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Health Information Exchange,
A Medical Necessity



L&T Infotech

SUDIP BANERJEE
CEO, L&T INFOTECH

Indian IT Giant on
the Rise, Leaving
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Tel: +1 212 705 8900
Fax: +1 212 705 8999
society@comsoc.org, www.comsoc.org

Singapore Office
Fanny Su Beh Noi, Manager
59E Science Park Drive
The Fleming, Singapore Science Park
Singapore 118244 SINGAPORE
Tel: +65 778 2873, Fax: +65 778 9723
fsu@ieee.org

China Office
Ning Hua, Chief Representative
Rm 1530, South Tower,
Raycom Info Tech Park C,
Haidian District,
Beijing, 100190, China
Tel: +86 10 8266 2025, Fax: +86 10 8262 2135
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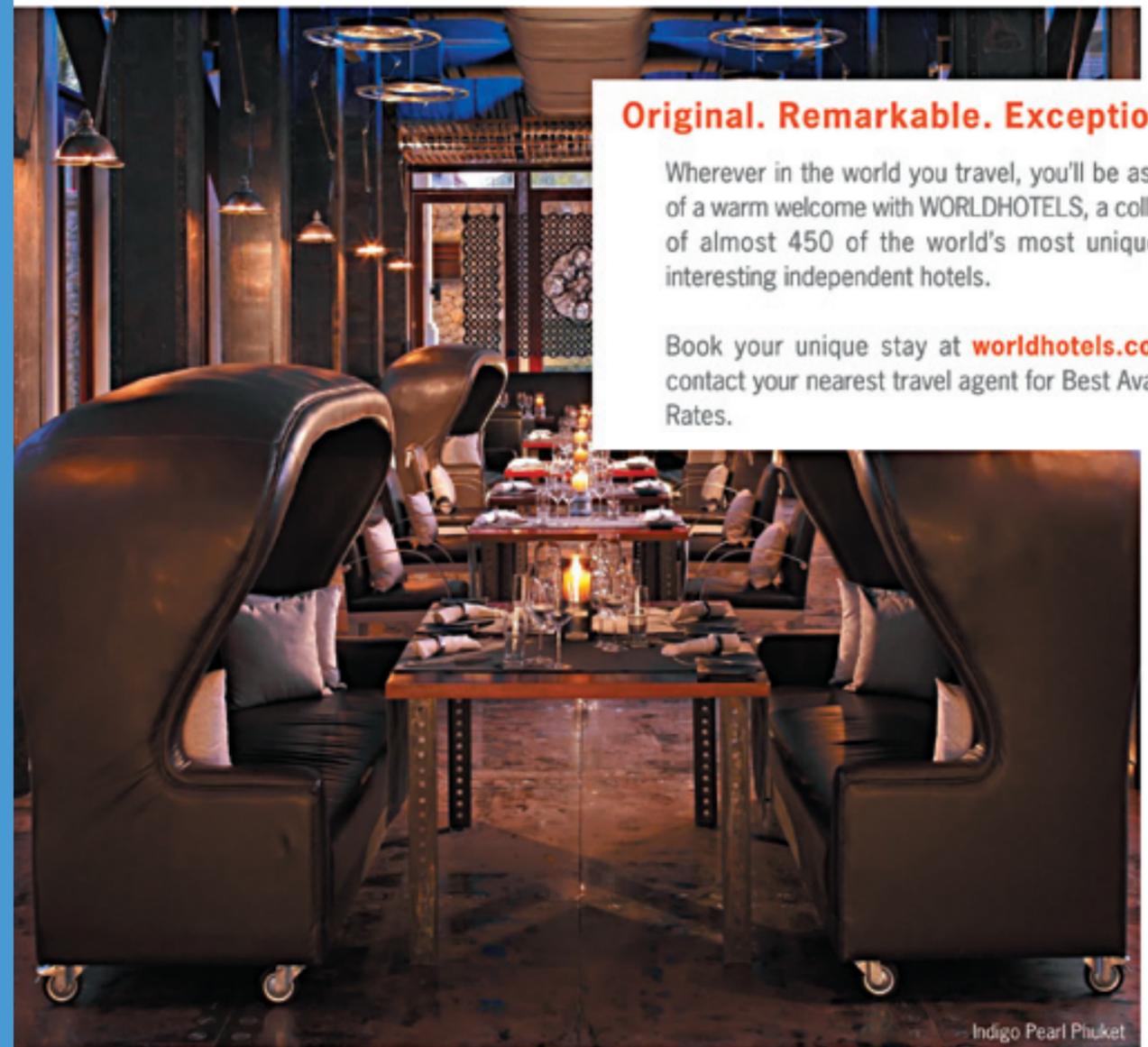


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Global Headquarters of L&T Infotech in Powai, Mumbai, India

The Rise of L&T Infotech

BY SHAMILA JANAKIRAMAN

According to the National Association of Software and Service Companies (NASSCOM), L&T Infotech is among India's top software and service exporters. L&T Infotech was also on the 2009 Global Outsourcing 100 service providers' list by the International Association of Outsourcing Professionals (IAOP). Global Services ranked L&T Infotech fifth among the best IT services providers in 2009. The company was given the Deloitte Technology Fast 500 Asia Pacific Award for the second time. Recently, L&T Infotech received the Distinguished Service Supplier Award from Freescale Semiconductor, one of its clients for eight years. The award was given for the superior service provided by L&T Infotech. Similarly, it received the best outsourced project award from Hitachi, Japan, for three consecutive years from all overseas vendors.

L&T Infotech's success in Korea results, first and foremost, from its ability to build long-term relationships with clients.

Backed by the corporate heritage of its parent company, Larsen & Toubro, L&T Infotech is fully equipped to offer tangible benefits to clients. L&T Infotech offers software solutions in banking & financial services, insurance, energy & petrochemicals, manufacturing and product engineering.

L&T Infotech has also made recent forays into media & entertainment, as well as life sciences and healthcare. As a global IT services and solutions provider, the company serves clients, combining advantages like scale, stability and an un-



derstanding of client concerns. The company's solutions are characterized by a strong domain focus that helps clients maximize the value of their IT investment.

L&T Infotech has been doing business in South Korea for more than ten years and has been particularly active since the establishment

of its Korea branch three years ago. Currently, L&T Infotech's focus has been on product engineering portfolio comprising software services to 2G/3G/4G infrastructure and device and semiconductor market segments.

L&T Infotech's success in Korea results, first and foremost, from its

SUDIP BANERJEE, CEO, L&T INFOTECH MAN WITH A MISSION AND VISION

BY DONALD KIRK AND HONG JEE-WON

Sudip Banerjee was appointed L&T Infotech's Chief Executive Officer in September 2008 to improve competitiveness and steer the company to new heights. Banerjee joined L&T Infotech from Wipro Technologies where he was president of enterprise solutions. He brings to L&T Infotech his expertise in the services portfolio. Asia-Pacific Business & Technology interviewed him in L&T Infotech's Korean headquarters in Suwon.

Q&A





L&T Infotech campus in Bengaluru, India

ability to build long-term relationships with clients. For this, it employs patience and conviction. The company's Korea branch team has been demonstrating this resolve continuously to win the clients' confidence. Secondly, L&T Infotech has succeeded in providing world-class solutions and possesses the requisite capability to meet the high expectations of Korean clients. It has backed it up with the required investment and focus. The company also offers a range of specific services to meet the requirements of Korean companies with a clear focus on the export market.

Apart from product engineering services, L&T Infotech CEO Sudip Banerjee sees untapped opportunity in Korea in the IT space. Having achieved success globally in these sectors, the company now intends to

Names like Chevron, Freescale, Samsung, Qualcomm, Hitachi, Motorola, Sony Ericsson and Lafarge consider L&T Infotech their partner of choice.

expand its presence in Korea with its domain-specific IT portfolio. With its proven success in IT deployment for manufacturing (semiconductor, industrial machinery), banking, insurance and energy worldwide, coupled with its decade-long presence in Ko-

rea, L&T Infotech is well positioned to be a strong player in this market in the coming years.

What makes L&T Infotech a success story? How has it found a place among the top software companies in India? With revenue quadrupling between 2003 and 2007, credit goes to dedicated and highly motivated L&T Infotech employees. To sustain the tempo, L&T Infotech has deployed systems to attract, train and retain the best talent. Also, proactive actions like investing in delivery centers and IT infrastructure assure the business continuity.

Innovation, another magic word in the global environment, is encouraged at L&T Infotech. Its technology office provides think-tank services and enables creation of solutions for clients. Names like Chevron, Freescale, Samsung, Qualcomm, Hitachi,



Mr. Sudip Banerjee (center) with Mr. Parasuraman TK (left), Country Representative, L&T Infotech, Korea; and Korean staff member, Mr. J.H. Lee.

Q&A

What are your plans for South Korea and East Asia?

We have been doing business in South Korea for more than 10 years and particularly have been very active since the establishment of L&T Infotech's Korea Branch three years back. This shows our continued commitment to the Korean market. We have been focusing on our product engineering portfolio comprising software services to 2G/3G/4G infrastructure, device and semiconductor segments. We intend to strengthen our position in this segment while expanding in other forms of software services.

L&T Infotech is considered to be one of the fastest growing Indian IT companies in Korea. What are the key reasons for this success here?

Foremost is our ability to build trust and commitment for long-term relationships. For this, you need patience and conviction for the Korean market. Secondly, we need world-class solutions and the capability to meet high expectations of Korean clients. Thirdly, we have become a single-window solution provider, offering services to meet requirements of companies with a clear focus on exports. We are highly adaptable to

“Korea has some of the world's finest and biggest companies and sells products and services around the world. This is the type of country we want to partner with.”

special expectations of our clients.

Are you planning to expand your Korea operations?

Apart from product engineering services, I see a lot of untapped opportunity in Korea in the IT space. For example, Indian IT companies have been very successful globally in banking, insurance, manufacturing, and government enterprise sectors. These sectors, including semiconductor/high-tech in particular, hold high potential in this market. Having achieved success globally in these sectors, we intend to expand our presence in Korea with our domain-specific IT portfolio.

What challenges do you foresee for Indian IT companies and how do you intend to overcome these challenges?



Development Center of L&T Infotech in Chennai, India

Motorola, Sony Ericsson and Lafarge consider L&T Infotech their partner of choice. The company strives to be a globally benchmarked provider, a high-value creator for clients and an enriching place of work for employees where innovation thrives with teamwork.

Company sources proclaim that quality is a cost-saver and time-saver and helps to deliver high-quality services and solutions. The company boasts more than 150 clients, of which 25 are Fortune 100 companies, and has built long-standing relationships with most of its clients. Armed with the ability and flexibility to scale up or down according to client needs, L&T Infotech takes on its competitors head on.

An engineering, manufacturing and financial services company, Larsen & Toubro, a \$9.8-billion conglomerate, the parent company of L&T Infotech, has undoubtedly passed on its rich heritage to L&T Infotech. L&T is still going strong with a seven-decade run in India and is expanding globally.

From product conceptualization to sustenance, L&T Infotech has the right solutions in the field of wireless telecom. The end-to-end

software services range from small handheld devices to high availability carrier-grade servers. Catering to the entire mobile communications value chain, the company's flexible business models offer long-term value to clients. The company's do-

The company boasts of more than 150 clients, of which 25 are Fortune 100 companies, and has built long-standing relationships with most of its clients.

main expertise encompasses mobile devices, 4G technologies, next generation networks and home networking. GDA Technologies, an electronics design company which came under the wings of L&T Infotech, enables it to offer complete solutions for the embedded, net-

working and consumer electronics market.

Energy & petrochemicals companies leverage the value proposition offered by L&T Infotech in the form of information management and IT systems. The company provides design, engineering, project management, procurement, construction and commissioning services to the hydrocarbon industry. The solutions offered to the energy and petrochemicals sector include information management, IT for physical layer connectivity and major capital projects, besides niche solutions based on emerging technologies.

L&T Infotech's experience ranges from providing cost-effective application development and maintenance services for all the business processes in the manufacturing industry (covering industrial machinery, auto manufacturers and retail/CPG companies) to being a partner in devising strategic solutions in price management, supply chain improvements, IT re-architecting and process improvements, among others.

Specifically for the high-tech industry, the company serves sev-



Mr. Sudip Banerjee (center) with Dr. Lakhvinder Singh (right) and Mr. Donald Kirk at the head office of L&T Infotech, Korea.

We need to work with government and corporate sectors to address market-access challenges for Indian IT Companies and create a level playing field, since currently Korean IT majors hold a clearly dominant position.

What is happening at L&T Infotech under your leadership?

We have brought in a lot of senior professionals, have created labs and built new partnerships with global majors. By increasing our thrust on new markets such as South Africa, the Middle East, and parts of Europe where we had low coverage, we have reduced dependence on the U.S. as a major source of revenue. We have moved our Middle East headquarters to Dubai and have also set foot in Australia. Thus, we are moving towards a much more balanced portfolio. We have also stepped up our hiring in a big way. Today 12,700 people are working for our company. Out of this, 2,700 have been added during the last nine months. Seventy-five percent are scattered around the low-cost locations whereas 25 percent are situated close to the client locations.

What is the future course of action envisaged for L&T Infotech?

We want to grow bigger in every market that we are in and explore more geographies. We have successfully experimented with new business models.

Q&A

Korea is a hard market to break into. What's your secret?

It is one of the tough markets, but not the only one. When we face tough markets, we first think hard if we want to be in it. In the case of Korea, we saw the potential. Korea has some of the world's finest and biggest companies and sells products and services around the world. This is the type of country we want to operate in. I believe we have crossed the hump in Korea. We have

a registered branch, fine clients and are seeing the results of the investment. You need to stay invested to see these types of results.

How is the Korean market compared to other places around the world?

The United States is the largest market in the world – approximately 60%. Then the EU follows next and con-

sists of 20 percent of the market, and individual countries in Europe consist of 5 to 7 percent of the market. For us, Korea accounts for 3 percent as a single country.

In Korea, where do you find yourself most successful?

In Korea, we have done well in telecom – mobile and embedded systems space including areas like 2G/3G technologies.

Who is your leading client?

Our leading client is Samsung Electronics.

“We have moved our Middle East headquarters to Dubai and have also set foot in Australia. Thus, we are moving towards a much more balanced portfolio.”

eral Fortune 500 players, including semiconductor manufacturers, electronic component and product distribution, component manufacturing, electronic retail and other industries. The Company's solutions and services are focused on helping its clients enhance their competitive edge through innovation, flexibility and agility. Its solution accelerators for the high-tech industry help clients crunch time-to-market.

Financial services clients benefit greatly from L&T Infotech's offerings covering transformational legacy modernization, analytics and testing capabilities. Serving seven of the top 15 global banks in the U.S., U.K., Europe and Asia Pacific, the company enhances the understanding of business processes, business issues and technology issues that strengthen the banking & financial services arena.

L&T's expertise in treasury-related business operations, asset-backed financing, investment banking, infrastructure and project finance and its recent entry into mutual fund and general insurance have equipped L&T Infotech professionals with extensive experience across capital markets, corporate and consumer banking, asset management and investment banking. Also, technology experts in L&T In-



L&T Infotech campus in Bengaluru, India

fotech assist clients in developing, re-engineering and implementing IT for business solutions.

A thorough know-how of emerging technologies like service-oriented architecture, grid computing and business process management has helped the company service clients optimally. The company strives to improve by application re-engineering and application integration of cross-platform systems to provide seamless interoperability between front and back office personnel and

systems. The company's development methodologies and robust architecture further enhance operational efficiencies aided by the automated high-coverage testing and proactive support for regulatory compliance.

Client organizations depend on L&T Infotech for their commercial grade software development solutions, porting, simulator development, testing solutions and consulting services. L&T Infotech takes care of product conceptualization



Development Center of L&T Infotech in Chennai, India

to complete deployment, besides testing, product enhancement and maintenance.

L&T Infotech's Business-to-IT Connect differentiator has provided a unique edge to the business success of Fortune 500 companies to derive maximum returns from IT and engineering investments. These clients of L&T Infotech have also benefited from solutions provided by L&T Infotech when it comes to pre-tested domain-specific solutions and customized business intelligence ca-

pabilities.

Over and above quality assurance, the company's application maintenance and support services ensure availability of systems; reduce maintenance and support efforts; and increase productivity. The suite of application maintenance and support services also includes application enhancement request management, upgrade of application platforms and application database migration. The suite also reduces total cost of ownership gradually, passes year-on-

year productivity gains, improves application stability and performance; and includes an engagement model.

Fortune 500 companies consider L&T Infotech as a "thought partner" in the consulting realm where L&T Infotech helps accentuate capabilities in global implementation, upgrade, rollout, application maintenance and support solutions. L&T Infotech also offers consulting services and business transformation services.

SAP-based services are delivered by using a process-based approach rather than a modular approach, enabling the company to put a service-oriented delivery model in place to generate more value. The SAP center of excellence is an innovation engine that promotes use of emerging technologies to find solutions for clients. A preview of the technology allows clients to study its efficacy before actual implementation. L&T Infotech accelerators and frameworks help reduce time-to-market.

L&T Infotech is a world-wide Oracle Platinum Partner. The company's endeavor to serve the entire value chain has enabled the company to provide and maintain services across Oracle technologies like Oracle E-Business Suite, JDEdwards, PeopleSoft, Fusion Technology, Siebel and EPM/BI among others.

How often do you visit Korea?

I come to Korea once a year and meet with my clients. My clients also visit me in India once a year.

How do you compete with the Japanese and other companies? What do you offer?

We have some of the highest levels of quality certifications, namely CMMI Level 5 v 1.2 and ISO 20000. Our services portfolio is comprehensive and includes software development, Testing, ERP implementation, IMS, IT Consulting and Telecom (Mobile/Embedded Services). The comprehensive portfolio of services is attractive for large companies to work with us. Our track record in delivering results on budget and on time gives us an edge over other companies. The uniqueness of our on site offshore combination makes our services and solutions most cost-effective. These are some of the reasons which have enabled us to compete with other global competitors.



