

Thailand ICT Public Policy

Country Paper

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Ministry of Information and
communication Technology

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PART 1

COUNTRY BACKGROUND



Thailand

The population of Thailand (Prathet Thai) is made up of 75 per cent ethnic Thais, some 15 per cent Chinese, and a mixture of ethnic minorities. It has a common boundary with Malaysia to the south, Myanmar to the west and Lao and Cambodia to the northeast and east. Administratively, the country is grouped into 76 provinces (changwat), 849 districts (amphoe), 81 minor districts, 8,910 sub-districts (tambon) and 72,861 sub-villages (moo-ban).(December 2002)

COUNTRY PROFILE ¹

Capital	<i>Bangkok</i>
Area	<i>513,115 sq km</i>
Population	<i>63.22 million (Feb 20, 2004)</i>
GDP	<i>1,466 billion (2003)</i>
GDP per Capita	<i>Baht 92,982 (2002)</i>
Currency	<i>Baht</i>

COMMUNICATIONS

Main Telephone Lines (Dec 2004):

TOT	<i>3,728,140</i>
Other (TA+TT&T)	<i>6,796,619</i>
Provincial Area	<i>3,367,677</i>
Waiting List	<i>478,472 (Dec 2004)</i>
Outgoing	<i>4,681,409 calls (Jan-Dec 04)</i>

Telephone Density:

Overall (TOT, TA, TT&T)	<i>6,796,619 (Dec 2004)</i>
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¹ Source : National Statistical Office under Thailand Ministry of Information and Communication Technology

<i>Rural (TOT, TA, TT&T)</i>	<i>3,367,677 (Dec 2004)</i>
<i>Cellular Subscribers (470, 900, 1900)</i>	<i>12,961,207 (Sep 2004)</i>
<i>Paging Subscribers (TOT pager)</i>	<i>15,597 (October 2004)</i>
<i>Telex Subscribers</i>	<i>400</i>

International Outgoing Traffic calls:

(CAT) 96,047,000 calls (outgoing to all countries, figure for Oct 2002 – Oct 2003)

(TOT) 2,897,240 calls to Laos, Malaysia, Myanmar and Cambodia; (Jan – Nov 2003)

ICT Organization in Thailand

1. Ministry of Information and Communication Technology (MICT)

Information and Communication Technology has made much progress in the world we live in today. Information has become a major resource and it is now recognized by our country's leaders. Indeed, it has become an integral part of the policies and projects that drive the economic and social development of Thailand. In the new economy, that of the knowledge-based society, there is a need for ICTs in increasing the efficiency and effectiveness of all our economic sectors.

This government, under the leadership of His Excellency Prime, Minister Thaksin Shinawatra is well aware of the importance of transforming Thailand into a knowledge-based economy in order to develop the country's economy to a new level. The ultimate goal is, of course, to enhance the quality of life of the people of Thailand. To this end, the Ministry of Information and Communication Technology was established on the 3rd of October, 2002.

The ICT Ministry has a vision whereby ICTs will be used to, develop the country and bring about the knowledge-based society. This will help uplift Thailand's competitiveness on an international scale and soon ensure that Thailand becomes a regional leader in ICTs.

The Ministry of Information and Communication Technology is represented by the Vedic God "Buddah", ruler of education, writers, artists and teachers. His western equivalent is Mercury or Hermes, the messenger of the gods. This signifies that the Ministry is the center of information and news in today's connected world.

