

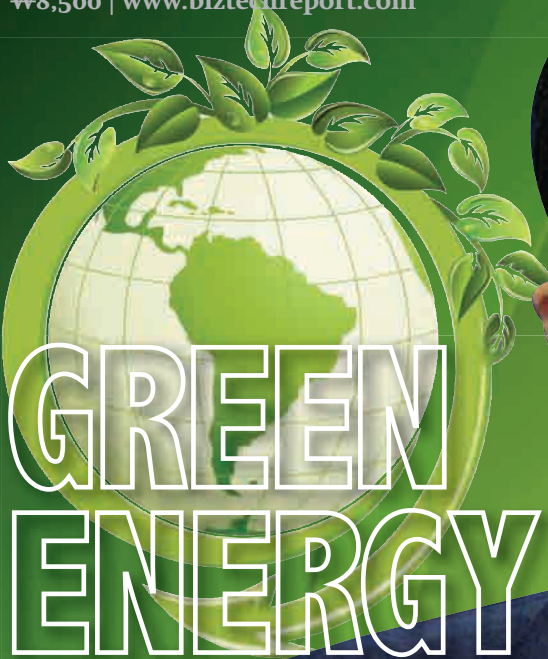
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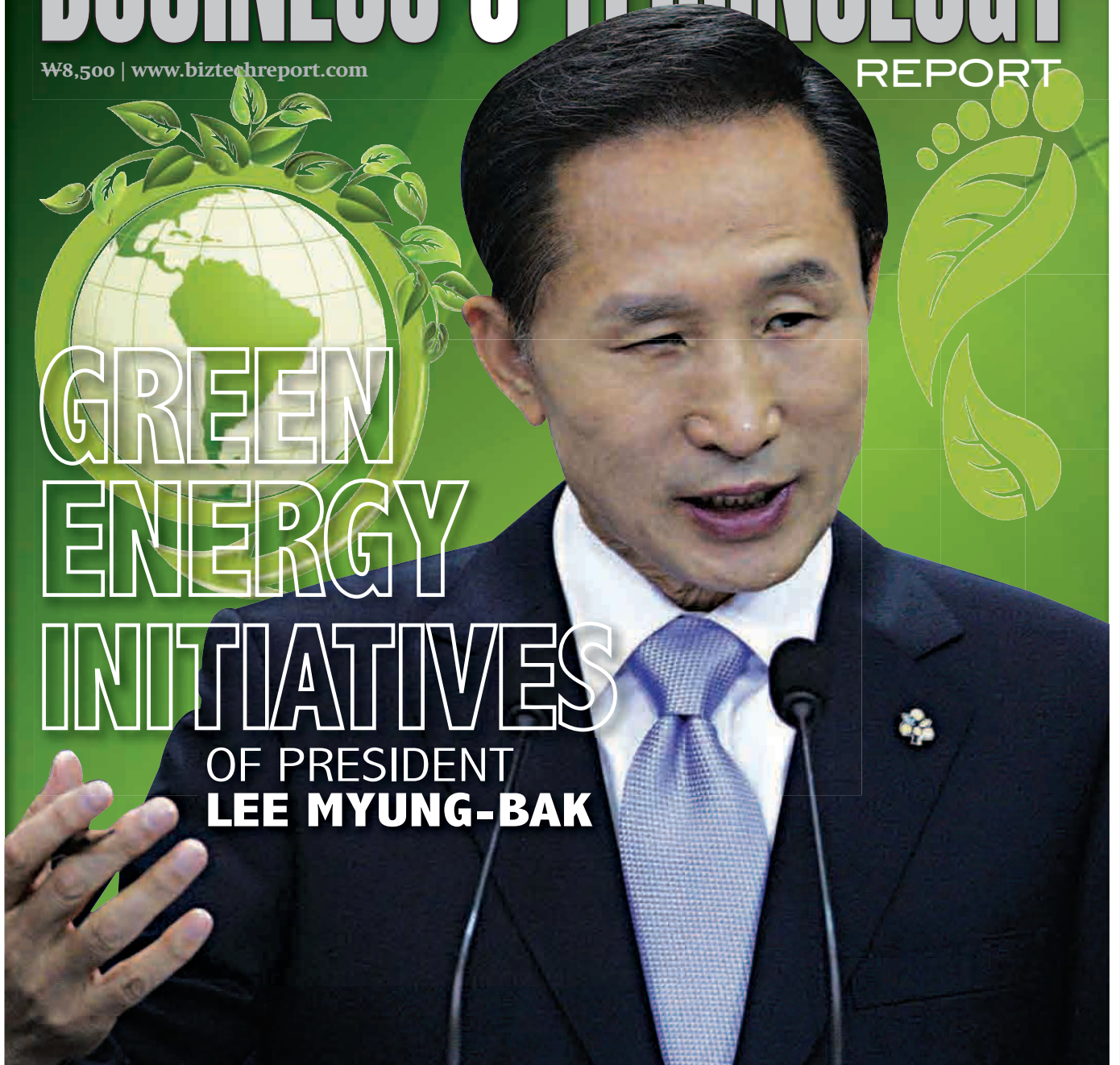
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REPORT