How do you know you are doing well in Korea?

We are enjoying growth on an Year-on-Year basis in the Korean market.

Korean consumers are choosing between the Android's open operating system and iPhone's iOS. What is the technological trend?

We are a service provider and therefore technology-agnostic. We service all clients on different platforms.

What about the new law before the U.S. Congress to make Indian companies pay high visa fees for sending experts to companies in the U.S. and use the funds to guard the border with Mexico?

It is a strange law which goes against the principles of globalization and principles of free trade. This is a non-tariff barrier put up by the USA to restrict Indian service companies from providing services to U.S.

"The total IT industry in India for 2009-2010 was \$60 billion. We expect a 17 percent compound annual growth rate for the next ten years and earnings of \$225 billion by 2020."

companies. This law will increase our cost of doing business and will make U.S. businesses, who use Indian service companies, lose their competitiveness.

But what about underselling others competing for jobs?

These are jobs which pay upwards of \$ 60,000 a year and above. We are not talking about low paying jobs. Unfortunately, the lawmakers do not understand the

IT services industry business model. In the end, they will hurt the competitiveness of the U.S. industry.

Please elaborate on the growth of the IT industry in India.

The total IT industry in India for 2009-2010 was \$60 billion. We expect a 17 percent compound annual growth rate for the next ten years. By 2020, the industry will be approximately \$ 225 billion. Out of the \$225 billion we are expected to earn in 2020, \$175 billion would be exports while the remaining \$50 billion revenue would come from the domestic market.

What's wrong with the U.S. economy?

The U.S. economy, like all other economies around the world, had two very tough years. We are now cautiously optimistic that things are turning around. We hope this will lead to increased business for the IT services industry. Experts say, between 2009-2014, the IT industry in the U.S. will have a huge number of retirees. As people retire, there will be more opportunities for outsourcing.

Many Taiwanese Fearful of Chinese Trade Accord

BY BRYAN KAY

Unholly, dangerous and the first step down the path to subservience – that was the fearful verdict of many ordinary Taiwanese as their government signed a historic trade pact with political foe China in late June.

Overcoming divisive ideology and decades of tensions often trained down the barrel of a gun, the governments in Taipei and Beijing inked an Economic Framework Agreement, a bond seen as edging Taiwan out of its international isolation.

But the pact, the jewel in the crown of Taiwanese head of state Ma Ying-jeou's presidency, has bitterly divided Taiwan, which for years has lived in the shadow of the much bigger and more powerful China.

Though some polls suggest more Taiwanese are in favor than are against the agreement, it has met with strong resistance and mass demonstrations.

As the signing approached, thousands took to the streets of capital Taipei to denounce the move as a fall into the clutches of the communists and a threat to local jobs. One sign prominently brandished bore the slogan "Embracing the Enemy," with a doctored picture of Ma kissing the cheek of Chinese President Hu Jintao.

Many islanders see their de facto independence status being washed away and swallowed up by Beijing – and with it their hard-won democratic freedoms.

Huang Kun-huei of the Taiwan Solidarity Union said the agreement was a mask for complete change to Taiwan's sovereignty and independence. His group is behind calls for the accord to be put to a referendum, a move backed by the opposition Democratic Progressive Party.

Ma himself has admitted Beijing's motives are probably more than economic. But he argues the pact will pave the way for his government to negotiate free trade agreements with other countries that before may have been wary of upsetting China. Currently, Taiwan enjoys few formal diplomatic ties with the outside world, with most countries choosing to recognize China.

To better understand the complicated politics of this

dispute, a brief trawl through recent history is required. For the story is not quite as simplistic as the nationalist-communist confrontation that led to the formation of modern Taiwan; there's also a pre-history that involves the island's long suffering indigenous population.

When Chiang Kai-shek's nationalists fled mainland China after defeat in the Chinese civil war in 1949 against Mao Zedong's communists, they chose as their refuge the political football across the Taiwan Straits. The roughly 2 million following he brought with him were a minority on the island, and Chiang quickly instituted martial law to quell opposition. Brutal authoritarianism marked much of life in Taiwan until democracy emerged in the 1990s.

While Chiang's nationalists, or the Kuomintang, pursued a One-China policy with his party as the rightful ruling force of "the Republic of China," which included Taiwan and all of mainland China – and with the Beijing-based communists as the People's Republic of China declaring the same status – the island was perpetually mired in a state of limbo.

Attention eventually turned to developing the island under its own steam, but the seeds of an independence movement had been laid, and the indigenous islanders wanted their own state free of China and the government of the mainland-derived minority.

Citizens of today, though, are cautious. Many understand the economic benefits opened up by closer ties with China, but suspicion is rife. They look to semi-autonomous Hong Kong as an example of the pseudo-freedoms they may one day live under should they lose their current de-facto independence status.

China's Taiwan policy has always viewed the island government as illegitimate, the land part of its territory and under its control. As arms sales by the United States have ebbed and flowed over time, so too has the build-up of Chinese weapons trained on Taiwan increased. Taiwan's opposite claims to the same sovereignty under the Kuomintang over China may have been blunted or ditched, but observers note China looks far from a less aggressive force.

The hand of the United States, too, lurks in the background. While trying to maintain warmer relations with China, it has not let go of its tacit policy of supporting Taiwan – a move whose roots lie in the U.S. desire to set up a buffer zone between its interests and China. Earlier this year, it upset Beijing by sanctioning more arms sales to Taiwan.

These days, some fearful Taiwanese would be content just to see the status quo prevail. [A-P](#)



BY VICTOR FIC

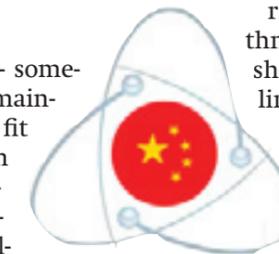
When it lit up the test area in the Xinjiang desert with a nuclear explosion in 1964, China pledged never to use such arms against other countries first or even versus states without atomic weapons.

On July 7, Beijing updated its policy – somewhat. It is a sign of the times that the mainland, a major global economic force, sees fit to clarify its policy on pushing the button to fire off a financial “nuclear option.” Specifically, this would mean dumping its gargantuan foreign currency reserves, now valued at \$2.45 trillion, with 66 percent invested in U.S. dollar assets such as Treasury Departments instruments, e.g. T-bills and bonds. This gives the limping American economy an injection of capital while China invests the oodles it earns from its exports. China's State Administration of Foreign Exchange (SAFE) is at the center. Its boring name belies its clout as the investment purchasing agent for China's central bank that sits atop that asset mountain. As that peak has grown, Western analysts have fretted that China enjoys a financial “nuclear” option of selling off huge volumes of U.S. assets. This would drive U.S. interest rates up, choking off investment and growth.

However, the SAFE insists that the U.S. treasury's sale is “a very important market for China” because it offers minimal transaction prices, is secure and means liquidity in Beijing's hands.

Also, experts note that the same Cold War retaliatory principle of mutually assured destruction works here, too. If Beijing started to divest those U.S. assets, the value of whatever it still has would drop, i.e. the self-inflicted penalty of buying high and selling or holding low.

The SAFE echoed the didactic words of China's senior leaders such as President Hu Jintao that Washington must clean up its financial house, i.e. “genuinely (act) to protect investors' interests and confidence as



a responsible” country. Hu is surely lashing the U.S. with a silk thread. The World Bank's president, Robert Zoellick, was known to be expressing Washington's outlook when he famously delivered a speech calling upon China to be a “responsible stake holder” in the world economic system.

Karen Maley of the Business Spectator astutely analyzes China's intended no-nuke reassurance. As it often faces Western pressure to strengthen the yuan so Western imports are cheaper and its own exports more costly, Beijing could be reminding all that have complaints, too. Perhaps the mainland could be indirectly communicating that it will keep buying U.S. assets, even as it purchased a record level of Japanese government bonds in early 2010, she adds. Or maybe it is sticking a needle into Uncle Sam's hide, reminding him that the budget deficit could escalate his interest rates. Then the value of U.S. governments bonds would also fall, meaning fewer buyers.

Ah, the savvy Maley argues that the China's intention is indirect – and broad. As it imports American capital, so to speak, it is signaling that “the U.S. cannot always decide (its) form.” Specifically, Washington and Beijing are at odds because the Anshan Iron & Steel Group Corp. seeks a tie up with a private American steel maker to invest in states-side plants. Many American steelers, with the backing of 50 lawmakers

who wrote to Treasury Secretary Timothy Geithner, are critical. They insist that state-owned Anshan wins subsidized finance through its official links. Therefore, “the full force and financing of (Beijing can) exploit the American steel market from American soil.”

The Chinese rebuttal implores Washington to spurn intervening in commerce and protectionism. The “nuclear” option issue, argues Maley, is China's whisper reminder that it has leverage over the U.S. and expects the Anshan deal to be its paving stone on the road leading into the huge American steel market.

Many American analysts argue that whatever China's intentions in declaring that it will not hit the financial nuclear button, Washington must reduce or eradicate its twin deficits – the national debt and its trade figures. This will make it less dependent on Chinese financing. In fact, last month, U.S. Secretary of State Hillary Clinton declared that such debt reduction is a vital aspect of American national security. Although she did not mention China by name, it was the 500 kilogram panda in the room that came to many minds. [A-P](#)

ON THE WEB

■ China's State Administration of Foreign Exchange
www.safe.gov.cn

COMPANIES MENTIONED IN THIS ARTICLE

■ The Anshan Iron & Steel Group Corp
www.ansteel.com.cn
Steel and metal products
Anshan, Liaoning, China

Google Twists and Turns in China

Small Improvement in U.S., China Relations

BY MATTHEW WEIGAND

The ongoing saga of Google vs. the Chinese government took a new twist at the beginning of July, due to the question of whether or not Google would have its license renewed to operate a commercial website in China.

Google has complied with the Chinese government's requests for last-minute changes to their Chinese-based website, and in turn China has granted them a license for another year.

The end result is a little confusing, however.

The Chinese government issues yearly Internet Content Provider licenses, and Google's came up for renewal on June 30. Their Chinese website, google.cn, had been automatically redirecting all visitors to Google.com.hk, their Hong Kong-based web site. However, this was deemed unacceptable by Chinese Internet regulators, who required that the redirect be optional. Google was still unwilling to provide the censored search results on Google.cn that China demanded, which is why the company had set up the redirect in the first place. The Chinese government said that the automatic redirect was unacceptable, and that if it was maintained then Google's license would not be renewed. So Google created a compromise. Instead of automatically redirecting all visitors to their Hong Kong site, now they have set up an image of their logo, a search box, and two buttons in the customary Google search page configuration. However, this image is non-functional, and clicking on it will simply redirect visitors to the Hong Kong site. Beneath that false search area is a link to three of Google's services which they can still offer in China – music streaming and download, text translation, and the Google product search service.

This move fulfills the letter of the law while flaunting the spirit of the whole exercise. Google.cn now looks like a farcical throwback to 1995, when no search engine offered any services at all. But it worked. Google has received their license to continue to operate in China for another year, with only cosmetic changes to its page.

David Drummond, SPV of Corporate Development and Chief Legal Officer at Google, wrote in a blog post,

"This new approach is consistent with our commitment not to self censor, and, we believe, with local law."

But the licensing is a little more complicated than that. The Google company itself did not receive the license, but it was Guxiang Information Technology Co Ltd, a local company that operates Google's websites in China. Guxiang, in its license renewal application to the Ministry of Industry and Information Technology, said that it would "abide by Chinese law," and it also confirmed that the company did not offer illegal content based on China's telecommunications regulations. This clashes with Google's stated commitment to not censor itself any longer based on China's wishes. Everything is technically in compliance, because Google.cn, and by extension Guxiang, does not offer any search results at all, but rather makes visitors click once to be redirected to the Hong Kong site. This minuscule change is all that is required.

This incident is not and has never been simply about Google vs. the Chinese government, because Hillary Clinton has at several times chimed in with the State Department's commitment to open communication on the Internet. This whole incident has been an irritant between U.S.-China relations because of Clinton's statement, but things seemed to have been smoothed over now.

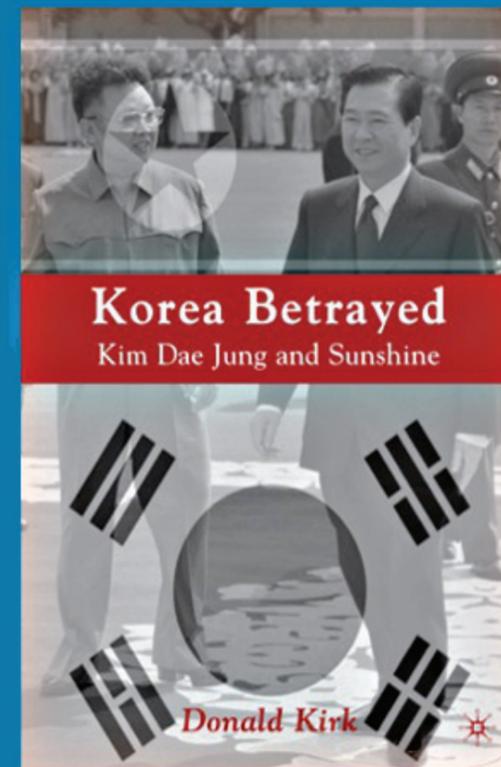
The license may have been granted partly because the U.S. Treasury chose not to label China a currency manipulator one day earlier. However, the great disparity between the two decisions casts doubt on whether that was the case. [A-P](#)

ON THE WEB

- Google China
www.google.cn
- Google Hong Kong
www.google.com.hk
- Official Google blog
<http://googleblog.blogspot.com>
- China's Ministry of Industry and Information Technology
www.miit.gov.cn

COMPANIES MENTIONED IN THIS ARTICLE

- Beijing Guxiang Information Technology Co. Ltd.
- Google
Mountain View, California
Internet, computers, software
www.google.com



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Hardcover List Price: \$80.00 Discounted Price: \$64.00

Korea Betrayed

Kim Dae Jung and Sunshine

Praise:

"The late Kim Dae Jung--the remarkable political dissident who rose to be President of South Korea and to win the Nobel Prize for Peace--is revered internationally, but his reputation in his native South Korea is much more controversial and contested. In this critical biography, Donald Kirk--a journalistic eminence who has been covering Korea for more than 30 years--helps us understand why this could be so. In his fascinating book, Kirk not only traces Kim Dae Jung's great political rise, but also details the moral and financial corruption that came to engulf, and permanently tarnish, the 'DJ' Presidency. *Korea Betrayed* will be a welcome addition to the bookshelf of every student of modern Korea. Kirk's account of the failure of DJ's 'Sunshine Policy' toward North Korea, furthermore, should be 'must reading' for all American policymakers before they prepare to deal with Pyongyang."--Nicholas Eberstadt, Henry Wendt Chair in Political Economy, The American Enterprise Institute.

About the book:

For the first time, using original sources and his own reporting going back to 1972 when he met Kim Dae Jung at his home in Seoul, Donald Kirk explores the great untold story of modern Korean history. This book recounts the rise of Kim Dae Jung from an oppressed region of Korea, beginning with his schooldays, his activities in the Korean War and his entry into politics. The book addresses his populist politics, his ascent to the national stage and his encounters first with the dictators who tried to take his life and then had him tried and sentenced to death for the Kwangju revolt. The book outlines DJ's life in exile in the United States, his great return to Korea and his entry into presidential politics climaxed by his election in 1997 at the height of economic crisis. Focusing on DJ's Sunshine policy, his summit with North Korea's Kim Jong Il and his drive for the Nobel, the book tells the story of payments that brought about the summit and the prize along with the corruption that ensnared his sons and top aides.

About the Author:

Donald Kirk, journalist and author, has covered Korea for American newspapers and magazines beginning with assignments there as Far East correspondent for the *Chicago Tribune* in the early 1970s. Since then he's reported from Korea for the *Observer* of London and *USA Today* and served as Seoul correspondent for the *International Herald Tribune*, the *Christian Science Monitor*, CBS Radio and the *Asia Times*. He is the author of two books on Korean economic issues, *Korean Dynasty: Hyundai and Chung Ju Yung and Korean Crisis: Unraveling of the Miracle in the IMF Era* as well as books on his years as a war correspondent in Vietnam and a Fulbright research scholar in the Philippines. He currently travels to Korea and elsewhere from his home base in Washington, D.C.

Order discounted copy at: www.palgrave-usa.com 20% Discount code: P36235



iPAD OWNS THE ASIA-PACIFIC MARKET

BY VINTI VAID

Demand for Apple's revolutionary tablet computer has been so high that the company had to make the decision to delay the international launch.

Upon its introduction to Europe in May, customers surrounded many Apple stores in queues all night.

By year end, RBC Capital Markets estimates that total units shipped internationally will reach 8.13 million. This will be equivalent to least \$4 billion in revenue.

The Asia-Pacific region is not an exemption to this tablet computer frenzy.

Enthusiasm in the Asia-Pacific region is just what the company that is behind Macintosh computers and iPhone needs. Three-fifths of Apple's revenue is from overseas. The company's sales have seen tremendous growth both in Europe and Asia. In line with its international release to some countries in May, Apple went past Microsoft Corp. and emerged as the world's biggest technology company. Apple shares went up 2.2 percent at \$258.99 in the New York stock market in the same month. This is truly a remarkable turnaround success for a company that was nearly shut down in the 1990s.

iPad Mania in Japan

When the iPad was released overseas in May, Japan and Australia were among the first outside the United States to experience the most talked about tablet computer. In Tokyo, the Apple store is in the Ginza shopping district. The price tag for the iPad model with 16 gigabytes and Wi-Fi in Japan is 48,800 yen (\$537). This is more expensive compared to the \$499 standard price in the United States. About 476,000 iPads are expected to be shipped there this year. However, Apple suspended pre-orders last May 13 after three days due to a supply shortage.