The ICT Ministry has been designed to ensure a rapid, flexible and effective organization. The functional units of the ICT Ministry are:

- The Office of the Minister supports the Minister and policy-level dialogue with other Ministries.
- The Office of the Permanent Secretary takes these policies and develops them into strategies. Today, one of the main tasks is ensuring that the government sector successfully manages the transition into an ICT enabled e-Government at all levels.
- The Meteorological Department gathers, manages and disseminates meteorological information to ensure the highest benefit to the country's economy and to society.
- The National Statistical Office is the country's main source of reference information which is used for forecasting both social and economic trends.
- The ICT Ministry also oversees four special business units and agencies.
- CAT Telecom Public Company Limited is responsible for all international communications services and all domestic communications except fixed-line telephony.
- TOT Corporation Public Company Limited oversees the country's fixed-line telephone network and now provides both domestic and international telecommunications services.
- Thailand Post Company Limited is Thailand's national postal operator, providing both domestic and international postal services. These include basic letter service, parcel service, express mail service, philately and agency services under Thailand Post's "Pay At Post" brand.

The Software Industry Promotion Agency or SIPA is the agency through which the ICT Ministry promotes and plans the development of Thailand's software industry.

Three other agencies will soon be set up in the upcoming months. The ICT Promotion Agency, the ICT Research and Development Agency and the Civil Survey and Mapping Department. In order to support Thailand's sustained development through ICTs, The Ministry has five core missions. Implement Thailand's strategic ICT plans in line with the national IT master plan, IT2010,

from 2001 to 2010 and the Ministry's own master plan from 2002 to 2006.

Facilitate the coordination of ICT action plans between the public and private sectors both domestically and internationally.

Enhance the capacity for research and development in ICTs in order to boost Thailand's competitiveness in an international arena. Transform Thailand into a Knowledge-based Society while reaching out to each section of society in every corner of the country. Underlying this all is our mission to use ICTs in e-Government, e-Industry, e-Commerce, e-Education and e-Society.

The Ministry of Information and Communication Technology has five key responsibilities.

- Regulate the information and communication technology industry.
- Promote the information and communication industry.
- Manage and promote the smooth coordination between the public and private sectors.
- Initiate change and new projects.
- Support the information and communication technology industry.

Given these tasks and responsibilities, the Ministry of Information and Communication Technology has concentrated on bolstering the national communications infrastructure. This includes high-speed Internet connectivity, mobile telephony and the applied use of this connectivity in tangible, real-world projects.

The ICT Computers for Thais project has received recognition worldwide for its role in providing greater access and helping bridge the digital divide. Indeed, it is integral to ministerial efforts to introduce people to the knowledge-based society and to instill a learning culture among all Thais.

Within Government, the ICT Ministry is paving the way for the adoption of databases which can be used to augment high-level decision making. Each government agency's database will, in turn, be fed into the Prime Minister's Operation Centre or PMOC, to aid decision-making at the highest level.

Electronic signatures are a priority with 50,000 senior civil servants issued with digital certificates which will be used for official email and signing of official documents.

Citizen services are provided for through the e-Citizen project. The ICT Ministry has set up the ecitizen.go.th portal which has brought together many government services. This will give citizens a convenient alternative for them to interact with the government.

2. The National Telecommunications Commission (NTC)

A Royal proclamation formally established the National Telecommunications Commission (NTC) on October 1 last year. It can now fully exercise its roles as Thailand's telecommunication regulator pursuant to the provisions of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2543 (2000) and the Telecommunication Business Act B.E. 2544 (2001).

The NTC is the first independent state telecommunications regulator. Its duties and responsibilities are to regulate all telecommunication services in the country through formulating a Master Plan on Telecommunications Activities, setting criteria and categories of telecommunication services, permitting and regulating the use of spectrum for telecommunication services, and granting licenses to the telecommunications operators.

At the outset, the NTC started mapping out its action plan which is aimed at regulating and promoting telecommunications services in the country on a free and fair basis. The action plan focuses on creating transparency and non-discrimination in telecommunication services, enhancing public participation, balancing and making the best use of telecommunications resources, building telecommunications infrastructure and promoting research and development on telecommunication technology to support sustainable growth of domestic telecommunications industry.

The following 11 important policies were formulated by the NTC as a guideline for governing telecommunication services in the country.

