

Technology Market Scan

INTERNATIONAL

Patent activity increased between 2005 and 2006

The total number of applications filed across the world in 2006 is estimated to be 1.76 million, representing a 4.9 per cent increase from the previous year. Between 2005 and 2006, the number of filings worldwide by applicants from China, the Republic of Korea and the USA increased by 32.1 per cent, 6.6 per cent and 6.7 per cent respectively.

- The United States Patent and Trademark Office was the largest recipient of patent filings, for the first time since 1963, with a total of 425,966 patent applications filed in 2006. There was a small decrease in the number of patents filed at the Japan Patent Office in 2006 (408,674). The patent offices of China (210,501), the Republic of Korea (166,189), and the European Patent Office (135,231) also received a large number of filings.
- Patent applicants tend to come from a relatively small number of countries of origin. For example, applicants from Japan, the USA, the Republic of Korea, Germany and China accounted for 76 per cent of total patent filings in 2006. Chinese residents increased their share of total worldwide patent filings from 1.8 per cent to 7.3 per cent between 2000 and 2006, mostly due to increases in domestic patent filings.
- Although the number of patent applications filed across the world has increased at a steady pace, the rate of increase is less than the rate of increase observed for other economic indicators such as GDP and trade.
- In 2006, approximately 727,000 patents were granted across the world. Similar to patent filings, patent grants are concentrated in a small number of countries. Applicants from Japan, the USA, the Republic of Korea and Germany received 73 per cent of total patent grants worldwide. Between 2000 and 2006, the number of patents granted to applicants from China and the Republic of Korea grew by 26.5 per cent and 23.2 per cent a year, respectively (average annual growth rate).

- There has been an increase in the level of patenting activity in emerging countries. The patent offices of India, Brazil and Mexico all received a large number of filings in 2006. However, for the majority of the reported emerging countries, non-resident applicants accounted for the largest share of total filings in these countries. There has also been an increase in the use of the PCT System by emerging countries for international filings.

Increase in internationalization of the patent system

- There has been a significant increase in the level of internationalization of patent activity as reflected by non-resident patent filings and international filings through the PCT System. The non-resident filings share of total patent filings increased from 35.7 per cent in 1995 to 43.6 per cent in 2006.
- Non-resident patent filings originate from a relatively small number of countries, led by the USA (21.9 per cent of non-resident filings worldwide), Japan (21.7 per cent) and Germany (10.8 per cent). The 8 largest countries of origin increased their share of worldwide non-resident patent filings from 66 per cent to 74 per cent between 2000 and 2006. Applicants from emerging economies, including China, file relatively few patent applications outside their home countries.
- Many inventions result in filings in multiple offices. Approximately 24 per cent of all patent families are filed in two or more offices. 10 per cent of patent families are filed in four or more offices.
- The level of internationalization varies across countries/economies. The share of non-resident patent filings is very high in the patent offices of Hong Kong (SAR), China, Israel, Mexico and Singapore - where more than 90 per cent of total filings are accounted for by non-resident applicants. In addition, between 2005 and 2006, non-resident patent filings increased by 7.4 per cent, whereas resident filings increased by 3.1 per cent.

- The number of international patent filings filed through the PCT in 2007 is estimated to be 158,400, representing a 5.9 per cent increase from the previous year. Emerging countries such as India, Brazil and Turkey are increasingly using the PCT System to file international applications.

Around 6.1 million patents in force in 2006

- Approximately 6.1 million patents were in force in 2006. The largest number of patents in force were in the USA (1.8 million in 2006). However, the majority of patents in force were owned by applicants from Japan.
- Both measures of patents in force, by country of origin (ownership of the patent) and by patent office (where the patent is in force), reflect an increase in the number of patents in force in 2006.
- Although patent rights are conferred to the applicant for up to 20 years, available data show that only a minority of patents are maintained for the full 20 year term. More than half of the patents in force in 2006 were filed during the period between 1997 and 2003.

