

on die technology and an expert on management and marketing. It should give guidance to the designated company for a period of six months to three years.

(3) Program 3: Export Promotion Program

[1] Exports of Indonesian aluminium products have been increasing since the devaluation of the rupiah in September 1986. According to trade statistics, exports of structures and utensils have been increasing remarkably. According to the field survey, a large proportion of the companies are also exporting plate, impact tubes, die castings, and low pressure die castings. Many of the products for which exports have been growing are produced by labor intensive processes and make use of the relative superiority of Indonesia in labor. Some features of the export companies are [a] the high proportion of export companies in companies with high levels of production technology and [b] the large number of A rank companies exporting to Japan. Further, companies with advanced production technology are improving the level of their technology and quality control through [a] foreign affiliations (structures), [b] guidance by foreign engineers (utensils and step ladders), technical tieups with foreign companies (low pressure die casting), etc. These companies also have more advantages over local companies in terms of marketing, e.g., can obtain overseas marketing information from parent companies, foreign companies tied up with them, and foreign experts.

On the other hand, among the B and C rank companies there are those which are exporting to Southeast Asia and the Middle and Near East and to Africa. These products apparently are medium class in level judging from the level of production technology.

[2] From the above analysis, it may be pointed out that [a] products for exports advantageously are ones which are manufactured by labor intensive processes, [b] products for the Japanese market are high quality products made by companies with high levels of technology, [c] even some medium level products can be exported to Southeast Asia, the Middle and Near East, and Africa, and [d] acquisition of overseas market information and other marketing activities are important.

[3] Therefore, consideration will be given as to the level of technology of companies engaged in the production of aluminium products, the export markets, and what is required for achieving exports (whether marketing alone is necessary or also improvement of quality) so as to create an export promotion program. The implementing authority of the program will be the Ministry of Industry, which will obtain the cooperation of the NAFED. When necessary, assistance will be obtained from overseas economic cooperation organizations.

Here, the following program is recommended:

[a] Provision of information regarding the aluminium product industry of Indonesia to overseas buyers

A directory (brochure) carrying information on companies, product information, business terms, etc. will be prepared in English covering all products and all companies and will be distributed to Indonesian embassies in other countries and to overseas trade promotion organizations.

[b] Export enquiries of aluminium manufacturing companies with a desire to export will be presented to overseas trade promotion organizations.

[c] Provision of overseas market information to Indonesian manufacturers

This will cover all products and all companies. It is essential to provide

information regarding enquiries over imports from overseas buyers. Consideration may be given to individual introductions of enquiry information, a publication carrying the enquiry information, etc. Overseas market information could also be effectively provided through seminars and the publication of booklets carrying information on individual markets (markets, systems, buyers, etc.)

[d] Overseas market surveys

Information regarding target export markets will be collected for selected products through commercial attaches and industrial attaches of overseas Indonesian embassies stationed in those markets and supplied to manufacturers (covering Asian NIE's, ASEAN, Middle and Near East and Africa).

[e] Guidance in Technology and Design

Guidance in technology and design regarding extrusions and plate products (utensils, foil, etc.) will be provided aimed at the Japanese and Asian NIE markets. Specifically, [1] foreign experts will visit factories and provide guidance, [2] seminars will be held with foreign experts serving as lecturers, [3] samples of Indonesian aluminium products will be sent to the target markets for monitoring surveys for investigating the marketability and problems of the same, [4] export products will be developed through guidance of foreign experts well versed in the trends in the target export markets, etc.

[f] Participation in Overseas Exhibitions, Dispatch of Export Promotion Missions, and Reception of Buying Missions

For example, the target markets and qualities should be considered and utensils promoted as household goods along with ceramic and plastic ones so as to develop new markets and increase sales channels.

(4) Program 4: Cooperation in Promotion of Foreign Investment and Technical Tieups

Investment by export oriented foreign companies would both increase exports of the products and, through the transfer of technology, contribute to raising the level of technology. To promote foreign investment and technical tieups, it will be necessary to provide incentives focusing on the aluminium industry in addition to providing general information on the investment environment and policies of Indonesia, as done up to now by the BKPM. The follow program will be implemented for this. The implementing authority for the program will be the Ministry of Industry, which will cooperate with the BKPM. If necessary, support will be obtained from overseas economic cooperation organizations.

[1] Based on the survey reports, a booklet will be prepared, in English, giving the current state of the Indonesian aluminium industry and profiles of potential partners. The booklet will be distributed to the BKPM, overseas Indonesian embassies, overseas economic cooperation organizations, and private investment promotion organizations.

[2] Aluminium manufacturers with an interest in overseas investment will be visited by the industrial officers of overseas Indonesian embassies who will promote investment making use of the above booklet and investment promotion materials of the BKPM.

[3] Information on the programs for promotion of foreign investment and arrangement of technical tieups of overseas economic cooperation organizations will be provided to Indonesian aluminium manufacturing companies.

[4] Overseas economic cooperation organizations and private investment promotion organizations will be requested to organize investment missions focused on aluminium and dispatch them to Indonesia. During the visits of the missions, information will be supplied, factories visited, and meetings with potential partners arranged.

(5) Program 5: Development of New Products

New products are developed in the advanced industrialized countries by private companies. This process generally comprises the six stages of exploration, screening, business analysis, development, testing, and commercializing. The products are examined and analyzed from the viewpoints of production technology and marketing at each step up to the commercialization. Examination of the production technology and marketing requires the existence of manpower able to acquire market information and technical information and competent in the production facilities and level of technology required for new products, technical research, and marketing.

In the case of the aluminium product manufacturing companies of Indonesia, however, while there are differences according to the individual company, there are in general limits to this in terms of the information on hand, facilities, technology, R&D, marketing, and manpower. To overcome these limitations and make new product development possible, support is necessary from outside the companies.

As such support from outside the companies, consideration may be given to provision of technology by private foreign companies, guidance by foreign experts, and support from public organizations. This support could include provision of market information and technical information, corporate guidance by experts, R&D in central research institutes, and promotion of technical tie-ups. These projects are included in the above-mentioned programs (1) to (4). For the development of new products, the above-mentioned programs (1) to (4) should be organically linked.

[1] Formulation of Product Development Plan based on the survey report through discussion between the Ministry of Industry and private companies Organization of committee for aluminium product development involving the Ministry of Industry, institutes and private companies.

[2] Collection of information on aluminium industry and product development by the industrial offices of Indonesian embassies in the industrialized countries and dissemination of collected information to private companies through the above committee.

[3] Nomination of local leading factories as model product development factories

[4] Joint R&D activities by model factories and governmental institutes (Program 1: Strengthening and Augmentation of Research and Development Institutes of Ministry of Industry)

[5] Guidance for model factories by foreign experts for development of products (Program 2: Technical Assistance by Experts)

[6] Participation in export promotion missions to study the aluminium markets and product development activities in industrialized countries (Program 3: Export Promotion Program)

[7] Promotion of product development through technical tie-ups with foreign companies (Program 4: Cooperation in Promotion of Foreign Investment and Technical Tie-ups)

Demand for aluminium products grows in proportion to the stage of economic development and the products of the same tend to diversify as well. While there are differences in the structure and characteristics of individual markets, it would be effective, for example, to project future promising products of the Indonesian aluminium product industry from the trends in demand in Japan.