1. **Frequency Management** : Allocate fair distribution and efficient use of frequency for the ultimate benefit of the citizen and the country.
2. **Competition** : Support market mechanisms to generate fair competition in telecommunications market and relevant industry.
3. **Licensing** : Grant licenses to promote free and fair competition and to prevent anti-competitive conduct.
4. **Internet** : Promote widespread Internet provision with the lowest charge or license fee exemption.
5. **Licensing and Enforcement** : Regulate telecommunications business operation on a fair competitive basis to ensure that service charges can compete with those at a regional level; and that the services are of good quality.
6. **Interconnection** : Establish rules for interconnection charge on a fair cost-based basis.
7. **Telecommunication Numbering** : Allocate efficient and adequate telecommunications numbers for network expansion and assign special numbers for public activities, national security and emergency.
8. **Universal Service Access** : Strive for equal and universal service access throughout the country.
9. **Industry Promotion** : Promote competitiveness of telecommunication industry at national and international levels by supporting research and development, and telecommunications equipment manufacturing.
10. **Consumer Protection** : set measures that allow consumers to have choices of telecommunication services with standard quality and fair price.
11. **Human Resource Development** : Promote human resource development for NTC staff.

In this regard, a committee has been formed to review the Telecommunication Master Plan and prescribe measures and guidelines on telecommunication

business operation, competition, interconnection, universal service obligation, consumer protection, telecommunication charges and services.

The NTC has also categorized the important tasks of the NTC's office into six departments: Telecommunication Resource Department, Policy and Regulatory Development Department, Competition Promotion Department, Consumer Protection and Universal Service Department, International Affairs Department, and General Administration Department. The NTC Office is under the supervision of the Secretary General.

The Telecommunication Business Act B.E. 2544 (2001) has entered into force since 17 November 2001, with the objective of protecting public interests and facilitating a free and fair competitive environment for the Thai telecommunication industry. This Act defines the opening of the market with regulations for the industry and ownership of business by foreign investors, types of telecommunications services, network interconnection, right of way, tariff regulations, universal services obligation, consumer protection etc. The Telecommunication Business Act is currently under revision regarding the limitation of foreign equity participation for telecommunication operators so as to increase foreign ownership from 25 percent to 49 percent.

PART 2

GOVERNMENT POLICY ON ICT

Thailand in the First Decade of the 21st Century

Overall, apart from driving innovation in society through the application of knowledge, many societies have recognized the long-term value of basic-knowledge creation, including basic research and development, as compared to applied research and development. Given limited national budget, each society must find suitable methods that yield the greatest benefit, and then continuously assess the results.

Thus far, the public sector has exerted its role in information technology at many levels with varying results. Public policy is one key factor, along with the market mechanism, that the private sector, private organizations and communities have developed in parallel.

Since its introduction in 1995, Phase one of the Information Technology Policy, or IT 2000, has laid a foundation for national development at a time when Thailand was not familiar with many technologies and applications. The three key pillars, covering information infrastructure, development of IT personnel and public sector reform through information technology, have yet to be completed, though social awareness has apparently picked up steam. Past projects fulfilled their goals of piloting future expansion through learning from their experience and mapping out plans for the future.

Thailand, in this first decade of the 21st century, has a variety of public policies involving IT development based on policies announced by the government to the parliament. Procedures in public administration have, in many aspects, been determined by the need for ministries, departments, and divisions to achieve their set targets. Particularly urgent missions include the solving of economic, social and political problems. Development guidelines, which are directly or indirectly related to information technology, can be summarized below:

- Internet Tambol to provide infrastructure to communities in all regions
- One Tambol One Product, where IT and electronic commerce will enhance efficiency in the management of global information and

markets, particularly with regard to the growth of Thailand's E-Commerce Cooperatives

- National health insurance scheme, or the 30-baht charge for all diseases, which requires an information management system
- Development of education technology and information networks In order to enhance and distribute educational opportunities to both urban and rural Thais
- Internet for Education, which is a government program Providing Thais with an opportunity to access information as a Part of human resource development
- Tourism as one factor in the creation of value-added and Marketing efficiency for the promotion of tourism as the main Revenue-generating industry of the country
- Promotion of e-commerce to provide entrepreneurs with an opportunity to enter world markets through the introduction of measures and legislation necessary for e-commerce
- Promotion of IT in the manufacturing sectors, particularly the agricultural sector
- Promotion of IT in order to enhance the capabilities of SMEs.
- Promotion IT applications in public-sector reform
- Promotion the development of science and technology in the Areas of research and development.

