INDONESIA

Overview

GDP growth has averaged over 7% per year over the last five years, while inflation has been confined to the 5-10% range. Indonesia has also made considerable progress in trade and investment deregulation. In mid-1994, Indonesia lowered investment barriers, and in May 1995, the government unveiled a comprehensive tariff reduction package which covered roughly two-thirds of all traded goods.

Indonesia is undergoing a rapid transition from an agrarian society into an economy based on the development of its rich natural resources, manufacturing capability and attractive tourist locations. Its recent economic growth rate of between seven and eight percent shows no signs of slowing in the near future, and defense expenditures may be expected to demonstrate similar growth.

Significant progress has been made in infrastructure development such as communication and transportation. Indonesia has had its own communications satellite since 1976, and telephone, television, and broadcasting facilities have rapidly expanded in the ensuing years. Air and sea ports are being expanded to accommodate growing international traffic in both passengers and freight. The aviation industry is expanding and the state-owned Indonesian Aircraft Industry (IPTN) produces two types of fixed-wing aircraft and helicopters, and now has the Universal Maintenance Center for aircraft engine overhaul. New production lines for domestic and export sales are coming on stream.

Although not bound by formal treaty, the U.S. and Indonesia enjoy a mutually supportive relationship. Indonesia recognizes U.S. support in its struggle for independence in the late 1940s and the continuing presence of U.S. forces in the region. The U.S., in turn, acknowledges Indonesia's anti-communist stance during the Cold War and its role in maintaining regional stability through membership in ASEAN. Instances of human rights abuses have given rise to concern in the U.S. from time-to-time, the most significant being the decision of Congress to suspend military training assistance in 1992, but the overall relationship provides opportunities for U.S. defense companies to benefit from the pace of economic growth and concomitant defense needs of the Armed Forces of the Republic of Indonesia (ABRI).

Defense Industry Environment

Many of the major companies in Indonesia are state-owned. As well as covering infrastructure projects, research and development programs, this extends to industrial needs categorized under "Strategic Industries" and defense materials. "Strategic Industries" include steel manufacture, shipbuilding, aircraft assembly, and some electronics and communications manufacture. The country's most prominent companies in this category form the Badan Pengelola Industri Strategi (BPIS) or the Agency for Strategic Industries. The combination of these firms

comprises a powerful consortium with products ranging from aircraft to heavy equipment, telecommunications to naval vessels, and rolling stock to satellite earth stations.

BPIS was founded in 1980 through the establishment of the Defense Department Industrial team under Presidential Decision No. 40/1980. The organization is supervised by the Council for Strategic Industries (DPIS), whose advisers include the Minister for Industrial Affairs, Minister for Transportation, Minister for Tourism, Post and Telecommunications, the State Secretary, Minister for Finance, Minister for National Development Planning, and the Chief of the Army. The council provides technical support for the Strategic Industries, organizes policy implementation, and supervises management. The industry members of this consortium are listed at the end of the chapter.

BPIS - Agency for Strategic Industries of the Republic of Indonesia Arthaloka Bldg, 3rd Floor

Jalan Jend. Sudirman 2

Jakarta 10220

Tel: 011-62-21-570-5335 Fax: 011-62-21-329-2516

Listed below are points of contact within the ABRI service branches. It is recommended by the U.S. Embassy that a local agent be utilized to make contact with these agencies regarding procurement opportunities.

Mr. H. Abdu Madjid Secretary General Asperdia Hankam

JI. Kayu Putih Utara A/II

Jakarta 13210

Tel: 011-62-21-489-0063

FADM (Ret) Wasisnindito, Chairman FADM (Ret) Soegito, Vice Chairman Asperdia Hankam, Unit TNI-Al

(Navy)

JI. Bungur Besar Raya No. 72

Jakarta 10620

Tel: 011-62-21-424-1155

AVM (Ret) Soeyitno, Chairman AFM (Ret) Aulia Suratno, Vice Chairman Col (IR) (Ret) Sjahrudin, Vice Chairman Asperdia Hankam, Unit TNI-AU

(Air Force)