## GREEN ENERGY INITIATIVES

OF PRESIDENT  
**LEE MYUNG-BAK**



**Lee Hye-joo**



### INCREDIBLE INDIA

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- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• CEOs Forum.</li> <li>• Open House on Regulatory and Policy Issues.</li> <li>• Thematic Conference Sessions.</li> <li>• Conference Sessions led by International &amp; National Experts of IT &amp; Telecom Sector.</li> <li>• Foreign National Pavilions.</li> </ul> | <ul style="list-style-type: none"> <li>• Vast Digital Opportunities.</li> <li>• Focus on the Technology Development &amp; Advancement in the Telecom Sector.</li> <li>• Platform for Policy Makers, Regulators, Operators, Manufacturers etc.</li> </ul> |
|---|--|

**PARTICIPANTS' PROFILE**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Service Providers</li> <li>• Network Infrastructure Manufacturers</li> <li>• Handset Manufacturers</li> </ul> | <ul style="list-style-type: none"> <li>• Content Providers</li> <li>• Accessory Manufacturers</li> <li>• Enterprise IT Telecommunications</li> </ul> |
|--|--|

**SCOPE**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Showcase the latest products, formulation and capabilities.</li> <li>• Opportunities for transfer of technology, setting up of R&amp;D base with International firms.</li> <li>• Joint ventures, collaborations and investment opportunities.</li> </ul> | <ul style="list-style-type: none"> <li>• Supply of machineries, process control equipments, projects and services etc.</li> <li>• One-to-one business meetings and networking opportunities.</li> </ul> |
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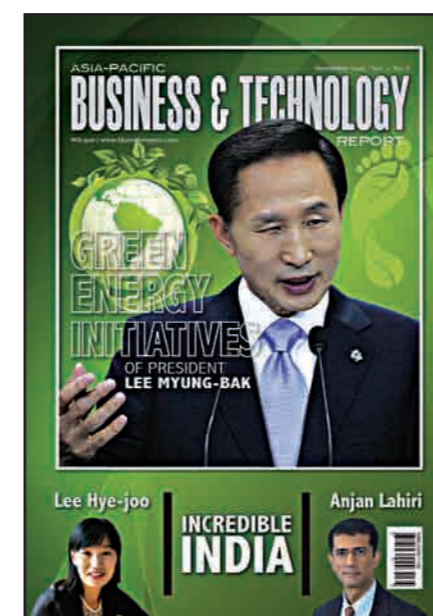
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# GREEN ENERGY INITIATIVES OF PRESIDENT LEE MYUNG-BAK

BY RAMCHANDRA PODE

Carbon emissions is causing climate change, resulting in higher temperatures, more droughts, rising sea levels and more extreme weather. A low carbon economy and green growth envisage the integration of all aspects of itself from manufacture, agriculture, transportation and power-generation, etc., around technologies that produce energy and materials with little GHG emission. A low carbon technology is designed to prevent dangerous climate change, and to reduce the rate of consumption of finite global resources. Moving to a low carbon economy and green growth not only addresses an environmental imperative and technological developmental progress on energy, but it is also a new business achievement.

Globally, CO<sub>2</sub> accounted for 77 percent of total GHG emissions in 2004. Power generation, which includes both electricity and heat generation from fossil-fuel combustion, is one of the major sources of CO<sub>2</sub> emissions. In 2006, the CO<sub>2</sub> emissions from fossil fuel use alone accounted for 41 percent of total GHG emissions. Electricity generation is by far the largest single source of CO<sub>2</sub> emissions.