Below, products believed to be promising will be shown according to application. Note that the grounds for judgement as to future promise, the materials used, modes of use, etc. are explained in detail in 3-3-3 "Promising Future Aluminium Products and Markets Thereof". (Underlined products are for exports.)

| Name of Product | Corresponding Programs |
|---|--|
| <p>[1] Aluminium products for construction use Roofing, blinds, partitions, hand rails, doors, curtain rails, boxes, gratings, gates, fences, verandas, balconies</p> | <p>Strengthening and augmentation of functions of central research institutes aimed at improvement of technology relating to dies, surface treatment, etc. and guidance to private companies by experts Promotion of technical tieups for OEM production Acquisition of overseas market information and export promotion activities for developing new markets</p> |
| <p>[2] Aluminum products for civil engineering Road signs, guard rails, light poles, soundproofing walls, scaffolds</p> | <p>Domestically, lobbying with Ministry of Industry, Ministry of Public Works*, local autonomous bodies, etc. to make positive use of aluminium products in public works Export promotion activities</p> |
| <p>[3] Aluminium products for components of electrical machinery (domestic) General decorative use, capacitor cases, semiconductor heat radiating plates, busbars, cable cases, fins</p> | <p>Increased demand is anticipated along with investment by manufacturers of electrical machinery in Indonesia. Since high quality will be demanded, there should be improvement of level of technology through technical tieups and guidance to private companies by experts</p> |
| <p>[4] Aluminium products for general equipment (domestic and overseas) Frames, rackets, nameplates, printing plates, containers and frames for vehicular freight</p> | <p>Production of nameplates and printing plates would be possible if plate with sufficient flatness and surface luster could be made. First, there should be improvement of quality through technical tieups and corporate guidance by experts and there should be encouragement of manufacture of the products.</p> |
| <p>[5] Aluminium products for packaging (domestic) Caps, aluminium cans, packaging</p> | <p>Production of cans began in February 1990. Promotion of technical tieups.</p> |
| <p>[6] Aluminium household utensils (export) Ceramic coating, heat resistant paints, clad pots, and other high value added products</p> | <p>Promotion of technical tieups Export promotion activities</p> |
| <p>[7] Aluminium products for automobiles (domestic) Rolled products: step sheets, trims, rivets, body sheets, doors, inner and outer decoration of vans, radiator, air-conditioner, van, bus, and other structural members, flooring, bumpers Castings: manifolds, crankcases, pistons, wheels, gear cases Forgings: reinforcements, pistons, wheels, etc.</p> | <p>Deliberations with automobile manufacturers on greater use of aluminium and use of domestically made aluminium products</p> |