JI. Raya Pasar Minggu #32

Jakarta 12160

Tel: 011-62-21-798-1301

Dr. H. R. Soetarjo Nitisoedirdjo

Chairman

Asperdia Hankam, Unit POLRI

(National Police) Gedung Inkopol JI. Tambak No. 1 Jakarta 10320

Tel: 011-62-21-331-330

Mr. Soepangat Chairman

Asperdia Hankam, Unit TNI-AD

(Army) JI Haji Ten

Komplek Bulog, Blok B, No. 25

Jakarta Timur

Tel: 011-62-21-471-5785

Hary Munsabip Chairman

Asperdia Hankam - Unit Staff Hankam Department of Defense & Security Staff JI. Danau Poso No. 19 Jakarta 10210 Tel: 011-62-21-573-6154

Defense Opportunities

Indonesia, with over 13,000 scattered islands straddling Southeast Asian shipping lanes, and a population of around 180 million, is looking for effective command and control of its territory. The MOD's future requirements include the following systems:

Communications and intelligence networks (including Early Warning Radar)

Air and maritime defense and surveillance systems

Coastal defense and mine hunting capability

Support systems and logistics

Medium lift helicopters

Flight training simulators

Air defense missile systems

Advanced fighter aircraft (up to two additional squadrons over the next five years)

Replacement and upgrades for aging air transport fleet

Over-the-shore capability (LST's)

Defense Procurement Process

The defense planning system in Indonesia is called the State Security and Defense Strategic Planning System. It deals with the identification of perceived threats during the short (2 years), medium (3-5 years) and longer range (6-10 years) time frames and identification of appropriate response contingencies. U.S. companies are in an advantageous position when offering products to ABRI that meet these defense planning requirements, particularly in the medium to longer-terms. A long-term view is essential for the best chance of success in this market. U.S. firms should be prepared to address financing and to deal with the possibility of offsets and other industrial benefits.

It is important to note that BAPPENAS is tasked to review major military procurement to ensure that it is in line with national goals. Further, the head of BPPT advises on major military purchases and is actively interested in technology transfers and offset possibilities. The Government of Indonesia (GOI) has stated that all financing must be in the form of soft loans. It is possible to get by this obstacle but only through a combination of attractive financing and pricing or offsets. Military procurement in Indonesia has two main components. First, the product should fill an operational requirement. If it does, then you need to convince the appropriate service which will then request procurement of the product through ABRI and HANKAM. Second, and at least as important, you need to have a sponsor within either ABRI, HANKAM, or one of the ministries such as BAPPENAS or BPPT. Obtaining sponsorship in both the military and another ministry is, of course, preferable.

The Office of the Military Attaché for Defense Programs (OMADP) at the U.S. Embassy

in Jakarta has compiled the following guidelines for successfully doing business with the ABRI:

- Focus on Indonesia's requirements.
- Be extremely knowledgeable about your product and business.
- Perform extensive background work regarding Indonesia's social and cultural structure.
- Expect lengthy meetings and many questions regarding your product.
- Work to build strong relationships; success requires networking and sponsorship.
- You must use a local agent who is registered with ABRI.
- Develop patience, humor, and flexibility.
- Expect negotiations to continue after the contract is signed.
- Don't expect success by dropping in once every six months.
- Keep OMADP informed it can be a tremendous asset.

Diversification/Commercial Opportunities

As a result of Indonesia's strong, continued economic growth and the Government's efforts to diversify the economy, many commercial trade opportunities exist for U.S. firms. The industry sectors discussed below have been determined by the Commerce Department's Foreign Commercial Service as 'best prospects' for U.S. exports.

