



INDONESIA MARKET BRIEF

TELECOMMUNICATIONS SECTOR

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Indonesia Market Brief: Telecommunications & Broadcasting Sectors

1. Market Overview

Indonesia faces many challenges in developing a telecommunication infrastructure. It has the fourth largest population in the world (220 million) which is spread out over thousands of islands. Indonesia's current teledensity is approximately 4.1 lines per hundred people which is very low compared to other Asian countries.

The telecommunication sector in Indonesia has been growing rapidly since 1993. In 1992, the entire country had only 1.5 million installed telephone lines, representing a telephone density of 0.83 per 100 population. To stimulate development and to make the country more competitive, in 1993 the Government of Indonesia (GOI) embarked on an ambitious telecommunications program. PT Telkom, state-owned telecommunication company, installed about 3.1 million lines between 1993 and 1997, increasing the country's density to 2.51 per 100 people. Currently, PT Telkom has installed around 8 million fixed lines. For the fixed-line projects, PT Telkom purchased most of its infrastructure equipment from international companies.

In an effort to enhance its telecommunication infrastructure, PT Telkom is in the process of developing 1.65 million fixed-wireless lines (named TelkomFlexi) nationwide using the Code Division Multiple Access (CDMA 2000-1X) technology. This project started in 2002 and will be completed in 2005. Motorola, Ericsson and Samsung have been awarded tenders to build the CDMA 2000-1X fixed-wireless networks nationwide. Recently PT Bakrie Telecom launched a fixed-wireless service (called Esia) also based on CDMA 2000-1X service. PT Indonesia Satellite Corp. (Indosat), the country's main international operator, also plans to invest in fixed-wireless services (see best prospects).

The cellular market in Indonesia has seen spectacular growth over the past three years. The market is heating up and is potentially lucrative as the demand for mobile phones continues to grow. However, the market penetration rate still remains the lowest in the Asia Pacific region at around 8.1%. In 1997, only about 1 million Indonesians were cellular subscribers; by 2001 the number had grown to 5.7 million. By the end of 2002 there were 11.3 million subscribers, surpassing the fixed phone line market which stood at 7.6 million at the end of 2002. The market grew 59 percent in 2003 to 18 million subscribers. In 2002 the total revenue for cellular market was \$1.17 trillion, and is estimated to reach \$2.2 trillion in 2003. But there is still plenty of headroom. In 2004, the number is likely to reach 23 million subscribers. By 2007, the Indonesia's cellular-phone market is expected to have 42 million subscribers, about 18 percent of the population.

2. Networks

Driven by the vibrant demand for telecommunication and information technology for new technological applications and systems, Indonesia has deployed several types of cable telecommunication networks. These network services play a significant role in developing business activities and fostering cultural and other non-commercial activities in Indonesian society. The network services that are available in Indonesia are:

1. Wire line: ADSL (Asymmetric Digital Subscriber Line), ATM (Asynchronous Transfer Mode), broadband, frame relay, HFC (Hybrid Fiber Coax), ISDN (Integrated Services Digital

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- Network), VOIP (Voice Over Internet Protocol) and VPN (Virtual Private Network).
2. Wireless: GPRS (General Packet Radio Service) and EDGE (Enhance Data for Global Evolution).

PT Telkom controls over 90 percent that of telecommunication wire lines in Indonesia. However, there are several local companies including AT&T Global, CBN, Centrin, Idola, Lintas Arta, Radnet that provide similar services, using PT Telkom's network facilities.

3. Regulatory Regime

The telecommunication sector plays an important role in supporting Indonesian's economic growth. The Indonesian Government has started to liberalize gradually the telecommunications sector by restructuring the industry and by allowing foreign telecommunications companies to enter the market. The introduction of the Telecommunications Law No. 36 in 1999 to liberalize the sector, and Presidential Decree No.6 in 2001, instructing various government entities to further use and develop the information technology sector, have shown that the government has strong intentions to develop the telecommunications industry. In August 2000, the GOI announced that the monopoly by major operators in Indonesia - PT Telkom (local and domestic long-distance carrier) and PT Indosat (international carrier)-both state-owned enterprises – would be gradually terminated. In August 2002, PT Telkom's exclusive right in operating local and domestic long-distance fixed lines was terminated. In August 2003 PT Indosat was supposed to lose its exclusive rights in operating international but the GOI has yet to formally implement the decision.

In order to strengthen the implementation of 2001 Decree No.6, President Megawati's administration established a new State Ministry of Communications and Information to oversee the development of broadcasting, mass media and information technology content. The new Ministry is focusing on the development of e-government strategies and coordinating standards setting not for national and for regional government agencies.