Fig. 3-6-5: Process of Development of New Products

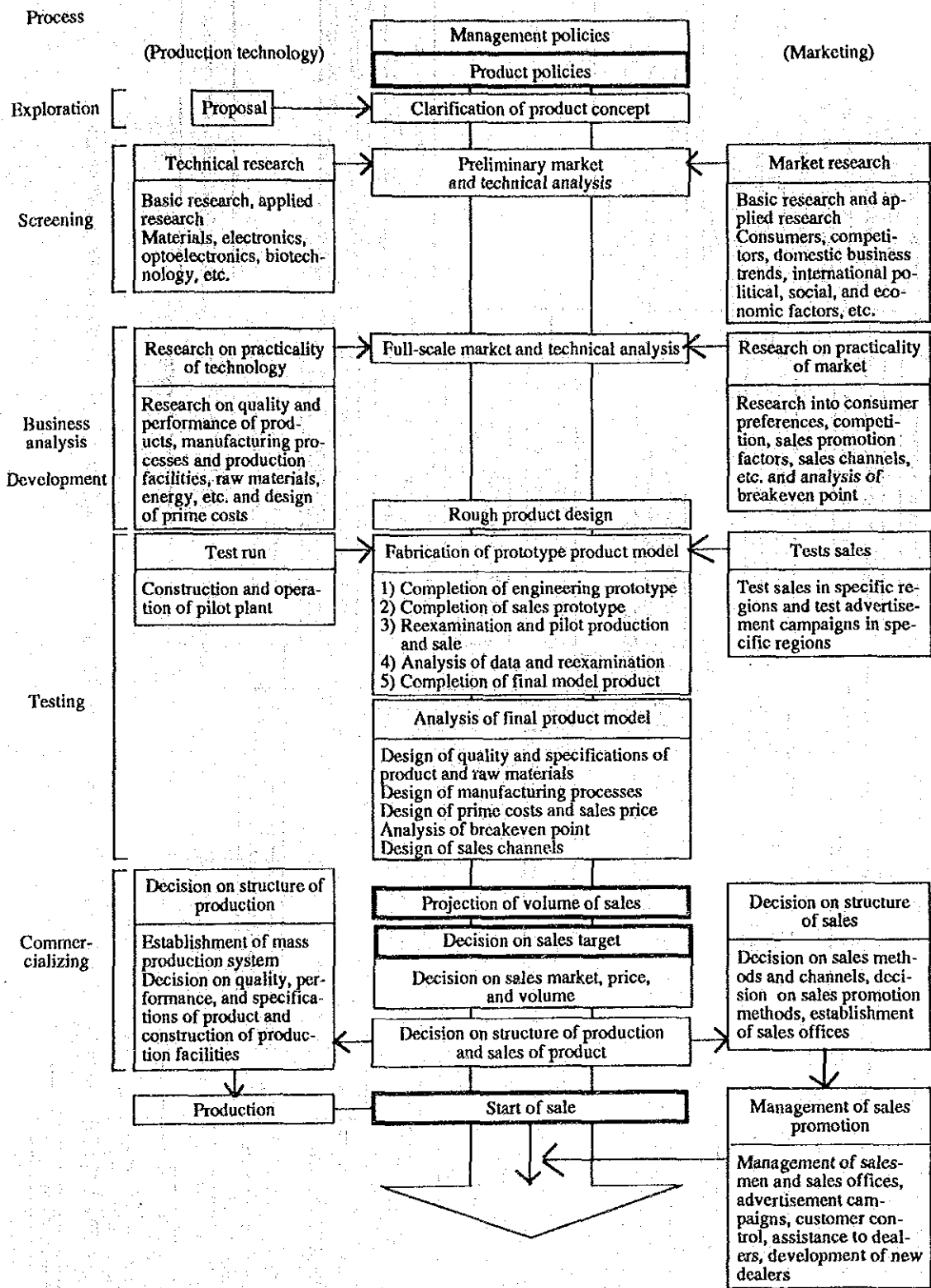


Fig. 3-6-6: Promotion Programs for Aluminum Downstream Product Industry

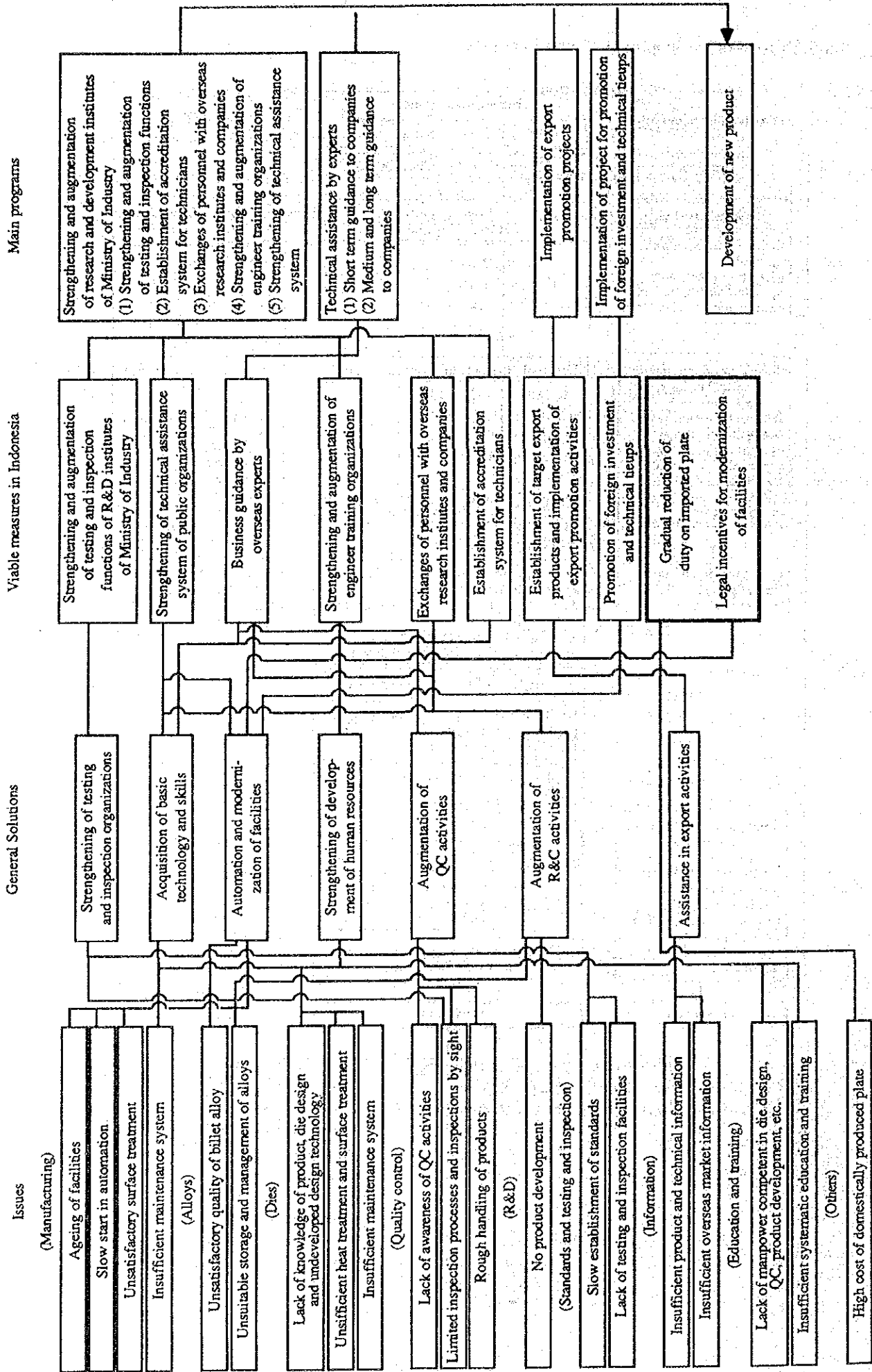
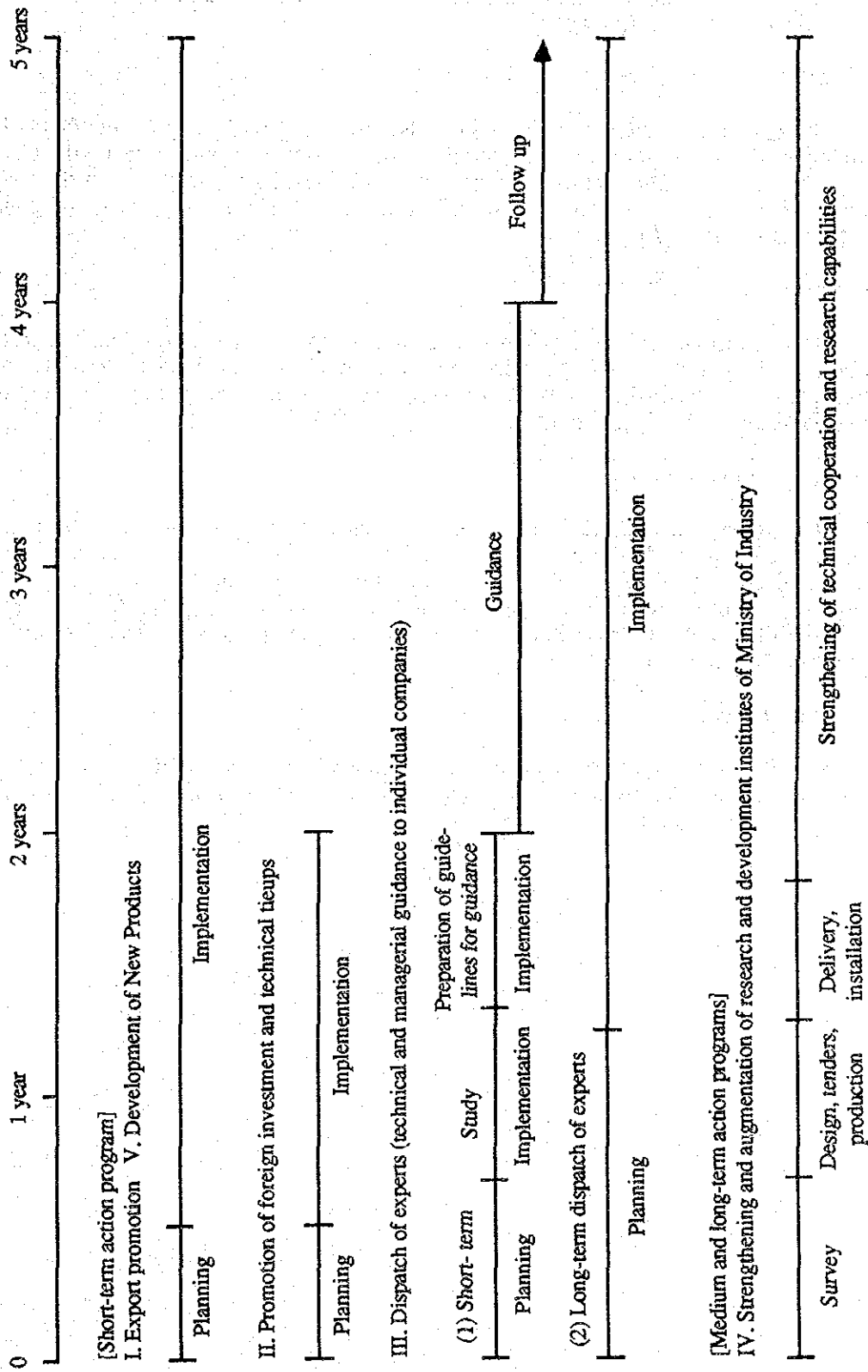