Patent trends

- In 2005, a large number of patent filings were filed across the world in computer technology (144,594), telecommunications (116,770), and electrical machinery (121,350) technologies. Between 2001 and 2005, patent filings in computer technology, optics, and semiconductors grew by 5.3 per cent, 5.0 per cent and 4.9 per cent, a year, respectively. There was a modest increase in pharmaceuticals filings (1.7 per cent) and a decrease in biotechnology filings (-2.7 per cent).
- The recent pressures on energy resources have created an increase in patenting activity related to energy technologies. Examples can be seen in patent filings related to solar (thermal and photo) energy, fuel cells and wind energy. Patent filings in the fields of solar energy and fuel cells mainly originated from Japan. Patent applications in the field of wind energy were evenly distributed, with Germany and Japan being the top two countries of origin for this technology.

Large volume of pending applications

- There has been an increase in the number of pending patent applications at the United States Patent and Trademark Office (USPTO). By 2006, the number of patent applications awaiting examination at the USPTO was 1,051,502. There has also been an increase in the application processing time, as reflected by the increase in the number of months for first office action and total pendency time.
- Between 2004 and 2005, there was a sharp increase in the number of pending applications at the Japanese Patent Office (JPO). In 2006, there were around 836,801 patent applications awaiting examination at the JPO. However, the increase at the JPO was mostly due to the shortening of the time limit for request for examination, from seven years to three years, which has created an increased examination workload for a period of several years. Since 2005, the volume of pending applications at the JPO has stabilized and it is expected to decrease in the near future.
- The number of pending applications at other large patent offices, such as Germany (265,395) the European Patent Office (247,165) and Canada (205,776), is relatively small (compared to the USPTO and the JPO) and has been stable over time.

Increased opposition and invalidation requests

- In most of the reported offices, the numbers of opposition or invalidation requests are loosely correlated with the number of patents granted, the exception being Germany where requests have declined while the number of granted patents has increased. In general, there is an upward trend in the numbers of opposition or invalidation requests which may reflect an increasing interest in the challenging of granted patents by third parties.

<http://www.wipo.int>

ASIA-PACIFIC

CHINA

Support for small enterprises

China's Ministry of Finance (MOF) announced the country would earmark 3.51 billion yuan (511.6 million U.S. dollars) this year to support the development of domestic small- and medium-sized enterprises. Financing difficulty had long been a bottleneck for domestic small- and medium-sized enterprises since China started providing small mortgage loans in 2002.

The government placed helping small companies and increasing employment as one of its top priorities this year. It promised to help 10 million urban dwellers find employment this year. The MOF said on its website the country had invested nearly 17 billion yuan through 2007 to set up six special funds to support small- and medium-scale companies.

These included a technology innovation fund, an overseas marketing fund, an agricultural science and technology application fund, a small- and medium-scale enterprise subsidy fund, a small- and medium-sized companies development fund and a small- and medium-scale firm platform fund.

In a similar development, the People's Bank of China, the central bank, announced the country's financial institutions would raise the ceiling of small-scale mortgage loans from one million yuan to two million yuan to help them better fund their businesses.

<http://news.xinhuanet.com>

INDIA

STPI scheme

The Business Process Industry Association of India (BPIAI), formerly called the Call Centre Association of India (CCAI), represents 70 per cent of the BPO workforce in the country. The association has been stressing the need for decoupling of BPO from the IT/ITeS. BPIAI president Sam Chopra contends that BPOs would be hit hard if it remains

clubbed with the IT industry. Speaking to *K Rajani Kanth*, he puts forth the association's demands including extension of tax holiday and the measures that the sector needs to move up the value chain. Excerpts:

Being termed as ITeS, the perception is that BPOs are as mature as the IT industry. But, the IT industry has enjoyed tax breaks for over 20 years, while the BPO industry has been availing this benefit for only a decade. Tax sops from the Software Technology Parks of India (STPI) will also disappear for these companies and this might turn away investors to other offshore locations like East Europe, South America, China, Sri Lanka and the Philippines. That's why, we believe the government stands to lose more in terms of indirect taxes than it will gain from taking away the tax breaks.