Oil and Gas Field Machinery and Services

Market activity in the supply of oil and gas field machinery and services has grown continuously during the last few years in Indonesia. Exploration and production of crude oil and natural gas has steadily increased since the 1984-1986 world oil price decline. Machinery and other equipment and services are also needed for oil refining and the processing of natural gas. Presently, there are about 50 oil companies operating in Indonesia under production sharing contracts with P.N. PERTAMINA, the state-owned oil company, of which about 40 are U.S. firms. Therefore, American suppliers play a dominant role in the exploration and production of oil and gas in Indonesia but they face growing competition. The following equipment categories will be in increasing demand as Indonesia expands its oil and gas industry:

Seismic activities equipment and services
Other geophysical and geological instruments
Rotary drilling surface and sub-surface equipment
Well completion and production equipment
Pipeline equipment
Workover rigs and related equipment

Until three years ago, electric power was produced and distributed by the state monopoly power company, Perusahaan Listrik Negara (PLN). At that time, the private sector was invited by the GOI to produce electric power for commercial distribution purposes. Since the national economy rebounded from recession in 1987, thousands of new industrial plants and millions of

households have applied for new and/or additional supplies of electric power from PLN. This caused demand to surge for power generating and distribution equipment, much of which was sourced from abroad.

Peak electric power demand on the island of Java alone is expected to reach 22,500 Megawatt Hours (MWH) by the year 2000. In 1995, total Indonesian capacity was only slightly over 16,000 MWH. Among the power generating plants planned for the near future are coal-fired, gas-fired, and combined cycle power plants; hydro power plants; diesel power plants; and geothermal power plants. The most recent statements by Indonesian authorities in the energy sector all stress that Indonesia must exploit its abundant hydro, geothermal and coal resources for the generation of electric power even though the country's coal deposits alone could satisfy the country's energy needs for the next 300 years. At the moment, the energy authorities have ruled out the use of nuclear power, although that may change by the year 2005 or 2010.

In recent years, the GOI has been exploring ways to engage the private sector more in commercial power generation and supply. An Embassy report on major Indonesian projects lists 50 electric power projects from 1993 to the end of the century with total costs estimated at US \$15 billion. Most of these power projects will be financed by international lending institutions such as the World Bank and Asian Development Bank and donor countries. The rest will be financed by PLN through self-generated funds, and through the private sector - both local and foreign investors. Based on this plan, a large amount of electric power generating and distribution equipment, such as the following, is expected to be imported over the next three to five years:

Water tube boilers
Vapor generating boilers
Super heated water boilers
Parts of steam boilers
Turbines for marine propulsion and parts
Generating sets with compression ignition
Gas turbines
Liquid dielectric transformers
Static converters
Printed circuits
Switches apparatus
Board panels
Electric conductors and insulators

Automotive Parts and Service Equipment

With the overall development of Indonesia during the last two decades, household budget allocations for automobiles has increased. The needs of government and private organizations for automobiles has also increased. Public land transportation also needs improvement in total units and quality of products. The total number of private and public automobiles has increased from less than half a million in the mid-1970's to about five million units in 1992 and 11.3 million in 1994. Passenger vehicle sales have been increasing on average about 15% over the last few years. As the Indonesian automotive industry expands and automobile ownership increases, the purchase of automobile spare parts, accessories and service equipment units is also increasing. Although 90% of automobiles assembled in Indonesia are of Japanese origin, private car owners are also interested in purchasing parts, especially service equipment, from other countries like the U.S. and European countries.

In June 1993, the Government deregulated the automotive industry. These measures are very dramatic because, for the first time since 1974, locally assembled cars are now being forced to compete with imported vehicles, as long as importers and customers are prepared to pay the 200 to 300 percent import duties. Other terms of the deregulation set local content percentages, and as the percentage of local content rises, duties on imported parts for the same car will fall. Also encouraging is the freedom given to general importers to bring in assembled cars similar to those now assembled in-country.

The big news this year, via a Presidential Instruction, was the establishment of a "National Car" program whereby 30 to 40 thousand KIA sedans will be imported duty free through 1997. As a result, other sedan sales will be hurt.