Application providers as well as telecom firms in Japan are banking on the success of the iPad's performance. Japan's biggest advertising firm, Dentsu Inc., plans to distribute content for the iPad. Dentsu already runs an online book store that supplies magazines to smart phones. Japan's biggest mobile phone operator, NTT Docomo also plans to sell wireless LAN routers for the iPad's Wi-Fi connection

South Korea's Anticipation

According to a June press release by the Nielsen Company, Korea led the Asia Pacific in online anticipation for the iPad, judged by Internet hype. The response from this country is four times higher than in Japan.

"The power of social media to generate excitement around product launches is more evident than ever in the case of Apple's products such as the iPad. Apple's ability to truly engage and enmesh with its consumers is envied by marketers the world round, and this can largely be credited to consumers' online discussions," said Mark Higginson, director of analytics for Nielsen's online business.

An analysis made by the Nielsen Company revealed that there is tremendous positive sentiment and more than two and a half times more positive feedback from Asia-Pacific customers

towards the iPad.

Challenges Ahead

The biggest challenge for Apple is to be able to attract customers aside from its already loyal fans. This challenge is going to take place in the coming months as iPads are sold in the Asia-Pacific region. Michito Kimura, a senior analyst at market research firm IDC Japan, believes that "the real game will start after 'core users' have the devices. I imagine a price cut may be necessary before the Christmas holiday season to stimulate demand."

There are still criticisms about Apple's secretive corporate culture. The company does not even provide media releases on iPad sales forecasts.

Although analysts are confident that international iPad sales will duplicate the success that occurred in the United States, some have expressed concerns that Apply



may not be able to supply adequate tablet devices. This shortfall will give other corporations a chance to expand all over the world.

Andy Hargreaves, a U.S.-based analyst at Pacific Crest Securities, said with regard to the overseas launch. "It's a little bit hard to say because there's still going to be supply constraints, but I'm expecting them to sell every single thing they can ship."

Competitors Hanging On

Apples' rivals have not waved a white flag. Dell recently released its Streak tablet computer. This computer has the ability of doubling as a mobile phone and has a front-facing camera ideal for videoconferencing. Sony Corp. also announced that they would

launch an e-reader in Japan at the end of the year. They are currently working on a tablet model called 6758.T. While Hewlett-Packard's HPQ.N tablet computer is also in the works. Amazon also announced that their Kindle e-book reader as well as Kindle iPad application will be offered in nations where the iPad is sold.

Computer analysts working at the research firm Informa Telecoms & Media believe that most iPad sales would be models with Wi-Fi capabilities. They came up with the prediction due to factors such as limited outdoor usage, high cost for models n 3G as well as the ability to tether the iPad to a mobile phone.

Smuggling Issues

According to the report of Chen

Nanyang for Suite101.com, smuggled iPads had found their way into Mainland China's market even before the official launch of the product overseas on May 28. The reported price for these smuggled goods is a 10,000 RMB Yuan (\$1,470).

In Hong Kong, iPhone smuggling is said to be a major problem. The official iPad release was set in July. Hong Kong consumers presently pay more 1,000 Yuan or 2,000 Yuan (\$147 - \$294) more for every iPhone handset compared to other international consumers because of high taxes. To counter the problem, Apple and their Chinese partner China Unicom decrease the price for iPhones by 1,000 Yuan (\$147). China Unicom stated that there are about 2 million iPhones smuggled in the Chinese market, compared to 0.6 million official units sold. Hong Kong is perceived to be the most promising market in the world for tablet computers like the iPad.

Aside from smuggled units, bootleg iPads are widely available online and in retail malls on mainland China. The question remains, will the iPad share the same fate as its sister product in the Chinese market? **A-P**

COMPANIES MENTIONED IN THIS ARTICLE

■ **Dentsu Inc.**
Communications
Tokyo, Japan
www.dentsu.com

■ **Apple**
Cupertino, California
Computer hardware; Computer software; Consumer electronics; Digital distribution
www.apple.com

■ **NTT Docomo**
Wireless Services
Tokyo, Japan
www.nttdocomo.com

■ **The Nielsen Company**
Media
New York, New York
www.nielsen.com

■ **RBC Capital Markets**
Financial Services
Toronto, Canada
www.rbccm.com

■ **Pacific Crest Securities**
Tech investment banking
Portland, Oregon
www.pacific-crest.com

■ **Sony Corp.**
Conglomerate
Tokyo, Japan
www.sony.com

HUGE POTENTIAL FOR CLOUD COMPUTING IN ASIA

BY JAI CS

Cloud computing takes software away from the desktop PC and moves it onto networks of data centers accessed via the Internet. It goes beyond grid computing, utility computing, virtualization, clustering, etc. where it is associated with a higher level service capabilities used to build applications. Here, the user of a service need not care about how it is implemented, what technologies are used or how it's managed.

To make it clearer, cloud computing is accessing resources and services required to perform functions with dynamically changing needs. Here, an application or service developer requests access from the cloud rather than a specific endpoint or named resource.

Cloud manages numerous infrastructures across multiple organizations and consists of one or more frameworks tying them together. It is a virtualization of resources, capable of maintaining and managing on its own, although there are specific people to keep hardware, operation systems and networking in proper order, for an end user.

How fast can a business migrate to cloud computing?

Most organizations are grappling with implementation timing and whether or not cloud computing the



next logical step. If it is, what should be the right cloud strategy to adopt this? What are the applications that will best suit my business?

There are plenty of challenges associated with migrating applications to a cloud infrastructure, ranging from security, SLA management, regulations, fear of vendor lock-in, to lack of any standards.

Across different verticals of businesses, the adoption pattern may change, including to the extent to which the company can leverage cloud computing. Here, moving to cloud computing overnight does not make any sense. Based on the business, infrastructure and the information system, businesses should proceed cautiously.

To begin with, every business can assess potential applications, business value, cost and economies, including capital expenditure, operational expenditure, and overhead costs involved with migration, workload and technical feasibility. This can be a critical exercise, which will help the company understand its objectives. This study will also help the business to migrate an application to a private or a public cloud. A private internal cloud has multiple physical data centers. A public cloud can deliver conventional enterprise compute needs.

Also, it is necessary to know the various migration options available.

Every organization planning to migrate to cloud computing should prepare a strategy; identify the impact on business operations; assess risks to data; ensure that information security is part of the decision-making process.

Cloud market has different elements, which include the app infrastructure in the cloud, hardware infrastructure and applications.

Is there a true value for this new technical architecture?

Experts say yes, but differentiate between hype and reality.

This technology has been growing steadily for the past decade and there are various add-ons to the architecture that every business can start leveraging.

Earlier, enterprises were typically viewing cloud computing as a service delivery trend that well applies to small- and medium-sized businesses. But with large vendors like IBM, Dell, Microsoft and Google taking the lead positions on cloud computing, the trend is changing and is expected to continue to change as larger enterprises understand it better on how to match software and service delivery to specific applications.

Google and Microsoft have been great trend setters of cloud-based services. Google is dominating its position in the cloud computing industry and its Gmail and apps are proving to offer trusted alternatives to on-premises dedicated infrastructure. Issues like data security, service resiliency, and access though have popped up, most organizations are slowly getting the taste of using the technology more efficiently. The scalability and cost efficiency that it provides makes it appealing.

As per one of the latest studies conducted by datacenter solution provider Brocade, 60 percent of European enterprises have agreed to start planning migration to cloud computing within the next two years. Respondents' biggest motivation is reducing costs, followed by improving business efficiency and enhancing business agility. According to Microscope, analyst firm IDC forecasts cloud services will grow from its current worth of \$16.2 bil-

Google and Microsoft have been great trend setters of cloud-based services.

lion to \$41 billion by 2013. Microscope, analyst firm IDC

Network Computing cites Price-waterhouseCoopers consultant Michael Pearl believes that cloud computing data services may be able to provide better data security than enterprises' internal IT departments can. Many organizations have started working on switching some of their users to cloud computing and leverage the best of both worlds. Many enterprises are choosing to mix their on-premises collaboration applications with it.

New tools are emerging to optimize the performance of applications, or making it easier to migrate, and more precisely, making cloud-based development more agile.

Clouds can be classified into several forms that include: virtual private cloud (VPC) – where an IT solution platform integrates local and commercial cloud infrastructure under a single management; regional clouds – geographical cloud computing - response based scaling on a regional basis and offline clouds.

There are cases where internal clouds are implemented in a company's own data centers making on-premise and cloud platforms to be used together as a "shared resource." In such cases, enterprises are seeking tools and technologies that enable them to share management and avoid the challenges of managing two very different environments. In few other instances, large organizations are deploying their own cloud computing environments, using service-oriented architecture (SOA).

Software as-a-service (SaaS) is also playing a key role in the integration and building of internal cloud environments, and is also proving to represent a major component of the enterprise cloud computing process. Gartner, a provider of technol-

ogy research to global technology business leaders has predicted that worldwide SaaS revenues will grow to \$19.3 billion by year-end 2011, while the market opportunity for cloud-based computing will rise in excess of \$160 billion.

The real challenge in achieving the supreme success is for enterprises to use efficient software to integrate their existing on-premises infrastructure with the cloud.

Hackers are Happy

The architecture is relatively simple where a data store and server are hosted on the Internet, and users have the choice of accessing the server from anywhere. Web-based access makes it easier. There's no need to invest in hardware infrastructure, or software. But the risk of data security is one challenge that is troubling every adopter of cloud architectures. Keep a focus on security. Select a cloud vendor with a thorough checklist, utilize the virtualization capabilities to explore and improve your business opportunities. Risks will start diminishing as the technology progresses well. Otherwise barriers to enter cloud computing are low.

The Future of the Cloud

Cloud platform application programming interface (APIs) are the business of cloud computing. Cloud APIs are segmented into Infrastructure, Service, and application. Combinations of all these APIs are also possible. Infrastructure cloud APIs will perform functions such as provisioning, configuration etc. They are generally referred to as Infrastructure as a Service (IaaS). Service cloud APIs provide an interface into a specific cloud capability provided by a service. This includes; social media, databases, messaging platforms, web portals, maps, network and content, e-commerce, and storage. These services are commonly referred to as Platform as a Service (PaaS). Application cloud APIs provide methods to interface and extend applications on the web. This refers to some of the applications like CRM, ERP, accounting, social media, etc. These applications are delivered as Software as a

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INDIA'S DIGITAL IDENTITY CARDS

BY RAJANI BABURAJAN

India is getting ready for the next round of the digital revolution. The 1-billion plus population is set to get digital identity cards in phases. India may be one of the last among leading nations to join the bandwagon of digitalization. But prospects are good.



Nandan Nilekani

Aadhaar, India's Unique Identification project, is here.

"The ambitious initiative of the government of India to provide each citizen with a unique identification number would help target resources and benefits better and prove immensely beneficial particularly to the poor in the country," said Nandan M. Nilekani, Unique Identification Authority of India (UIDAI) chairperson. The Unique Identification Authority of India will roll out the first set of Unique Identification (UID) numbers from August 2010 to February 2011. In the first phase, UIDAI is aiming to enroll 600 million residents of the country into its database in the next four years and it is possible to use this 12-digit ID in improving the Public Distribution System. The numbers would be released through various registrar agencies across the country. Under the aegis of Prime Minister Manmohan Singh, this project will be creating waves across the country. It will bring much transparency to the system and reduce identification issues of the citizens of the country.

Agencies who are looking for citizen's identity cards – voter identity, ration cards, passport, driving license,

phone bill, gas bill, etc. – will look for one common identity, a 12-digit UID number.

Hurdles in Implementation

In the initial stage itself, the UID project faced a manpower crisis. The first hurdle for the project was speculation of a 50 percent cut in the planned budget, just one year after the appointment of Nandan Nilekani, the Infosys cofounder as UIDAI head. The news created embarrassment for the project. But both the finance minister and UID chairman clarified their stand – "there's no cut in budget." But the industry is speculating that the project may miss its target because of possible financial constraints.

What is the need for a cut? Some in the Indian bureaucracy feel that UIDAI may be duplicating other agencies' work. For instance, the National Population Register (NPR) is in the pipeline. The NPR would include every resident of the country and will create a standardized database.

Fearing the duplication of efforts by the authority, the government formed a high-level committee to sort out the issues related to duplication of methodologies. The panel would look into the issues that could result in duplication of efforts, especially those by the National Population Register and the inclusion of iris details in biometric data. "There are concerns that since the NPR is a standardized format, the UIDAI's desire to talk to multiple registrars may result in duplication on a massive scale," a government official said.

If the UIDAI follows the same procedure, it will result in duplication on a massive scale. Since the UIDAI will have a number of registrars and numerous enrollment points, such standardization may not be possible.

Making the Way for UIDAI

This is a massive project involving 1 billion people. The biggest challenge for the government is the inclusion of the rural community in this project. The majority of India's population lives in rural areas where there are no power and advanced communications facilities. They also lag behind in literacy rates when compared to the rural population living in developed nations that have successfully implemented the national ID system for their residents. Despite these challenging situations, the UID initiative has taken off well in most parts of the country.

Creating awareness and training manpower for such a big project is a major task for the country. Recently, the Unique Identification Authority of India finalized the list of the 15 Training Agencies to provide training to various categories of personnel working for Enrollment Agencies.

Enrollment Agencies will capture demographic and biometric information of residents and send it to UIDAI's central database to enroll residents for Aadhaar – the UIDAI's unique 12-digit number.

RS Sharma, director general, UIDAI's DG said, "Since the enrollment process requires a certain amount of technical as well as soft skills to ensure quality and accuracy of the data, the UIDAI has stipulated mandatory certification for all the personnel involved in the enroll-

What's UIDAI

- The Unique Identification Authority of India (UIDAI) has been created as an office under the Planning Commission. Its role is to develop and implement the necessary institutional, technical and legal infrastructure to issue unique identity numbers to Indian residents.
- On June 25, 2009, the Cabinet created and approved the position of the chairperson of the UIDAI, and appointed Nandan Nilekani as the first chairperson in the rank and status of a Cabinet minister. Ram Sewak Sharma has been appointed the director general.
- The role that the authority envisions is to issue a unique identification number (UID) that can be verified and authenticated in an online, cost-effective manner, and that is robust enough to eliminate duplicate and fake identities.
- The first UID numbers will be issued over the next 12-18 months counted from August 2009. The first number would be issued between August 2010 and February 2011. Over five years, the authority plans to issue 600 million UIDs. The numbers will be issued through various registrar agencies across the country.

ment process." UIDAI has appointed a testing and certification agency to conduct online testing to assess the employee's ability to carry out enrollments according to its prescribed standards.

Although UIDAI has not mandated training, yet given the mandatory certification for enrollment personnel, UIDAI had issued an Expression of Interest (EOI) for Empanelment of Training Agencies on the basis of technical competency criteria set out in the EOI. This has created a big business opportunity for leading training institutes. The training agencies currently impanelled with the UIDAI include All India PTU DEP Association, Aptech Ltd., CDAC, Cavalier India, Everonn Education Ltd., Ecit, CMC Ltd., Hero Mindmine Institute, India Can Education Pvt. Ltd., Manipal K12 Education (P) Ltd., Manipal Education, NIIT Ltd., Tata Interactive Systems, DOEACC Society and Crux Management.

Sharma added, "Registrars and Enrollment Agencies can avail the services of any of these impanelled Training Agencies to develop the skills of their personnel."

Banking is another sector that would benefit from the ongoing UIDAI project in India. To date, several financial institutions have shown interest in becoming regis-

trars to the authority. Recently, the State Bank of India has entered into an agreement with UIDAI to work as registrar to the authority. SBI, as the registrar, will capture through enrollment agencies, the biometric characters like fingerprints, iris, etc., and send the same to UIDAI for providing the unique number. The facility for registration will be available at 12,000 plus branches and 17,000 plus Customer Service Points (CSPs) of Business Correspondents (BCs). With this agreement, SBI has become the first bank in the country to take up the registration of UIDAI.

Common Services Center (CSC) in the Backend

Several e-governance projects including broadband initiatives in the country will help in the success of the UIDAI project. CSCs are one of them. More than 80,000 CSCs have been set up across the country and the number is expected to cross 100,000 by March 2011. The Government has planned to have 250,000 by 2012 to cover all Panchayats to enable people to access the services under an e-governance system in their vicinity.

Of 1,100 citizen and business-centric services targeted for delivery, over 600 services of various depart-

ments of central and state governments are now available electronically – anytime, anywhere. This was disclosed by the Cabinet Secretary K M Chandrashekhkar after review of the progress of e-governance initiatives by the Apex Committee on National e-Governance Plan (NeGP).

The Mission Made Projects (MMPs) under NeGP approved in 2006 have the potential to transform the socioeconomic landscape of rural India.

Once the UID scheme is implemented, people can obtain copies of their land records, job cards for employment under National Rural Employment Guarantee Scheme (NREGS), certificates relating to birth/death/income/caste/domicile etc., online. Benefits under various social services schemes such as various types of pensions – widow/handicap/old age etc., scholarships, education assistance etc., can be availed electronically. There are several other services such as passport application, information about market prices of agricultural produce and commodities, telemedicine and diagnostic assistance for diseases that may be available online.

Of 27 MMPs under NeGP, 14 have commenced delivery of services in different parts of the country. These include mobile computer applications (MCA21), pensions, central excise, income tax, passport, banking & insurance, land records, road transport, common services centre, e-courts, EDI, national service delivery gateway (NSDG) & india portal. All MMPs shall start delivering e-services by 2014. Under all these projects, 1,100 services are likely to be available progressively with full availability by 2014.

To enable this, statewide connectivity is being provided through State Wide Area Networks (SWANs), ensuring a minimum of 2 Mbps connectivity up to block levels. SWANs are operational in 23 states and the remaining will become operational by March 2011.