As on December 2007, 146 projects with an investment of Rs 4,424.6 crore were outstanding in the ITeS sector. Of these, 69 projects amounting to Rs 2,712 crore were under implementation. Almost 70 per cent of BPOs is under the STPI scheme, which expires in 2011. Those that are not are either catering to the domestic sector or are too small to be able to reap benefits or are captive BPOs affected by transfer pricing and having minimal capital equipment imports.

According to leading analyst firms, if all the existing challenges are coupled with the expiration of STPI scheme, BPOs' margins will take a hit of 7-10 per cent. This will happen because the BPO sector is still in its nascent stage and has a headcount-based pricing model. We are requesting the government to stagger withdrawal of the scheme for another 15-20 years and give a longer tenure to the MSM segment.

For small players to reap major benefits, they require government support in their startup stage. Post decoupling, BPOs will be in a position to use the same infrastructure for domestic and international businesses and reach out to the masses, which will decrease their dependence on expensive metros. As the business expands, the activities will surely translate into better revenues.

The rupee rise is a major test for Indian BPOs as they bill in dollars while expenses are met in rupees. According to analysts, a one per cent rise in rupee translates into a 50 basis point negative impact on the margins. The extension of STPI scheme is important for India to remain competitive at the global level.

Today, China, the Philippines and even neighbouring Sri Lanka are offering long-term benefits to the BPO industry. If the BPO industry growth has a catalytic effect on the rest of the economy, then there is a larger problem of a hit on a major part of the Indian economy. The BPO industry needs a stable or a gradually declining currency, more government support on education and a gradual phasing out of the export tax benefits.

The subprime crisis and subsequent financial problems like the weak dollar have hit the industry pretty hard. The margin pressures, business loss coupled with the unreasonably high inflation in our own country have been too much for the industry. There has been immense pressure on smaller players to give innovative offerings to their clients. Many players have been forced out of the industry and the ones that remain have been cutting their cost drastically. The hirings have gone down and there have been major reductions in transport costs, telecom expenses and employee benefits.

There are a few desirable outcomes. Because of the slowdown in the international market, the spotlight is on the domestic part of the business. The domestic business has grown at a rate of 50 per cent. Also, smaller towns are getting a chance to showcase their potential. Because of the sky-high real estate prices and talent crunch in big cities, many players are turning towards small towns.

The other positive aspect which has come out of this is that we are finally looking beyond the US and Fortune 500 companies. Vendors are looking at the huge mid-market opportunities that lie in the US and Europe.

BPOs in India are expected to employ around one million people by 2008. But the challenge is to find quality human resources given the current attrition rate of around 40 per cent because of organizational policies, salaries and

work culture among others. Currently, it is about 35 per cent in non-voice and 45 per cent in voice call centres. We have been asking our members to shift focus to smaller towns for hiring, implement job rotation to sustain motivation, introduce part-time and short-duration work options among others.

The BPO industry needs to have alliances for technology and consulting expertise to drive down the transaction costs, at the same time addressing customer concerns on data security. The Indian players must now get their foothold in China, the Philippines, Korea and eastern European countries so as to cater to non-English speaking eastern European and Far East countries. Most of the revenues for the Indian BPO industry comes from metros including Bangalore, Chennai, Mumbai, Delhi-NCR, Hyderabad and Kolkata.

The industry is still focused on these locations because of the infrastructure. Some of the locations emerging as small BPO hubs are Chandigarh, Kochi, Pune, Jaipur, Coimbatore, Mysore, Mangalore and Visakhapatnam.

The industry employs over 700,000 people across 25 countries and accounts for approximately 40 per cent of the global BPO offshore market. The Indian BPO Industry is over \$ 11 billion today and the target is \$ 50 billion by 2012. This reflects a five-fold growth over the next five years and can create over 2 million direct jobs in India. The government will need to actively support and partner the industry to ensure that India does not lose out on the opportunity to add up to 2.5 per cent to its GDP by 2012.

<http://www.business-standard.com>

Revenue from software products

Revenue from Indian software product business is expected to be in the range of \$ 9.5 billion to 12 billion (Rs 39,900 crore - Rs 50,400 crore) by FY15, from \$ 1.4 billion (Rs 5,880 crore) in 2008, says a Nasscom study. 'Nasscom Software Product Study: Outlook for Indian Software Product Businesses' states that the next decade will play a crucial

role in bringing about disruptive growth for the Indian Software Product segment.