The total energy consumption in the world is expected to increase to 22 gigatons of oil equivalent (GTOE) per year in 2050, from the current 10 GTOE per year. Fossil fuels provide 70 percent of this total and non-fossil sources the other 30 percent. The non-fossil share is divided almost equally between renewable and nuclear energy. Consequently, energy-related carbon dioxide emissions will increase strongly to 39.5 GtCO<sub>2</sub> in 2025 and 55 GtCO<sub>2</sub> in 2050 from the 21.6 GtCO<sub>2</sub> in 2000.

The future of human prosperity depends on how successfully we tackle two central challenges; securing a stable supply of reliable and affordable energy, and effecting a rapid transformation to a low-carbon, efficient and environmentally benign system of energy supply. It is essential to shift to energy sources that can substantially reduce CO<sub>2</sub> emissions compared with fossil fuels rather than concentrating energy-saving efforts on the existing energy portfolio. In this respect, clean energies like renewable and nuclear should be an important alternative.

Korea is a strongly developed industrial country with almost no local energy resources. About 96.5 percent of its energy needs were imported in 2008. For a decade, the Korean Government has been enforcing various policies in order to ease this domestic dependence from overseas energy resources. The current global economic recession spurred President Lee Myung-bak to announce a "Green New Deal – Green Energy Initiatives" where industrial development is based on eco-friendly and renewable energy technologies.

On Aug. 15, 2008 celebrating the 60th anniversary of Korea's foundation, President Lee Myung-Bak declared a vision of "Low Carbon, Green Growth" as the new national vision to lead Korea's future development for the next 60 years. He envisaged a new development model he named "The Green Growth Policy." Green growth refers to the sustainable growth and development without endangering the climate. It is also a new national development



**Korea is a strongly developed industrial country with almost no local energy resources. About 96.5 percent of its energy needs were imported in 2008. For a decade, the Korean Government has been enforcing various policies in order to ease this domestic dependence from overseas energy resources. The current global economic recession spurred President Lee Myung-bak to announce a "Green New Deal – Green Energy Initiatives" where industrial development is based on eco-friendly and renewable energy technologies.**

paradigm that creates new growth engines and jobs with green technology and clean energy. In the vision of "Green Growth," green is a broader concept that transcends environment, while growth does not conflict with, but complements, the environment. Economic growth is not impairing, but improving the environment. The environment could be considered a new engine for economic growth.

The Green Growth Policy also envisages an ambitious plan to develop Korea as a green hub for the global market.

### Salient Features of Green Growth Policy

- (i) Sustainable economic growth
- (ii) Environmental sustainability
- (iii) Social development

### Energy Issues

Korean dependency on overseas energy sources is about 97 percent, ranked fourth in the world in petroleum im-

port. Korea's CO<sub>2</sub> emission rate is ranked sixth among OECD countries and first in term of growth rate. Although South Korea is a signatory of the Kyoto Protocol to combat global warming, it does not belong to the first group that has to cut carbon dioxide emissions by an average 5.2 percent below the 1990 level between 2008 and 2012. However, in the future, South Korea may be pressured to join the scheme from 2013.

To address issues pertaining to energy security and sustainable industrial development, President Lee announced a long-term strategy that will determine the direction of its energy policy until 2030. As the implementation blueprint for the vision, the Basic National Energy Plan suggests the realization of a 'low energy-consuming society' through the improvement of energy intensity to the level of 0.185 by 2030 from 0.341 at present. (Energy intensity is



**TABLE 1: ESTIMATED CO<sub>2</sub> EMISSION IN 2030 BY FUEL MIX (MILL. TON)**

Fuel mix	Coal	LNG	Oil	Total
As of 2007	184	50	56	289
Target for 2030	136	2	3	140

(CO<sub>2</sub> emission to be reduced by 52% in 2030)

**TABLE 2: FUTURE GROWTH OF RENEWABLE ENERGY**

Year	Renewable Energy Contribution (%)
2007	2.4
2015	4.3
2020	6.1
2030	11.5

(Source: Ministry of Knowledge Economy, 2008)

**TABLE 3: KOREA'S R&D AIMS FOR GREEN TECHNOLOGY (UNIT: TRILLION WON)**

Year	2008	2009	2010	2011	2012
Green R & D	1	1.2	1.4	1.7	2.0

(Source: National Science and Technology Council, Jan. 14, 2009)



the energy volume (TOE) consumed for the production per each US\$1,000 in GDP. It also seeks independence from fossil fuels in the energy supply through a 4.6-fold expansion of the new & renewable energy ratio to 11 percent by 2030 from the present 2.4 percent, while reducing the fossil energy ratio (based on the primary energy level), including oil, to 61 percent by 2030 from 83 percent at present and addressing the climate change-induced environmental & socioeconomic issues.