U.S. manufacturers of automobile spare parts and service equipment can take advantage of the improved Indonesian market of this product category, specifically pertaining to the equipment listed below:

Transmission belts or belting of vulcanized rubber
Automobile Engines
Spark-ignition reciprocating or rotary internal combustion piston engines
Parts of electrical ignition or starting equipment for spark or compression
Gear boxes, drive axles, and clutches for assembly purposes
Steering wheels
Brake and servo brakes for assembly purposes

Telecommunications

Indonesia is expected to convert from an analog telecommunications system to a digital system by the year 2004. In 1982, the Government telecommunications body, PT TELKOM (formerly PERUMTEL) instituted a policy requiring that digital technology be used in all new telecommunications expansion projects. In addition, the Indonesian government deregulated the operation of telecommunications services in 1986, allowing private consortia (composed of both local and foreign firms) to manage former Telekom regional offices as well as install new fibre optic lines. The government's efforts to liberalize, deregulate and privatize the

telecommunications sector is most readily apparent in the areas of value added services, cellular telephone operations, radio trunking systems, and paging systems. It also allows parts of new telephone systems to be constructed by the private sector, often as equity participants in revenue sharing investment schemes. This should boost the pace of development.

The World Bank has approved loans amounting to \$350 million for major telecommunications projects throughout Indonesia. In addition, the Asian Development Bank (ADB) has also agreed to finance telecommunications projects in Sumatera and East Java, valued at \$185 million. Tenders for these large projects were open for both domestic and foreign participation. Indonesia will import significant telecommunications equipment during the next five to 10 years. This will include entire cellular phone systems, major central digital switch manufacturing and assembly systems, satellite weather and rainfall monitoring systems, as well as the following equipment:

Telephone switching apparatus
Transmission apparatus/incorporating reception apparatus
Radar apparatus
Parts of telephonic switchboards and exchanges
Radio navigational aid apparatus
Electric apparatus parts for line telephony

Construction Equipment

Since 1987, during the revitalization of the Indonesian economy, the manufacturing and exploitation industries have been very active in the country. A huge amount of capital goods needed to equip the projects have been imported from various countries. As a result, the construction industry has also been booming. Many multi-story buildings, manufacturing plants, industrial and commercial complexes, recreational areas, residential houses, seaports and airports are being built.

Other construction activities include construction of dams, hydropower and coal-fire power plants, irrigation, roads, bridges, and some other infrastructure projects such as the Mass Rapid Transit project. Construction plans for pulp and paper mill plants are estimated to be worth as much as US \$8 billion by the end of the century. Similar development plans are also underway in various other sectors; for example, the GOI has estimated that the total cost of expanding Indonesia's electric power generating, transmission and distribution capacity will reach US \$26 billion over the five years to 1998/1999.

These construction activities will result in increases in total market demand and total imports for general construction equipment and machinery. An indication of the level of increased activity in the construction sector is that Indonesia currently must import cement supplies for the first time in order to cope with spiraling cement prices and increased demand in the construction sector.

Self propelled boring and sinking machinery

Boring and sinking machinery parts Buckets, shovels, grabs, and grips Bulldozers Hydraulic excavators Off-road construction trucks

Machine Tools and Metal Working Equipment

Since the recovery of the national economy in 1987, there have been huge increases in total imports in this product category as Indonesian businesses add basic equipment to the Indonesian base. These increases resulted from a serious effort by the Government and private sectors to upgrade manufacturing plants and initiate new projects in order to achieve rapid and continuous growth of the national economy. Many industrial plants need modern machine tools, high precision machines, and the like. Among the Government plants in need of this equipment are IPTN (aircraft industry), PAL (shipyard building), and P.T. PINDAD (munitions industry). There are many private sector plants being developed and upgraded, especially in the automotive components industry and its upstream manufacturing plants. The Government is very anxious to achieve self-sufficiency in the supply of parts and components for automotive assembly in Indonesia. As a result, the following product categories are facing increasing demand:

Hot and cold rolling mills, and parts
Rolls for rolling machines
Lathes, numerically controlled
Drilling or boring machines
Bending, folding and straightening machines
Hydraulic presses for treating metal
Knee-type milling machines
Casting machines

Commercial Vessels and Equipment

As the world's largest archipelago, Indonesia is an important maritime country. Its territory extends over 3,300 miles from east to west, and 1,300 miles from north to south. It has 13,667 islands with a land area of only about 27 percent of the claimed national territory, excluding the 200 mile exclusive economic zone (EEZ). This means that commercial maritime is very important to the country's transportation needs. There has been a steady increase of demand for imports of commercial vessels and equipment during the last four years. Specifically, demand should increase due to the recent Presidential Instruction removing the ban on imported fishing vessels. Local shipyards produce smaller-size vessels (up to 3,000 DWT), but many imports, such as the products listed below, will still have to be made during the next three to five years, in order to respond to the steady economic growth of the country.