India's R&D offshoring experience, software product talent landscape, the high innovation - low cost advantage, domestic market potential, changing venture capital (VC) environment and support ecosystem all contribute towards positioning India as a strong contender in this space and position it to capture a slice of the global software product pie.

Som Mittal, president, NASSCOM said, "The product segment in India has the potential to grow ten times its current size and touch anything between \$9.5 to 12 billion, over the next decade. We have a lot of work to do and have identified all the stakeholders who can make this happen."

The study points out that recent trends in market activity aided by a maturing ecosystem indicate that the Indian software product businesses are now approaching an inflection point in their evolution. Enterprise application software will present the largest opportunities with BI, ERM with storage and security being the key priorities.

"The Indian software product story so far has been an export driven story with 68 per cent of the revenues coming from just exports of these products. However, going forward, home-grown software product businesses will surely witness an increased acceptance in the domestic market, thereby increasing the revenue share from domestic sales," opines Pari Natarajan, CEO, Zinnov.

The report notes that by 2015, Indian software product business revenues would be more evenly balanced between domestic and export based sales, and share of revenues from the domestic market would increase from 32 per cent in FY08 to an average of 41 per cent by FY2015 to reach \$ 4 to 5 billion. "Key parameters such as proximity of Indian software product businesses to the local market requirements; excellent understanding on localization requirements, and ease of adopting customized and targeted sales approach would fuel this growth," says Natarajan.

Technology Market Scan

Subash Menon, Chair Nasscom Product Initiative, Founder Chairman, MD & CEO, Subex said, "I am thrilled to note that there are at least 10 to 15 companies that seem to be scaling up, apart from being successful in the global arena. These companies will act as the pillars of this nascent, yet promising industry. India clearly is poised to emerge as a key player in the lucrative and fast growing software products arena within the next few years."

<http://www.business-standard.com>

Govt issues Rs 25 crore for rural tech

The government has issued a sum of Rs 25 crore to the Council for Advancement of People's Action and Rural Technology (CAPART) as grant-in-aid in the first instalment during the current financial year.

The funds have been issued by the Ministry of Rural Development to CAPART for implementing various rural technology projects in villages.

"The amount being released is under Central Sector Scheme for 'Assistance to CAPART' and will be subject to various conditions which include an audited statement of accounts showing the expenditure incurred during 2008-09," a Ministry release issued here today said. The statement also said that CAPART will have to submit to the Ministry of Rural Development a detailed quarterly report regarding the progress of work and manner of utilization of these funds. The second instalment of funds will be released only after the receipt of the audit report for 2007-08.

<http://economictimes.indiatimes.com>

REPUBLIC OF KOREA

Patent applications

The Republic of Korea ranked third in the world in 2006 in the number of international patent applications. According to the World Intellectual Property Organization (WIPO), the number of patents applied for by Republic of Koreans stood at some 172 thousand. Japan topped the list with some 514

thousand, followed by the USA with around 398 thousand. Germany ranked fourth with 13 thousand while China came in fifth.

The U.N. body said the top five countries accounted for 76 per cent of total patents applied worldwide. In particular, the organization said the total number of Republic of Korea international patent applications jumped six-point-six per cent from 2005, while China's rose more than 32 per cent. However, the total number of patent applications worldwide rose only four-point-nine per cent to some one-point-seven million in 2006 compared to 2005.

<http://english.kbs.co.kr>

Government to raise R&D spending

The Ministry of Education, Science and Technology said that the Republic of Korea plans to greatly increase its commitment to research and development (R&D) in a bid to become one of the world's leaders in technology by 2012. The new "577 initiative", outlined by the national science and technology committee, calls for R&D spending to reach 5 per cent of the gross domestic product (GDP) in the next five years with the funds going into seven key innovation and technology areas. This could allow the country to rank among the top seven science and technology leaders in the world.