The implementation plan also aims to raise the energy technology level, including 'green technology,' from the present 60 percent compared with advanced countries to the world-class level by 2030, nurture the energy industry into a growth engine and address all energy-poor classes, which currently stand at the 7.8 percent level. Energy-poor classes refer to those households with energy expenditures, including lighting and heating that exceed 10 percent of total household income.

The initiative will cost 111.5 trillion won (about \$85.8 billion) between now and 2030, of which nearly a third will come from the government. In the R & D sector, the government will invest 11.5 trillion won (about \$11 billion up to 2030) to support the green energy industries to develop green technologies. It will also establish a large-scale integrated test bed for green technologies and encourage energy-related national corporations to pursue green technologies. It is estimated that green energy industry will create about 950,000 new jobs (Source: Ministry of Knowledge Economy, 2008).

Furthermore, it is proposed that the government will support the development of green technologies to make renewable energy more cost-effective. The introduction of a Renewable Portfolio Standard in 2012 to support the construction of 1 million "green homes" between now and 2020, and the provision of incentives for the wider use of

renewable energy sources in new and newly renovated buildings are also envisaged in the Vision Document.

### (i) Solar Energy

With the steady technological gains and improvement in manufacturing, Korea is targeting the fast growing global solar energy market. Under the new government's long-term strategy with a motto of "Low Carbon, Green Growth," the solar cell industry will be nurtured as the new growth engine that can replace the semiconductor and display industries, which are major export products of Korea. For the last two years, Korea has recorded rapid growth in the PV industry. The value chain in the first generation solar cell has been accomplished. The existing and new companies have reported expansion plans of their production capacity of poly-silicon feedstock, ingots & wafers, solar cells & modules and production equipment. The second generation thin-film solar cells were successfully commercialized in 2008. Many companies have been considering business entry in the field of silicon, CIGS and dye sensitized solar cells. Big conglomerates are also encouraged to invest and install solar power generation plants to realize the target by 2030.

It is argued that with the present pace and the right amount of state support, Korea will be able to generate 4 gigawatts of electricity through solar power in 2020, and increase this to 20 gigawatts in 2030. Exports will correspondingly go up to 1.4 trillion won (\$1.48 billion) in 2020 and over 6 trillion won in 2030.

### (ii) Wind Energies

Korea has much potential in the wind power market because it is surrounded by the sea and has secured a high level of marine construction technology. For the electricity supply target, wind generation is expected to provide the largest contribution (up to 25 percent or 5.2 TWh) of the total generation 20.5 TWh by new and renewable sources in 2011. To achieve this goal, the government is providing attractive incentive programs such as the 15-year guaranteed feed-in tariff, tax incentives and subsidies for the local

**For the last two years, Korea has recorded rapid growth in the PV industry. The value chain in the first generation solar cell has been accomplished.**



wind market. Encouraged by the strong government support of R&D programs, several big companies have been participating in wind turbine development projects including component localization. However, the Korean wind farm business is still behind schedule and has been slow so far for several reasons, which include public acceptance issues, difficulty in getting permits for grid connection and limited sites because of mountainous onshore characteristics. Coping with all these barriers, more than 550 MW of capacity is currently under development (scheduled through 2009) according to construction permit statistics at the end of 2007.

