

Technology Market Scan

INTERNATIONAL

Technology indicators

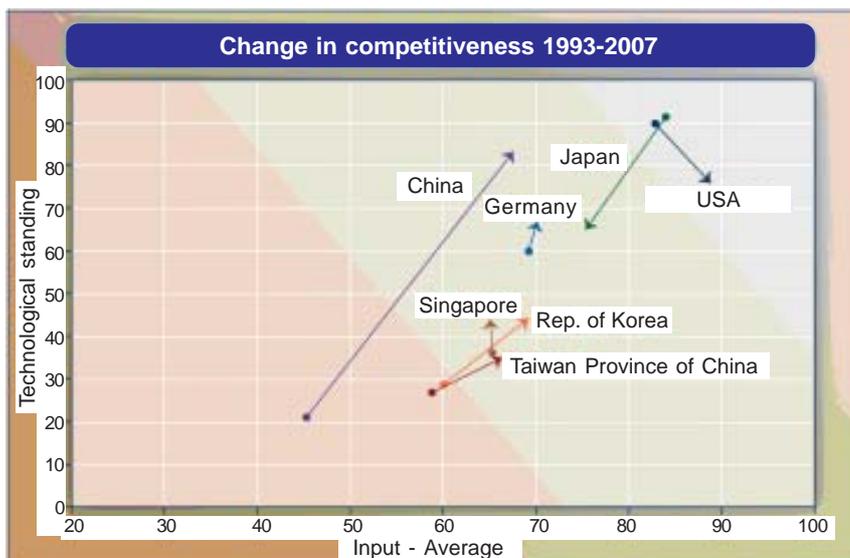
A new study of worldwide technological competitiveness suggests China may soon rival the USA as the principal driver of the world's economy - a position the USA has held since the end of World War II. If that happens, it will mark the first time in nearly a century that two nations have competed for leadership as equals.

The study's indicators predict that China will soon pass the USA in the critical ability to develop basic science and technology, turn those developments into products and services - and then market them to the world. Though China is often seen as just a low-cost producer of manufactured goods, the new "High-Tech Indicators" study done by researchers at the Georgia Institute of Technology clearly shows that the Asian powerhouse has much bigger aspirations.

Georgia Tech has been gathering the high-tech indicators since the mid-1980s, when the concern was which country would be the "next Japan" as a competitive producer and exporter of technology products. The current "HTI-2007" information was gathered for use in the NSF's biennial report, "Science and Engineering Indicators", the most recent of which was released January 15, 2008.

Georgia Tech's "High-Tech Indicators" study ranks 33 nations relative to one another on "technological standing", an output factor that indicates each nation's recent success in exporting high technology products. Four major input factors help build future technological standing: national orientation toward technological competitiveness, socio-economic infrastructure, technological infrastructure and productive capacity. Each of the indicators is based on a combination of statistical data and expert opinions.

A chart showing change in the technological standing of the 33 nations is dominated by one feature - a long and continuous upward line that shows



Change in technological standing for selected nations from 1993-2007.

China moving from "in the weeds" to world technological leadership over the past 15 years.

The 2007 statistics show China with a technological standing of 82.8, compared to 76.1 for the USA, 66.8 for Germany and 66.0 for Japan. Just 11 years ago, China's score was only 22.5. The USA peaked in 1999 with a score of 95.4.

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WTO investigates European tariffs

The World Trade Organisation has set up an independent dispute panel to investigate charges by the US, Japan and Taiwan that European Union tariffs on new-generation electronic consumer goods violate a 1996 agreement on duty-free status for IT products.

Brussels argues that flat panel displays, television set-top boxes and multi-function printers are not covered by the IT agreement, which lists 180 products such as semiconductors, computers and telecoms equipment.

A separate panel was created to examine Japan's compliance with a WTO ruling against its anti-subsidy tariffs on semiconductor imports from Republic of Korea, imposed after the financial bail-out of Hynix, the chipmaker, in the late 1990s.

<http://www.ft.com>

Renewable energy push for mobile networks

The GSM Association (GSMA), the global trade body for the mobile industry, launched the Green Power for Mobile programme with the goal of helping the mobile industry use renewable energy sources, such as solar, wind, or sustainable biofuels, to power 118,000 new and existing off-grid base stations in developing countries by 2012. Achieving that target would save up to 2.5 billion litres of diesel per annum and cut annual carbon emissions by up to 6.3 million tonnes.