Floating or submersible drilling or production platforms Vessels for the transport of goods Dredgers Ferry boats
Barges
Tankers
Cruise ships
Light vessels, fire fighting boats, etc.

Laboratory and Scientific Equipment

To enter the global market, Indonesia is working hard to increase its product competitiveness. The Government has established strict standardization for various products called "Standar Industri Indonesia" (Indonesian Standard of Industry) and in 1991, designated November as "the month of national quality and productivity". In recent years, many Indonesian companies have adapted ISO 9000 standards to further enhance their competitiveness. Therefore, more advanced laboratories, equipped with the products listed below, are needed by users to support their quality control their activities and facilities, including quality control and assurance laboratories, end-user industries (such as steel, telecommunications equipment, cement, refineries, and engines), and government agencies:

Measuring/checking instruments
Electrical test/measure instruments
Physical instruments
Chemical analysis instruments

Materials Handling Machinery

As the Indonesian economy has grown since the mid-1980's, various sectors have witnessed significant development. Many old and obsolete mining plants were reactivated, and some major expansions were made. Renovation and construction of many seaports and airports have also been undertaken. This growth has resulted in increasing demand for materials handling and mechanical equipment. Many newly established manufacturing plants require equipment in this category. Presently, most tools and equipment are imported. Considering the ongoing and potential development in the mining and manufacturing sectors, as well as in the construction and equipping of sea and airports, an import growth of between five and ten percent for this product category can be expected during the next three to five years. The following is a list of products that are good export prospects for U.S. firms:

Forklift self-propelled trucks
Pulley tackle and hoists for raising vehicles
Overhead traveling cranes on fixed support
Lifts and skip hoists
Mobile lifting frames on tires and straddle carries
Mechanical handling equipment parts

Aircraft and Parts

Along with the vital role played by sea transportation in national economic development, civil aviation is critical to linking the country's widely separated islands. In recent years, the GOI has been very active in the modernization of older airports and in building new ones throughout the country. PT. Garuda, a state-owned company and the national flag carrier, operates about 80 jet aircraft in its fleet. The larger domestic private airlines such as Sempati, Mandala, and Bouraq Airlines, all use jet aircraft in their fleet. Garuda also operates international routes to Europe, the United States, Australia, and other Asian countries. Sempati has recently been given a permit for international operations.

Garuda could be expected to replace many of its older jets during the next five years, especially in order to realize the tourism potential generated by recent Government tourism promotion campaigns. Although Indonesia is already a producer of assembled aircraft such as the 50 passenger N-250, the 35-passenger CN-235, and 20-passenger Casa-212, many small aircraft of various sizes are still imported for training purposes or other special operations, as long as they do not compete directly with local products. The following product areas have been determined as good prospects for U.S. exports.

Aircraft, including helicopters Aircraft engines and propellers Helicopter rotors Under-carriages for aircraft

Computer Software

As the principal supplier of computer software to the world market, the United States has the major share of the Indonesian market. However, software piracy in Indonesia is a serious problem due to ineffective enforcement of copyright laws for both software and instruction manuals.

The Indonesian Government recently stated its intent to strengthen enforcement of its Intellectual Property laws. To this end, the government's IPR action committee has begun cooperative relations with the Business Software Alliance, a non-profit organization which lobbies governments to combat software piracy. Indonesia is also modifying it's legislation to meet commitments made in the Uruguay Round.

Major software companies have already opened representative offices here in Indonesia, the most recent being Microsoft in May 1996. The presence of such software companies may help to foster an indigenous Indonesian software industry, which in turn will reduce software piracy.