The committee chaired by President Lee Myung-bak said a total of 66.5 trillion won (\$ 64.2 billion) in state funds are to be injected in the 2008-2012 period, up from 40.1 trillion won spent in 2003 through 2007. In 2006, government-led R&D amounted to 3.23 per cent of the GDP. The remainder of the money is to come from the private sector, which will receive increased tax breaks on R&D investments.

On the seven key innovation and technology areas, the blueprint calls for money to flow into so-called cash cow industries in autos, shipbuilding, machinery, semiconductors, displays and mobile telecommunications that are instrumental in fueling the country's

economic growth. Healthcare, knowledge-based technology including software, aerospace and defence are to receive attention, along with high-risk research, mega-trend sciences and national platform technology initiatives that touch on future-oriented efforts, and benefit from more funds.

On innovations that will take place, Seoul intends to help educate budding scientists, allocate at least 50 per cent of state R&D into basic sciences from 25.6 per cent at present, and support high-risk-high-return research that is too dangerous for the private sector. The increase in R&D is also expected to help fuel more jobs in this core sector, improve the trade balance in technology transactions and increase earnings by sale and sharing of patent and intellectual property rights.

<http://www.korea.net>

MALAYSIA

11 companies license Mimos technologies

Technologies that are developed at national applied research company Mimos will be turned into commercial products and applications by local companies. Close to a dozen companies have licensed key technology platforms from Mimos, the company said.

Datuk Abdul Wahab Abdullah, Mimos president and chief executive officer, said the purpose of the licensing programme was to transfer the technologies from Mimos' laboratories to local companies. "The technology transfer process is critical for the country as the private sector joins the government to commercialize homegrown technologies," Abdul Wahab said.

The applications licensed by Mimos are mostly semantic technologies - namely web portal, logistics, travel and medical applications, which were licensed to Alam Teknokrat Sdn Bhd, Biforst Technology Sdn Bhd, Bill Adam Associates Bhd and In-Fusion Solutions Sdn Bhd respectively. Semantic technologies enable more interactivity in processing information.

These semantic applications will provide a platform for computer applications to be meaning- and knowledge-based, Mimos said. Besides semantic technologies, Mimos has licensed other technologies such as a hybrid solution that combines WiFi, WiMAX and Internet Protocol Version 6 (IPv6) technologies to Perneq Integrated Network Systems Sdn Bhd.

Additionally a grid computing solution was licensed to Jaring Communications Sdn Bhd. Mimos said it also licensed iDola (a PC-based mobile computing device for the education sector) to FTEC System Sdn Bhd, while Jen-ii (a PC-based computing device to bridge the digital divide) was awarded to Mimos Smart Computing Sdn Bhd.

The Science Technology and Innovation Ministry (Mosti) is in the midst of finalising other technology recipients, identified by Mimos, for the transfer of more Mimos technology platforms. However, Mimos declined to comment on the current technologies it is working on. The 11 technology recipients were identified by Mosti. These companies only need to pay royalties to Mimos for the technologies, according to Abdul Wahab. He did not specify the exact amount.

<http://star-techcentral.com>

PAKISTAN

Introducing new variety of Bt-Cotton

The government has constituted a committee to finalize a roadmap for the introduction of a new variety of Bt-Cotton that will lead to enhanced cotton production in the country. The committee will forward its recommendations within a weeks time to the Ministry of Food, Agriculture and Livestock, which will later consult the stakeholders and take a final decision on the introduction of the latest technology of Bt-Cotton. Pakistan Central Cotton Committee (PCCC) and Monsanto - a multinational agricultural biotechnology corporation - are members of the committee, that will assess the overall situation relating to the transfer of new technology, its value, productivity and reasonable price acceptable to the farming community.

This decision was taken during a high level meeting held in MINFAL, which officials of the Ministry and the Planning Commission, representatives of Monsanto and private stakeholders attended. Officials who attended the meeting told *Daily Times* that at present 'Boll Guard' with Gem-1 is used in Pakistan; and the Monsanto representative told the participants that the company has produced a new variety of Gem-2. The company wanted to introduce this technology in Pakistan along with other hybrids seeds, already used in other countries.

