investments, supporting research and development activities and is also promoting a so called vertical industrial policy, namely, strongly supporting technology innovation activities, in the true sense of the word, for the development of the automotive parts supplying industry. More specifically, the government will endeavor to improve and upgrade design capabilities and technical strengths by preserving and cultivating existing research and development institutes. And the government intends to promote an increase in the amount and variety of information relating to the automotive parts industry, efforts in marketing and enlarging markets, and the improvement and development of standards and regulations for auto parts products.

As an example of successful research and development in the automotive parts industry, the government quotes the product development of the Raba Company. Raba, as the leading company of the automotive industry, has guided the research and development activities of the small and medium scale companies who supplied small components for installation in Raba's products such as engines, chassis, and axles. They have accomplished a number of improvements by this kind of co-operative development work in the field of design and manufacturing technology.

The government of Hungary understands the necessity of restructuring the entire industrial organization to make it suitable for high value added production, high technology and high wages in the long term. Especially in the case of the automotive parts industry, the government recognizes the merits of Japanese simplified organisations and methods and intends to adopt them gradually.

The development itself needs a government policy of support for human resources development, the strengthening of institutes for research and development and financial support for the necessary investments for prototype and demonstration manufacture. If the government implements these policies for supporting the industries in a co-ordinated fashion, the Hungarian automotive parts supply industry will be well placed to be a growing industry in future.

3-5 Outline of Automotive Parts Enterprises

It is estimated that at present, approximately 300 companies are engaged in the production and manufacture of automotive parts in Hungary. About 120 of these 300 companies belong to the National Alliance of Hungarian Automotive Parts Manufacturers. The companies belonging to this association manufacture not only automotive parts, but also other engineering parts such as machine parts, electric and electronic parts, for transportation machinery and equipment, parts for construction machinery, parts for industrial machinery, structural steel fabrication and so on. Since the automotive parts manufacturers manufacture many kinds of industrial components in addition to the automotive parts, the various statistical documents published by the government do not contain a classification for the automotive part industry.

The Hungarian Association for automotive parts manufacturers was founded in 1993 and at present the number of member companies is about 120. The total number of employees of all the member companies is 27,200 at the moment. The total sales revenue of the member companies is approximately 65 billion forints, which corresponds to 40 % of the domestic total sales revenue of all industrial products in Hungary. Approximately 44 % of the sales revenue of all the member companies, namely, 28.6 billion forints are generated by the sales of automotive parts. The Association estimates that approximately half of the 23.3 billion forints comes from the export of automotive parts.

The major activities of the Association are the following 4 items.

(a) Acquisition of authorization of quality control

The association will conduct for the member companies the seminars and lectures at cost to guide how to acquire the certificates for quality control. The technical committee of the association distributes the information concerning quality control at free of charge. As the subsidy for promotion of small and medium enterprises, the association received the equipment for quality control and computers as the grant from Japanese government for the worth equivalent of 20 million Japanese yen.

(b) Consultation of legal matters

In case that any company regardless be a member or not violates the market by price dumping or other illegal methods, the association will consult the legal matters as the representative of the member companies.

(c) Research and development of products

In Hungary, the labour cost is lower than in west European countries and the member companies manufacture the products by obtaining licenses from foreign companies. However, in case that the member companies carry out the research and development by themselves, the association will guide them.

(d) Development of market

The association will collect the information concerning market and supply to the member companies. The association also introduce the member companies to exhibitions as well as supplying the information concerning the exhibitions and teach them how to obtain the related information.

The budget of the association is taken care of by the member fee of the companies. The member fee will be proportionate to the sales revenue of the companies and decided every year. The budget of the association is 4.5 million HUF in 1996.

As a result of these efforts conducted by a wide spectrum of the automotive parts industry, the technical strength and the reliability of quality of the products of the automotive parts manufacturing companies have increased and the formation of groups of affiliated automotive parts companies has been initiated by the automobile assembly companies. Especially, Magyar-Suzuki asked Japanese major automotive parts companies to conclude technical collaboration agreements with their counterparts in Hungary to facilitate technical guidance and technical transfer and to go further and to form tight and close relationships such as the establishment of joint ventures. This business approach accelerated the formation of groups of affiliated parts supplying companies. This movement will introduce and accelerate the development of new automotive parts products, the methodology of quality control and schedule control in the daily operation of the factories and methods of corporate management into the Hungarian automotive parts enterprises.