In the near term, application-specific software for manufacturing processes or financial market monitoring and transactions will do very well. These might be in the form of:

Packaged system software Packaged application tools

Packaged application solutions

With more effective IPR enforcement, opportunities for mass market software will eventually expand.

Computers and Peripherals

The computer hardware market is enjoying a steady growth rate of 15-20 percent a year, and this has prompted foreign computer companies to consider expanding into or establishing production plants in Indonesia. The Personal computer (PC) market is extremely competitive for locally-assembled and imported units. Market recognition of U.S. brand PCs has increased significantly, along with consumers' growing preference towards branded PCs. In 1995, a group of U.S. branded PC distributors initiated an annual joint promotion event. They collaborate to promote exclusively U.S. name brand PCs and peripherals.

U.S. companies are the major competitors in the market for mainframe and mid-range computers and peripherals. Fueling the demand for mainframe and mid-range computers are the establishment of new enterprises, the modernization of existing ones, especially in the manufacturing and financial fields, and government organizations seeking to increase their efficiency.

Significant purchases in the following product categories can be expected during the next three to five years:

Main frame computers
Digital processing units
Input and output units
Peripheral units, including control and adapting units
Automatic data processing machines
Personal and micro computers
Magnetic tape and floppy disk drives

Pollution Control Equipment

The most pressing environmental problem currently facing Indonesia is that of water availability and quality. Rapid population growth, urban migration, and the dumping of untreated municipal and industrial waste has placed a severe strain on water resources and water quality. On the island of Java, where more than 60 percent of Indonesia's 186 million people live, over half of the rivers are considered highly polluted. The Indonesian Government's now requires environmental impact assessments for all new projects and for those existing facilities which produce toxic or hazardous wastes. Improvements to law enforcement and hazardous waste programs are next in priority, with the remaining priorities for Indonesian environmental officials (in order of importance) being air pollution control, reversal of environmental degradation, sewage regulation, and the environmental effects of small-scale activities. The following products

have strong export potential:

Water and pollution control equipment Sludge management and industrial and solid waste control equipment

Medical Equipment

Indonesia's market for medical equipment and supplies has been growing at an average annual rate of 10% over the past five years. For the 1996/97 fiscal year, the state budget allocated US \$215 million to health sector development which is an increase of 13.5% over last year. 26.4% of the budget is designated for medical care. The government will concentrate on establishing and upgrading public health centers (Puskesmas) for the lower-income groups, and mobile Puskesmas units to serve remote districts, sub districts and villages. New hospitals will be built outside Java and the coverage and quality of referral health services will be improved.

Realizing that government funding for further expansion and upgrading of facilities is limited, the government has encouraged a greater private sector role to meet the growing demand for better health care services. In addition, the government granted foreigners the right to own (up to 100% of the equity shares) and operate private hospitals in 1992. Since then, 78 new private hospitals have been opened as compared to only 5 government hospitals. The government hopes that the increased presence of foreign hospitals in the country will motivate the government hospitals to improve the quality of their services.

Rising affluence has prompted Indonesians to demand quality health care, which means hospitals equipped with modern, sophisticated medical equipment. Given the prevailing trend of increased private sector involvement, it is expected that the private sector will play an even greater role in the future and make large investments in medical services, especially in the product categories listed below:

Cardiovascular equipment Surgical instruments and appliances Radiology equipment Hypodermic syringes and parts

Doing Business in Indonesia

Sales to the Indonesian military require the use of a local agent or representative. This is particularly important for companies entering the market for the first time. Companies will need to identify an appropriate military products agent, often a retired military official, whose company is properly registered as a supplier to the Armed Forces. Assistance can be obtained from the purchasing office in the selection of a local representative, who will provide, in addition to access to the military procurement offices, knowledge of local business practices and advice on the best opportunities and strategies to compete for specific projects. The local representative or agent can set up appointments with project officers, and market, promote, and demonstrate defense products on behalf of the manufacturer. Selecting the right agent is a critically important step,

and assistance with preliminary selection can be provided by the US&FCS. This screening should be followed up with face-to-face interviews to conclude the selection process prior to the necessary development of mutual understanding and trust.