Monsanto representatives made presentations on new varieties of Bt-Cotton, including Gem-2, and new varieties of hybrid seeds. It was also said that MINFAL officials insisted on reasonable prices for Monsanto products since the farmers were unable to pay higher prices. The government has already signed an MoU with Monsanto for increasing the cotton production.

Cotton being a main cash crop and source of foreign exchange earning, the country witnessed a declined cotton production of 11.6 million bales against the target of 14.11 million bales in 2007-08 due to multiple factors. One of the main reasons of low cotton production is stated to the use of fake Bt cottonseed while other factors were the attack of mealy bug, CLC, paucity of water, etc.

Bt cotton is an economic incentive for the poor farmers due to lower usage of pesticide and lesser damage to the crop. Bt cotton is developed by Genetic Engineering techniques and eight countries commercially grow it including USA, Australia, China and India. Some Bt cotton varieties may have a lower expression of Bt toxin proteins and can lead to the development of resistance in chewing pest. In Pakistan, experts said most of the Bt cotton varieties were marketed with the wrong notation of resistance to all pests.

<http://www.dailytimes.com.pk>

THE PHILIPPINES

Software exports

Philippine software exports are expected to reach almost \$ 1 billion by 2010,

more than twice the \$ 423 million earned in 2007, an industry association said. Cristina Coronel, president of the Philippine Software Industry Association (PSIA), said this was based on the robust annual growth of 30 per cent the industry has been enjoying in recent years.

Currently, local companies have been targetting US firms. To further promote the Philippines as a major player in the global software outsourcing industry, the PSIA and the New York-based office of the Department of Trade and Industry conducted a roadshow in Los Angeles, San Francisco, Chicago and New York. Similar efforts are lined up to tap other markets such as Europe, Japan, New Zealand, and other countries in the Asia-Pacific region.

Coronel added that they were looking at smaller companies seeking to move their programming, product development and R&D offshore.

Software services account for nine per cent of the total business processes outsourced to the Philippines, a far cry from call centres, which account for 74 per cent. The local software industry, however, continue to deal with IT-skilled graduates, including programmers, who opt to leave for higher paying jobs abroad.

On concerns about data security, Coronel said, "We told them that there are already laws in place to protect them from any problems regarding that. Among these is the e-commerce law, and two pending laws, Republic Act 1180 or the IT Security Law, and R.A. 880, or the Data Privacy Law."

Trade Representative for New York Josephine Romero added that there were also concerns raised on the legitimacy and stability of Philippine companies. "We assured them that we have companies in the Philippines that are not fly-by-night and could properly service their requirements," Coronel said. The PSIA has 140 members, ranging from small, local software companies to large multinational software firms such as Microsoft Corp. and Accenture.

<http://www.abs-cbnnews.com>

Technology Market Scan

SRI LANKA

Nanotechnology Park

The first nanotechnology park is expected to commence operations from November with an investment of US\$ 10 million, which is backed by the Science and Technology Ministry and SLINTec and MAS Holdings Chairman Mahesh Amalean. The Board of Investment of Sri Lanka signed the agreement with Nanco to develop and manage the country's first Nanotechnology Park. Nanotechnology is a rapidly growing field of applied science where matter is controlled at an atomic or molecular scale. Examples of Nanotechnology include the manufacture of polymers based on molecular structure and the design of computer chip layouts based on surface science. Nanotechnology will produce benefits in two ways by making existing products and processes more cost effective, durable and efficient and by creating entirely new products. Dhammika Perera, Chairman/Director General signed the Agreement on behalf of the BOI, and formally presented the investor with the BOI Certificate of Registration.

The Nanotechnology Park, located at Homagama is an investment of US\$ 10 million, and will generate approximately 1,500 careers. A.N.R. Amarathunga (Secretary, Ministry of Science and Technology) and Mahesh Amalean (Chairman, SLINTec and Chairman, MAS Holdings) signed the agreement on behalf of the company. Professor Sirimali Fernando, Chairperson of the National Science Foundation and Professor Ravi Silva (Director of Advanced Technology Institute of the University of Surrey) were also present at the occasion.