Nevertheless, Thailand's Information Technology development over the past decade, since the establishment of the National Information Technology Committee in 1992, has faced a variety of chronic social obstacles, including:

- Problems regarding the country's leader. Most national leaders around the world step in to supervise information technology policies regarded as a primary paths to the future development. These include policies relating to, and coordinating with, several agencies. With regard to Thailand's past, supervisory tasks were assigned to deputy executives. As a result, public and private agencies were unable to coordinate due

to the constant changing of the executives and their lack of understanding.

- Problems regarding corruption.
- Problems with national education. The creation of the workforce has been focused on working from memory rather than on an ability to adjust one's own thinking to a highly dynamic world.
- A lack of coordination, the focus on individualism, and the shortcomings of Team Thailand. The country has stumbled and lost opportunities on the international stage.

Moreover, there are many challenges awaiting Thailand in the Process of developing information technology for its economy and society

- The application of IT as a tool in the creation of readiness and Strength for administrative decentralization or, in other words, To strengthen local administrative organizations.
- The same time, the speed to meet educational needs of Thai youths. Following the Drafting of the Constitution and the National Education Act (1999), Along with the stipulation of 9-year compulsory education and 12-years of free education, the demand for education took a sharp leap.
- Lessons from the economic crisis clearly point out that the country needs to undertake significant industrial restructuring in order to maintain its international competitiveness with regard to IT device manufacturing industries and the application of information technology to other industries.
- In addition, Thailand has both an agricultural and an industrial society. The information-based society and knowledge-based society can directly and indirectly benefit the other two societies. In the future, Thai society will become stronger than those of many other countries, as the three areas coexist and benefit from one another.

- The gap between those who have information and those who do not in Thai society has affected income distribution, employment opportunities and the quality of the overall population
- Social and moral impacts. Thailand in the first decade of the 21st century possesses both Strengths and weaknesses in the midst of opportunities and threats, Particularly as a result of the IT revolution.

The Thai economy possesses strengths in many industries, including tourism, agriculture and handicrafts, along with a uniqueness and geographical location suitable to its serving as a regional center for transportation and communications, while adjacent to Cambodia, Laos, Myanmar, and Vietnam (CLMV). Moreover, Thai culture has been passed on for decades.

However the Thai economy also has many weaknesses including a skilled workforce, deficiencies in the education system, outdated industries due to failures in creating value-added services, inadequate investment in research and development for new economic innovations, as well as lack of cooperation and coordination among the public and private sectors.

The country's opportunities depend upon leadership at all levels, in particular the top executives of the country and large organizations. Thailand needs to rapidly reap the benefits of information technology, as recognized and practiced in countries around the world. The opportunity to take a leap in social and economic development, utilizing information technology as a tool, is just around the corner.

The threats that Thailand faces come in a variety of forms. The apparent external threats are the result of international agreements that, in one aspect, increase awareness. At and level of development could create problems in terms of Thailand's readiness for globalization, in addition to the prolonged, chronic social problems discussed earlier.

Moreover, the regulations and criteria from international agreements and cooperation, where Thailand is a party or member, become the key conditions in the process of Thailand's IT development. Examples include the Information

Technology Agreement (ITA), telecommunications liberalization, and the e-Commerce Free Trade Zone under the World Trade Organization (WTO); e-ASEAN under ASEAN; and the Mutual Recognition Agreement (MRA) under APEC.