State data centers (SDCs) will serve as the repository of data at state level. Detailed project reports (DPRs) for SDCs in 31 states have been approved and the bid process has been completed in 16 States. All

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CHINA'S ENTERPRISE SOFTWARE MARKET REGISTERS FASTEST GROWTH RATE

BY ANURADHA SHUKLA

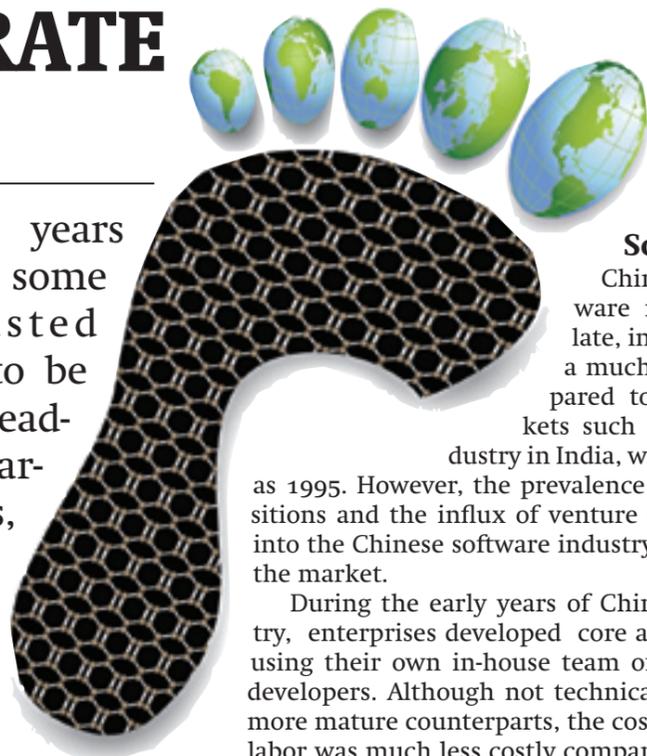
A few years ago, some forecasted China to be the leading market for cellular phones, steel, coal, automobiles and personal computers. Recent market trends are pointing to this as a reality now as China continues to make worldwide waves and has earned the top spot for most of these markets. One example is in the PC market wherein over 7.2 million personal computers are sold quarterly. This is more than the U.S. figures of 6.6 million sold during the same period.

The current global financial crisis wreaked havoc across many industries and economies across the globe. However, the China continues to surge forward.

Included in this phenomenal growth is China's enterprise software market.

The growing number of programmers and software developers in China, as well as improved management practices and conformance to international standards, has contributed to the growth in China's enterprise software market. Modern software with the latest in functionality and features has attracted both domestic and international clientele.

The following is a brief look into China's enterprise software industry as it continues to surge forward.



An Overview of China's Enterprise Software Market

China's enterprise software market started out late, in about 2005, and on a much smaller scale compared to other Asian markets such as the software industry in India, which started as early as 1995. However, the prevalence of corporate acquisitions and the influx of venture capital investments into the Chinese software industry have strengthened the market.

During the early years of China's software industry, enterprises developed core application offerings using their own in-house team of programmers and developers. Although not technically adept like their more mature counterparts, the cost of using their own labor was much less costly compared to relying on external resources. However the drawback to such early practices is in the produced software that goes quickly obsolete. This hurts enterprises' sustainability and continued business presence in this industry.

What was needed to create growth in this market was to standardize systems and improve or replace unreliable or substandard infrastructures. With the support of the government through various incentive programs, the Chinese software industry was able to overcome these deficits and was able to expand surely and steadily in scale and generated revenues. The period from 2002 up to 2006 saw a staggering increase in sales revenues from more than 13,000 software enterprises with an annual increase of over 22.5 percent.

Out of these 13,000 software businesses in China, 35 entities gained sales of over 1 billion RMB while another 396 companies achieved over 100 million RMB in sales. 80 of these corporations had employees reaching over 1,000 in number. Beijing had the most revenues gained from enterprise software services, system integration and other required software products.

This growth trend continued to make headway in 2008. Projections show increasing figures starting from \$4.68 billion in revenue each year from 2008 and are projected to double by 2013.

China's IT Spending in an Uptrend

China's government in 2009 implemented several stimulus measures to support organizations and en-

terprises in their economic, industrial, and social initiatives. This eventually triggered an uptrend in Chinese enterprise spending on IT and IT-related products particularly enterprise-related software, starting from 2010 and beyond. The five-year period that encompass these stimulus measures include IT at the top of the list of priorities.

Surveys done by analyst companies confirmed that more than 46 percent of enterprises in China are planning to increase spending on software. Focus areas include cloud computing, green IT, unified communications, virtualization and software-as-a-service. Although the enterprise software market is not as extensive as their counterparts in the Asia-Pacific region, Europe and Africa, these corporations in China plan to spend 23 percent of their IT budget on enterprise software, while another 33 percent will be spent on hardware acquisition.

This survey implies China's continued focus on infrastructure and hardware and would spend more in this area and is expected to be more so up to the year 2013. However, this survey also shows China's stance to readily compete in the tough global market as corporations continue to gain more confidence to invest in the country.

A Positive Forecast of China's Enterprise Software Market

By the year 2008, China was already fourth in the global software market with a scale reaching 583.4 billion yuan (nearly \$86 billion). This amounts to approximately 8.7 percent of the global market share for this industry. The enterprise software market continued to form the core of China's information industry as well as advanced manufacturing and modern services.

As described earlier, China will be aggressive in enterprise software spending and is projected to hit the \$9.4 billion level by 2012 and become the largest in the Asia Pacific region. This makes up approximately 30 percent of the software revenues in this region and approximately 3.3 percent of world revenues. Aside from that, projections

also state that China will be able to achieve 14.6 CAGR or compound annual growth rate during the period from 2008 to 2013 – the fastest growing market on a global scale.

This phenomenal growth in China's enterprise software market is brought about by the country's overall economic boom as well as low software adoption rates and is focused on four major industries: communications, government, financial services and manufacturing.

Spending in these four vertical industries will account for approximately 60 percent of total software sales in China. The type of software produced is mostly focused on systems and infrastructures, accounting for approximately two-thirds of the total market in the Asia-Pacific region. The balance is focused in various enterprise-related and business application software.

Challenges for China's Enterprise Software Market

The projected increase in software spending will prioritize applications and infrastructure related to database management systems, enterprise resource planning, office suites and operating systems. Chinese enterprises will most likely allocate more capital on hardware and infrastructure and will continue to do so until 2013. Aside from that, other areas of focus would be data integration and data quality tools – an area where Chinese enterprises have been known to be lagging in adoption.

In the systems and infrastructure category, it is expected that security applications and other middleware will register the highest growth potential. In application software, the fastest growth rate will most likely be registered by supply chain management applications as well as other content and collaboration software.

However, as experienced by other enterprise software markets worldwide, China's software vendors will be in for a lot of challenges as it continues to thrive in a highly-competitive commercial environment despite the strong

growth potential. There are existing disparities in IT resources, process sophistication and adoption of technologies among China's major business entities. Such disparities may pose certain risks in ensuring the projected success on a larger scale.

It is to this regard that China's software enterprises should focus more on and ensure that there is a direct presence in the market to address any language or cultural issues and provide localized support and services. Aside from that, these enterprise software vendors will adapt the following measures to assure that software development will continue to make headway in the coming years. These measures include but are not limited to:

- The formulation of guidelines that will establish professional service and support enterprises among China's other major industries including automobiles, textile, steel, and petrochemical. In relation to this, the protection of intellectual property rights should be further strengthened and regulated.
- Other growth points in the software industry should likewise be fostered and expanded such as Internet-based applications and software services such as include e-commerce, e-finance, and e-education, as well as other non-traditional sectors such as animation, cartoons, and gaming.
- Pilot demonstration projects should be implemented that will showcase innovations in information technology services in a bid to boost the application of software produced locally.
- Personnel training is a vital element and a must to ensure success and should be accelerated through advanced international cooperation and internationalized human resources while mutually recognizing professional qualification. AS-P

BRIDGING DIGITAL DIVIDE IN RURAL SRI LANKA

BY SHAMILA JANAKIRAMAN

Sri Lanka and many other countries with vast coastal areas have realized the importance of online connectivity, especially after the 2004 Tsunami. Coastal regions are generally occupied by villages and small fishing hamlets. A dire need for an early warning system is needed to transport people to safer areas before disaster strikes.

Students in rural areas of Sri Lanka had to shell out a lot of money to access the Internet as service was scarce. Also they had to travel long distances to reach Internet browsing centers. Huge costs involved in the setting up and running of Internet centers made them prohibitive as business alternatives in rural areas. The government realized the importance of rural connectivity to bring people in such areas into the mainstream for the holistic improvement of the island nation.

Rural Connectivity Projects

An outdoor wireless computer network was deployed in Sri Lanka way back in 2005. The beneficiary was not a city like Colombo but a small village in Mahavilachchiya situated near Anuradhapura.

This first e-Village project was set up by the Information and Communication Technology Agency (ICTA) of Sri Lanka. Horizon Lanka Foundation and Enterprise Technology was awarded a grant by the Pan Asia ICT R&D Grants Program to develop a low-cost wireless broadband architecture. This network provides high-speed Internet access services in Mahavilachchiya.

This village is characterized by surrounding forests, with no terrestrial or mobile phone networks. But was gifted with 24-hour Internet access for the benefit of rural students who also receive ICT education as part of the project. The village is now home to an advanced multimedia lab and most children attending the Horizon Lanka Academy have a computer at home. Mesh Wireless Technology has been leveraged to provide the much needed Internet and e-mail service here.



Mesh Networks include a series of digital routers or mesh boxes that can carry high performance wireless Internet over a large area using infrared or radio waves. It eliminates the need for a central server and complex reprogramming. The resilient network grows organically and can organize itself. In case a node fails, the network will automatically redirect data via another route.

The success of this unique e-Village project has set an example to other rural communities around the world. The mesh network technology has also been implemented in more than 300 remote villages in Sri Lanka by the government.

Dialog Telekom a large telecom operator in Sri Lanka and the Ministry of Public Security, Law and Order developed a warning system which leverages the GSM network. A Disaster and Emergency Warning Network or DEWN was deployed which covers more than 3.5 million mobile customers directly. The system can also warn another 15.5 million people via GSM alarm devices which are strategically located in police stations, government offices, schools, hospitals and places of worship.

The alert systems are of two types comprising of a direct alert system aimed at reaching authorities and another mass alert system which is sent to all handsets and alarm devices in regions which come under the danger zone. Alerts are sent as SMS messages and in case network congestion occurs, alerts will be sent as cell broadcasts to all mobile devices through the alarm devices enabling an early warning system.

Telecenters or Nenasalas

The government has initiated a program for setting up 1,000 Nenasala telecenters or "wisdom outlets." According to the Information and Communication Technology

Agency of Sri Lanka (ICTA), Nenasala is an initiative launched under President Mahinda Rajapaksa's guidance for taking the benefits of ICT to the rural masses of the country. Nenasalas are also called rural information communication technology centers.

Under this scheme ICT has been leveraged as a main development tool to raise the standard of life of the rural populace. Such rural wisdom outlets provide ICT facilities like Internet, e-mail, photocopying services besides giving access to agricultural information to the people in villages.

Telecenters in Sri Lanka offer Internet-based services to remote rural areas and are aimed at developing entrepreneurial talent and promoting new development opportunities.

Impetus to growth is given by a knowledge economy aided by connectivity, which may create a chasm or digital divide between the rural and urban community. To bridge this gap, telecenters have been set up in rural areas, which will give access to online government and business services. New technologies are used as tools to foster competitiveness, promote political accountability and improve the delivery of basic services.

The e-Sri Lanka initiative developed by the government and the World Bank enables an integrated rural development program which takes ICT to every village, community, school and small business. Under the e-Sri Lanka project telecenter operation was brought to villages using two models.

First is by Rural Knowledge Centers or RKC, which can be operated by rural entrepreneurs and the second method is by setting up e-libraries with the help of religious heads. The government provided all the hardware, software, managerial, logistics and technical support. Connectivity was provided in a declining subsidy basis. Entrepreneurs were required to provide a good building for the center and foot the bills for utilities and infrastructure. Women and youth were encouraged to take part in this initiative.

Rural areas were fast in adopting the concept, which is proof of a latent talent pool. People were eager to serve the community by taking part in efforts launched by the govern-

ment with the youth being active in adopting new technologies. Teenagers were trained to become network administrators and database managers, besides doing simple upgrades and PC maintenance tasks. This created a new employment opportunity for them. Parents were also enthused to pay for ICT training for their children. After IT enters, family roles get reversed with kids teaching their parents and even grandparents.

e-libraries have been launched as part of the e-Sri Lanka project. Training is provided to RKC owners to run these e-libraries. Religious leaders in places of worship are encouraged to promote the use of telecenters among rural people. RKC owners also offer limited free Internet usage services to the poor.

The rural connect project, if designed and implemented well, will surely reduce rural connectivity costs as the infrastructure will expand and competition will increase. It prevents technology lock-in into costly proprietary software environment. Rural residents can be motivated to use and pay for the services. In rural Sri Lanka, ICT services are welcome as there is a huge demand there, according to government sources.

Telecenters cater to this need and are hubs of training and for providing government services. People can communicate with family and friends in a cost effective way across countries and oceans. Rural youth, monks and women gain a lot from telecenters.

The Information and Communication Technology Agency of Sri Lanka is striving to implement projects under the "Mahinda Chintana Idiri Dekma" program also launched under the president's guidance. The National e-Literacy Project will ensure that 100,000 citizens in the rural community are ICT literate within 18 months. By 2017, 75 percent of the population in such Instant Global Villages are expected to be ICT literate.

The government has launched e-Society Development Programs, which provide grants for community assistance and partnership assistance in the monitoring of agricultural produce prices, empowerment of small and medium-sized entrepreneurs, teaching English via the Internet to rural children and providing e-mail

facilities to the visually handicapped. Digital Talking Books instead of braille books have been introduced for the visually handicapped to help run their businesses. The Interactive Study System has been launched along with the National Institute of Education for teaching various subjects.

WiMAX to Enhance Rural Connectivity

Sri Lankan telecommunications firms will launch WiMAX networks to offer high-speed Internet connections. WiMAX or Worldwide Interoperability for Microwave Access technology will benefit rural areas by providing services like telemedicine and e-learning.

WiMAX can offer connectivity to remote rural areas eliminating the need for laying copper cables or deploying expensive satellite connections. WiMAX is capable of providing broadband connectivity even up to 15 kilometers whereas Wi-Fi technology has a limited range. Hard to reach mountainous regions or areas beyond thick forests can be accessed using WiMAX.

Sri Lanka's telecom regulator Priyantha Kariyapperuma said that the nation can be proud of possessing an advanced telco system being among the first to adopt GSM network in South Asia. He also said that telco operators will develop different geographic locations in the country to prevent overlapping of services which will prove to be costly. All in favour of WiMAX, Kariyapperuma added that WiMAX can run at its optimal economic capacity on the 2.3 G and 2.5 G spectrums.

Kariyapperuma added that the number of mobile connections in the island nation went up by 2 million after the end of inland conflicts. Mobile penetration is remarkably high in the small country with 13 million active mobile connections divided among five mobile operators.

The government of Sri Lanka is very serious about making its Information Communication Technology projects a success. To this end, the government's e-Government policy has been implemented among government institutional heads also.

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BIOMETRIC TECHNOLOGY APPLICATIONS IN THE BROADER MARKET

BY SHAMILA JANAKIRAMAN

The advancements in biometric technology have served as a boon in the prevention, detection and solving of crime. Increased security threats in the cities of Asia and the world have highlighted the importance of using biometric technology to prevent crime and bring perpetrators to justice.

According to Frost & Sullivan, the Asia Pacific biometrics market has grown in leaps and bounds. Governments have started implementing security enhancements in government buildings, military installations, laboratories such as those dealing with nuclear material, poisonous substances etc. and in hospitals.

Biometrics is an authentication method that uses physical attributes of people including voice characteristics to identify them. Biometric data is converted into digital information for a computer to interpret and verify. Such data is not easily accessible to hackers and there is less chance of them being misplaced or duplicated, giving greater assurance for secure authentication.

Biometric data can be used to restrict access to high security buildings and installations, besides being useful in securing access to computer systems. It can be leveraged in authentication in a multi-factor authentication system as it necessitates the entry of both IDs and passwords.

“The market is still in the growth stage, and new avenues of opportunity are opening up for investors in both security and database management applications,” said Frost & Sullivan Industry analyst Navin Rajendra. “As more countries adopt national ID projects and e-passport programs, the market is expected to gain momentum.”

Biometric systems are increasingly becoming easier and faster to deploy, besides being accurate and ergonomically designed for various applications. However, implementation is slow due to the expenses and time factor involved in case of large deployment.

Fingerprints have been used for a long time as a main criterion for identification and authentication. But in countries like Japan, Taiwan and South Korea touch-free modes of biometric identification are being put to use by authorities, although they have their limitations.

Biometric technology in Identification and Authentication

Technological advancements in biometrics, increased identity theft and consumer concerns about personal data being compromised have made a stricter authentication processes necessary. The field has evolved beyond fingerprinting and iris recognition.

Voice-verification is being used effectively in telephone banking. Voice biometrics is one sector poised for growth in phone banking services.

Voice identification can be used in online payment environments and for reducing card-not-present fraud cases. Even chip-based cards requiring PIN identification are susceptible to fraud.

Another biometric identifier used extensively in the West is the iris scanning system. This is different from retina scanning, which requires emission of light and close contact between scanner and user. Iris scanning can be deployed in mobile phones to allow remote authentication also.

Secure biometric authentication depends on proper data gathering, which is less invasive and should

be done with least interference to subjects’ activities. An oft used biometric identification method is face recognition, which is non intrusive and can help identify people in groups.

Identification is effected based on distance between eyes, width of nose, position of cheekbones, jaw line, chin, etc. These characteristics get converted into numerical quantities and then into a single code that can identify people individually.