The GSMA forecasts that by 2012 up to 50 per cent of new off-grid base stations in the developing world could be powered by renewable energy. Backed by 25 mobile operators, the Green Power for Mobile programme will provide expertise to support the deployment of base stations that use renew-

able energy. Up to now, off-grid base stations have primarily been powered by generators running on diesel fuel, which is increasingly expensive, generates carbon dioxide emissions, and can be difficult to transport to remote locations.

Following extensive research with mobile operators, the GSMA Development Fund estimates that only 1,500 base stations worldwide are powered by at least one form of renewable energy. Challenges to date have included commercial viability, equipment availability and lack of expertise, but the GSMA's research suggests that rising diesel prices and falling renewable equipment costs mean that operators investing in green power sources for base stations could recoup the capital costs in as little as 24 months.

The GSMA Development Fund is already working with several mobile operators to develop renewable power solutions for a variety of base stations located in diverse geographies. The Development Fund has supported Digicel's deployment of wind and solar energy to power 17 new base stations on the Pacific island of Vanuatu.

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ASIA-PACIFIC

IT competitiveness

Four Asia Pacific economies - Taiwan Province of China, Australia, Republic of Korea and Singapore - are ranked among the top 10 in the world in IT industry competitiveness, according to a study by the Economist Intelligence Unit (EIU). The study has ranked these economies as the second, seventh, eighth and ninth most competitive IT industries in the world. In the Asia Pacific, Singapore provides one of the best environments for human capital development, the study noted.

The study, sponsored by the Business Software Alliance (BSA), is now in its

second year. It assesses and compares the information technology industry environments of 66 economies to determine the extent to which they enable IT sector competitiveness. The BSA is an organization dedicated to promoting a safe and legal digital world. While the top 20 economies remain the same from one year ago, nine moved up and eleven went down in the rankings, said an EIU spokesperson. Three economies in the top five are new: Taiwan Province of China, Sweden and Denmark. By region, the top five economies in the Asia Pacific are Taiwan Province of China, Australia, Republic of Korea, Singapore and Japan.

Other key findings

Some key findings of the study, with reference to the Asia Pacific region, include the following:

- In 2008, Taiwan Province of China rose to second place in the world through its strengths in R&D and nurturing technology talent. The USA ranks top of the index, with the UK, Sweden and Denmark ranking, third, fourth and fifth in the world respectively.
- The brain-drain of IT talent from emerging markets shows signs of slowing or reversing, as training opportunities expand in markets and IT professionals return home to work in established technology firms and start-ups.
- Emerging IT outsourcing industries in countries in the middle and lower index tiers like Viet Nam would receive a significant boost with faster, competition-led infrastructure development.
- In the region, Australia retains one of the world's most effective systems of IP protection and the most developed bodies of e-commerce and cybercrime law.
- Progress in bolstering legal regimes is being made in tough economies like China, which has in recent years, brought its IP regime and e-commerce legislation more closely in line with international norms, and gradual improvements are evident in its IP enforcement.
- East Asian economies like Taiwan, Republic of Korea and Japan remain

the index leaders when it comes to the R&D environment for technology production.

<http://www.cio.in>

CHINA

Amendment of patent law

The formal adoption of the National Intellectual Property Strategy has quickened the amendment of the Chinese Patent Law that seeks to enhance IPR protection and to revamp the application process. Less than three months after the State Council put its stamp on the patent law reform blueprint, the government, on August 25, this year, submitted the draft amendment to the National People's Congress (NPC) Standing Committee, the top legislative agency, for first reading. A draft law requires three readings before it can be adopted. If passed, this amendment will be the third revision to the law that was promulgated 25 years ago.

The previous two amendments were enacted in 1992 and 2000. The first amendment added pharmaceutical compositions to the list of patentable subject matter and inaugurated China's membership in the Patent Cooperation Treaty (PCT). The second amendment brought China's Patent Law into compliance with the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement.

The latest amendment is expected to bring the law and processes up to international standards and best practices. Tian Lipu, director general of the State Intellectual Property Office, told reporters that the proposed amendments to the Patent Law would make several important changes to the law's application process and enforcement.

One change involves the adoption of the so-called "absolute novelty" standard that is applied internationally. Under this standard, patent examiners are required to consider public use evidence both inside and outside China when processing patent applications. Adoption of an absolute novelty standard will have the effect of reduc-

ing patent infringements, legal experts say. The draft does not state whether this absolute novelty requirement would be made retroactive.