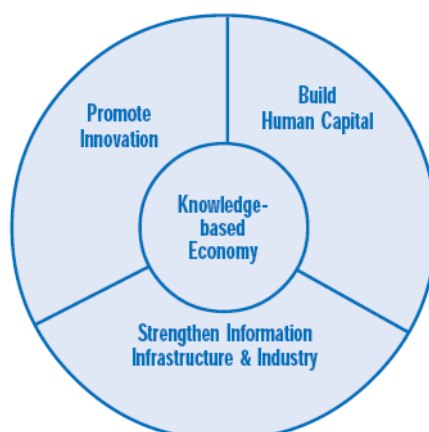
Analysis of the achievements of IT 2000 have provided valuable insights, including the promotion of thorough IT applications in the industrial sector, the encouragement of foreign investment in domestic IT industries, the promotion of research and development, the development of IT personnel through informal education, the establishment of sector development plans, and the establishment of an organization to promote the IT program.

IT Policy for the Development of Thailand into a Knowledge-Based Society

Information Technology Policy, Thailand's Vision to words a Knowledge-Based Society, for the 10-year period from 2001 to 2010, is aimed at sustainable economic strength, international competitiveness and increased living standards with a minimal income distribution gap. IT 2010 has the following three key components:

- Building knowledge-based human capital.
- Promoting innovation in economic and social systems.
- Strengthening information infrastructure and industry.

IT 2010: National Information Technology Policy



Goals of IT2010

1. The goal for the next ten years under the IT Policy focuses on enhancing capacity for the use of technology for national development. UNDP's technology achievement index is applied as criteria. The United Nations has classified countries into four categories, by their capacity to develop the country through technology, as follows:

- Leaders are primarily powerful, developed countries having technological innovation of their own and having achieved technological creation, distribution and sound technological skills.
- Potential Leaders are those countries advancing and developing their leadership potential. Most investment is on the development of the skills of the workforce and on the broad distribution of existing technologies. There is not a lot of recent innovation. The labor skills of most countries in this group are similar to those of the leaders.
- Developing their leadership potential. Most investment is on the development of the skills of the workforce and on the broad distribution of existing technologies. There is not a lot of recent innovation. The labor skills of most countries in this group are similar to those of the leaders.
- Dynamic Adopters are those countries actively adopting new technology. In spite of cutting-edge technology, older technology is distributed slowly and incompletely.
- Marginalized countries comprised of those countries that require substantial distribution of technology and development in skilled labor.

Most of their citizens have not enjoyed the benefits of the older technology.

In 2001, Thailand was ranked 40th among the 72 countries listed And was among the top of the third group (Dynamic Adopters). By the year 2010, IT development to wards a Knowledge-Based Society will have placed Thailand among the top of the second group (Potential Leader)

2. The second goal of IT 2010 is to develop a knowledge worker. Statistics compiled under the International Labour Organization's (ILO) criteria, which classifies knowledge workers by occupation as people who utilize knowledge or specialized knowledge as a primary function of their work, reveals that knowledge workers represent 30% of total workforce in most developed countries, while standing at 10-20% of the total workforce in Latin American, Asia and most developing countries.

In 2001, knowledge-based workers represented 12% of the total Workforce in Thailand The second goal of IT 2010 is to increase Knowledge workers to 30% of the total workforce, or equivalent to the average of the knowledge workers of OECD in 2001.

3. The third goal is determined from the volume of economic activity under the knowledge-based industries or knowledge-intensive industries. OECD has classified knowledge-based industries to cover high technology industries, medium to high technology industries, services to the community, society and individuals, financial and business services and communication services. All knowledge-based industries can be calculated as a ratio of GDP through the domestic account and the national input-output table.

Using the above criteria, OECD discovered that knowledge-based industries of most developed countries comprised of over 40% of their GDP in 2001. The third goal of IT 2010 is to bring knowledge-based industries to 50% of GDP, or the current average of OECD.

Nevertheless, the three goals are comparative macro indexes. Factors may be adjusted in detail to the unique development conditions and the needs of

Thailand, based on goals and actual development processes so that they correspond to the overall national economic and social development trends.