Professor Ravi Silva said "The project will infuse Nanotechnology into the Sri Lankan industrial sector and make Sri Lankan products world leading and competitive. Nanotechnology can be used to enhance most of the industrial products such as rubber products, apparels and energy." He explained that the Nanotechnology centre will develop new products and create intellectual products that can be exploited, while the Park will house the manufacturing plants for local and foreign inward investors.

<http://www.dailymirror.lk>

ICT market growing on moderate economy

Sri Lanka, with its fast growing economy and vast untapped broadband market, has the potential to take its ICT market to new heights. The ICT industry of Sri Lanka is one the fastest growing and has the potential to emerge as one of the leading revenue generators for the country, says "Sri Lankan ICT Market Analysis", a new research report from RNCOS.

The report says that Sri Lanka has been showing strong determination to develop its infrastructure, despite ongoing political problems, and this sustainable economic growth is one of the main reasons boosting growth in the country's ICT market. At present, the Sri Lankan economy is counted among the most moderate economies in South Asia that has succeeded in maintaining healthy growth rates in the recent past. Moreover, the country has some added benefits in developing its ICT industry, like favourable macro-economic policies and a business culture open to international investors and partners. In addition, Sri Lankan telecom industry, constituted by fixed and Wireless Local Loop (WLL) operators, and mobile and public phone operators, is the most liberal in South Asia.

However, the broadband penetration in Sri Lanka is still very low, representing huge growth opportunities for the ICT market, says the RNCOS report. Total broadband subscribers in the country are estimated to grow at an annual growth rate of 22-25 per cent during 2008-2011, creating a huge demand for ICT products and services. This will open up immense business opportunities for such sectors as IT-BPO, healthcare, banking, educational sectors, safety & security market and Internet and broadband providers.

"Sri Lankan ICT Market Analysis" comprehensively discusses segments like Internet subscribers, broadband subscribers, fixed-line telephone subscribers, and mobile subscribers and provides forecast on the vital segments of the industry. In addition, the research gives information on current and future market trends in the IT and telecom sector with focus on PC, Internet, mobile and fixed telepho-

ny and broadband market. It highlights key market drivers, and challenges for the market, and gives rational analysis on various aspects, enabling investors, financial service providers, and global IT and telecom players to evaluate their prospects in the rapidly growing ICT market in Sri Lanka.

<http://www.prminds.com>

THAILAND

Bioplastic plan backed

The Cabinet yesterday approved a five-year, Bt 1.8-billion plan to develop integrated bioplastic production locally. "This will bring a facelift to the Thai industry. Strategic innovations will be encouraged, particularly in the agricultural sector. This will also encourage the birth of new environmentally friendly industries," said Supachai Lorlowhakarn, director of the National Innovation Agency (NIA).

Besides environmental benefits, the net return from bioplastic production would be 21-per cent higher than for a tapioca factory, he said. The NIA would prepare raw materials, speed up technology development, promote innovative industries and prepare infrastructure. The plan targets Bt 500 million of economic value from technology, Bt 1.5 billion worth of degradable products from an investment of Bt 3 billion and environmental value of Bt 500 million from reduced waste-disposal costs.

Bioplastics, mostly deriving from cornstarch, account for only 1 per cent of total plastic demand of 200 million tonnes per year, according to the NIA. Worldwide bioplastic capacity is only 360,000 tonnes per year. "Due to the 30-per cent annual demand growth, bioplastics will produce a great opportunity for Thailand, which has high capacity to develop an integrated bioplastics industry," he said.

Thailand had abundant biomass resources and agricultural feedstock, particularly tapioca. The Kingdom is the world's third-largest cassava grower and the world's No-1 exporter, with a production capacity of 27 million tonnes worth Bt 61 billion.

<http://nationmultimedia.com>

Plan to give big boost to ICT industry

The development of information and communication technology in Thailand in the next five years will help the country become "Smart Thailand" equipped with "Smart People" and a "Smart Government". This is the goal of the country's second ICT master plan - for 2009 to 2013 - drafted by the National Electronic and Computer Technology Centre (Nectec).

The first draft of the plan is complete and Nectec intends to submit it to the National Information Technology Committee for approval. ICT Master Plan second phase development team head Chadamas Thuvathakul said the plan aims to achieve its "Smart Thailand" goal by 2013.