Another important change is the proposed removal of the statutory requirement for all Chinese individuals and entities to first file applications in China for inventions made in China. The revision would allow Chinese individuals and entities to file their patents for the first time in other countries, not necessarily China. In other words, under the draft amendments, applicants could apply for foreign patents even before obtaining Chinese patents. But the applicants are supposed to go through checks held by patent authorities of the State Council, China's Cabinet, for the sake of state security, says Tian.

The checks are to prevent leaks to some foreigners or by foreign-owned research labs in China that apply for patents to an entity outside of China and circumvent the foreign filing requirement of the current Chinese patent law. This foreign filing license regime is the same as the system in the USA.

To ensure the patent has economic benefits, the draft also provides a "compulsory licence". That means the government may grant a compulsory licence to a party qualified to exploit the patent if the patent owner, without justification, has not exploited or sufficiently exploited the patent three years after the patent was granted. The draft also provides for a compulsory licence to be granted if it is judicially or administratively determined that the patent owner used the patent right in an anti-competitive fashion.

The draft amendment increased the penalty for IPR infringement from 300 per cent to 400 per cent of the illicit profits and raised the damage payment from 50,000 yuan to 200,000 yuan even if there is no profit from infringement. And the draft for the first time makes a definitive statute that the People's Court can order the infringer to pay from 10,000 yuan to 1,000,000 yuan in compensation when the damage cannot specifically be identified.

<http://www.chinadaily.com.cn>

S&T expenditure

In 2007, China's S&T expenditure has reached RMB 99.961 billion, or 3.4 per cent as a proportion of state treasury expenditure in the same year, said Xie Xuren, Chinese Minister of Finance, on August 27, 2008 in his 2007 financial report. Xie pointed out that the state treasury has enhanced its input in the National Natural Science Foundation, supporting more public good R&D activities and the development of national labs and national key labs.

Meanwhile, the Chinese government has made more money available to support proprietary innovation activities of small and medium-tech businesses. In 2007, China has seen an increasingly optimized expenditure structure, with more weight on farming, education, medicare reform, social support, culture, ecological reconstruction, and environmental protection.

<http://www.most.gov.cn>

Measures designed to assist SMEs

The central treasury is implementing six measures this year to help small and medium-sized enterprises (SMEs) meet the challenges they face, according to the Ministry of Finance. The ministry will earmark 3.51 billion yuan (\$ 514 million) worth of special funds to help the growth of SMEs, it announced earlier this month. The measures include: Guiding SMEs to adjust their growth model. SMEs have been encouraged to adjust their corporate structure, save energy, cut emissions and further explore the domestic and overseas markets. The public service system for SMEs has also received a boost.

The fund valued at 500 million yuan, dedicated to the development of SMEs this year, has been allocated, up 25 per cent from last year. About 1.2 billion yuan, or 20 percent more than last year, has been set aside for exploring the international market. The subsidy for improving the public service system for SMEs, summed at 110 million yuan, has been prepared. A technological innovation fund, valued at 1.4

billion yuan, has been earmarked, representing 27 per cent growth from last year. An additional 300 million yuan has been directed to commercializing agricultural technological results.

The central treasury has granted greater support to credit guarantee institutions, thus building the system, and guided them to actively serve SMEs, thus improving the financing environment.

Starting 2008, tax incentives were implemented. The corporate income tax became standard at 25 per cent for both domestic and foreign enterprises. For some small or marginally profitable enterprises that meet certain criteria the rate is reduced to 20 per cent, and for some hi-tech companies, the rate is 15 per cent.

To help textile and garment enterprises, many of which are SMEs, cope with their difficulties, the export duty rebate rate on textile and garment products was increased from 11 per cent to 13 per cent, which result in a half-year total rebate of 10 billion yuan.

The Ministry of Finance will formulate regulations for government procurement targeting SMEs. Governments at various levels will be encouraged to procure from SMEs. A decision was adopted on 1 September 2008 to stop collecting industry and commerce administration fees and market administration charges, which mostly benefits SMEs.

<http://www.chinadaily.com.cn>

INDIA

Technology transfer fee, royalty

To encourage industry to source better technology, tie up with the best global brands and collaborate on cutting-edge industrial research, the government plans to relax the import regulations.