This movement is extremely significant for the Hungarian automotive parts industry as the country is about to enter the European Union as a full member in the near future. This entire movement will enhance the base of the Hungarian automotive parts manufacturing industry which is going to launch itself into the international automobile market on a global basis.

3-5-1 Codes and Standards for Automotive Parts in Hungary

The codes and standards applied to automotive parts produced in Hungary are fundamentally based upon international standards such as the ISA or ISO 9000 series, mainly as a result of the guidance and leadership of the automobile assembly companies and the large automobile related companies such as Raba. The major automobile companies and the large automotive parts companies purchase automotive components only from workshops which have passed the qualification of ISO 9000 as a rule. From the viewpoint of the quality control of the products, west European automobile assembly companies require automotive parts which have been manufactured strictly in accordance with ISO 9000 series and the Hungarian automobile companies have adopted the ISO 9000 series as the basis of their purchasing standards.

Hungarian automotive parts companies manufacture their products based on the manufacturing standards of ECE (United Nations Economic Commission for Europe). More specifically, the automotive parts such as exhaust pipes, brake mechanisms and their parts, and noise related components and diesel engine components are manufactured in accordance with Euro 1 and Euro 2 of ECE.

The Hungarian automotive parts manufacturers adopt EU standards as the basis for the safety and environmental requirements of their manufacturing equipment and production facilities. The municipal governments guide and supervise the production activities to check that the automotive parts manufacturers are, in fact, respecting and obeying the legally prescribed rules and regulations. These rules and regulations form the basis for anti-air pollution rules, waste water pollution controls and noise controls.

The large enterprises, such as Raba, give guidance to the small and medium scale automotive parts manufacturers, who supply their products to Raba, so that they can actively engage in research and development activities. Raba also guides these small and medium scale suppliers to acquire the ISO 9002 manufacturing standard. Practically speaking, the products manufactured in accordance with the internationally approved standards and regulations are expensive, therefore these high grade components are supplied to or assembled into the products of American and European automobile companies. The customers in the CIS countries of the old Soviet Russia and the east European countries prefer the Hungarian automotive parts products manufactured by the old methods at a relatively cheap price and for these customers, the Hungarian automotive parts suppliers are currently supplying completed parts and completed products which carry the H mark in place of the ISO standard.

H marks are granted and marked on the actual automotive parts products which have passed the tests and inspections specified by the Ministry of Transportation and carried out by AUTOKUT, the Research and Development Company for the Automotive Industry Limited, which is 100 % owned by the government of Hungary. After the collapse of the COMECON markets, there is a time of chaos and confusion when some of the automotive parts manufacturers manufactured their products in their own ways without adhering to any codes and regulations. To avoid this confusion, the Ministry of Transportation set forth the codes and standards represented by the H mark in 1989. The countries like Russia, Slovakia, Slovenia and a number of the central Asian countries highly respect the H marks and any automotive parts stamped with the H mark are used without further re-tests and re-inspection in these countries.

3-5-2 Privatization of Automotive Parts Enterprises

The company IMAG, which is the subject of this study, is one of 5 companies on the council of the Association of Automotive parts Manufacturers of Hungary. The council is chaired by Bacony which is the largest automotive parts manufacturer in Hungary and which was privatised in 1994. IKARUS, the sole owner of IMAG, was proposed for privatization in November 1995, but this failed in February, 1996. However 52 % of IMAG stocks owned by IKARUS were transferred to Raba, a 100 % state-owned company, on February 7, 1996, as the guarantee of payment by IKARUS of their debt to Raba for the engines, chassis and axles furnished to IKARUS which had accumulated over many years. If the stocks of state-owned companies are not transacted at appropriate values similar to the prices determined by the stock exchanges of capitalist economies, such transactions will cause confusion in the Hungarian economy. The study team made a query on this point to the senior management staff of Raba by asking how much of IKARUS' debt corresponded to the 52 % of IMAG' stock, but since this sort of information confidential to the company, it was not possible to obtain any indication. Many of the Hungarian automotive parts manufacturers are rather small and medium size companies and they are being privatised faster than the huge state-owned parent companies. The privatization of the state-owned member companies of the Association of Automotive Parts Manufacturers or their affiliate companies will definitely proceeded faster than the privatization of the parent companies.