It is important to adopt an open-minded attitude when approaching business dealings in Indonesia. As in many Asian countries, business is based on relationships, and therefore successful business is based on successful relationships. Reliance on traditional Western values and methods will soon lead to frustration and disappointment. Although price and quality are important, training and after sales service can be critical. It is unreasonable to expect business contacts to respond to faxed requests or single appointments. Time and resources are required to build up a working business relationship, which once achieved, will prove an indispensable part of the overall business strategy for U.S. firms operating in the country.

The decision-making process also requires understanding and patience. Decisions are based on consensus, and when those involved in reaching the decision feel that unanimity has been reached, the decision will be made. Once made, the top-down implementation process begins. All this makes for a long and seemingly tedious process, but once the resolution has been made to buy from the supplier, it is assured of the loyal and sustained support of the Indonesia Military.

U.S. Government Points of Contact

Senior Commercial Officer U.S. & Foreign Commercial Service American Embassy JI. Medan Merdeka Selatan 5 Jakarta 10110

Tel: 011-62-21-344-2211 Fax: 011-62-21-385-1632

Office of the Military Attache for Defense Programs U.S. Embassy JI. Medan Merdeka Selatan No. 5 Jakarta 10110

Tel: 011-62-21-344-2211 Fax: 011-62-21-384-3339

BPIS Member Firms:

BARATA INDONESIA Jalan Ngagel No. 109 Surabaya

Tel: 011-62-31-573542 Fax: 011-62-31-573642 Heavy equipment, industrial machinery, industrial process equipment; casting; construction (e.g. wind tunnels) repair and overhaul.

BOMA BISMA INDRA

Jalan Ngagel No. 155-157

Surabaya

Tel: 011-62-31-570295 Fax: 62-31-571022

Diesel machinery; machine works; steel; project management. Materials testing; calibration.

INKA

Jalan Yos Sudaroso 71

Madium 63122

Tel: 011-62-351-52271 Fax: 011-62-351-52275

Rolling stock; railway materials, overhaul, and co-design.

P.T. DAHANA (PERSERO)

Jl. Letkol Basir Surya

P.O. Box 117

Tasikmalaya 46196

Tel: 011-62-265-331-853 Fax: 011-62-265-334-819

Explosives, explosives components and explosives transportation, consulting.

PAL INDONESIA

Gedung BPPT/Lantai 17

Jalan Thamrin No. 8

Jakarta

Tel: 011-62-21-315-6860

Fax: 011-62-21-315-6860/316-8729

Shipbuilding, hull construction. Naval vessels; commercial ships; general engineering; maintenance and overhaul.

INTI

Jalan Moh. Toha 77 Bandung 40253

Tel: 011-62-22-520-6506 Fax: 011-62-22-502-44 Telecommunications; digital exchanges; fiber optics; payphones; telecommunications training. INTI has cooperation agreements with Siemens, Phillips, and NEC.

IPTN

Directorate for Commerce BBD Plaza, 14th Floor Jalan Iman Bonjol 61 Jakarta 10310

Tel: 011-62-21-332-247 Fax: 011-62-21-310-0081

Fixed-wing aircraft; rotary wing aircraft; aircraft service and repair. Co-design and co-manufacture.

KRAKATAU STEEL

Wisma Baja Jalan Gatot Subroto Kav 54 Jakarta Selatan

Tel: 011-62-21-522-1255 Fax: 011-62-21-520-0876

Steel and engineering consultancy

LEN INDUSTRIES

Jalan Soekarno-Hatta No.442

Bandung

Tel: 011-62-22-520-2682 Fax: 011-62-22-520-2695

Electronics; telecommunications, antennas; transmitters; earth stations; engineering consulting.

PINDAD

Jalan Gator Subroto Kiara Condong Bandung

Tel: 011-62-22-312-073 Fax: 011-62-22-301-22

Heavy engineering, power generators, armaments, related software. Rifles, grenades; explosives; munitions filling.