Soon, there will be no quantitative restrictions on the pricing of technology transfers or valuation of brands in any foreign investment deal with an Indian company. Several international brands in the retail sector and high technology companies in the pharma and telecom sectors are exploring ways to tap the Indian markets. For

them and their Indian partners, the current restrictions on valuations are a dampener. Under RBI's automatic approval route, domestic partners of foreign companies can make payments of only up to 5 per cent of domestic sales and 8 per cent of exports as fees for importing technology.

In the case of technical know-how fees, The Reserve Bank of India (RBI) allows only a lump sum payment of \$ 2 million under the automatic approval route. Higher payments will need case-by-case clearances. Similarly, if a firm allows just the use of its brand name or trademark without a technology transfer, the ceiling on payment of royalty is 2 per cent of exports and 1 per cent of domestic sales.

All these ceilings are up for review, and would be done away with. "This is in keeping with economic liberalization. We are making it easy for corporations to negotiate so that only commercial considerations get precedence," a senior official of the concerned ministry told Financial Express.

This means firms would not need the approval of the Foreign Investment Promotion Board if they want to pay a higher royalty and technical know-how fees. This will cut down on the uncertainty surrounding the "discretionary" approval, consultants said. Normally, such FIPB approval takes 8-10 weeks.

<http://www.financialexpress.com>

Increase in trademark, patent applications

If the total number of IPR applications filed in the country is an indication, then India is creating a conducive environment for innovations. According to the Department of Industrial Policy and Promotion (DIPP) and Intellectual Property Rights (IPRs), the filing of patent applications has increased from 4,824 in the year 1999-2000 to 28,882 applications in the year 2006-2007.

As against 8,010 trademark (TM) registrations in 1999-2000, 109,361 TMs were registered in 2006-07. Also, the filing of applications for design has increased from 2,874 in 1999-2000 to 5,372 in 2006-07. Out of these, there

has been a significant increase in the number of patent applications filed in the computer/electronics and biotechnology fields in recent years, due to the intensive research and development activities taking place in these sectors. One of the main reasons for the growth in the number of patent applications filed in India has been attributed to the government's initiatives to strengthen the IPR in India, in collaboration with industry and academia.

The government has spent about Rs 150 crore in the first phase to create modern integrated Intellectual Property Offices (IPOs) with augmented human resources in the four metros, which are fully computerised. A budget of Rs 320 crore has been approved for the second phase of modernization. The registration and renewal of intellectual properties related to patents, trade marks, copyrights, designs and geographical indications (GI) are carried out at the IPOs.

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

Kashmiri Pashmina, Kanni get GI cover

In a major step to check the sale of fake Pashmina and Kanni shawls, the Central Government has awarded the products a patent recognizing the Kashmiri origin of the immensely popular traditional handlooms.

Under the Geographical Indications (GI) of goods patent, Kashmiri Pashmina and Kanni shawls will now have their own distinctive logos, officials said. While the status to Pashmina was given on 12 September 2008, Kanni was patented on 29 July 2008.

The patent came after an agreement among Kashmir Handmade Pashmina Promotion Trust (KHPPT), Wildlife Trust of India (WTI), Crafts Development Institute (CDI) and Tahafuz, a society of diverse Kashmiri handicraft artisans, on 12 September 2008. Union Minister of State for Commerce Jairam Ramesh headed the discussions, they said.

The Kashmiri Pashmina and Kanni GI would be registered in Clauses 23 (yarns and thread for textile use) and

24 (textiles and textiles goods, not included in the category of bed, table covers and clothing).

<http://www.indianexpress.com>

Share in revenue from innovations

A career in public-funded scientific institutions is set to become attractive, with the Union Cabinet giving its nod for a Bill that will allow scientists there to have a share in the revenue generated by their innovations. Scientists who create intellectual property rights will get at least 30 per cent of the income on the innovations after deduction of expenses incurred on protection and utilization of the IPRs. Out of the remaining amount, the institution, where they worked, would retain 40 per cent for further research and meeting expenses for the protection and maintenance of the IPRs. The balance will be deposited in a special fund for the management of the IPRs.

The special fund would be under the charge of a committee to be constituted by the scientific organization. Apart from managing the fund, the panel will identify, assess and document public-funded intellectual property with commercial potential generated by the institution. Besides, it would be required to monitor licensing and assignment of the IPR, conduct market research and help in the commercialization of IPRs.