Fig. 3-6-7: Implementation Schedule for the Aluminum Downstream Product Industry Promotion Programs



3-7 Information for Foreign Investment and Technical Tieups

A survey was conducted in October and November 1990 covering domestic Japanese aluminium product manufacturers to determine the possibilities for investment and technical tieups with Indonesia.

3-7-1 Summary of Results of Survey

Survey forms were sent to a total of 204 companies including 73 members of the Japan Aluminium Federation for rolled products and 131 aluminium die casting manufacturers among the members of the Japan Die Casting Association for die casting products. Responses were received from 88 companies, of which 85 were valid, for a rate of response of 41.7 percent.

(1) Overseas Investment

Twenty-three companies had experience in overseas investment. The largest number, 10, invested in the U.S., while only two invested in Indonesia. Twenty-six of the companies were considering future overseas investment. Seven companies mentioned Indonesia as a possible investment site.

(2) Investment in Indonesia

The merits of Indonesia as an investment site are considered to be [1] low personnel costs and [2] the ability to secure a core labor force. On the other hand, problems often pointed out were [1] insufficient supply of engineers and skilled workers, [2] underdevelopment of related supporting industries, [3] insufficient infrastructure, [4] small size of the domestic market, and [5] lack of sufficient test and research institutes and other public facilities and systems.

(3) Technical Tieups

Twenty-five companies responded that technical tieups with Indonesian companies would be possible. Conditions for this mentioned were [1] finding a reliable partner and [2] suitable compensation.

3-7-2 List of Japanese Companies Interested in Investment or Technical Tie-ups.

(1) List of Japanese Companies Interested in Investment

- 1) Name of company: Toshin Metal Industrial Co., Ltd.
Address: No. 2 Koufuku Bldg. 19-12, Koufuku-cho, Kadoma-shi, Osaka 571
Paid-in capital: ¥40 million
Annual sales: ¥3,050 million
Number of employees: 100
Main production items: Diecast products
- 2) Name of company: Almjine Co., Ltd.
Address: 70, Hishie, Higashiosaka-shi, Osaka 578
Paid-in capital: ¥2,040 million
Annual sales: ¥12 billion
Number of employees: 200
Main production items: Wire, bar, sheet, strip
- 3) Name of company: Aisin Seiki Co., Ltd.
Address: 2-1, Asahi-cho, Kariya-shi, Aichi, 448
Paid-in capital: ¥31.11 billion
Annual sales: ¥458.5 billion
Number of employees: 10,500
Main production items: Automobile parts, sewing machines (industrial use, home use)
- 4) Name of company: Okabe Kogyo Co., Ltd.
Address: 4141 Matsukawato-cho, Kasugai-shi, Aichi, 486
Paid-in capital: ¥48 million
Annual sales:
Number of employees: 120
Main production items: Diecast products, Die and mold
- 5) Name of company: Sankyo Aluminium Industry Co., Ltd.
Address: 70, Hayakawa, Takaoka-shi, Toyama, 933
Paid-in capital: ¥26.5 billion
Annual sales: ¥223.1 billion
Number of employees: 5,447
Main production items: Aluminium products (wall cabinets, cooking wares, windows and doors, curtain gates etc.)
- 6) Name of company: Katagi Aluminum Products Ltd.
Address: 2045 Shindachi Ichiba, Sennan-shi, Osaka, 590-05
Paid-in capital: ¥60 million
Annual sales: ¥3.5 billion
Number of employees: 113
Main production items: Aluminum rolled products (sheet, strips)

(2) List of Japanese Companies Interested in Technical Tie-ups

- 1) Name of company: Akiba Diecasting Mfg. Co., Ltd.
Address: 580, Ohyagi-cho, Takasaki-shi, Gunma, 370
Paid-in capital: ¥20 million
Annual sales: ¥5.11 billion
Number of employees: 117
Main production items: Diecast products
- 2) Name of company: Eikosha Co., Ltd.
Address: 3-5-24, Aoki, Kawaguchi-shi, Saitama, 332
Paid-in capital: ¥50 million
Annual sales: ¥4.22 billion
Number of employees: 130
Main production items: Diecast products, diecasting machine, die and mold
- 3) Name of company: Kikuwa Diecasting Co., Ltd.
Address: 1-36-16, Tokiwadai, Itabashi-ku, Tokyo, 174
Paid-in capital: ¥90 million
Annual sales: ¥900 million
Number of employees: 45
Main production items: Diecast products
- 4) Name of company: Gifu Fuji Koki Co., Ltd.
Address: 912-5, Maewatarinishi-machi, Kagamihara-shi, Gifu, 504
Paid-in capital: ¥72 million
Annual sales: ¥1.25 billion
Number of employees: 75
Main production items: Automobile parts
- 5) Name of company: Gunma Gokin Co., Ltd.
Address: 480-1, Hinode-cho, Isezaki-shi, Gunma, 372
Paid-in capital: ¥40 million
Annual sales: ¥3.2 billion
Number of employees: 120
Main production items: Diecast products
- 6) Name of company: Konan Diecasting Industry
Address: 7-19, Ohishikita-machi, Nada-ku, Koube-shi, Hyogo, 657
Paid-in capital: ¥12 million
Annual sales: ¥1.01 billion
Number of employees: 52
Main production items: Diecast products
- 7) Name of company: Kobe Steel Ltd.
Address: 1-3-18, Wakihama-cho, Chuo-ku, Koube-shi, Hyogo, 651
Paid-in capital: ¥212.71 billion
Annual sales: ¥1,274.13 billion
Number of employees: 21,303
Main production items: Aluminium products
- 8) Name of company: Koide Seisakusho Co., Ltd.
Address: 1045, Morimoto, Toyoda-cho, Iwata-gun, Shizuoka, 438
Paid-in capital: ¥7.8 million
Annual sales: ¥1.6 billion
Number of employees: 80
Main production items: Die and mold for diecasting