3-5-3 General Issues of Automotive Parts Enterprises

The average age of the engineers and technicians in Hungary is comparatively high. It is reported that 48% of the engineers and the technicians are over 40 years of age. In order to attract a younger generation of people who will look after the future of the automobile industry and the automotive parts industry, it is necessary to make these industries attractive enough to youngsters and maintain their attractiveness. The general environmental conditions of the automotive manufacturing shops are not so clean and the work done there is also generally dirty. To improve the working environment and to work in a clean and neatly arranged environments are the bases for producing better quality products. This will be a big issue for the entire automotive parts manufacturing industry to struggle with.

3-6 Classification of Automotive Parts Enterprises

The Hungarian automotive parts manufacturers consist of two groups of companies. The first group are who previously manufactured automotive parts for the domestic automobile companies making buses and trucks and the second are the companies who recently started producing automotive parts and supplying their products to the domestic passenger car manufacturers like GM/OPEL and Magyar-Suzuki and to the domestic commercial vehicle manufacturers making buses and trucks. These two groups of companies are now competing with each other and coexists harmoniously.

An attempt to classify the automotive parts manufacturers has been made for the 97 companies belonging to the Association of Automotive Parts Manufacturers and the 57 companies who, while not belonging to the Association, are manufacturing automotive parts and furnishing their products to the passenger car manufacturers and the commercial vehicle manufacturers. The total of 154 companies is divided into 8 categories based upon their main products as follows.

<u>Category of Automotive products</u>	<u>Kinds of manufactured products</u>
I	Metal work, press and welded products
II	Mechanical products
III	Electrical products
IV	Electronic Instrument products
V	Cast and Forged products
VI	Plastic products
VII	Rubber products
VIII	Other products (glass, batteries, computers)

The 154 automotive parts manufacturers are classified into the above 8 categories based on their main products as follows:

Kinds of manufactured products	Number of companies (companies)	Ratio (%)
I Metal work, press and welded products	17	11.0
II Mechanical products	58	37.7
III Electrical products	12	7.8
IV Electronic Instrument products	11	7.1
V Cast and Forged products	18	11.7
VI Plastic products	16	7.2
VII Rubber products	5	3.3
VIII Other products (glass, batteries, computers, etc.)	17	11.0
Total	154	100

75 companies, corresponding to approximately 49 % of the total are manufacturing mechanical products in categories I and II. The automotive parts products in the categories III to VIII are manufactured by approximately 10 % each of the total number of the companies. As a whole, it can be said that the number of companies manufacturing the various automotive parts in Hungary is well balanced.



CHAPTER 4 Outline of IMAG

IMAG, a large automotive parts manufacturing company in Hungary, having the assets of 78.5 billion forints and the employees of 1,220 people, was established as the automotive parts manufacturing factory. Because of the drastic decrease of the production of automotive parts, IMAG has suffered very much, but started to supply automobile components to Magyar-Suzuki in 1992.

It is requested to refer to the main report as for the detail of IMAG.

CHAPTER 5 Present Status and Problems of Production Process

It is requested to refer to the main report as for the details of the present status and problems of the production process.

Chapter 6 Present Status and Problems of Production Control

It is requested to refer the main report as for the details of the present status and problems of the production control.

Chapter 7 Present Status and Problems of Corporate Management

It is requested to refer to the main report as for the details of the present status and problems of the corporate management.

Chapter 8 Modernization Plan

A modernization plan is formulated in order to create a company structure that can cope with the drastically changing business environment.

The modernization of the production facilities is aimed at strengthening the company business structure by improving quality of products and reducing manufacturing costs. For that, the modernization plan should be implemented in three steps:

First stage plan (fiscal 1996): The equipment and facilities included in the factory's 1996 capital investment plan should be introduced, as a short-term improvement plan.

Second stage plan (fiscal 1997): The equipment and facilities for improving quality and reducing manufacturing cost should be introduced as a medium-term improvement plan.