Under the Bill, every institution that receives funds from the government will have to constitute the committee. It will have to inform the government of the generation of an IPR within two months and apply, within three months, to retain the IPR title. The government will normally allow the institution to keep the IPR title, except where the security of the country is at stake. The institution will have to submit a report every six months on the specific steps taken for utilization of the IPRs, including details of licensees. It will also have to get the government's written permission before assigning the IPR to anyone.

<http://www.hindu.com>

INDONESIA

LOI for exclusive joint venture

Kerry Associates is pleased to announce that it has received a signed letter of intent on behalf of W2 Energy, Inc. (PINKSHEETS: WTWO) from Aquarian Gold Corp. to become an exclusive Joint Venture Partner in Indonesia.

The letter of intent would allow Aquarian Coal to become the exclusive Joint Venture Partner in Indonesia to use this technology to produce liquid fuel from coal. W2 Energy, Inc. has certain rights and licenses for technology that allows the processing of multi-waste streams and by-products, as well as a technology for the processing of coal that maximizes the recovery of all by-products related to coal mining.

This technology would increase the yield of the coal and the by-products, and reduce production costs while reducing the environmental effects of mining coal. Coal reserves that previously couldn't be mined due to coal seams that are not economical can now be worked. Aquarian Gold is working on several projects where the use of this technology would substantially increase the economic benefits of coal mining.

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REPUBLIC OF KOREA

RFID patent applications

The number of patent applications for RFID, the core technology of the ubiquitous era, is surging at 61 per cent a year. According to Korea Intellectual Property Office (KIPO), the number of patents filed for RFID, which was only

70 in 2001, soared to 186 in 2003, 892 in 2005 and 1,201 in 2007. RFID has a wide range of applications and the demands are growing as the prices are getting lower than the very beginning. Besides, companies are competitively plunging into technology development, as RFID is booming. All these are contributing factors to the sudden rise of related patent applications.

Among areas of patents filed for, application systems for finance, postal service and logistics account for the majority of 69 per cent (2,668 patents filed from 2001 to 2007), followed by chips and tags (14 per cent), middleware (7 per cent), readers (6 per cent) and antennas (4 per cent). The most active assignee is ETRI that filed 293 patents. Samsung Electronics filed 209 patents, while SK Telecom and LG Innotek 140 and 117 patents, respectively.

Quoting IDTechEX, a British market research institute, KIPO forecasts the world RFID market volume which was \$ 2.7 billion in 2006 will grow ten times to 27 billion by 2018.

<http://www.telecomskorea.com>

3G slowly moving to laptops, PMPs

Third-generation (3G) wireless networks, heralded for their ability to handle high-speed data services, have become conventional in the mobile-phone front. However, it bears further observing whether the technology can extend its popularity to laptops and other portable multimedia devices. Mobile-phone carriers like SK Telecom and KTF are bragging about gathering more than 12 million combined customers for their 3G services that promise larger options for video and data transfer atop higher voice capacity.

However, as the companies would reluctantly admit, most of their 3G customers, although attracted by the ultra-cool handsets, are not ready to spend their money on anything other than voice, as their low data revenue attests.

Getting data traffic from 3G customers for laptops and portable media players (PMPs), on the other hand, would

obviously be less of a challenge. And due to the expansion of coverage and the increasing demand of users asking for connection from anywhere at anytime, electronics makers are becoming more interested in adding 3G capabilities to their products.

Hewlett-Packard (HP) is expected to release a laptop with a HSDPA (high speed downlink package access) module by the end of the year, and other computer makers are talking with wireless carriers over the release of 3G-enabled laptops too.

SK Telecom, the country's largest mobile-phone operator with more than a 50 per cent market share, is also interested in getting more revenue from computer users. The company said it is talking with "two or three" computer makers over releasing laptops with its "T Log-in" 3G modules and said 3G-enabled PMPs, targeted for students, are also to be released soon.

The renewed interest in 3G-enabled laptops is a departure from the skepticism of previous years. Local makers like Samsung and LG had released laptops supporting SK Telecom and KTF's 3G services in 2006, but gathered only minimal fanfare. Customers were put off by expensive usage rates, let alone the outrageous costs of the computers, and its low data rate was also a source of frustration.

<http://www.koreatimes.co.kr>

THE PHILIPPINES

Draft rules of cheaper medicines law

Medicines can be imported freely once they are advertised or sold in the Philippines or anywhere else in the world under the first draft of rules implementing the cheaper medicines law. The rules make use of the legal principle of "exhaustion," reversing the current practice in which a drug manufacturer can sue for patent infringement if another entity imports cheaper versions of the same patented medicine from abroad.