Fingerprints of even twins are not identical, making it a useful tool to identify a person. Fingerprint scanners have been incorporated in PDAs like Hewlett-Packard’s iPaq and laptop computers. However in industrial environments it is not useful as it requires clean hands. In such cases hand geometry is used. The ridges and furrows of lines in finger tips are taken into account in fingerprinting.

As there is no way a retina can be duplicated, retinal scans are widely used in military and government installations. It studies the pattern of blood vessels at the back of the eye, which don’t change over the course of a person’s life. Scanning the retina takes a full 15 seconds in most cases. Iris scans are also unique. The iris pattern can be encoded and carried in the form of a barcode securely.

Although signatures are also biometric identifiers and non intrusive, they have less resolution and hence are not suitable for authentication. Still, digital signatures are used widely. Keystroke dynamics-based authentication system measures a person’s keystroke style and speed like words typed per minute, common errors, letter sequence. This data can be used to authenticate a user later.

Biometrics in Forensic Identification

Forensic science deals with identification of victims and suspects from data collected at the scene of a crime. Here, both physical and behavioral characteristics are taken into account to identify a person. Forensic technology uses biometrics for face recognition, voice identifi-

cation, retina scanning, fingerprinting, hand writing analysis, hair analysis and blood identification.

Tattoo identification is also used nowadays along with skin markings like scars, birthmarks etc. which are soft biometrics as they are easily measured and may change. Tattoos can help identify decomposed, disfigured or burnt bodies after disasters like accidents or terrorist attacks.

To enable easy detection, scientists have developed software that helps in photographic tattoo identification. The matching is done using complex mathematical algorithms that compare similar characteristics. Pictures can be matched even if blurred, like in case of photos taken in surveillance cameras.

Being difficult to duplicate, biometric systems serve as accurate means to compare measured characteristics to preassembled data. Biometric identification points also include gross morphological appearance that are visible like gender, race, color of skin, hair and eye color. Other biometric data are quantifiable and less subjective such as weight, height, location of scars and other physical markings.

As some characteristics are not reliable, biometric systems use only stable anatomical and physiological features like fingerprints, retinal blood vessel patterns, specific skull dimensions, dental and skeletal x-rays, earlobe capillary patterns, and hand geometry in forensic applications. The most reliable data can be obtained from DNA sequencing.

The biometric data collected can be encoded into magnetic stripes, codes and in integrated circuit “smart cards.” The input format schemes are now not yet standardized. The Common Biometric Exchange File Format developed by the International Biometric Industry Association endeavors to integrate different measurement schemes. BioAPI or Biometric Application Programming Interface specification program is used by many government agencies and by the financial service industry in developing smart cards.

Realizing the immense potential of biometrics in solving crimes,

police forces around the world are equipping themselves with technical and personal knowledge. Police personnel access databases on the Internet to identify somebody and also share information with counterparts. Some technical institutes even offer post graduate degree programs in forensic science.

Implementation and Other Applications

Implementing biometric systems is both expensive and critical, considering the sensitiveness of the data to be collected and stored. After careful analysis, the appropriate biometric technology has to be deployed. The transmission and storage have to be secure as the digital data can be compromised, although it is difficult to falsify the biometrics. The information from the biometric reader to the authenticating server should be transmitted over an encrypted channel and stored in encrypted databases. Servers running biometric applications have to be patched and hardened to ensure security.

The ASEAN Forum on Biometric Interoperability Project proposed by the Ministry of Information and Communication Technology, Thailand has helped establish guidelines for interoperability of biometrics based systems for local as well as cross border identity management among member countries.

The repeated occurrence of identity theft and ATM fraud instigated the Japanese government to think of securing transactions. Juhachi Bank of Nagasaki installed a finger-vein biometrics system developed by Hitachi some years back. Presently most banks have introduced

the technology in ATMs for secure authentication.

Japan's Narita International Airport and several others employ fingerprint and facial recognition biometrics and the measured quantities are compared on a central database. Japan also pioneered a finger-vein pattern reader with a thickness of only 3 mm to be installed in mobile devices. Biometric authentication on mobile handsets allow secure online payments. Financial transactions are facilitated for certain services as it eliminates the need for remembering PIN, passwords, verification questions etc.

Other applications include large-scale residential complexes wherein biometric identification is used for single entry and for outer perimeter security purposes. Smart cards will soon become standard security devices. Fujitsu developed a palm vein reader which scans the palm vein pattern under the skin, which cannot be duplicated. A palm can be scanned at a speed of 1 meter per second and even when in motion. This can be used in mass transit systems like the rail and in access to offices and government buildings.

The Unique ID Authority of India or UIDAI (renamed Aadhaar) headed by Nandan Nilekani has been given the responsibility of creating a database of all citizens of India and also for providing a means of identification for all citizens. Fingerprinting and iris scans are going to be used for identification purposes.

The Biometric Time and Attendance Systems are useful for small and large businesses besides being useful as an identification system especially in hightech areas. These systems are deployed by many orga-

nizations as they are cost effective also.

Biometrics work well when paired with passwords etc. Although hard to falsify or forge, biometrics are easy to steal. Fingerprints can be picked up from objects touched and iris scans can be captured easily by fraudulent parties. Also, the encoded digital information from biometrics can be stolen. Biometrics are unique identifiers but are not inaccessible secrets for determined hackers. **A-P**

ON THE WEB

■ **The International Biometric Industry Association**
www.ibia.org

■ **The ASEAN Forum on Biometric Interoperability Project**
<http://asean-fbi.mict.go.th>

■ **The Ministry of Information and Communication Technology, Thailand**
www.mict.go.th

■ **The Unique ID Authority of India**
<http://uidai.gov.in>

COMPANIES MENTIONED IN THIS ARTICLE

■ **Juhachi Bank**
Banking
Nagasaki, Japan
www.18bank.co.jp

■ **Hitachi**
Conglomerate
Tokyo, Japan
www.hitachi.com

■ **Fujitsu**
Computer hardware; Computer software; IT services; IT consulting
Kawasaki, Japan
www.fujitsu.com

■ **Hewlett-Packard**
Computer Systems; Computer Peripherals; Computer Software; IT consulting; IT Services
Palo Alto, California
www.hp.com

■ **Gartner, provider of technology research**
www.gartner.com

COMPANIES MENTIONED IN THIS ARTICLE

■ **Brocade Communications Systems**
Networking Hardware and Software
San Jose, California
www.brocade.com

Internet appliances.

Specifically, India and Asia-Pacific have ample scope for cloud adoption. This market has a huge, untapped potential at every altitude. **A-P**

ON THE WEB

■ **Analyst firm IDC**
www.idc.com

■ **Network Computing**
www.networkcomputing.com

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Service (SaaS).

Experts in Technology and stakeholders believe that in 2020, mostly everyone will live in the cloud, working mostly through cyberspace-based applications accessed through networked devices. This is sure to further enhance mobile connectivity through varied innovations of smartphones and other

ANDROID MARKET IN KOREA GROWING

BY MATTHEW WEIGAND

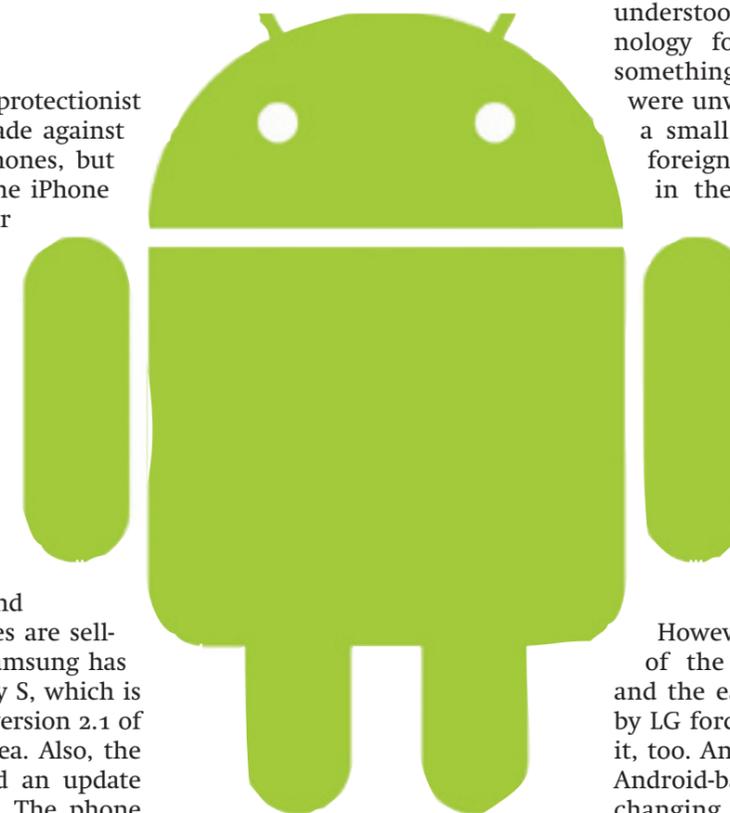
South Korea had a bit of a bad reputation for a while as far as smart phones went.

The country had a protectionist non-tariff barrier to trade against non-domestic smart phones, but with the approval of the iPhone for sale in Korea near the end of last year, the smart phone market has grown quickly. The Android operating system for phones is part of that, and the Android marketplace in Korea is doing very well indeed.

The phone market in Korea is still dominated by Samsung and LG, and both companies are selling Android phones. Samsung has just released the Galaxy S, which is the first phone to run version 2.1 of the Android OS in Korea. Also, the company has promised an update to 2.2 in early August. The phone is a serious competitor with the iPhone, with a 4-inch Super AMOLED display, a 1 Ghz processor and a 5 megapixel camera. It also has the ability to record 720p HD video at up to 30 frames per second. Of course it also connects with 3G, WiFi, and has a built-in GPS receiver. The Galaxy S is like a little computer in your hand, and comes with a computer-level price tag as well at around \$1,000. The most interesting feature about the Galaxy S is that the screen is both an extremely-bright AMOLED display and a touch screen. The touch part of the mechanism has been built into the screen rather

than placed on top of the screen. This gives a much more clear and bright picture.

LG Electronics is not slouching in the Android market either, having just released the LG Optimus Q, a phone with a keypad. Unlike the Galaxy S, the Optimus Q's sliding keypad makes for faster data entry into the phone, and is more attractive to tech-heavy people who expect



These two heavyweights in the smartphone sector are bringing Korea back into the limelight as a mobile technology creator. The two home teams of Samsung and LG are showing iPhone envy as they go with the only real competition to Apple's iPhone, which is Android OS.

South Korea used to keep smart phones out with its WiPi specification, which required all smart phones to implement a poorly-understood locally-developed technology for wireless connections; something that most companies were unwilling to do just for such a small market. Nokia, the last foreign company to try to be in the Korean phone market,

pulled out in late 2008 because it was no longer profitable. This left Samsung and LG sitting pretty with a captive market, in which Samsung tried to develop its own proprietary smartphone operating system called bada. LG had no such plans, and denied them repeatedly.

However, the poor reception of the bada operating system and the early adoption of Android by LG forced Samsung to look into it, too. And now, several models of Android-based smart phones are changing the way that the smart phone market operates in Korea. **A-P**

COMPANIES MENTIONED IN THIS ARTICLE

■ **Samsung**
Conglomerate
Seoul, Korea
www.samsung.com

■ **LG**
Conglomerate
Seoul, Korea
www.lg.com

■ **Apple**
Computer hardware
Computer software
Consumer electronics
Digital distribution
Cupertino, California
www.apple.com

to be moving a lot of data. It also has a 4-inch display, although only AMOLED. It has a 1 Ghz snapdragon processor, a 5 megapixel camera and a built-in GPS system, too. Unfortunately, its video is only 720p at 30 frames per second. On the plus side, it comes with a built-in radio. It has shipped with Android OS 1.6, but users are also promised an upgrade to Android 2.2 in late July or early August. This is the third phone model in a series of 10, all called the Optimus, planned for release by LG this year.

IN KOREA, WEB ADDICTION SPIRALING OUT OF CONTROL

BY BRYAN KAY

It's after dark. And in a stale, stuffy room, 28-year-old Nam has his eyes glued to a large PC monitor. He is playing an online card game, an activity he engages in every day for at least five hours at a time.

He is one of several dozen, ranging in age from teenage boys through 40-plus white collar workers, fixated on one of a number of online games. They are entombed in a PC bang, or Internet café, in the South Korean capital of Seoul, a small cross section of a phenomenon repeated in tens of thousands of locations across the country.

The quintessentially Korean version of the Internet café – which operate 24/7 – have in recent times been gathering the attention of a shocked global audience – most dramatically earlier this year after it was revealed that a three-month-old baby had died from malnutrition while the parents spent their time rais-

ing a virtual child on an online game in one of the bangs.

It was just the latest in a long line of incidents linked to the burgeoning online gaming industry in South Korea. Many experts say the country's acknowledged Internet and gaming addiction problem is spiraling out of control. Cases swing wildly from the sinister to the absurd. Since that episode, the government has been taking measures to stem the problem – but it is up against an industry in the grip of growth and increasingly important to the economy.

Just a few weeks before the baby incident, a 22-year-old man was indicted for the alleged murder of his mother in a case linked to gaming addiction. At the time, it was reported the mother nagged him for spending too much time playing games.

In another case reported in July 2009, a 21-year-old man was arrested in connection with the murder of his mother. He had apparently been angry over her neglect of the family in the face of Internet addiction. Yet another individual died from exhaustion after playing a game for a reported five days on end.

Like the 41-year-old father and 25-year-old mother arrested in the baby death, Nam – who asked to be identified by only his family name – is unemployed. But the university graduate said his case was different: he was waiting for his results in the national bar

examination.

The neighborhood surrounding the café is full of people like him as they sweat it out till D-day. When interviewed, Nam had been going to PC bangs every night as he nervously counted down the days till his results delivery date. Then, he was particularly fixated on a Korean card game known in English as “go-stop.” “I know I should spend less time on the computer, and I should be studying even harder now before the second exam ... in case I pass the first stage,” Nam confided. “But it's extremely hard to, especially after you feel like having a break following a big exam. “After failing for the previous two years, I became extremely nervous ... and I can forget about everything and unwind when I'm online.” He said he has stayed up all night on occasions. “When you're into it, you just forget about time,” he admitted.

Apparently unperturbed by the high-profile cases, Nam doesn't see himself becoming another statistic. “Sometimes I read or watch news reports on people dying while playing online games for days without a break, but I don't think that could be my own story,” he said.

Some bang owners, on the other hand, are reticent. One asked a reporter to leave his premises when probed on the issue.

The Korea Example

The number of addicts is officially considered in the region of 2 million. Experts, though, say the figure may be much higher.

But what characterizes Korea's troubles with Internet-related addictions? According to Jerald J. Block, writing in the *American Journal of Psychiatry* in 2008, a distinct difference is that while problem users in the United States play at home, Koreans partake in full public view. For that reason, he noted, accurate statistics on the gravity of the problem are more plentiful in Asian countries such as Korea.

Others point to the communal

nature of gaming here. The overwhelming preference is for multiple-player games where the competition is fierce, and cyber cash is at stake – not to mention prestige. It is not uncommon to see groups of school children and students lined up together in cafes burning away hours together. There are TV channels dedicated to gaming, and the culture has spawned the Korea-based World Cyber Games. The land of the morning calm, of course, is top of both the rankings and the medal count, and top gamers are afforded rock star status.

“Koreans are more exposed to gaming at a younger age,” explained Kim Tong-hyung, a Seoul-based technology journalist. “We have had these for well over a decade.”

“Online game addiction in Korean society has gone far beyond a mere social nuisance, resulting in accidental deaths and even murders,” The Korea Herald reported.

Like with other forms of addiction, the common triggers cited are often parental pressure to shine at school, a demanding boss and escape from the pressures of societal expectations. Youngsters in Korea carry a heavy burden when they enter school. Critics often bemoan the emphasis placed on one exam – the Korean SAT – and the pressure to enter the country's top three universities.

Some say they are merely escaping.

Michael Breen, author of the book “The Koreans,” said the oppressive Korean family environment could be a factor. Computers are “a place to escape from pressures,” he said, pointing out the problem has torn a path through the age ranges if recent cases are to be believed.

“There is an obsessiveness

(about Koreans), and they throw themselves into things. They are among the best in the world at these games.”

Nowhere in the world is it easier for a games addict to feed their addiction: technologically advanced South Korea has an estimated 95 percent high-speed broadband coverage. “We have a very good infrastructure,” explained Kim. “And the gaming population is very big.” Roughly half the country's population of 40 million, according to one estimate.

Public Pressure

The controversy stirred by the starvation case when it was first reported in early March led to a rash of critical reporting in the local press on the extent of the problem.

“Online game addiction in Korean society has gone far beyond a mere social nuisance, resulting in accidental deaths and even murders,” The Korea Herald reported.

That was followed by word from the country's culture ministry that the government plans to work in conjunction with online game companies to combat excessive gaming. One possible deterrent announced at the time sought to strip

gamers of part of their virtual assets if deemed excessive users.

The ministry also said it would increase the budget available for addict counseling and treatment by ten times.

Another plan aimed to provide addicts with free software to limit their usage – though use would optional.

Some groups called for more drastic action. The People's Livelihood Economic Research Institute told The Korea Herald online games should be banned in the interim until the gravity of their impact was measured.

Tougher measures set to be put in place include major game operators introducing a “fatigue system” encouraging players to switch off, while younger users are to be limited to a time period set by a parent or guardian.

Outside experts in the past have said Korea was ahead of the game in tackling the scourge. Journalist Kim, though, said there have been recent difficulties in finding equilibrium between industry profit and responsible use.

In 2002, the government sought to stem the tide by funding an Internet addiction counseling service. Since, a string of help centers and hospital treatment rooms have been set up. Boot camps for addicts and the world's first symposium on the condition have also been staged in the country.

The country's National Assembly has also sought to hamper access to Internet cafes and games for teenagers.

But there has been industry opposition.