Thailand ICT Master Plan 2002-2006

Main Objective

1. To serve primary customer in part of Wireless Content by providing the content for the following industries as follows;

- Software Industry such as Animation & Multi-media, etc.
- Application Industry such as Wi-Fi hot spots, 3G, VoIP, Video Conference, etc.

And also serve primary customer in part of Wireless Infrastructure by providing the infrastructure by both increasing IT Services and bring in stakeholders to help develop basic IT infrastructures

2. To serve secondary customer in part of 5 e (e-Government, e-Education, e-Commerce, e-Industry and e-Society. It serves the enhance Thailand competitiveness via ICT application and create industry clusters via integration of virtual and physical contexts

Three Phases of MICT Strategic Implementation

1. **Network Infrastructure:** utilize existing infrastructure systems effectively based on effectively based on efficient management and maintenance, upgrading of the safety standard and proper price, to facilitate macro economic productivity improvement. Furthermore, develop infrastructure, particularly telecommunication networks, airports and major shipping ports. This plan to increase convenience and quality standards in support of productivity gains in the production and service sector

2. Institutional Framework Regulation and Law²: The

Telecommunications Business Act B.E. 2544 (2001) has entered into force on November 17th, 2001, with the objectives to protect the public interests and to facilitate the free and fair competition environment for the Thai Telecommunications Industry. This Act defines the opening of the market with the new regulations for the industry and the ownership of the foreign investor to the telecommunications business. It also defines types of telecommunications services, network interconnection, right of way, tariff regulations, universal service obligations, consumer protections etc. The Telecommunications Business Act will be implemented by the National Telecommunications Commission.

The law is currently under revision regarding the limit of foreign equity participation for telecommunication operators so as to increase foreign ownership from 25% to 49%. The establishment of the regulatory entity, the National Telecommunication Commission, is in progress. According to the emergency decree of Excise Tax Rate Act (Amendment IV) B.E. 2527 (1984) which is effective on January 28, 2003, Excise Department charges excise tax ceiling of 50 percent from telecommunications licensee or telecommunications concessionaire but later it reduces the tax regime of fixed-line operators and mobile operators to 2% and 10% respectively. In addition Cabinet Approved concerning the payment of telecommunications concessionaire, excise tax will be paid from monthly concession revenues and the remainder to TOT Corp and CAT Telecom. This provision has become effective on February 15, 2003.

3. Promotion and Campaign: promote the creation and application of information technology for various activities, for instead, long life learning, commerce, industry, public and private administration, national security and people welfare as well as culture and local wisdom conservation and revitalization. The extension of an internet network to capable Tambons will be

² Source : The APT year book 2003

promoted to enhance community learning, increase communication efficiency and introduce rural goods or OTOP products to the world market via e-commerce systems.

Implementing Two Thailand Blueprints National IT Policy 2010 & ICT Master Plan 2002- 2006

As the mention above, Thailand IT2010 does not include the Telecommunication part. In fact, Thailand ICT development is currently guided by two blueprints: the National IT Policy Framework, IT 2010, which was approved by the cabinet in March 2002, converging the period from the year 2001-2010 and Thailand ICT Master Plan 2002-2006, approved by the cabinet in the following September 2002.

The development of information infrastructure to ensure equitable and affordable access is on the top priority of both blueprints. Consequently, strategy 2 of the Master Plan on the utilization of ICT to enhance the quality of life and society aims to encourage people to utilized suitable information by accelerating the development of information infrastructure that are widely available and equitable. Such infrastructure is to be deployed as a tool to create and search for knowledge, particularly local knowledge, and provide value-added to agricultural and industrial products from rural communities.