Third stage plan: The equipment and facilities for meeting standards as an internationally acceptable automotive parts manufacturer should be introduced as a long term plan.

8-1 Modernization of the Production Processes

1) Receiving of raw materials

Acceptance inspections and the management of material movement should be improved and control over goods in inventory should be strengthened to establish a company structure that can procure materials and parts properly and can accommodate future production increases.

2) Metal Working Process

The output should be increased by rearranging the layout of the factory to suit the quantity being produced. Operations should be investigated and improved to reduce the percentage of defects.

3) Cutting and Sewing Processes

The method of improving the profitability should be worked out in order to reduce the waste of surface covering materials that make up a high percentage of the manufacturing cost, and to improve the operating efficiency.

4) Cushion Process

The productivity should be improved by standardizing the work procedures and by reviewing the processes. At the same time, modifying the raw materials should be considered with a cooperation of the suppliers in order to reduce their costs.

5) Assembly Process

The assembly lines should be modified so that the layout is suitable for the quantity being produced. Also, the line balance of the assembly lines should be analyzed and improved to accommodate the increase of an annual production.

6) Inspection Process

Control in the inspection process should be strengthened by displaying the standards (such as process specifications) and inspection records in order to eliminate defects in every process as well as in finished products.

7) Flow of materials

Wasted efforts in handling materials should be eliminated by adjusting the layout in each shop to suit the scale of production as well as by planning proper production lots in each process.

8-2 Modernization of the Production Control

1) Product development and control of design work

The capability of developing products that meet market needs should be improved as well as the ability to produce designs and quality that satisfy customer requests. Also, design standards should be established within the company to try to reduce manufacturing cost at the development and design stages.

2) Inventory control

Control of inventories should be strengthened by improving organization and its functions. A framework should be established for reducing inventories by classifying them and clarifying the quantities to be ordered, the order timing, and the amount of safety stock.

3) Production control

The production control functions of the divisions associated with production should be reviewed, and the necessary forms (for example, of procedures and daily schedules) should be organized. Control techniques and process management techniques such as dispatching boards should be introduced.

4) Quality control

The percentage of defects should be reduced by introducing quality control techniques such as QC flow charts for each product and enhancing company-wide quality consciousness through QC group activities.

5) Information processing systems

The existing computer systems should be improved. At the same time, concurrent engineering should be introduced in order to concentrate and speed up information processing. In this way, an information processing system can be constructed that will provide proper information concerned with business conditions and will help to reduce the costs of products.

8-3 Modernization of Corporate Management

1) Decision making

In order to cope with the drastically changing business environment, it is necessary to establish a decision making process based on the existing structure of IMAG. Management plans necessary for decision making should be worked out and the corporate management should be made market oriented.

2) Marketing techniques

Systematic techniques should be introduced into marketing activities and analyses should be made to find new markets which can be cultivated. The Marketing Department should take the lead in revamping its structure as part of the marketing activities needed to establish customer confidence.

3) Human resources development and labor management

In order to secure and develop human resources that can adapt to changes in the business environment, a job grading system should be incorporated into the current qualification system. In this way, comprehensive human resources development and labor management can be promoted for strengthening the business structure.

4) Financial management

Analysis techniques based on financial statements such as financial statement analysis should be used to analyze financial problems and improve the financial situation.



Chapter 9 Financial Evaluation of The Project

It is requested to refer to the main report as for the details of the financial evaluation of the project.

Chapter 10 Conclusions and Recommendations

10-1 Conclusions

The production divisions of IMAG factory have transformed themselves to a great extent. It is judged that the factory has the potential ability to cope with the planned production increase. By implementing the modernization plan recommended by this study, it is expected that the factory's financial position will be improved very much as a result of increasing production efficiency and profitability.

1) Inventory Reduction

The reduction of the inventory is the most urgent and highest priority issue for the management of IMAG. To achieve this goal, it is necessary to take the following measures.