The plan is being developed to achieve three objectives. One, encourage about 50 per cent of the population above 15 years to become more ICT literate and use computers in all spheres of life. Two, improve the country's ICT readiness so it is better positioned on the world stage. And three, increase the contribution of the ICT industry to the country's gross domestic product (GDP) to 20 per cent, from 13.2 per cent last year.

The plan, Chadamas said, comprises six national strategies. The first strategy - the Information Literacy strategy - will focus on human-resource development. It aims that by 2013, every year more than 15 per cent of students will graduate from the science and technology stream, while 30 per cent of those in the ICT field will acquire international certification. The plan will also encourage more than 50 local software projects to participate in international forums each year.

The second strategy, the National ICT Governance strategy, will encourage the government to use ICT to aid governance. The plan will set up a new "Policy Coordinating Body" to drive the national ICT policy and oversee the development of ICT legislation.

The third strategy is to improve the country's ICT infrastructure, with a goal of providing Internet speeds of at least 4 megabits per second (Mbps) to every district in the country and of at least 10 Mbps to all educational institutes.

Fourth, the e-Governance strategy will develop an e-Government Interoperability Framework. The open-standards technology will enable all government organizations to share and exchange information, thereby creating a one-stop service centre for citizens by 2010.

The fifth strategy is to turn the ICT industry into a major income generator for the country, with special focus on the software industry.

The plan will encourage Thailand's export of niche software, increasing its contribution to about 30 per cent of the total software revenue. It also aims to increase the software industry's worth to Bt 150 billion, of which about 50 per cent would come from local software development. The plan aims to increase ICT spending in Thailand to over 2 per cent of the GDP and increase ICT research and development budgets in both government and private sectors to more than 3 per cent of the overall value of the ICT industry.

Lastly, the plan will focus on developing ICT for sustainable competitiveness. This strategy will increase Internet penetration in businesses to up to 50 per cent while pushing for a 25-per cent increase in use of ICT by small and medium-sized enterprises.

At a glance

- The ICT Master Plan 2009 to 2013 intends to increase the country's ICT readiness and global competitiveness.
- It aims to develop human resources and aid governance through the use of technology.
- It will encourage Thailand's export of niche software, increasing its contribution to about 30 per cent of the total software revenue.

<http://nationmultimedia.com>

VIET NAM Risk investment fund for hi-tech development

The initiative to set up a hi-tech risk investment fund under the hi-tech draft law is expected to boost Viet Nam's de-

velopment in the field, Vietnam News Agency (VNA) reported. According to the bill, which is scheduled to be adopted at the fourth National Assembly session in October 2008, this is a State financial fund specializing in investing in and providing consultation services to hi-tech businesses, organizations and individuals with hi-tech products development projects. The fund is to be set up with the State capital and financial contributions by domestic and foreign businesses, joint ventures and international organizations, and other sources.

According to the Minister of Science and Technology Hoang Van Phong, Viet Nam is now home to more than 30 operating risk investment funds with an arm of the International Data Group being the sole fund focusing on hi-tech. The Chairman of the NA's Committee for Science, Technology and Environment Dang Vu Minh said that the two percentage of the total State budget for scientific and technological activities is much lower than that of other countries in the world.

An investment fund's initial capital given by the State will help attract capital from domestic and foreign economic sectors for hi-tech activities, he said. The NA will propose the Government to develop mechanisms for orders and biddings of hi-tech key development projects, with the aim of raising the efficiency of investment in the field.

According to the Ministry of Science and Technology, information technology, bio-technology, new materials technology and automation technology have been taken into the government's sci-tech programmes since early 1990s. These research programmes have helped the agriculture and fisheries sectors earn tens of thousands of billions VND each year. The achievements in IT, automation and advanced materials have helped enormously reduce the cost of imported facilities.

At present, Viet Nam has around 100 research institutes and 80 colleges and universities involved in hi-tech activities. More than 60 projects totalling over US\$ 2.1 billion are operating in Ho Chi Minh City and Hanoi hi-tech parks.

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