

# .th

## Thailand

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### Overview

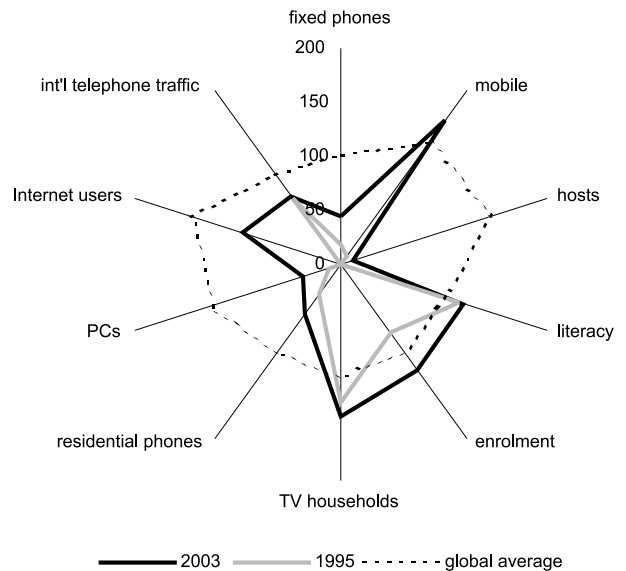
The ICT market in Thailand continues to expand. Its total value appreciated from US\$817.14 million in 1999 to US\$2,043.59 million in 2003. It grew 11.9 percent between 2002 and the beginning of 2003. The software segment expanded by 13 percent during this period and accounted for 17.7 percent of the total ICT market. The ICT services segment also performed remarkably, growing 21.4 percent in 2003 over the previous year.

Available data show that about 18,500 ICT engineers graduated from both public and private universities in 2001. A study conducted by the National Electronics and Computer Technology Centre (NECTEC) and Thammasat University indicated that about 122,700 ICT workers would be needed in 2004, especially software professionals. Unfortunately, this demand may not be fully met. NECTEC is gathering more comprehensive data on the country's ICT human resource requirements.

As of 2003, Thailand had a fixed-line teledensity of 12.9 per 100 inhabitants, while mobile phone density and Internet penetration increased significantly to 30.6 and 10.4 per 100 inhabitants respectively. To further boost Internet access, the government is promoting low-cost broadband Internet services at less than US\$25 per month.

### Key national initiatives

A number of programmes implemented nationwide now allow the people to access ICT through facilities such as SchoolNet, TambonNet, telecentres and other public Internet access facilities. In addition to providing access, the Ministry of Information and Communications Technology (MICT) launched the Thailand Knowledge Centre, an e-library with vast amounts of information on science, culture, technology and social sciences. There are also programmes to increase computer ownership and to educate the youth on the right uses of the Internet. Meanwhile, a government agency was established to promote and support the local software industry.



Source: *Monitoring the Digital Divide*. © Orbicom 2004

### Budget computer programme

To increase computer ownership, MICT launched the Computer ICT Programme in the first quarter of 2003 offering citizens low-cost computers sold with a preinstalled Linux and OpenOffice package supplied by NECTEC. The computer, including a regular monitor, was sold at US\$250. Generic and brand-name computer vendors responded by slashing their prices to compete with the budget computer.

The programme also gave a boost to the open source movement, as the bundling of the budget computer with open source software has helped to create mass demand for Linux in place of the more expensive proprietary software. In a later phase of the programme, Microsoft decided to join in by offering a special version of the Thai-language Windows XP and Office XP package at a very low price (US\$35). The offer was welcomed by the public, as more than 98 percent of individual users in the country use these applications.

### GoodNet programme

The GoodNet programme was initiated by MICT and the Internet Café Club with the aim of turning cyber cafés into ICT knowledge centres. At least 300 Internet cafés had participated in the programme by the end of 2003. This new generation of Internet cafés offer basic computer classes and English lessons. The purpose is not only to raise computer literacy but also to create a new culture within the Internet user community and to change the perception of the cyber café as a gaming centre to that of an edutainment centre.

These Internet cafés agree not to promote bad values to the youth by steering them away from online games, pornography and chat. They are required to have at least one qualified staff, who is certified via a NECTEC IT user examination, to assist customers in the proper use of computers. The Internet cafés also provide products and services such as ring-tone downloading and edutainment

products. The GoodNet programme is supported by NECTEC, CAT-Telecom Public Company, GMM Grammy, the Association of Thai Software Industry, and Microsoft Thailand.

### Software industry promotion

Following the success of Software Park Thailand in promoting software development, in 2003 the government

#### **SchoolNet Thailand brings global knowledge to schools**

SchoolNet was initiated by the National Electronics and Computer Technology Centre (NECTEC) in 1995 to provide Internet access to schools throughout Thailand in order to give teachers and students access to global information and knowledge resources. The ultimate goal is to raise the quality of education and to reduce the gap in educational standards between urban and rural schools. Several thousand schools are now connected to the network via dial-up access, and more will be joining them.

NECTEC has taken the next step by promoting the use of open source software to schools. It aims to encourage the schools under the programme to establish Linux courses in the near future. The success of this programme stemmed from the cooperation of the private, public and education sectors, which provide support such as technical consultation, content development and training programmes to SchoolNet members. For example, NECTEC has provided the Linux SIS (School Internet Server) operating system and technical advice to members. At the same time, digital content has been developed to meet learning objectives, and government agencies have devoted much effort to improving Thai-language content provided over websites linked to SchoolNet.