- 9) Name of company: Soritsu Corporation
 Address: 655, Futoi, Mihara-cho, Minamikawachi-gun, Osaka, 587
 Pain-in capital: ¥17 million
 Annual sales: ¥2.32 billion
 Number of employees: 120
 Main production items: Diecast products
- 10) Name of company: Tanaka Die-Casting
 Address: 601, Kasama-cho, Sakae-ku, Yokohama-shi, Kanagawa, 247
 Pain-in capital: ¥200 million
 Annual sales: ¥4 billion
 Number of employees: 165
 Main production items: Diecast products
- 11) Name of company: Tsuta Metals Co., Ltd.
 Address: 1-4-8, Doyama, Himegi-shi, Hyogo, 670
 Pain-in capital: ¥99 million
 Annual sales: ¥6.5 billion
 Number of employees: 300
 Main production items: Diecast products
- 12) Name of company: Toshin Metal Industrial Co., Ltd.
 Address: No2 Koufuku Bldg., 19-2, Koufuku-cho, Kadoma-shi, Osaka, 571
 Pain-in capital: ¥40 million
 Annual sales: ¥3.05 billion
 Number of employees: 100
 Main production items: Diecast products
- 13) Name of company: Hitachi Metals Ltd.
 Address: Chiyoda Bldg., 2-1-2, Marunouchi, Chiyoda-ku, Tokyo, 100
 Pain-in capital: ¥19.4 billion
 Annual sales: ¥32.3 million
 Number of employees: 8,450
 Main production items: Automobile parts and components, electronics products
- 14) Name of company: Progress Co., Ltd.
 Address: 260, Ono, Tsuru-shi, Yamanashi, 402
 Pain-in capital: ¥90 million
 Annual sales: ¥6 billion
 Number of employees: 230
 Main production items: Diecast products
- 15) Name of company: Matsuo Industry Co., Ltd.
 Address: 1107, Uedahara, Ueda-shi, Nagano, 386-11
 Pain-in capital: ¥70 million
 Annual sales: ¥6 billion
 Number of employees: 180
 Main production items: Automobile and motorbike parts and components, bicycle parts, electrical and communication equipments parts

- 16) Name of company: Mino Industry Co., Ltd.
 Address: 564-103, Nakatsugawa, Nakatsugawa-shi, Gifu, 508
 Pain-in capital: ¥90 million
 Annual sales: ¥11.7 billion
 Number of employees: 312
 Main production items: Diecast products
- 17) Name of company: Tokai Metals Co., Ltd.
 Address: Tokai Plaza 5F., 1 Tomiie-cho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221
 Pain-in capital: ¥3.055 billion
 Annual sales: ¥19.245 billion
 Number of employees: 424
 Main production items: Aluminium foil
- 18) Name of company: Izumi Light Metals Co., Ltd.
 Address: 43, Yokoohzi-Tennohato, Fushimi-ku, Kyoto-shi, Kyoto, 612
 Pain-in capital: ¥200 million
 Annual sales: ¥5 billion
 Number of employees: 86
 Main production items: Extruded products
- 19) Name of company: Katagi Aluminium Products Co., Ltd.
 Address: 2045, Shindaichiba, Kounan-shi, Osaka, 590-05
 Pain-in capital: ¥60 million
 Annual sales: ¥3.5 billion
 Number of employees: 113
 Main production items: Rolled products
- 20) Name of company: Nippon Light Metals Co., Ltd.
 Address: 3-13-12, Mita, Minato-ku, Tokyo, 108
 Pain-in capital: ¥28.28 billion
 Annual sales: ¥269.65 billion
 Number of employees: 4,279
 Main production items: Ingot, sheet, profile, pipe, construction material etc.
- 21) Name of company: Sankyo Aluminium Industry Co., Ltd.
 Address: 70, Hayakawa, Takaoka-shi, Toyama, 933
 Pain-in capital: ¥26.5 billion
 Annual sales: ¥223.1 billion
 Number of employees: 5,447
 Main production items: Aluminium products, (wall cabinets, cooking wares, windows and doors, curtain gates etc.)
- 22) Name of company: Sanko Diecast Co., Ltd.
 Address: 199, Nagafushi, Mishima-shi, Shizuoka, 411
 Pain-in capital: ¥35 million
 Annual sales: ¥2.246 billion
 Number of employees: 146
 Main production items: Diecast products
- 23) Name of company: Watanabe Seisakusho, Co., Ltd.
 Address: 944, Fukushima, Kuwana-shi, Mie, 511
 Pain-in capital: ¥24 million
 Annual sales: ¥1 billion
 Number of employees: 40
 Main production items: Automobile parts and components

3-7-3 List of Indonesian Companies Interested in Joint Venture or Technical Tie-ups

(1) List of Indonesian Companies Interested in Joint Ventures

- 1) Name of company: P.T. Sempana Jaya Agung
 Address of head office: Jl. Biak No. 19, Jakarta 10150
 Tel: 3802850--51
 Fax: 5601500
 Address of factory: Jl. Tole Iskandar Dinata No. 9, Kec. Sukmajaya, Depok 16415
 Tel:
 Fax:
 Name of chief executive: Sutanto Santoso
 Name of responsible: Sutanto Santoso
 Person for contact: Direktur Utama
 Year of establishment: 1984
 Paid-up capital:
 Share holders:
 Indonesian: 100%
 Foreign:
 Legal status: PMA PMDN X BRO Other
 Land & factory area:
 Land: 2,000m²
 Factory: 504m²
 Main production items: Aluminium diecasting products
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|------|
| Annual sales (M. Rp.) | 3 | 96 | 153 | 307 | 586 |
| Number of employees | 7 | 14 | 21 | 27 | 32 |

2) Name of company: P.T. Intalan Works
Address of head office: Jl. Latumetten 50, Jakarta Barat
Tel: 591053
Fax:
Address of factory: Jl. Latumetten 50, Jakarta Barat
Tel:
Fax:
Name of chief executive: Ibrahim Yoesoef
Name of responsible: Ir. Firman Argadiredja
Person for contact: Manager
Year of establishment: 1971
Paid-up capital:
Share holders:
Indonesian: 100%
Foreign:
Legal status: PMA X PMDN BRO Other
Land & factory area:
Land:
Factory:
Main production items: Aluminium extrusion
Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|------|
| Annual sales (M. Rp.) | | * | * | * | 720 |
| Number of employees | | * | * | * | 30 |

* Stop operation

3) Name of company: P.T. Superex Raya Unit Aluminium
Address of head office: Jl. Surmopranoto 28, Jakarta Pusat
Tel: 373368
Fax:
Address of factory: Jl. Pembangunan I/78, Tangerang-Jawa Barat
Tel: 23170
Fax: 23170
Name of chief executive: Ir. Stanley Prakoso
Name of responsible: Ir. Stanley Prakoso
Person for contact: Director
Year of establishment: 1977
Paid-up capital:
Share holders:
Indonesian: 100%
Foreign:
Legal status: PMA PMDN BRO X Other
Land & factory area:
Land: 7,000m²
Factory: 4,500m²
Main production items: Aluminium extrusion
Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|-------|-------|-------|-------|-------|
| Annual sales (M. Rp.) | 3,400 | 3,500 | 3,900 | 6,750 | 5,000 |
| Number of employees | 354 | 360 | 396 | 406 | 440 |