In December 2003, the Indonesian Minister of Post and Telecommunications established the Indonesian Telecommunications Regulatory Body (BRTI), the country's new telecommunications sector watchdog. According to a ministerial decree on BRTI, the body will regulate and oversee telecommunications services and networks, issuing licenses, settling dispute, and setting a benchmark for quality of service. The newly-established BRTI is expected to take over from the Directorate General for Post and Telecommunications the responsibility for developing new regulations, and to ensure Indonesian compliance with international regulations. This directorate is currently serving as country's telecommunications regulator while handling tasks such as allocation of radio frequencies for commercial use, licensing telecommunications operators, setting standards and monitoring compliance, establishing interconnection tariffs among telecommunications operators, and administering universal service obligations (USO).

4. Best prospects

Indonesia's investment in wireless telecommunication network development is estimated to reach between \$1.5 - \$2 billion in 2004. The investment consists of investment in GSM-based (global systems for mobile communications), CDMA-based cellular services, and in CDMA-based fixed wireless.

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The investment made by GSM-based cellular providers (Telkomsel, Satelindo, Excelcomindo, Metrosel, Komselindo, Natrindo, Telsera, and Mobisel) is expected to reach \$1 - \$1.2 billion in 2004. The three operators (Telkomsel, Indosat and Excelcomindo), controlling over 98 percent of the market, are the major investors. The investment will be used mainly to upgrade systems, expand and enhance networks to cope with demand of cellular subscribers. The expansion networks will include installation of new base transceiver stations (BTS), radio base stations, power supply, supporting facilities, supporting transmissions, migration from AMPS to CDMA system.

PT Indonesia Satellite Corp. (Indosat), the country's main international operator, also plans to invest around \$45 million to develop a fixed-wireless service. The project, also based on Code Division Multiple Access (CDMA) technology, is expected to start in the second quarter of 2004. Indosat plans to develop 450,000 and 250,000 lines in Jakarta and Surabaya, respectively. PT Telkom is slowing down its investment in new fixed lines. The company is focusing on increasing its teledensity through fixed-wireless technology.

5. Distribution channels; best market entry strategies

There are a number of factors to be considered in order to successfully market telecommunications equipment in the Indonesian market:

1. Quality

Most end users consider quality the most important factor, as it directly effects the performance of the telecommunications system. The equipment offered should be highly accurate, reliable, durable, easy to operate and maintain.

2. Geographical Coverage

Distribution channels are particularly important, given the wide geographical spread of Indonesia - the world's largest archipelago - and the widely dispersed locations of stations and sub-stations. This applies not only to the sale and transportation of new equipment, but also, more importantly, to after-sales support services. End-users value after-sales support services second only to quality. Suppliers must also have a readily available inventory of vital spare parts. Delivery time should meet expectations and not exceed the customary average of two to three months.

3. Marketing Techniques

U.S. suppliers hoping to enter this market are advised to carefully select an agent thoroughly familiar with the product and prospective buyers. The prime target segment of the Indonesian telecommunications market is infrastructure. Decisions on infrastructure development are usually made by the government and implemented by PT Telkom or PT Indosat. It is therefore vital that the local agent be able to meet the terms and requirements of these two state-owned companies. This ability certainly requires strong support from the U.S. principals. Thus, U.S. suppliers must spend much time and effort selecting the most suitable local agents or partners.

6. Barriers to entry

There are no major market barriers for telecommunications products. Tariffs range from 0 to 15

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percent. Effective January 1, 2002, Indonesia, along with its regional partners, fully implemented the ASEAN Free Trade Agreement (AFTA). Indonesia has now reduced tariffs for all products included on its original commitment (7,206 tariff lines) to five percent or less for products of at least 65 percent ASEAN origin. The government will reduce rates on 66 remaining tariff lines, mostly in the chemicals and plastics sectors, to the 5 percent AFTA ceiling in 2003.

Asian telecommunication vendors supported by their respective governments have become major competitors for the US-based manufacturers in Indonesian market. Very often Asian vendors offer financing packages that are backed by their respective export credit agencies. Meanwhile, some US-based infrastructure vendors have encountered difficulties in securing long-term financing facilities for Indonesian customers due to the Eximbank's limited coverage for Indonesia.

For sales to the Government, Indonesian agents must be used, and the agents are encouraged to have a direct relationship with the foreign supplier rather than be a sub-agent of a Singapore (or similar outside) regional firm. Traditionally, Indonesian importers do not specialize in particular product lines, but instead handle a wide range of products.