- (1) To reduce the amount of the inventory by strengthening the receiving operation and by improving the inventory control
- (2) To reduce the amount of the main raw materials such as textiles, leather and urethane by improving the production yields which can be achieved by introducing the new machinery and equipment proposed in the study
- (3) To reduce the amount of the in-process inventory by improving the productivity of the unit operations

2) Cost Reductions

By implementing the modernization plan proposed in the study, it is possible to achieve a reduction in the material costs and labor costs. The reduction of costs is the fate and eternal issue of any enterprise. It is anticipated that the market oriented economy will become more and more influential and the competition surrounding the company will become severer year by year, therefore it is absolutely essential that the whole company must make efforts to reduce the production cost of the products even after the modernization plan proposed by the study has been implemented.

3) Improvement of Productivity and Reduction of the Rejected Rate

The quality of automotive parts made by IMAG meets the specification standard of the automobile manufacturers and the factory has high technical capability. Therefore, the issues to be tackled by them are the improvement of productivity and the reduction in the rate of rejected products. In order to achieve the goals, it is necessary to promote the quality control program on a total company basis through the QC circle movement, in addition to the improvements based on the analysis of each unit operation proposed in the study.

4) Promotion and Development of Human Resources

To promote and develop the human resources to cope with the ever changing company environment is an important issues for the company. In order to achieve this goal, it is necessary to build a promotion development system by introducing a promotion qualification system, in addition to the usual employee administration to build up the strength of the company.

5) Company Management

In order to operate the company successfully, it is necessary to formulate the company strategy which becomes the basis of the company's operations. For this purpose, information from inside and outside of the company should be collected and accumulated and based on the information, marketing method and financial analysis methods should be introduced and the overall company management plan should be formulated.

6) Strengthening of the Financial Power of the Company

By the introduction of the new machinery and equipment recommended in the study, the company's financial strength will be enhanced in the long term. The internal rate of return on investment is relatively high and by promoting the local manufacture of the imported components, it is anticipated that the company profitability will immensely improved. It is considered appropriate to invest the recommended amount for the modernization of the factory in view of the financial status of the company and the necessity of modernizing the factory.

10-2 Recommendations

It is recommended to pay special attention to the following points when carrying out the modernization program.

1) Early implementation of the plan

The financial conditions of the company will be improved by the early implementation of the modernization plan. Therefore, it is recommended that the modernization plan should be implemented at the earliest possible time, considering the situation in which the production of passenger car seats is expected to increase.

2) Organization for Implementation

It is desirable to carry out the modernization plan as a total company activity, rather than carrying out the plan as the intent of the top management of the company by using the "top-down method". For this purpose, it is recommended that a project team should be organized to manage the entire project and smaller teams should be set up for each of the improvement items to carry out the actual work and to implement the modernization plan smoothly.

3) Equipment to be Introduced

- (1) The introduction of new machinery and equipment should be well coordinated with the existing machinery and equipment, and similarly the introduction of the new machinery and equipment should be examined to make sure that it will work in conjunction with any automatic machinery and equipment that may be introduced in future.
- (2) For the introduction of new machinery and equipment, it is necessary to formulate a detailed implementation schedule from the overall viewpoint, and to coordinate the improvement of the production process with that of the production control.
- (3) It is necessary to pay attention to the training and education of the operators, in view of the changes to the unit operations which will be caused by introducing the new machinery and equipment.

4) Secondary Benefits

It is necessary to utilize the newly introduced machinery and equipment, not only for the intended purposes but also to study and investigate the fundamental principles of these pieces of machinery and equipment. By doing so, other technology can be derived and technologies can be sought out for application to other components and products. These efforts will form the basis of the know-how and technology exclusively belonging to IMAG.

5) Improvement of the Ratio of Locally Procured Components

The improvement in the ratio of local procurement will greatly contribute to the reduction of the cost of the raw materials and the cost required for inventory control. Therefore, in order to improve the financial strength of the company, it is necessary for the factory to make efforts to increase local procurement to replace the components imported from Japan.

6) Efforts for Internationalization

Two thirds of the total revenue of IMAG are from the automotive parts for Magyar-Suzuki, and the company culture and the company spirit of the customer are different from those of IMAG. In line with the liberalization policy of the government of Hungary, IMAG will be exposed to the market economy and internationalization. Therefore, it is necessary to cultivate the company attitude of paying priority attention to the market and the customers and of forming the company culture of being ready to comply with the customer desires, prior to the official requirements.