4) Name of company: P.T. New Red & White
 Address of head office: Jl. Kuendang No. 11 A-B
 Tel:
 Fax:
 Address of factory: Jl. Pegangsaan II No. 27 Pulu, Gudung Jakarta Timur
 Tel:
 Fax:
 Name of chief executive: Atam Sandjaya
 Name of responsible: Atam Sandjaya
 Person for contact: Director
 Year of establishment:
 Paid-up capital:
 Share holders:
 Indonesian:
 Foreign:
 Legal status: PMA X PMDN BRO Other
 Land & factory area:
 Land: 4,000m²
 Factory: 1,000m²
 Main production items: Aluminium aerosol can
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|------|
| Annual sales (M. Rp.) | | | | | |
| Number of employees | | | | | 150 |

5) Name of company: P.T. Inter Alumindo Sentosa
 Address of head office: Jl. Pegangsaan II No.27 Jakarta Utara
 Tel: 6374410
 Fax: 6005205
 Address of factory: Jl. Pegangsaan II No. 27, Jakarta Utara
 Tel: 4712092
 Fax:
 Name of chief executive: Atam Sendjajra
 Name of responsible: Atam Sendjajra
 Person for contact: Director
 Year of establishment: 1982
 Paid-up capital:
 Share holders:
 Indonesian: 100%
 Foreign:
 Legal status: PMA PMDN X BRO Other
 Land & factory area:
 Land:
 Factory:
 Main production items: Aluminium slug
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|-------|
| Annual sales (M. Rp.) | | | | | 4,960 |
| Number of employees | | | | | 70 |

| | | | | | |
|---|--------------------------------------|--------|------|-------|-------|
| 6) Name of company: | P.T. Alcas Dharma Pratama | | | | |
| Address of head office: | Jl. Gajah Mada 199, Jakarta-Barat | | | | |
| Tel: | 6590915 | | | | |
| Fax: | | | | | |
| Address of factory: | Jl. Tipar Km 3 Cakung, Jakarta-Utama | | | | |
| Tel: | 490889 | | | | |
| Fax: | | | | | |
| Name of chief executive: | Bpk Sugih Tjandrawinata | | | | |
| Name of responsible: | Ferry Tjandrawinata | | | | |
| Person for contact: | Director | | | | |
| Year of establishment: | 1986 | | | | |
| Paid-up capital: | Rp. 850,000,000 | | | | |
| Share holders: | | | | | |
| Indonesian: | 100% | | | | |
| Foreign: | | | | | |
| Legal status: | PMA | X PMDN | BRO | Other | |
| Land & factory area: | | | | | |
| Land: | 1,580m ² | | | | |
| Factory: | 1,359m ² | | | | |
| Main production items: | Diecast alloy ingot | | | | |
| Annual sales turnover & number of employees | | | | | |
| | 1985 | 1986 | 1987 | 1988 | 1989 |
| Annual sales (M. Rp.) | | | 721 | 2,784 | 4,403 |
| Number of employees | | | 25 | 37 | 43 |

(2) List of Indonesian Companies Interested in Technical Tie-ups.

- 1) Name of company: P.T. Danmotors Vespa Indonesia
 Address of head office: Jl. Perintis Kemerdekaan, Kelapa Gading, Jakarta Utara,
 14250
 Tel: 4896508
 Fax: 4894835
 Address of factory: Jl. Perintis Kemerdekaan, Jakarta Utara
 Tel: 4896508
 Fax: 4894835
 Name of chief executive: Hans G. Tabalujan
 Name of responsible: Ir. Abudin Hamzah
 Person for contact: Manager, Special Project
 Year of establishment: 1971
 Paid-up capital:
 Share holders:
 Indonesian: 51%
 Foreign: 49%
 Legal status: X PMA PMDN BRO Other
 Land & factory area:
 Land: 124,680m²
 Factory: 61,722m²
 Main production items: Vespa scooter
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|--------|--------|
| Annual sales (M. Rp.) | | | | 34,210 | 32,239 |
| Number of employees | | | | 600 | 850 |

- 2) Name of company: P.T. KGD. Indonesia Inc.
 Address of head office: Jl. Pasar Kemis Desa, Keroncong Kecamatan Curug
 Tangerang
 Tel: 99-23291/92
 Fax: 99-23293
 Address of factory: Jl. Pasar Kemis, Desa Keroncong, Kec. Curug, Tangerang
 Tel: 99-23816/23291/92
 Fax: 99-23293
 Name of chief executive: Ir. Jani Winata
 Name of responsible: Ade Rachmat Juliadi
 Person for contact: Administrator
 Year of establishment: 1981
 Paid-up capital: US\$5,000,000
 Share holders:
 Indonesian: 30%
 Foreign: 70%
 Legal status: X PMA PMDN BRO Other
 Land & factory area:
 Land: 61,430m²
 Factory: 9,129m²
 Main production items: Diecast products
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|--------|--------|--------|--------|--------|
| Annual sales (M. Rp.) | 18,557 | 27,310 | 25,562 | 27,129 | 35,087 |
| Number of employees | 403 | 466 | 388 | 487 | 546 |

- 3) Name of company: P.T. Yuwono Mulia
 Address of head office: Jln. Sukarjo Wiryopranoto No. 89, Jakarta
 Tel: 6293550
 Fax: 6293558
 Address of factory: Jl. Agung Kauya III Block C, No. 1 Jakarta
 Tel: 498630
 Fax:
 Name of chief executive: Lukas Yuwono Halim
 Name of responsible: Drs. Sudjiwahono
 Person for contact: Director
 Year of establishment: 1987
 Paid-up capital: Rp. 1,520 000,000
 Share holders:
 Indonesian: 100%
 Foreign:
 Legal status: PMA PMDN BRO X Other
 Land & factory area:
 Land: 8,000m²
 Factory: 4,800m²
 Main production items: Piston
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|-------|
| Annual sales (M. Rp.) | | | | | Trial |
| Number of employees | | | | | 66 |

4) Name of company: P.T. Pakoakuina
Address of head office: Jl. Yos Sudarso, Sunter II, Jakarta
Tel: 492025-493477
Fax: 492377
Address of factory: Jl. Yos Sudarso, Sunter II, Jakarta
Tel: 492025-493477
Fax: 492377
Name of chief executive:
Name of responsible: Drs. T.S. Bunanta
Person for contact: Direcotr
Year of establishment: 1988
Paid-up capital: Rp. 2,000,000,000
Share holders:
Indonesian: 100%
Foreign:
Legal status: PMA X PMDN BRO Other
Land & factory area:
Land:
Factory: 3,036m²
Main production items: Aluminium Alloy Wheel Rim
Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|------|
| Annual sales (M. Rp.) | | | | | 165 |
| Number of employees | | | | | 77 |