Asian telecommunication vendors supported by their respective governments have become a barrier of entry to the US based manufacturers. Very often Asian vendors bring in financing packages that are backed by their respective export credit agencies while US based infrastructure vendors are facing difficulties in raising funds for Indonesian customers due to Indonesia's country risk is deemed high by the US government.

PT Telkom, the largest consumer of telecommunications equipment in the country, procures its equipment through both direct imports from the manufacturer and through local agents. Large-scale orders or the purchase of high-tech systems, which usually come as package deals, are directly imported. Local agents are used only for small orders or for the procurement of accessories and peripherals. In the latter case, suppliers are selected through open-competitive bids. For each of its projects, PT Telkom has a policy to use a minimum of two brands.

All telecommunications equipment to be marketed in Indonesia has to meet the technical standards of and be approved by the Indonesian Ministry of Post and Telecommunications. However, in addition to the above requirement, the equipment to be marketed to PT Telkom is required to meet the technical standards that are set by Telkom's Calibration and Quality Assurance Laboratory of the Research and Information Technology Support Division in Bandung, West Java. This is the only official institution in the country that issues Type Approval Test Certificates and Quality Assurance Test Certificates for all telecommunications systems and equipment. This lab, besides being a member of the National Calibration Network, operates in accordance with the special ISO prerequisite for calibration. International standards, such as ITU-T, CCITT, IEC, ASTM, JIS, etc. are used as references in formulating the local standards.

Protection of intellectual property rights (IPR) in Indonesia is hampered by inadequate enforcement of the relevant laws and regulations. Problems in IPR protection raised by industry include: rampant software (90%), audio, and video disk piracy; pharmaceutical patent infringement; apparel trademark counterfeiting; an inconsistent and corrupt law enforcement regime, and an ineffective judicial system. The lack of effective IPR protection and enforcement serves as a considerable disincentive to foreign investment in high technology projects in Indonesia. The Indonesian court system can be frustrating and unpredictable, and effective punishment of pirates of intellectual property is

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rare. Foreign companies therefore must be vigilant and creative in building strategies to protect their products from infringement.

Foreign rightsholders often work with local law firms and security consultants to arrange for police raids on counterfeiters. Others conduct periodic seminars on the adverse effects of IPR infringement on the Indonesian economy, one of which is reduced investment by foreign companies.

Ultimately, the course taken by companies to protect intellectual property rights will depend on the product. As an example, one U.S. company decided to identify first the counterfeiters of its products and then proceeded to work with them and sign them as legal licensees of its products. Some computer software companies provide free training and/or sell their software at competitive prices, while warning that copies of their product may contain damaging viruses. Also, companies with well-known trademarks seek to defend themselves by registering them early or seeking a cancellation of an unauthorized registration through the Ministry of Justice. In general, acquiring a strong local partner or agent can help in defending trademarks and intellectual property, as long as the arrangement remains amicable.

7. Indonesian Frequency Allocation

Wireless LAN - Spectrum Status					
Power Limits in table represent max. theoretical levels. Actual achievable levels depend on numerous device-specific factors					
Blue indicates spectrum available for Wireless LAN. Green indicates allocation is pending					
Spectrum	5.15-5.25 GHz	5.25-5.35 GHz	5.470-5.725 GHz	5.725-5.825/5.850 GHz	2.4-2.4835 GHz
Available Bandwidth	100MHz	100MHz	255MHz	100 / 125 MHz	83.5MHz
Total Channels	4 channels	4 channels	11 channels	4/5 channels	3 channels
Indonesia	Being Studied by Regulator	Being Studied by Regulator	Being Studied by Regulator	Consists of 5 frequency channels each with 15 MHz bandwidth. Effective Radiated Power (ERP) should not exceed 36 dBm. Operator is required to obtain radio station license from the Ministry of Post and Telecommunications.	Spread spectrum technology. Consists of 6 frequency channels each with a maximum of 22 MHz bandwidth (direct sequence SS) and of 1 channel with a maximum of 30 MHz bandwidth (frequency hopping SS). Effective Radiated Power (ERP) should not exceed 30 dBm (point to multipoint configuration) and 36 dBm (point to point configuration). Operator is required to obtain radio station license from the Ministry of Post and Telecommunications.

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Public Access WLAN Services Allowed?	DFS/TPC Required in 5GHz bands?	Pending Spectrum Changes	License Requirements or Restrictions	Regulatory Authority	Source/ Reference
2.4GHz band may be used for public access service but a license is required.	No	Opening of 5.215-5.25, 5.25-5.35 and 5.470-5.725 GHz is being studied.	Required to have network service provider license before using 2.725-5.8/25/5.850 GHz.	www.postel.go.id	Ministry of Post and Telecommunications

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