The Government of Thailand initiates many major plans and projects in order to expand and develop new services to be in line with needs of customers by effectively utilizing main networks that exist all over the country. The details are as follows:³

1. Project to increase 565,500 telephone numbers

³ Source : The APT Year book 2005

This is a major project of the country in upgrading the quality of life of Thai People and Thai Society, creating learning environment and supporting the use of information technology in government administration and services, by expanding telephone lines (numbers) with modern technology to cover all sub-districts. This will alleviate lacks of telephones. In 2004, the project aims to expand 74,670 numbers in metropolitan and 490,830 numbers in provinces.

2. Value Added Services for Basic Telephone

The Projects of Value Added services which support basic telephone have been designed to provide high quality services continuously, it is expected that within 2003 the service of showing and recording telephone number of the callers will be available for customers who want to use this service. Moreover, there will be automatic voice mail I-Box 1278 (Voice Mail) service which is an automatic answering service that can receive message while the line is busy or unanswered without installing additional equipment. This service will be launched in 2004 with a total of 600,000 numbers.

3. Hi-Speed Internet Service

In Thailand, the capability in providing Hi-Speed Internet Service to support business customers in all areas of Bangkok and its vicinities will be increased continuously. There will be the expansion of ADSL and Internet pilot Project in three provinces (IT City), i.e., Chiangmai, Phuket and Khonkaen. Therefore, it is expected that the number of Hi-speed Internet users will increase at a high rate in the future. Within 2006, there will be 1,000,000 ports available for customers.

Industry issues on ICT

Thai ICT Hardware & Information Services

* Value in Million Baht

Segment	2004	Ratio
Hardware	67,193	65.12%
Software	17,934	17.38%
IT Services	18,064	17.51%
Total	103,191	100%

Source: ATCI/ATSI, Date: 5/3/2004

As above table, the data presents the ratio of Thailand ICT Hardware & Information services (Hardware, Software and IT service). This shows that Thailand spend more than 65 percent in hardware. Thailand also has a same ratio to spend in Software and IT Services. The next paragraph, it will describe each industry in this section includes:

The Hardware Industry

The progress of information technology has affected all aspects of national development throughout the world, creating an increased demand for IT tools and equipment. In an attempt to excel as an industrial country, Thailand, which is rooted in its agricultural society, has faced substantial obstacles with regard to IT product development for domestic consumption and exports, resulting in a high trade deficit.

Between 1996-2000, the Ministry of Industry established target products, and industrial development strategies, for the development of the competitiveness of the Thai electronics industry. Targeted electronics industries and products include wafer fabrication, IC design, optic fibers, telecommunications switches, and software.

The Software Industry

Consumption of application software in 2000 was valued at THB 4.5 billion, while packaged software consumption was valued at THB 3.9 billion, with the prospect of growth at 33.3% per annum. The software produced in over 500 small-scale production houses was purchased primarily for specific operations,

such as accounting, personnel administration and inventory control. Larger software systems are primarily imported, with the import value accounting for over 70% of total software consumption. Nevertheless, software consumption has shown an impressive upward trend, which includes the software consumption of general users, software applications for products and production processes, and software applications for public administration and services, and is likely to be a huge market in the next 5 years.

Telecommunications Services Industry

The telecommunications industry is one production sector that has played an increasingly important role in the economic growth of Thailand, though the industry currently accounts for a mere 3% of GDP. However, basic telephone services, value-added services such as e-commerce, satellite data communication, internet and e-mail, are business that have enjoyed a high rate of growth and sharp advancement in line with the age of borderless communications.

The Thai telecommunication sector has just crossed the threshold. After long waiting, the National Telecommunications Commission (NTC) was set up in October 2004. The market structure of the telecom sector in the absence of NTC remains unchanged from the year 2003, with the number of operators in both fixed-line and mobile sector the same as in 2003.

Fixed-line service providers include TOT Corporation Public Company Limited, True (previously TelecomAsia Corporation) and TT&T Public Company Limited. Solely international service provider is CAT Telecom Public Company Limited.