"The government is trying to promote this industry as an export market but it is struggling to control the addiction problem," said Kim. "There seems to be a resistance among companies to curb online games cases and tackle addiction."

"The government has a tight control over changing cyber money into real money. Gaming companies are trying to pressure the government into reducing that. The government is struggling to find a balance."

Local reports have produced some staggering statistics. Together, they paint a picture worrying local analysts: As many as 520,000 (7 percent) of primary school pupils may be regarded as online game addicts, according to one estimate. Internet café revenue reached \$428 million in 2009, statistics attrib-

uted to the health ministry show. And the cost of Internet addiction-related crime is said to be around 97 billion won per year.

Elsewhere, between 2002 and 2007, teenagers attending counseling in connection with Internet addiction soared 20 times, according to the then Korean Agency for Digital Opportunity & Promotion. In 2007, 80.3 percent were for games addiction. In a study last year by the Korean Academy of Child and Adolescent Psychiatry on 203 minors diagnosed as Internet addicts, more than 70 percent were addicted to "massively multiple player role-playing games (MMORPGs)." Middle school students made up 43.3 percent of the patients, while high school pupils accounted for 28.3 percent.

NHN, one of Korea's biggest games companies, in a statement earlier this year said it is tackling the problem. A spokeswoman said "game overindulgence" was "emerging as a social issue" and that countermeasures were necessary. Hangame's online games portal operated by NHN "Web board games are not free from the issue," she continued. "... Last year, we introduced the UPP (user protection program), in which users are under supervision in seven scales of overindulgence. Such protective programs will be implemented in RPG and FPS games we will launch later on."

Lack of Awareness

When self-confessed former addict Kim Hyun-cheol, 34, had a problem, he was a student in university and PC bangs were everywhere. "I enjoyed Web surfing

and it just became habitual." Kim realized he had a problem – he was spending around six hours at a time online – when he started to turn up late for work. Though he was able to wean himself off independently and regards himself as "fine now," he admitted to an addictive personality that could have proved a hindrance.

He may be one of the lucky ones. Research published in 2005 and led by Kim Kyung-hee of Chung-Ang University in Seoul established a link between depression and suicide, and Internet addiction.

Kim, the technology journalist, said: "Games companies like NHN and NCSoft have their own programs to help (problem users) in partnership with local hospitals. But there is a lack of awareness among gamers that there is a problem here." Bar exam hopeful Nam, meanwhile, painted a morbid picture of the scene around him. He said "wrecks and dropouts" in the neighborhood were not hard to find. "Around every December, hundreds of PC bangs here are full of examinees who have given up competing even before the first exam, distressed with their failing studies or with overwhelming pressure." **A-P**

ON THE WEB

- The American Journal of Psychiatry
<http://ajp.psychiatryonline.org>
- World Cyber Games
www.wcg.com
- Korean Association of Medical Journal Edition
www.koreamed.org

of creating "special purpose vehicles (SPV) as an institutional mechanism for long-term sustained project implementation based on interoperable standards was emphasized. It was also agreed upon to leverage the private sector's expertise in project management and implementation aggressively while ensuring that strategic control of the projects remains with the government.

Ensuring mandatory e-delivery

of some identified services within a given time frame through legislation is another important recommendation of the Apex Committee.

Those services which could be quickly modified and molded through business process reengineering need to be identified both in the central and state governments and road map for mandatory e-delivery of such services in the given time frame has to be worked out. **A-P**

VISUAL COMMUNICATION: A TOTAL TRANSFORMATION

BY MEENAKSHI SHANKAR

High Definition video has been a great contributor to a rapid and total transformation of the visual communication market.

HD has in fact made visual communication more attractive and a requirement for organizations of all size.

HD video conferencing is fast becoming a popular form of communication in the APAC region. According to Frost & Sullivan, APAC is expected to contribute nearly \$1.7 billion to the video conferencing market. The market for this technology is also predicted to grow into a \$4.7 billion dollar industry by 2014 worldwide.

"Interest in video has never been greater, and HD technology is the driver. In just over three years since LifeSize delivered the world's first HD video system, high definition is the overwhelming choice," said Shivashankar K, Country Manager, India, LifeSize Communications.

The newest generation of technologies, the power of video, voice, data and wireless, have all contributed to a new pinnacle of communication that promises to deliver the ultimate collaboration experience.

What HD Visual Communication Exactly Is

With the evolution of IP networks and visual communication technology, collaboration is becoming more effective and efficient regardless of location or distance. More real-time applications are coming to the scene. Especially when it comes to enterprise visual communications and conferencing solutions, there have been dramatic changes and improving trends.

In fact, there are more dynamic applications that require a high level of audio and video quality that can match the demands of end users. High Definition is no doubt taking its position well in all verticals and is set to change the conventional trend of communications.

HD Is The Next Big Thing

HD visual communications enables a new level of interaction. Telepresence - a new kind of visual communication - offers a "true to life and time" kind of experience, bringing scattered teams together. Content management is not only slides and spreadsheets, it is becoming more dynamic with facilities to share video clips, animation, three-dimensional images and even streaming applications.

Visual Communications is better supported with highly scalable distributed architecture, capable of offer-



ing complete desktop connectivity from high end room systems, total integration even with enterprise tools, enabling advanced media processing through hardware, and flexible deployment and distributed scalability via software.

Hidden Challenges

But there are hidden challenges and additional tasks that developers have to address while adopting HD technology. They include: interoperability, system management and configuration, better management of the visual communication ecosystem, and above all, a better understanding of system integrators.

HD Visual Communication Market

For enterprises, adopting HD visual communication mainly depends on the level of collaboration that is essential for them. If they require a high level, then visual communication is the right answer. This new technology not only improves collaboration, but it is believed to improve the quality of our economic and personal lives, with high potential for entertainment, too.

Specifically, High Definition brings end users together in time and space. All High Definition systems use digital information to create a clear, sharp, more detailed picture with true-life color reproduction. HD is the enabler for a new generation of videoconferencing systems that offer far higher picture quality than their Standard Definition peers.

According to a leading market information analyst, HD systems will soon become widespread across all application areas and they are predicted to account for a significant percentage of the market. More precisely, HD is anticipated to bring up a new wave of applications for customers who are looking to share ideas and display objects anywhere and at anytime.

Impact of HD on the Visual Communication Market

Sanjay Bansal, Founder, Chairman of the Board & Managing Director, Business Octane, said most visual communications purchases are in HD systems. "More than 60 percent of new purchases are HD systems." **A-P**

COMPANIES MENTIONED IN THIS ARTICLE

- LifeSize Communications
Video Conferencing
www.lifesize.com
Austin, Texas
- Business Octane
Video Conferencing
www.businessoctane.com
Gurgaon, India

Continued from Page 25

31 SDCs will be operational by December 2011.

The government is taking stock of progress made so far as well as the major impediments, and has made a number recommendations based on their assessment. These included the need for creating suitable HR framework in the form of Dedicated Project Teams for implementation of projects in a Mission Mode. The need

Q&A

SIMON TAY

Compile a list of East Asia's most dynamic men and Simon Tay's name will surely appear: a law degree from Harvard; assistant professor at the National University of Singapore's law faculty; teacher at Harvard Law School and Yale University; chairman of the Singapore Institute of International Affairs; Asia Society Schwartz Fellow in New York; co-chair for its Global Council; author or editor of five books on law or politics; commentator on CNN, the BBC and at the Davos World Economic Forum; parliamentarian in Singapore; visionary founder of its youth peace corps; award winning author of essays and stories.

Really, can Simon Tay fly? He gives this exclusive interview on his book "Asia Alone: The Dangerous Post-Crisis Divide from America" to special correspondent Victor Fic – also born in Singapore.

BY VICTOR FIC

THE 'POWER OF &'

Simon, you warn about a “dangerous post-crisis divide” between America and Asia after the 1997 regional financial crisis and the 2006 U.S. version. Some Asians supposedly seek “decoupling” and regionalization absent the U.S. Why and how is this happening?

By the start of 2008, some were talking of a decoupling between the economies of the United States and Asia, meaning that Asia's indigenous significant growth — especially in the larger Indian and Chinese economies could offset or even override any U.S. downturn. Asia's rise would be independent of America and in Asian hands.

The 2008 crisis has debunked this theory of decoupling. As American financial and economic problems triggered a sharp fall in demand, Asian production, growth, and jobs felt the pain as factories that depended on low prices to compete suffered. Even efficient and innovative companies encountered problems as American demand fell. Toyota lost \$7.7 billion in the first quarter of 2009, well before the accelerator-related safety issues. The crisis showed that Asians and Americans are still interdependent economically, whether in the crisis' pain or in the preceding heady growth years.

You charge that Al Gore as vice president, President George W. Bush and Condoleezza Rice all “lost” Asia in a “fall from Olympian heights” and “tectonic” shift. What are their alleged errors?

American prestige and involvement in Asia was more and more questioned by Asians from 1998. How did Americans fall down so far and so fast? The first slip came in the “Asian” crisis of 1997-98 during the Clinton administration and symbolized by Vice President Gore's speech at the APEC Summit in Malaysia. But many more missteps were made by George Walker Bush.



There was a discomfort and distaste after the U.S.-led invasion of Iraq and the revelation of human rights abuses in Abu Ghraib and allegations of mistreatment at Guantanamo. Criticism related also to the question of Palestine and Israel, where Bush appeared not even handed. Such sentiments were strongest in Indonesia and Malaysia with Muslim majorities yet it also grew where Muslims are only a minority or absent such as South Korea, historically intertwined with and dependent on the United States

The nice guy Simon Tay wants Asia and America to remain partners. First, define your vision of an Asian normative community.

My term “Power of &” can underpin a normative community to engage China for the United States, the European Union and the developed countries; it is most important in Asia where fellow Asians realize that their relationships with Beijing cannot simply be negotiated bilaterally.

The Association of South East Asian Nations (ASEAN) tries to engage and build dialogue and confidence with

China multilaterally as an example of constructing such an Asian normative community, built on the Power of &. Also, ASEAN-led efforts like the ASEAN regional forum for security and the ASEAN plus 3 and East Asia Summit among leaders can engage China to socialize its rise within the regional order.

You often add the phrase the “power of &” to this co-operation formula. Define it in more detail.

The “Power of &” means that it is possible and desirable for China to rise and the United States to remain powerful and influential in Asia. It includes Asians becoming economically and politically more integrated among themselves and with the United States. This is not an impossible and impractical dream. It already exists. Relations across the Pacific are inherently built on this.

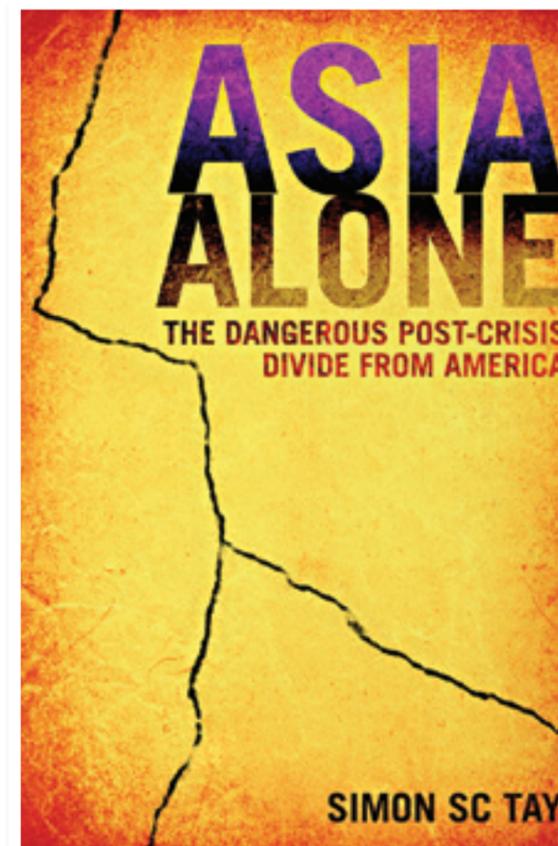
The Power of & underpins the APEC process of “Open Regionalism” where the regional economies seek closer ties while interacting with the global trading system and economic flows. The term describes how, in politics and security, the growing meetings among Asians alone continue alongside the bilateral security engagements with the United States.

The Power of & explains the concentric circles that Asians have drawn for free trade and economic agreements. ASEAN is a hub among emerging regional powers expecting that these can be integrated into an Asia-wide agreement. I hope that the United States can respond to free trade initiatives, going from bilateral FTAs with Singapore and South Korea to the Trans-Pacific Partnership to wider arrangement with Asians.

As for President Barak Obama, you say that he offers a new chance at long term cooperation. Why does he impress you?

The Obama administration rec-

ognizes the need to cooperate more with China and lessen the past combative elements. As early as February 2009, Secretary of State Hillary Clinton enthusiastically declared, “The opportunities for us to work together are unmatched anywhere in the world.” Former National Security Advisor Zbigniew Brzezinski advocates a G-2, a group of just the two countries to lead on global issues. The G-20 instead was the most central group responding to the global crisis. But while the Europeans,



Japanese, Russians, and others have chipped in, the spotlight remains on the United States and China.

Simon, you advise your many American friends not to fear China's economic power, to welcome Asian investment, study the languages, etc. What attitudinal changes do you think China or other Asians must make to cooperate with the West?

Both sides must put aside past attitudes and policies now outmoded. A new context for American-Asian relations is emerging from the crisis: The spectrum now runs from po-

tential isolationism and the idea of American decline to the acceptance of a more multi polar world and a continued engagement on different terms.

You depict Asian-Americans as bridgers. But Asian nations generally lack this internal, internationalist diversity – no? Also, it seems that locals often face pressure to support the nationalist line versus foreigners, so the social playing field is not level. comment?

Actually, I do not see famous Asian Americans as major bridge builders. For instance, the Group of 100 Chinese Americans has names, but less influence. The real change must be in overall American society. I cite the New York high school that teaches Chinese. As for Asian openness, I am sanguine. The first globalization wave has made us accept many Western values and practices. If you give a free ticket to an Asian, he will likely go to America because of its soft power like Hollywood and Obama.

You say that China is cooperating with the Association of Southeast Asian Nations (ASEAN) – from “alarm to charm.” But recently Beijing claimed the South China Sea as a core interest. Some warn

this means non negotiable Chinese domination – your response?

ASEAN elevates security concerns in the South China Sea to a multilateral issue to draw China into agreeing to a code of conduct. Now, over the stickier territorial claims, Beijing officials deal bilaterally with the different claimants while some in ASEAN want to elevate these to a collective discussion.

The Mekong River presents a similar challenge, where China controls the headwaters and can affect the states lower down – Cambodia, Laos, Thailand, and Vietnam. Devel-

Q&A

oping the river's sub region helps the poorest areas and better protects the river's ecology. ASEAN's ties with China put the issue on the agenda versus leaving each state to deal individually with Beijing. But while collective responses remain essential unity in ASEAN has sometimes proven difficult as Chinese influence grows on some riparian states.

You portray ASEAN as changing from "a talk shop" to leader in forging a new, more unified East Asia. What evidence justifies your praise?

ASEAN is called a talk shop. But it does unique things, like bringing China and Japan together. When these two giants were not talking, they still attended the meetings hosted by ASEAN for the wider group. In 1999, when ASEAN first united China and Japan with South Korea, the leaders also agreed to share breakfast.

Ties were so limited that this informal event attracted media attention as a first "summit." Xinhua news agency in China quoted Jin Xide, a researcher with the Chinese Academy of Social Sciences: "The leaders of the three neighboring states, for the very first time in the last millenia, sit down around one table." It

reported that they discussed China's membership in the WTO during the hour-long meeting, with the Japanese and South Koreans supporting Beijing's early entry. The Japanese Daily Yomiuri newspaper also reported it as significant, but summarized the discussions as being about regional security e.g. North Korea's intentions to develop nuclear weapons. This contrast demonstrates the continuing issues between the Northeast Asian giants. Even over breakfast, no one can entirely agree on a common agenda.

Therefore without military strength or great economic weight, ASEAN has emerged as a key regional actor amid the rivalries and has played a central role, hosting key Asian meetings and generating an organized agenda. Partly, this is a default position, built on the lack of acceptability of others to lead. ASEAN's lack of ambition to contend for power allows acceptance and trust .

As for Japan, you criticize it for offering little to regionalization. How did it fail here?

Political ties in Northeast Asia remain fragile because of history, lingering resentment, and competition between Japan and China. In much of Southeast Asia Japanese companies have long invested and traded. But Tokyo too often depends on checkbook diplomacy, dispensing money and assistance with little influence.

Therefore, some belittle the Japanese position as being akin to an ATM because money is withdrawn without interchange or dialogue. Even this form of engagement with ASEAN has ebbed as China dispenses its largesse and Japan — facing a growing deficit— has cut back. Japanese engagement with ASEAN is overdue to be reshaped and focused, and Tokyo knows it.

But you praise South Korea's roledraw out the contrast.

South Korea might be another significant actor in East Asia. Its economy, while smaller than either Japan's or China's, is as large as all of ASEAN's. It has strong trade and investment links with China and Southeast Asia and technological strengths. Seoul did significantly bridge East Asia as it exited the Asian crisis. Under (former) President Kim Dae-jung, it helped foster early efforts at cooperation among the ASEAN plus 3.

It commissioned a high-level panel to envision an East Asian community that might evolve from this grouping.

Reporting to governments in 2001, this panel articulated a broad vision of East Asian community spanning economic cooperation, security, education, human resource development, and, most ambitiously, to foster a common East Asian identity.

Overall, your argument is uniquely sharp. You mention that Singapore's Ambassador at large Tommy Koh rejects your thesis. How is your case being received in Asia or the West?