5) Name of company: P.T. Alumindo Perkasa
Address of head office: Jl. Pulogadung No. 4, Kswasan Industri
Tel: 4893635
Fax: 4898054
Address of factory: Jl. Pulogadung No. 4, Kswasan Industri
Tel: 4893635
Fax: 4898054
Name of chief executive: Ir. Hadiano Martosubroto Msc
Name of responsible: Ir. Hadisnto Martosubroto Msc
Person for contact:
Year of establishment: 1972
Paid-up capital:
Share holders:
Indonesian:
Foreign:
Legal status: PMA X PMDN BRO Other
Land & factory area:
Land: 2,000m²
Factory:
Main production items: Aluminium Extrusion, Roofing
Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|--------|--------|--------|--------|--------|
| Annual sales (M. Rp.) | 12,038 | 13,959 | 18,185 | 23,584 | 25,910 |
| Number of employees | 250 | | | | 320 |

6) Name of company: P.T. Superex Raya Unit Aluminium
 Address of head office: Jl. Suryopranoto 28, Jakarta Pusat (10130)
 Tel: 373368
 Fax: 365649
 Address of factory: Jl. Pembangunan I/78, Tangerang-Jawa Barat
 Tel: 23170
 Fax: 23170
 Name of chief executive: Ir. Stanley Prakoso
 Name of responsible: Ir. Stanley Prakoso
 Person for contact: Direcotor
 Year of establishment: 1977
 Paid-up capital:
 Share holders:
 Indonesian: 100%
 Foreign:
 Legal status: PMA PMDN BRO X Other
 Land & factory area:
 Land: 7,000m²
 Factory: 4,500m²
 Main production items: Aluminium extrusion
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|-------|-------|-------|-------|-------|
| Annual sales (M. Rp.) | 3,400 | 3,500 | 3,900 | 6,750 | 5,000 |
| Number of employees | 354 | 360 | 396 | 406 | 440 |

7) Name of company: P.T. Bergar Sakti Indonesia
 Address of head office: Jl. Raya Bogor, Km. 32.7, Kamp Babakan, Desa Curug
 Kec, Cimanggis, Bogor
 Tel: 8710707
 Fax:
 Address of factory: Idem
 Tel: Idem
 Fax:
 Name of chief executive: Am. Setiawan
 Name of responsible:
 Person for contact:
 Year of establishment: 1980
 Paid-up capital: Rp. 682,462,424
 Share holders:
 Indonesian: 100%
 Foreign:
 Legal status: PMA PMDN X BRO Other
 Land & factory area:
 Land: 8,690m²
 Factory: 5,000m²
 Main production items: Household goods (cooking utensils)
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|-------|-------|-------|-------|-------|
| Annual sales (M. Rp.) | 1,252 | 2,000 | 2,014 | 2,282 | 2,703 |
| Number of employees | 231 | 305 | 223 | 162 | 272 |

| | | | | | |
|---|--|------|-------|-------|------|
| 8) Name of company: | P.T. Paramount Light Metal Works Ltd. | | | | |
| Address of head office: | Jl. Kembang Jepun 64, Surabaya 60162 | | | | |
| Tel: | 331211 | | | | |
| Fax: | (031)333268 | | | | |
| Address of factory: | Jl. Sidotopo Kidul 49-51, Surabaya 60152 | | | | |
| Tel: | (031)815699 | | | | |
| Fax: | (031)830294 | | | | |
| Name of chief executive: | Alim Rezkiagung | | | | |
| Name of responsible: | Alim Rezkiagung | | | | |
| Person for contact: | President Director | | | | |
| Year of establishment: | 1954 | | | | |
| Paid-up capital: | | | | | |
| Share holders: | | | | | |
| Indonesian: | 100% | | | | |
| Foreign: | | | | | |
| Legal status: | PMA | PMDN | X BRO | Other | |
| Land & factory area: | | | | | |
| Land: | | | | | |
| Factory: | | | | | |
| Main production items: | Household goods (cooking uensils) | | | | |
| Annual sales turnover & number of employees | | | | | |
| | 1985 | 1986 | 1987 | 1988 | 1989 |
| Annual sales (M. Rp.) | | | | | |
| Number of employees | | | | | |

| | | | | | |
|---|--|------|-------|-------|-------|
| 9) Name of company: | P.T. Impact Indonesia | | | | |
| Address of head office: | Jl. Rungkut Industri IV/18-A, Surabaya 60291 | | | | |
| Tel: | (031)813896 | | | | |
| Fax: | (031)813896 | | | | |
| Address of factory: | Idem | | | | |
| Tel: | | | | | |
| Fax: | | | | | |
| Name of chief executive: | D.S. Lajovic | | | | |
| Name of responsible: | Purwadi Hendropurnomo | | | | |
| Person for contact: | Vice President Director | | | | |
| Year of establishment: | 1970 | | | | |
| Paid-up capital: | US\$160,000 | | | | |
| Share holders: | | | | | |
| Indonesian: | 40% | | | | |
| Foreign: | 60% | | | | |
| Legal status: | X PMA | PMDN | BRO | Other | |
| Land & factory area: | | | | | |
| Land: | 3,900m ² | | | | |
| Factory: | 1,429m ² | | | | |
| Main production items: | Aluminium Slugs, Aluminium Tubes | | | | |
| Annual sales turnover & number of employees | | | | | |
| | 1985 | 1986 | 1987 | 1988 | 1989 |
| Annual sales (M. Rp.) | 800 | 800 | 1,100 | 1,200 | 1,350 |
| Number of employees | 95 | 106 | 121 | 123 | 126 |

10) Name of company: P.T. Inter Alumindo Sentosa
 Address of head office: Jl. Pegangsaan
 Tel: 6374410
 Fax: 6005205
 Address of factory: Jal. Pegangsaan II No. 27, Jakarta Utara
 Tel: 4712092
 Fax:
 Name of chief executive: Atam Sendjaja
 Name of responsible: Atam Sendjaja
 Person for contact: Director
 Year of establishment: 1982
 Paid-up capital:
 Share holders:
 Indonesian: 100%
 Foreign:
 Legal status: PMA PMDN X BRO Other
 Land & factory area:
 Land:
 Factory:
 Main production items: Aluminium slug
 Annual sales turnover & number of employees