Mobile phone service operators are

- Advance Info Service Plc. (AIS): GSM 900-MHz and GSM 1800-MHz mobile phone
- Total Access Communication Plc. (DTAC): Cellular and digital 1800-MHz mobile phone
- Thai Mobile Company Limited: 1900-MHz CDMA mobile phone

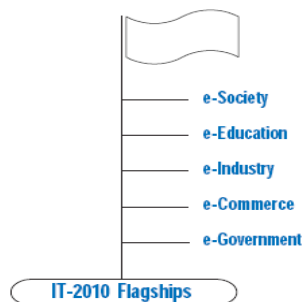
- Hutchison CAT Wireless Multimedia Ltd.: CDMA mobile phone
- TOT Corporation Plc.: 470-MHz or cellular 470 mobile phone
- CAT Telecom Plc.: cellular CDMA mobile phone

The growth in telephone penetration has been sluggish over the past couple of years, with number of fixed line subscribers increase only slightly. Although the fixed-line penetration in upcountry has been increasing at a greater rate than in Bangkok, the digital divide still prevails.

From Policy to Strategy

Under Thailand's Vision toward a Knowledge-Based Society, with economic prosperity and social stability, the target of development partnerships through ICT applications has become clearer. Meanwhile, development strategies can be classified into five flagships, as follows:

1. e-Government
2. e-Commerce
3. e-Industry
4. e-Education
5. e-Society



All of the above are well connected and synthesized, and hence benefit the country in many respects. They reduce repetitive investment, create markets for the private sector, and help to connect Thai knowledge-based resources. The development base corresponds to the key factors of a knowledge-based society and economy-building human capital, promoting innovation, and strengthening information infrastructure and industry.

PART 3

EXECUTIVE SUMMARY

Executive Summary

e-Government

Electronic government (e-Government) refers to the application of electronic means in public administration and services with the goal of building a Knowledge-Based Society, creating good governance and enhancing competitiveness, leading to a higher quality of life for Thai society.

Vision

To build a Knowledge-Based Society through the application of electronic means in the administration and services of the public sector before the year 2010 in order to create good governance and enhance national competitiveness, leading to a higher quality of life for Thai society.

Policy

1. Promote the application of electronic media in the front office in order to increase alternatives for the people to access and utilize public services, and there by increasing convenience and efficiency.

2. Improve the back office operation through the applications of electronic media order to enhance the efficiency and effectiveness of public administration.

Targets

IT development in the public sector, with respect to centralized and decentralized administrations, has the following two principle targets:

- Back office, which includes record keeping, inventory, human resource management, finance and accounting, and budgetary works: is to completely utilize IT by 2004.
- Front office: is to provide 70% of their services through electronic means systems by 2005 and 100% of their services by 2010.

Development Strategies for Each Sector

The five primary e-Government strategies cover the areas of planning, budgets, organization, personnel, and operation systems, as follows:

1st Strategy: Establishment of Plans and budgets comprise of measures on the preparation of a master plan for IT development in the public sector, along with operational plans, measures for monitoring the implementation of the plan in accordance with the plan evaluation and measures for increasing the ratio of funding for IT development.

2nd Strategy: Establish an organization reform covers the issuance of regulations on the establishment of a centralized organizations overseeing IT applications in the public sector and clarifying its roles and missions.

3rd Strategy: Development of the public sector workforce includes measures on developing the four groups of personnel in the public workforce - - top executives, primary and intermediate executives, operations officers, and IT operations officers in agencies in order to acquire the appropriate IT knowledge and skills, along with measures for raising the standards of IT qualifications of government officials.

4th Strategy: Improvement of public administration includes measures for establishing central standards for IT application in the public sector and measures for assigning responsibility for the development of IT to those agencies in charge of the five key back office tasks, comprising of record keeping, inventory, human resource management, finance and accounting, and budgetary works.

5th Strategy: Improvement of public services covers measures for the development and application of IT for the enhanced efficiency of services to the general public, with regard to convenience, speed, coverage and quality, along with measures for the establishment of a central information network for the public sector, and measures for the promotion of cooperation among the

government agencies and private sector that provides services to the general public.

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