The Intellectual Property Office of the Philippines (IP Philippines) has released the first draft of rules for the intellectual property portion of Republic Act 9502, or the "Universally Accessible Cheaper and Quality Medicines Act of 2008." The agency will conduct public consultations on October 9. The draft is a result of a previous consultation in July.

<http://www.bworldonline.com>

THAILAND

Skills enhancement for R&D

Local businesses are being encouraged to produce more skilled human resources to support investment in research and development. The goal is to create competitive advantages for the country. The Board of Investment (BOI) has granted full incentives for the promotion of R&D investment instead of labour-intensive projects since 2006. It has approved 33 projects with a combined investment of Bt 4.282 billion.

"As far as the BOI is concerned, we provide the maximum incentives to encourage R&D investment in the country. However, our main problem is a shortage of skilled workers," said BOI, senior executive investment adviser, Hirunya Suchinai.

Most R&D projects are from international firms such as Seagate, Toyota and Honda and leading local companies such as Siam Cement and PTT. Thailand is now ranked in the top three for R&D in Southeast Asia, behind Singapore and Malaysia, Hirunya said.

Apart from the automotive and electronics industries, Greater Pharma, a leading Thai medicinemaker, has spent Bt 37.6 million on developing allergenic vaccines. Hirunya said pharmaceutical companies needed to conduct more R&D if they wanted to pass stricter international standards, which would otherwise act as a trade barrier to their exports.

The BOI has also granted additional privileges for manufacturers who put

more investment into improving their workforce skills, technology and innovation (STI). Seventeen STI projects have been submitted for these privileges and the BOI has approved all but one of them, with a combined investment of Bt 2.32 billion. Western Digital, for example, has collaborated with the National Electronics and Computer Technology Centre (Nectec) on a hard-diskdrive enhancement project that requires an investment of more than Bt 500 million. One of the STI goals is to encourage foreign firms to transfer their technology to local academic institutes or public organizations such as Nectec.

<http://nationmultimedia.com>

ICT ministry promotes local brands

To encourage government agencies to purchase computers from local manufacturers, the Information Technology and Computer (ICT) Ministry has signed a memorandum of understanding with the National Electronics and Computer Technology Centre (Nectec), the Electrical and Electronic Products Testing Centre (PTEC), Electrical and Electronics Institute, and the Thai Industrial Standards Institute (TISI).

ICT Ministry's ICT Industry Promotion Bureau director Ajin Jirachieepattana said the project aims to promote the local ICT industry and help government agencies gain confidence in local manufacturers. The project will show buyers that products manufactured indigenously are of high quality and match international standards. "We want to push government agencies to purchase certified computers and increase competition between local and international brands. Each year government agencies spend a lot on IT equipment for their organizations," ICT Ministry permanent secretary Sue Loutai said.

The project will promote local brands that have been certified by Thai Industrial Standards (TIS) including TIS 15612548 (2005), which is related to information-technology equipment safety; TIS 19562548 (2005), which is

related to general requirements of information-technology equipment; and the Nectec Mark, which certifies reliability related to testing and radio-disturbance limits. Currently, there are only three manufacturers that are certified - Powell Computer, SVOA and Synnex (Thailand).

PTEC director Kwan Sitathani said the project will develop confidence among government agencies and will provide open doors for local manufacturers to tap the government sector and improve their quality standards. Powell Computer Manufacturing president Kasin Aramsereevong also said the project will help local brands reach the profitable government market.

<http://nationmultimedia.com>

VIET NAM

Software industry development

An institute under the Ministry of Information and Communications has signed a memorandum of understanding (MOU) with US and Japanese partners to develop the software and digital industry in Viet Nam. Under the MOU, the California-based Laserfiche Company and its exclusive distributor Quadralink Global Services Inc. will offer training and transfer technology to Viet Nam's National Institute of Software and Digital Content Industry (NISCI). The company will also process and manage digital document images for NISCI's experts.

Japan-based Trinity Security Systems Incorporated (T-SS) will also transfer software technology relating to wireless network security and digital content copyright security to the institute. Launched in Hanoi, NISCI will also focus on training, consulting and transferring technology to local businesses, agencies and organizations of information technology application and development. T-SS provides software, hardware and various other services for digital information security.

<http://www.thanhniennews.com>