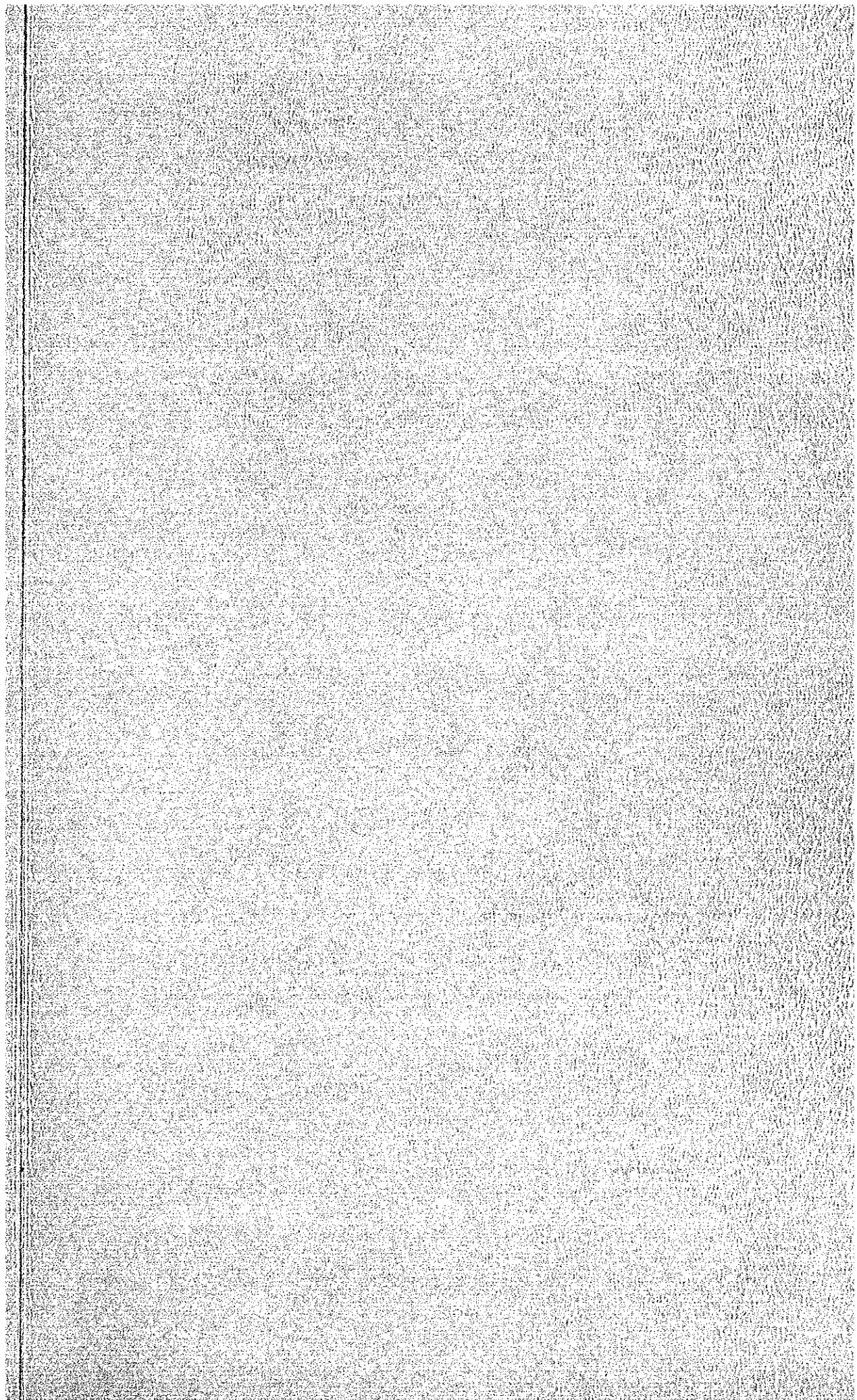
| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|-------|
| Annual sales (M. Rp.) | | | | | 4,960 |
| Number of employees | | | | | 70 |

11) Name of company: P.T. New Red & White
 Address of head office: Jl. Kuendang No. 11 A-B
 Tel:
 Fax:
 Address of factory: Jl. Pegangsaan II No. 27 Puou, Gudung Jakarta Timur
 Tel:
 Fax:
 Name of chief executive: Atam Sandjaya
 Name of responsible: Atam Sandjaya
 Person for contact: Director
 Year of establishment:
 Paid-up capital:
 Share holders:
 Indonesian:
 Foreign:
 Legal status: PMA X PMDN BRO Other
 Land & factory area:
 Land: 4,000m²
 Factory: 1,000m²
 Main production items: Aluminium aerosol can
 Annual sales turnover & number of employees

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|-----------------------|------|------|------|------|------|
| Annual sales (M. Rp.) | | | | | |
| Number of employees | | | | | 150 |

| | | | | | |
|---|---|-------|--------|--------|--------|
| 12) Name of company: | P.T. Alcarindo Prima | | | | |
| Address of head office: | Jl. Gajah Mada 199, Jakarta Barat 11120 | | | | |
| Tel: | 6393208 | | | | |
| Fax: | 6297866 | | | | |
| Address of factory: | Jl. Tipar Km. 3 Cakung, Jakarta Utara 13910 | | | | |
| Tel: | 490889 | | | | |
| Fax: | 497035 | | | | |
| Name of chief executive: | Bkp Sugih Tjandrawinata | | | | |
| Name of responsible: | A.L. Waworuntu | | | | |
| Person for contact: | Director | | | | |
| Year of establishment: | 1980 | | | | |
| Paid-up capital: | Rp. 1,000,000,000 | | | | |
| Share holders: | | | | | |
| Indonesian: | 100% | | | | |
| Foreign: | | | | | |
| Legal status: | PMA | PMDN | BRO | Other | |
| Land & factory area: | | | | | |
| Land: | 6,200m ² | | | | |
| Factory: | 3,545m ² | | | | |
| Main production items: | Aluminium Wire | | | | |
| Annual sales turnover & number of employees | | | | | |
| | 1985 | 1986 | 1987 | 1988 | 1989 |
| Annual sales (M. Rp.) | 1,056 | 8,507 | 20,852 | 20,071 | 37,583 |
| Number of employees | 45 | 66 | 94 | 126 | 143 |

| | | | | | |
|---|--|------|------|-------|------|
| 13) Name of company: | P.T. Supreme Alurodin | | | | |
| Address of head office: | Jln. Kebon Sirih No. 71, Jakarta 10340 | | | | |
| Tel: | 3100525 | | | | |
| Fax: | 331119 | | | | |
| Address of factory: | Jln. Semanan Raya Daan Mogot Km. 16, Cengkareng, Jakarta-Barat | | | | |
| Tel: | 613950-614208 | | | | |
| Fax: | 613950 | | | | |
| Name of chief executive: | Erwin Suryo Rahardjo | | | | |
| Name of responsible: | Hendra Gunawan | | | | |
| Person for contact: | General Manager | | | | |
| Year of establishment: | 1982 | | | | |
| Paid-up capital: | Rp. 8,000,000,000 | | | | |
| Share holders: | | | | | |
| Indonesian: | 70.75% | | | | |
| Foreign: | 29.25% | | | | |
| Legal status: | X PMA | PMDN | BRO | Other | |
| Land & factory area: | | | | | |
| Land: | 19,710m ² | | | | |
| Factory: | 5,657m ² | | | | |
| Main production items: | Aluminium Rod. | | | | |
| Annual sales turnover & number of employees | | | | | |
| | 1985 | 1986 | 1987 | 1988 | 1989 |
| Annual sales (M. Rp.) | | | | | |
| Number of employees | 70 | 85 | 149 | 126 | 168 |



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