The success in using ICT to improve the quality of education depends on the balance between three “T factors”, which are Technology (including ICT infrastructure), Teaching materials (content) and Teachers (their qualifications). SchoolNet has not only allowed schools across the country to access low-cost Internet but also enhanced e-learning via the Internet. It has also helped to improve educational standards in the country and convince parents of the benefits afforded by the new technologies to education.

set up the Software Industry Promotion Agency (SIPA) under MICT to provide support to the software industry. SIPA has taken on the tasks of investment promotion, similar to that of the Board of Investment, ICT human resource development and acting as a one-stop service centre for software houses. It is responsible for setting up a national software project that includes application hosting for small and medium enterprises, the development of logistics management software and the adoption of paperless trading by enterprises. The other target area is the promotion of the animation and multimedia industry.

SIPA will also help to promote mobile applications and online games, as these are potentially lucrative industries. At the same time, it aims to strengthen the national economy by reducing software import expenditure, which accounted for 70 percent of the total value of the software market in 2003. This move is also expected to offer the added benefit of boosting the local software industry and priming it for entry into the global software market.

### **Regulatory environment**

Threats from malicious hackers, viruses, worms and other kinds of attacks have escalated in tandem with the growth of computer networks and systems. Disruptions to the country’s network systems can potentially cause significant losses to the national economy because of increasing reliance on computer systems and networks for business operations. Some developed countries have established mechanisms to protect critical infrastructures which are reliant on computer systems.

NECTEC set up the Thai Computer Emergency Response Team (ThaiCERT) in 2001 to improve the security of computer networks and systems and reduce risks to them through disseminating information aimed at raising security awareness, providing technical recommendations and conducting training programmes. More than 3,000 organisations in Thailand have signed on as members of ThaiCERT. The work of ThaiCERT is being expanded to cover roles in R&D as well as defining information security standards and measures for critical organisations. ThaiCERT also collaborates with key organisations to build networks of people working in the ICT sector to undertake special tasks. For example, it was a key provider of ICT services to the 2003 APEC meetings held in Thailand.

### **Open source movement**

Most large enterprises in Thailand now operate their businesses on computer systems using licensed software. The business sector accounts for the largest share of the country’s software expenditure. The proportion of educational institutions and homes using licensed software is apparently less than that of large businesses. Educational and home users thus form a potential market for open source

software (OSS), which costs much less than proprietary software.

The most successful OSS in Thailand is the Linux operating system for Internet servers. Other popular OSS packages are the web server software Apache and database management systems such as MySQL and PostgreSQL. The OpenOffice package, with full support for the Thai language, is one of the most important OSS applications and has helped to promote the open source movement to Thai users. The package, consisting of Linux TLE, OpenOffice TLE, Mozilla and other useful applications, was preloaded onto more than 130,000 PCs delivered in 2003 across the country as part of the Computer ICT Programme.

OSS has also been the focus of regional cooperation. NECTEC, as the key organisation promoting the development of OSS in Thailand, cooperated with the Center of the International Cooperation for Computerization of Japan to organise the Asia Open Source Software Symposium. The symposium aims to promote and nurture the open source movement in Asia.

The latest OSS activity organised by NECTEC is to promote the teaching of OSS in schools. The number of schools teaching the use of the open source productivity suite, OpenOffice TLE and the open source operating system has grown steadily. Representatives from a number of these schools met in February 2004 to share their knowledge and experiences in running classes using only OSS. Prizes and awards were presented to outstanding schools and teachers.

NECTEC also cooperated with various groups of OSS users and developers to establish the Thailand Open Source Federation in November 2003. With NECTEC's cooperation and advanced R&D support, the federation aims to promote and distribute OSS and to establish an infrastructure for supporting the development of OSS.

## Research and development

A survey by the National Research Council of Thailand revealed that R&D expenditure on ICT in Thailand during 1999 was approximately US\$4 million. Software development has been stimulated through the establishment of the Software Park and through incentives provided by the National Science and Technology Development Agency (NSTDA). The private sector is also now making considerable investment in R&D. Public sector R&D is funded by a number of agencies, such as NECTEC, NSTDA, the Thailand Research Fund, the National Research Council and universities. NECTEC itself is not only a funding agency but also a research institute. Its R&D is focused on electronics, computing, telecommunications and IT.

### Rural telecentres miss the bull's-eye

A pilot telecentre programme was initiated in 2002 by NECTEC with government funding that aims to apply ICT to enhance the economic and social well-being of rural communities. Four communities with different characteristics and in different locations in the country were selected for the trial. Each telecentre is equipped with a set of ICT equipment, including PCs with Internet connection, telephones, fax machines, photocopiers, printers and digital cameras. With exposure to the Web, it was expected that members of the communities would be encouraged to undertake informal education and to conduct e-commerce. The telecentres were also expected to narrow the digital divide between rural and urban areas.

However, after a year of operation, it was found that the telecentres had not achieved the original goal, as there were only a small number of participants. There was a lack of familiarity with the new technologies, especially with the Internet, and most of the participants were not aware of the full potential of the Internet. The equipment in the telecentres was not used to full capacity, and the communities were unable to produce useful online content which was required for e-commerce and for promoting community knowledge. To get the programme back on course, the benefits of Internet use should be demonstrated to the communities while users should be educated on the capabilities of the new technologies.

NECTEC continued to give advice and consultation to the centres for another year after the first year of financial support. Two centres located in schools are sustained through donations and other forms of community support. The other centres have been adopted by a community development group. None of the centres can sustain their operations without community sponsorship and contributions.