I have spoken at conferences in Tokyo, Shanghai, Singapore, Brunei. My ideas and the book have been received fairly well, so far. The book has been reviewed in the Singapore Straits Times and TODAY newspaper, as well as featured on the blog of the Council on Foreign Relations expert Elizabeth Economy. Yes, Tommy Koh disagrees, but controversial debate can be a good thing if it leads to better ideas. **A-P**

Continued from Page 29

Presidential Secretary Lalith Weeraratunga has advised all government heads including the ministries, departments and statutory boards to familiarize themselves with the e-government policy by the end of this year. This is expected to optimize the delivery of public services, especially in rural areas. **A-P**

ON THE WEB

■ Information and Communication Technology Agency (ICTA) of Sri Lanka www.icta.lk

■ Horizon Lanka Academy <http://hlacademy.wordpress.com>

■ The Ministry of Public Security, Law and Order www.moi.gov.lk

COMPANIES MENTIONED IN THIS ARTICLE

■ Dialog Telekom Telecommunications www.dialog.lk Colombo, Sri Lanka

100% SATISFACTION GUARANTEED

Snovasoftware
IT Associates

Overview
Who we are ?

Snovasoftware is one of the fastest growing global software firms. We are based in U.S.A., with support locations in Asia. We specialize in providing customized products and solutions across many industries. Some of them are:

- Financial services
- Health care
- Insurance
- Human resource management
- E-commerce

What we offer ?

- Strategy and architecture services
- Business process outsourcing services
- Maintenance and Technical support services
- Network and security services

Why us ?

Our philosophy is what sets us apart. With efficient, quality driven and cost-effective IT solutions, our clients can maximize their return on investment and focus on core business goals, with peace of mind.

IT Consulting
Project Management, Domain Consulting, Specialized Skills, Business Planning, Process Engine

Application Development
Outsourcing, Database, SOA, Reporting Engine, Content Management, Web Services

IT Consulting
Release, Support, UAT, QA, Implement, Design, Analyze

To learn more..... please visit us on the web at www.snovasoftware.com or to contact our regional representative in Asia Pacific, please email to: parvkaur@kornet.net or call us @ Office : 82-2-7653990/Mobile : 82-17-7098230.

EXPO 2010 SHANGHAI DRAWS MILLIONS

BY AMANDA MIN CHUNG HAN

According to Shanghai Expo representatives, half a million local tourists visit the Shanghai Expo. The 184-day event is predicted to attract an estimated 4 million foreign visitors. The Shanghai Expo is being held on both banks of the Huangpu River in the city of Shanghai from May 1 to Oct. 31.

Many superlatives are associated with the Shanghai Expo. It is the most expensive Expo in the history of world fairs. The Shanghai Expo is also the largest World's fair site at 5.28 square km.

At more than 190 countries, it is most participated-in Expo ever. More than 50 international organizations have participated. China expects almost 100 foreign leaders to visit. Between 70 to 100 million visitors are expected to visit the Expo, which would make it the most visited in history.

The theme of the exposition is "Better City-Better Life" and signifies its cleaner and greener China concept with new technologies. Since the Expo site is gigantic, there are many shuttle buses that operate between each pavilion. These shuttles are environmentally friendly electric buses. The Expo vehicles can travel about 1,000 kilometers after being charged for eight hours. Also, 36 super capacitor and six fuel-cell buses run between the Asian, European, African pavilions on the Pudong side of the site.



Mr. Park Keun-woo,
Director of Korea Pavilion
at Shanghai Expo

About 120 electric buses shuttle between the two sides of the Huangpu River through the Xizang Road Tunnel. Around 70 fuel cell cars serve VIPs and more than 100 electric 11-seat golf cart look like cars transport mainly on the elevated pedestrian paths than link the pavilions.

The Partner Robot in display at the Japan Pavilion attracted many young visitors and it can play the violin with very sensitive fingers. The Technology Zone in Korea Pavilion, 3-D TVs that show both Korean and Chinese characters with symbolizing each country in three dimensions are popular among children. Surrounding the 3-D screens are 13 fiber optic trees that constantly change colors according to the images shown on the screen.

One of the most popular must-see exhibitions in the Korean pavilion is traditional Korean drum performance. Park Keun-woo, a director of Korea Pavilion said, "The traditional drum performance is the most popular content in the pavilion. Thanks to Hallyu, Chinese are interested in Korean art, technology and business. We expect 6 million visitors by the 31st of October."

When Japanese midfielder Shunsuke Nakamura left the club in the summer of 2009, questions were raised about where the club would turn to plug the gap left in its global expansion efforts. His four-year stay had proved a lucrative one, opening up a healthy slice of the world's third-biggest econ-

ON THE WEB

■ The Shanghai Expo
<http://en.expo2010.cn>



SCOTTISH EYES TURN TO SOUTH KOREAN FOOTBALL MARKET

BY BRYAN KAY

For years now, English Premier League clubs have cast expectant eyes toward the Far East football market as part of efforts to propel their global brands.

Perhaps the most successful has been Manchester United, with the recruitment of South Korea's star midfielder, Park Ji-sung, a jewel in their marketing crown. The club is a veritable giant, able to count hundreds of thousands – perhaps even millions – of fans across the likes of Singapore, China, South Korea, Japan and Malaysia.

While clubs in mainland Europe have achieved success without signing up Korean star names – Real Madrid a case in point – for others, breaking the mold of anonymity poses the biggest obstacle to marketing success.

But now a relative newcomer on the block from just across the English border appears to be making concerted efforts to break into the Korean market: Glasgow Celtic, from the Scottish Premier League, a division of minnows in the grand scheme of world football.

When Japanese midfielder Shunsuke Nakamura left the club in the summer of 2009, questions were raised about where the club would turn to plug the gap left in its global expansion efforts.

His four-year stay had proved a lucrative one, opening up a healthy slice of the world's third-biggest econ-

Ki Sung-yong



omy for the Glasgow outfit.

In the current climate of financial uncertainty, overseas revenue streams are taking on added significance.

Now Celtic's sights are firmly fixed on South Korea after they snapped up national team defender Cha Du-ri in the wake of the World Cup. Only last year, South Korean midfield protégé was secured on a four-year contract. At the time, Celtic also acquired Chinese midfielder Zheng Zhi, and were forced to refute allegations they made the signing on purely marketing grounds.

While the burgeoning potential of China – now the world's No. 2 marketplace but rampant with piracy that would threaten brand protection – looks the most attractive, others point toward the freer and more mature South Korean market as a potentially steadier source of revenue.

South Korea, which emerged quickest from the economic downturn that swept the world last year, is a hive of passionate football supporters who embrace their foreign-based local heroes with often messianic reverence.

The classic example of success lies with Manchester United, which has tapped the market to the tune of perhaps tens of millions of pounds, helped largely by the acquisition of Park.

Ki Sung-yong, for one, has the kind of youth and potential in the game that would seem to spell positives. But the big question is whether Celtic can follow United's lead, particularly while saddled with the Achilles heel of hailing from an unfashionable football league. South Korean analysts are coy. The consensus – laced with suspicion over Celtic's true intentions for signing Ki – appears to be that the club may have to play the long game.

Earlier this year in the wake of Celtic's signing of Ki, one local business journalist said many in the South Korean media and among the public wondered whether the club only signed the 20-year-old to cash in commercially.

However, while those involved in marketing Celtic in Korea remain cagey over making predictions, others say his mere capture will place the club on the map. The initial focus is expected to be in securing sponsorship, rather than flooding the market with merchandise and Celtic-branded establishments.

Manchester United's relevant statistics are lofty. The English club netted an estimated \$9.9m after a series of pre-season friendly matches in Asia in the summer of 2009, one of which was in Korea, and boast United-themed bars across the region, with one in a plush district of Seoul. Another tour to the Far East this summer is likely to fetch a similar sum.

In the sponsorship market, there are a clutch of big hitters in Korea. Last summer, Chelsea and Samsung

Continued on Page 48

Economic Reforms in N. Korea

BY DONALD KIRK

North Korea is slowly recognizing certain harsh imperatives in the wake of economic reforms that backfired late last year. In a People's Paradise, capitalism is a necessary evil and certain reforms are unavoidable.



The question now is whether any reform will work – or whether it's too late for North Korea to emerge as a self-sustaining economic entity. "Loosening of rules is not believed likely to undo the underlying problem of a country that does not have enough food, or money, to care for its people," said Choi Won-ki of the Korea Institute of National Unification. "They have tried to control markets for too many years."

It was amid reports of rising rice prices and shortages of food and other supplies that the regime had to face up to the failure of drastic revaluation of the currency and stringent new controls on free enterprise imposed in December of last year. The regime for months has been looking for scapegoats for the failed program. The dismissal of North Korea's chief financial planner earlier this year was just the most obvious sign of discontent with revaluation of the currency. Pak Nam-gi, director of planning for the ruling Workers' Party, disappeared after engineering the currency evaluation in a misguided scheme for halting runaway inflation and stopping profiteers from hoarding money and then changing it to Chinese or Western money.

Inside North Korea, angry crowds besieged marketplaces after the price of rice, the staple food when it's available, rose many times from its level last December

and the value of the currency sharply deteriorated. The economic crisis evoked memories of the famine of the 1990s in which 2 million people died from starvation and disease. Daily NK, which puts out reports based on sources inside North Korea, reported the easing of regulations in two provinces at the beginning of February – and stabilization of prices in those areas. Then, in May, North Korea eased restrictions more broadly on small private markets elsewhere.

Pak had a long background in suppressing free enterprise. Several years ago the same man was responsible for reasserting stringent controls after a brief flirtation with increasingly open markets – and then called for still stronger controls last December as free-enterprising merchants again posed a threat to the regime. With Pak's disappearance came reports of the dismissal of the chief of the notorious Bureau 39, a powerful financial sub-agency that deals in everything from counterfeit currency and narcotics to export of missiles and the import of material for weapons of mass destruction. Pak had over-all control of Bureau 39, whose chief, Kim Dong-un, was replaced. The power struggle in Pyongyang had immediate repercussions on the rule of Dear Leader Kim Jong-il. It was the Dear Leader and his youngest son, Kim Jong-eun, who were believed to have wanted the ill-fated currency reform. Then, when it was clear it would never work, they had to get rid of the top finance officials who carried it out.

But why did Kim Jong-il see such a pressing need to control the growing black market – was it just the fear of inflation? North Korea's elite – a narrow band of those close to leader Kim Jong-il and his inner circle of family members plus a raft of top aides, senior members of the armed forces, the Workers' Party, and the government – were assumed to have large caches of foreign currency, dollars, euros, or Chinese yuan while the vast majority of North Koreans have almost no money at all. It was the middle class, caught between these extremes, threatening the power of those at the top, that had to suffer the most. "People are mad at Kim Jong-il," said Ha Tae-keung, head of Open Radio for North Korea, which broadcasts two hours a day of news from Seoul into North Korea. "Suddenly your wealth is gone, and you have nothing. It is very difficult." The question, he asked, was "whether the protest is organized or random."

The North Korean newspaper, Choson Sinbo, published in Tokyo, quoted a bank official as saying the currency was devalued in order to raise the value of North Korea's currency and make it easier to use in a normal transactions. The paper, a North Korean mouthpiece with an office in Pyongyang, carried photographs of new North Korean currency notes, all bearing images of the late Kim Il-sung, who ruled for nearly half a century before dying in 1994 and passing on power to his son, Kim Jong-il. A leader of South Korea's ruling Grand National Party called the currency reform "a desperate bid to maintain the regime." He described the reform as motivated by the

need "to consolidate the ground" for succession of power from Kim Jong-il, recovering from a stroke that he suffered in August 2008, to Kim Jong-eun.

Until the article appeared in Choson Sinbo, North Korea had been silent on currency reform – and, of course, the protests against it. South Koreans with contacts in the North reported rising concerns mainly among traders and others stuck with worthless old currency. Daily NK cited incidents of violence, including murder, suicides, and kidnapping. Good Friends, a non-governmental organization in Seoul that has long attempted to provide food and other aid to North Koreans and receives information by a network of sub rosa informants inside the North, quoted one trader as saying the currency reform meant 2010 "is the year of disaster." Chosun Ilbo, a powerful conservative voice, cited accounts of "people loudly cursing the government" – an offense that has generally meant jail sentences, torture, and possibly execution.

Initially, it was possible to change old for new North Korean won at a rate of 100 to 1 for only the first 100,000 won, after which people could change the old won at a rate of 1,000 to 1. Economic conditions worsened even after authorities raised the amount that people could exchange from old to new currency. Pyongyang's Korean Central News Agency sought to put a positive spin on the response, praising "the Korean people" for "demonstrating their mental power of self-regeneration and fight against hardships" by "strenuous efforts to build a strong, prosperous and powerful socialist nation." The commentary acknowledged what everyone knew, that "there are quite a few things that are still in shortage" but declared "nothing is impossible" for people united by "a self-reliant economy" around the ruling Workers' Party.

The mission, however, was impossible. In the quest for an antidote to rising hunger and potential unrest, the concept of any market-opening had to have come amid reports of an economy descending to the level of the 1990s. Then as now, in a bow to the need for highly circumscribed freedom, markets opened briefly be-

Will Beijing Stoke Tensions on Yuan's Value?

BY VICTOR FIC

Beijing will permit the renminbi to weaken against the dollar if the country's exports falter, warned Chinese central bank official Zhou Qiren, who serves on the main bank's monetary policy committee.

The mainland had pegged the currency at about 6.8 to the U.S. dollar since mid-2008 to support exporters during the global crisis. Then the yuan appreciated 0.7 percent in the middle of this year.

Zhou's words were carried in the Japanese newspaper Asahi Shimbun. He plainly told the newspaper that, "The exchange rate ... will decline if it becomes necessary to support exports."

He explained that the fixed exchange rate burdened China and much earlier relaxation was called for. This seems to mean that China might actually let the yuan weaken further, which will stoke tensions with the West.

Zhou's declaration is a bucket of cold water thrown on warming expectations that Beijing would let the yuan strengthen against the dollar. The country has faced immense pressure, including the threat of trade sanctions from the U.S. Congress, over accusations that it holds its currency artificially weak by as much as 40 percent. This renders its products and services cheap to Western buyers, while penalizing Western exporters with higher prices.

China's main economists have predicted that it will export less during the second half. The reason is fewer opportunities in Europe as consumption there falls over the continent's huge national debts. Also, the U.S. economic recovery is luke warm. While exports grew in June, it was at a lower rate than during May. Therefore, Zhou's interview seems to be the next step forward as Beijing seeks to maintain the export deluge. Beijing has sent mixed signals on currency rate reform. During the G-20 summit in Toronto in June, it promised a stronger yuan, winning applause. But it kept its pledge out of the final statement - giving them wiggle room.

Then the People's Bank of China promised on June 19 to permit the currency to trade more liberally versus the U.S. note. But it proscribed any large fluctuations, the tactic of giving a dime and hoarding a dollar.

If there is some hope that Beijing will not drop its currency's value, it derives from how China has now surpassed America as the world's largest consumer of energy – years ahead of predictions. Experts thought that this would happen around 2015 at the earliest.

While the U.S. still burns up more energy and oil per capita than the mainland, the latter's unexpectedly deep thirst stands out as it transitions from a farming economy during the Mao years through its first industrial revolution. Paralleling this is the rise of a consumer economy where workers with rising incomes purchase home appliances - these need energy.

As China's demand for more energy sources grows, it will have to import more. This could pressure Beijing to let the yuan strengthen to make the cost of the raw materials it purchases in ever larger quantities cheaper. 

ON THE WEB

Asahi Shimbun
www.asahi.com/english
The People's Bank of China
www.pbc.gov.cn/english

fore authorities clamped down. The most definitive report on the latest market opening has come from Good Friends. Private stands selling food and small items are operating with minimal official harassment, according to this report, though it's not clear whether they are fully legal or simply given tacit acceptance.

A guiding factor appears to be the desire to appease conflicting forces, including the small but influential middle class that suffered such huge losses from revaluation of the currency. It is deemed critical to settle differences in the run-up to an extraordinary convention of the ruling Workers' Party in September at which leadership changes – possibly confirmation of a post for Kim Jong-eun – are expected.

The latest reforms, though, may not work either. "Although markets are entirely open," said Good Friends, "the purchasing power is still weak and markets have not been vitalized due to the small volume of goods in circulation, so it is difficult for residents to make a living by engaging in commerce." Good Friends quoted a directive issued by the ruling Workers' Party on May 26 in which authorities acknowledged they were unable to "take any immediate measures" to rectify "the worse than expected food situation." The directive included what Good Friends called a "blanket permission to open markets," decreeing that "everyone can do business" and ordering local officials not to "regulate commerce." North Korean authorities "decided to allow everyone to have access to markets and overturned their original plan to close down the general market and exercise strong control," said the Good Friends report. Specifically, according to Good Friends, the new decree does away with rules that forbade anyone except women over 40 from working or even shopping at private markets and also abolishes tight restrictions on market hours.

The report quoted one official as saying that "the living standard drastically decreased since the currency exchange" in which revaluation of the exchange rate for North Korean into foreign currency made the savings of millions of North Koreans almost worthless. "The government cannot provide distribution so they

have to bring the market back up," the official was quoted as saying. With "death due to starvation" now "out of control," said the official, "opening markets is a reasonable resolution."

Choi Jin-wook, in charge of analyzing North Korean issues at the Korea Institute of National Unification, reported "North Korea has suspended food rations" – and "it's very possible North Korea is running out of food." Choi figured shortages had been getting worse since last December as North Korea suffered under the cutoff of hundreds of thousands of tons of food and fertilizer that South Korea had been providing for ten years before the conservative Lee Myung-bak was inaugurated as president in February 2008. North Korea also was suffering, he said, from Lee's cancellation in May of all trade with North Korea in retaliation for the sinking of the South Korean navy corvette the Cheonan in March. "They completely opened the market after sanctions with South Korea," said Choi. "The situation is getting much worse."

Some analysts, though, have questioned the degree to which North Korean authorities have actually put the change in policy in a written directive. "The government is more tolerant of the markets," said Ha Tae-keung of Open Radio for North Korea. "They haven't had enough food for ten years." Private markets, he said, were springing up as word spread that authorities would not try to close them down rather than in response to a specific directive – "not legal," he said, "but it's permission in practice."

On the basis of highly risky calls by cell phone from informants inside North Korea, Ha said state companies have had to operate their own farms to feed their workers. "Each company has its own farm," he said. "The factory distributes part of the farmland to workers." In general, said Ha, a privileged layer of people living in Pyongyang, the capital, "are still getting food distribution from the government" while those living elsewhere are left to fend for themselves.

As conditions worsened and panic set in, security officials around the country were told not to "confiscate commodities from merchants nor make any unreasonable demand on

the pretext of regulations." Otherwise, said Good Friends, "people will starve to death one after another if commerce is banned where the national food situation is extremely fragile."

Those conditions, said Choi Jin-wook, accounted for the ferocity with which the North Korean propaganda regime promised "punishment" if the United Nations Security Council condemned the North for the sinking of the Cheonan. He speculated that North Korea, denying anything to do with the explosion in which 46 sailors were killed, had wanted to foment trouble in order to intimidate South Korea – and obtain more aid. "If they make too hard a provocation, it is the end of North Korea," said Choi. "They will make a certain level of provocation in order to blackmail South Korea."

With China firmly opposed to any resolution condemning North Korea, the U.N. Security Council in July agreed on a simple statement deploring "the loss of life and injuries" and condemning the attack but not holding North Korea responsible. The North, fresh from what it saw as a "diplomatic triumph," was in a position to consider returning to six-nation talks, hosted by China, also including the U.S., Japan, Russia and the two Koreas, on its nuclear program. With no one willing to risk a second Korean War, much less a nuclear holocaust, the outcome might still be billions of dollars of aid for North Korea in return for promises to give up its nukes.

Might South Korea, in return for softening of tensions, be persuaded to resume aid as well as trade? In the desire to avoid open conflict and the danger of a second Korean War, North Korea still dreamed the impossible dream – a bonanza of aid and trade needed to prop up an economy for which there might be no other hope of survival for its hard-pressed people. [\(A-P\)](#)

ON THE WEB

■ Daily NK
www.dailynk.com

■ Open Radio for North Korea
<http://english.nkradio.org>

■ Korea Institute of National Unification
www.kinu.or.kr

China's Challenge: Cool Hot Land Prices

BY VICTOR FIC

Can an economy heat up so much that it needs to be cooled? China says yes, although experts would concur that is an enviable problem to have.

In late 2009, the State Council, which is the mainland's cabinet, promulgated a policy to control the burgeoning property sector. It instructed local officials to curb speculative buying and selling. Governments at the provincial and municipal level in areas where property and land values have zoomed up were to temporarily control the number of properties that an investor could purchase, with local conditions determining the specifics.

In addition, banks were told that they must hike up mortgage rates and the criterion for down payments, thereby discouraging additional buyers from entering the market or existing ones from expanding their holdings. If a bank perceived that a buyer seeks capital for speculative, quick hit profit making, the institution was empowered to deny him credit. Why is Beijing, world famous for its growth-above-all objective, throwing the ice of conservative policies on the flaming property market? That economic sector witnessed what officials worry is a too quick rise in land and housing prices, fueling speculative buying and its unspoken danger of corruption.

"This situation is requiring our close attention," said a statement on the government website. As for hard numbers, in March the urban property inflation rate zoomed to 11.7 percent, up a full point over the preceding months.

In July, National Bureau of Statistics spokesman, Sheng Laiyun announced that the country's housing prices had cooled because the government is dedicated to a stable property sector for sustainable growth. The State Council has increased its ability to freeze or reduce housing costs in major cities.



"A report previously issued by us on the property sector shows average housing prices in 70 major Chinese cities have dropped by point 1 percent in June over May. The skyrocketing trend has been curbed and prices are going down. Housing transaction volumes show speculative demand" has also been reined in, said the spokesman.

The admission indicates that the cabinet pays very close attention to the property issue. This is not surprising considering that it seeks high growth without asset bubbles when rapid urbanization is bringing millions into cities, potentially boosting the number of buyers. In fact, when the Communist Party under Mao Zedong was fighting for power, 20 percent of China's population was urban while 80 percent was rural and the party depended mainly on the peasantry for support. However, experts predict that those numbers will reverse over the next generation for the first time in the mainland's history. This will hugely strain all aspects of urban living – including the market – and demand year round micro management from Beijing. China watchers say that it fears instability in its cities will link up intellectuals with workers, students and others and boil over into open protest – as happened in 1989. [\(A-P\)](#)

ON THE WEB

■ Government of China
<http://english.gov.cn>

■ National Bureau of Statistics
www.stats.gov.cn

HEALTH INFORMATION EXCHANGE, A MEDICAL NECESSITY

BY JAI CS

Health information exchange (HIE) covers the complete spectrum of clinical integration, where all health-care-related data are shared among facilities, health information organizations and agencies.

It is a method of creating networked medical records that would not be lost during any major emergency.

Technology has helped us to make use of use of electronic medical records and e-prescribing to enable medical providers to understand complete medical history of every patient anytime and anywhere. The aim is to improve efficiency in the healthcare system, and to a great extent, reduce the friction that currently exists when a patient moves from one healthcare provider to another. Experts believe that clinical interoperability, whether at the local, regional or state level, can lower the costs of healthcare delivery.

HIE allows healthcare providers to share and access critical health information to eventually enhance healthcare quality and outcomes, patient safety and reduce health disparities and medical errors.

Any efficiently developed by HIE should enable bi-directional integration between practice and hospital medical records as well as interoperability with other physicians' records or outside systems. Here, even patients should also be able to integrate their medical histories with a personal health record.

The process of HIE implementation generally begins with workflow redesign. Healthcare providers are constantly faced with challenges that include; collecting and entering data in a structured formats, establishing effective workflows to reinforce data entry, involve a pro-

vider in adopting HER, initiate e-prescribing, managing clinical decision support, implementing patient health information exchange workflows, ensure privacy and security compliance.

The success of health information exchange implementation will depend on local markets and its perceived value to that locality.

HIE can be public, private or domain. A regional health information organization (RHIO) is a type of public HIE. There are many organizations that have their own private HIEs to support provider affinity programs and improve referrals. For example, Laboratories create private HIEs to offer electronic access to laboratory results for clinicians. Domain specific HIEs on the other hand, are said to share information related to a particular element of healthcare. For example, an internet provider portal offering access to lab results can be termed as a domain specific HIE.

HIEs are further classified into three models which includes; centralized, federated and hybrid.

A centralized HIE is an architecture, where information is collected from participating organizations and stored in a centralized place to provide access. A Federated HIE allows each participating organization to retain control of their healthcare information and deliver information when requested. A hybrid HIE stores some information centrally and also takes other information by requesting queries to involved organizations.

Immense Chance to HIE Market

Analysts predict that the health information exchange market will dramatically change during the next two years as providers are trying to match to the growing demand for electronic health records systems that support data exchange.

Several states are currently working on development of HIEs and are in various stages of adoption. While everyone agrees that exchanging patient data is a good thing, the main challenge lies in cost, safety and reliability. With progress in adopting Health Information Technology, we can believe that significant barriers will slowly diminish and a more efficient process in the health IT will be adopted. [A-P](#)

Continued from Page 43

Electronics, part of the world's biggest conglomerate, renewed their shirt sponsorship deal for another three years. Rival firm LG sponsors fellow English Premier League side Fulham.

However, such agreements are not always plain sailing. In 2007, LG denied allegations it was trying to

force Fulham to buy a South Korean player.

Pressures aside, Lee Jeong-hak, a sports marketing professor at Kyung Hee University in Seoul, says Korea could still prove financially rewarding for Celtic, but probably at lower levels than those enjoyed in England. [A-P](#)

COMPANIES IN THIS ARTICLE

■ Samsung
Conglomerate
Seoul, Korea
www.samsung.com

■ LG
Conglomerate
Seoul, Korea
www.lg.com



ASIA'S 'CLEAN TECH TIGERS'

BY ANURADHA SHUKLA

Many have said the United States will soon find itself embroiled in fierce competition with other nations over the fast-growing clean-energy market.

In the winter 2010 issue of the journal *Issues in Science and Technology*, the study "Rising Tigers, Sleeping Giant" presents the idea that the three rising "clean technology tigers" of Asia, namely Japan, China and South Korea, will soon be able to nudge aside the U.S. and dominate future clean energy markets. These nations, the authors say, have been investing heavily in many key areas – related infrastructure, manufacturing capacity, and research and investment among them. As a result of these heavy investments, business confidence and investor risk in those countries will be considerably reduced, further drawing foreign investment in clean energy.

By stark comparison, in the U.S. relatively little funding in terms of investment in infrastructure, clean-tech R&D, and other key areas is being allocated for direct support of American clean energy industries. In addition, there are too few aggressive policy initiatives being undertaken under current American energy and climate legislation – initiatives that might reduce or overcome the existing deficit between these Asian nations and the U.S.

China, Japan and South Korea are working to develop innovation and clean technology manufacturing

Continued from Page 50

book "To the Last Round: The Epic British Stand on the Imjin River, Korea 1951," was told by one British veteran of the difficulties they faced as North Korean and Chinese soldiers – by then fighting in support of the North – disguised themselves as civilians. "We opened fire into the mass. We did not want to take a chance on anything or anybody," the man said.

A veteran from Britain's Middlesex Regiment, who was part of the



push north, told Asia Pacific Business & Technology Review in a recent interview that Chinese and North Korean soldiers "were all wearing white pyjamas. There were refugees on the way going up and refugees on the way coming back. You did not know who was who."

Salmon says the commission's root problem is the lack of a neutral voice. "Given the extreme divide in Korean society since liberation in 1945 and given the atrocities committed by both sides during and

clusters, like Silicon Valley in the United States. The establishment of these clusters will provide a home for people with significant expertise – entrepreneurs, universities, manufacturers, and others – to establish networks of relationships, leading to attractive environments for business, which would itself become the basis for a significant competitive advantage for these countries.

Although many of their initiatives are still in the planning stages, others have begun to bear fruit. All three nations are ahead of the U.S. in terms of deployment of new nuclear power plants. American wind turbines are manufactured abroad; America produces less than 10 percent of the total number of solar cells produced worldwide; and is also losing ground in terms of hybrid and pure-electric vehicle technology and production.

In terms of raw numbers, as a whole, while it has a significant advantage in several (especially in terms of clean-tech patents registered), the U.S. is beginning to fall behind the other three nations. From 2009-2013, the U.S. is expected to invest \$172 billion in clean technology, whereas China, Japan and South Korea will invest \$509 billion in these technologies. In terms of research and innovation,

while the U.S. is ahead of each of the three Asian countries, each is crafting its own initiatives to close this gap. Lastly, in terms of large-scale clean-energy manufacturing capacity, the three Asian nations, particularly China, have surpassed the U.S. – each has its own nuclear-reactor designs; China and Japan are ahead in terms of solar PV, and China leads the U.S. in wind.

The report says that even if current clean-tech legislation in the U.S. does become law, China, Japan and South Korea will invest thrice as much as the U.S. over the next five years, and will attract most of the private investment in the industry as a result—thereby intensifying their lead over the U.S., perhaps for the foreseeable future. [A-P](#)

ON THE WEB

■ The journal *Issues in Science and Technology*
www.issues.org

after the war, I think this commission's work is essential," he said.

"However, the question is whether the commission can be staffed by parties who do not have their own ideological bias." [A-P](#)

ON THE WEB

■ Truth and Reconciliation Commission
<http://jjinsil.go.kr/english>
■ The Korea Times
www.koreatimes.co.kr



SHADOW LINGERS AROUND KOREAN WAR COMMEMORATIONS

BY BRYAN KAY

There can be few South Koreans who would doubt the events of June 25, 1950. For most of the rest of the world, the message is clear: North Korea mercilessly attacked its southern political foe, sparking the devastating Korean War that claimed the lives of millions, most of them civilian.

If that is a version of events accepted as a near universal truth – Pyongyang continues to peddle an account that says the North was attacked – then there are other more sinister chapters of the conflict whose truth remains concealed from the people of the South.

Of the millions killed during the three-year war, thousands of civilians in the South are said to have been summarily executed without trial, most because they were suspected of collaborating with the communists.

Amid the commemoration events taking place in South Korea this year to mark the 60-year anniversary since the war broke out, the closure of the body set up to investigate atrocities that took place during some of the country's darker moments lies on the horizon.

Korea's Truth and Reconciliation Commission, a government body, was set up in 2005 by the left-leaning Roh Moo-hyun government to investigate civilian massacres, human rights abuses and unlawful use of authority over the last 100 years. Later this year, it will cease to exist.

Some of the more potent incidents occurred during the Korean War at the hands of South Korean military and police as well as that of the North, according to accounts. The alleged involvement of U.S. forces in some of the cases has been another recurring bone of contention.

In some quarters, as many as 200,000 civilians are believed to have been killed unlawfully during the campaign. The commission has investigated thousands of petitions and dug up mass graves. However, other sources consulted – who support the aims of the body – dispute that figure, believing the victim count may run into the tens of thousands at most.

The organization's current president, Lee Young-jo, was quoted recently as saying many of his countrymen believe money could be better spent elsewhere than by digging through the country's past. Others see the closure as a victim of a polarized political system – the view that it is a leftist-inspired tool to indict the right – with the right-wing Lee Myung-bak government said to be suspicious of its activities.

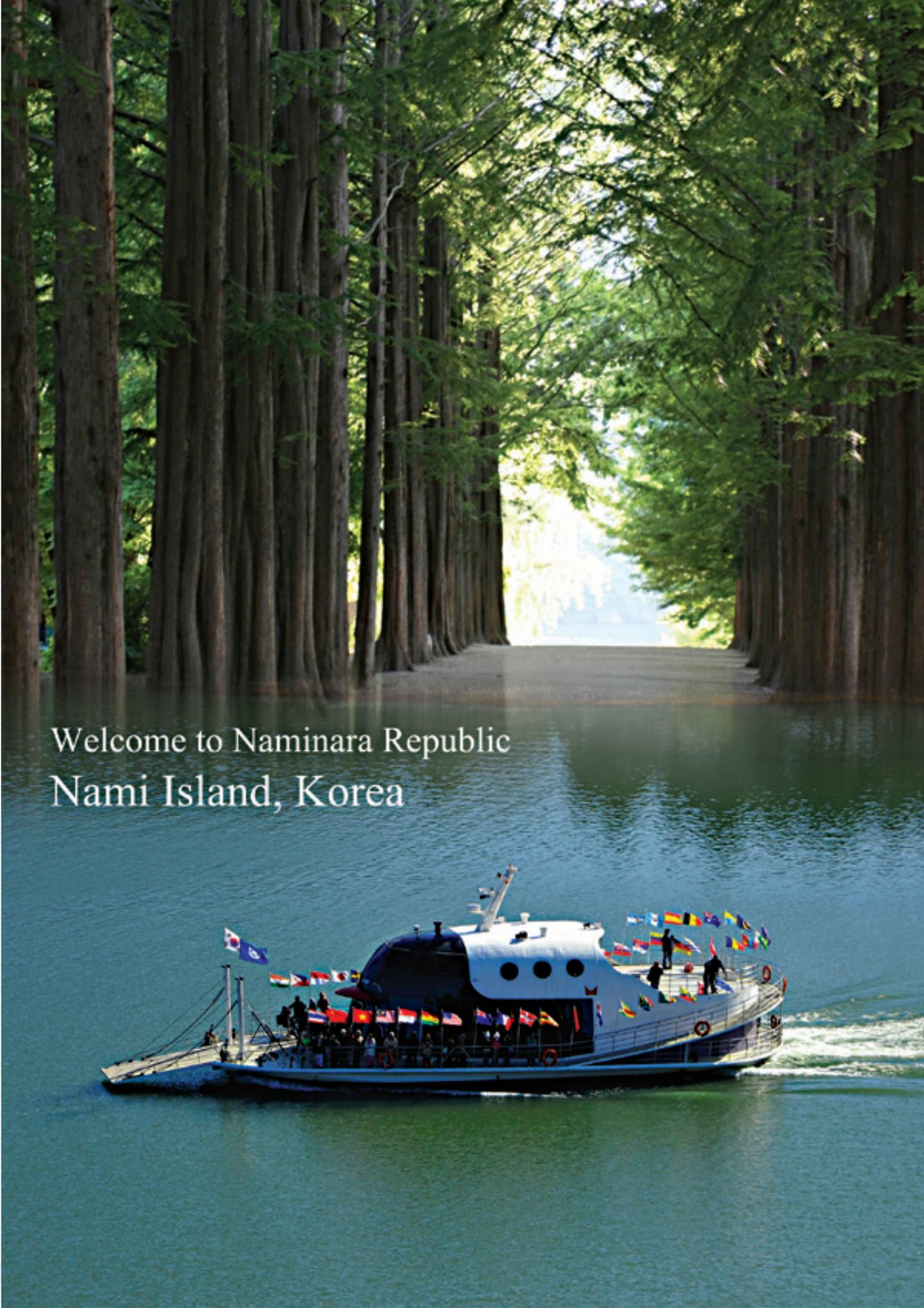
The bombshell announcement late last year by the body that South Korea had been responsible for murdering thousands of its own citizens during the opening stages of the war with the North “was a landmark moment in the painful journey to historical truth,” said Korea Times columnist and author Michael Breen.

Many also suffered at the hands of the Japanese when they occupied the peninsula for 35 years until the end of WWII in 1945, while others were victims of the later military dictatorships that ran the South.

As the U.N. entered the war on the side of the South and pushed the North Koreans back beyond the pre-June 1950 38th parallel – the de facto border set up to divide the Soviet-backed North from the US-supported South after the Japanese were ousted – and further north to near the Chinese border, there were victims of another kind.

Korean War historian Andrew Salmon, author of the

Continued on Page 49



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1st Floor, Road No. 7
Banjara Hills
Hyderabad - 500 034
Phone: +91-40-66126300
Fax: +91-40-66126330