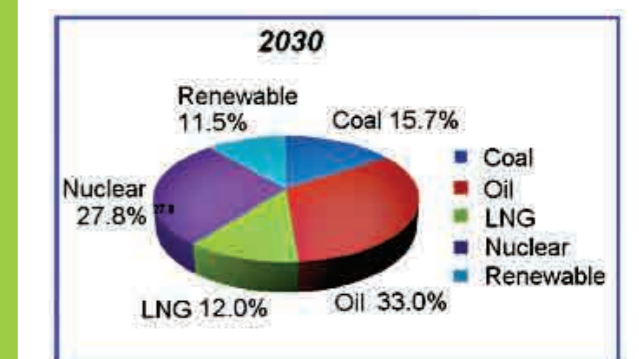
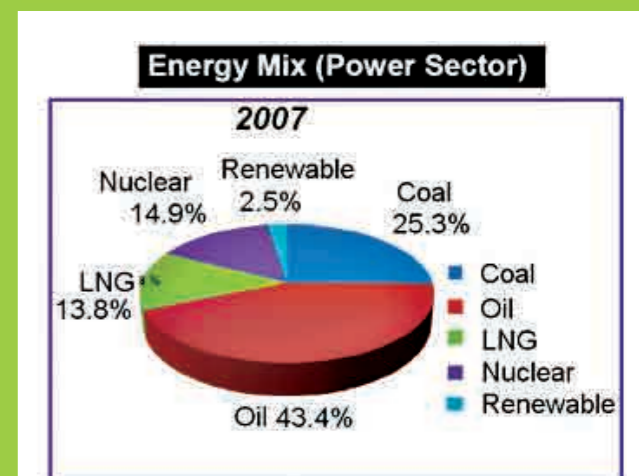
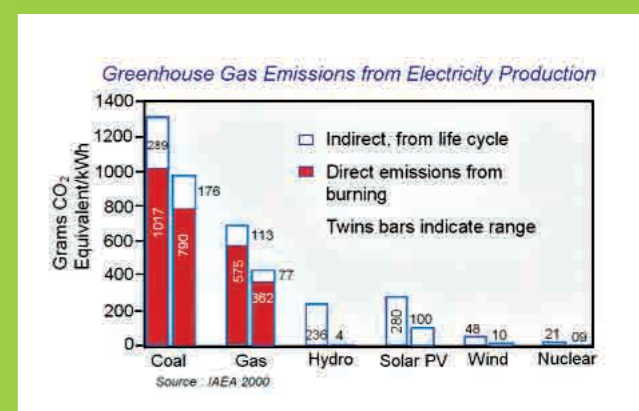
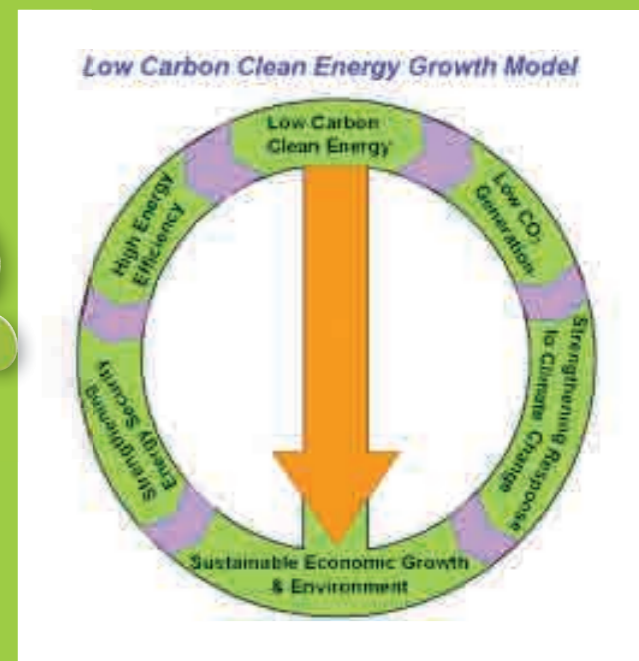
In 2007, the added installation capacity of wind energy was of only 18 MW. Despite barriers such as complex terrain at onshore sites, the Korean wind generation capacity target of 2,250 MW by 2012 is a very ambitious goal.

### Nuclear Energy

Nuclear energy, which emits nearly no greenhouse gas or pollutant, is recently receiving keen attention as the most suitable alternative energy source for the high oil-price era. Amid a rapidly expanding global nuclear energy market, the Korean Agency for Technology Standards (KATS) plans to promote the Nuclear Energy International Standardization Project until 2011 in order to prepare a foothold to advance as a strong nuclear energy nation. The nuclear energy industry in Korea is experiencing a second nuclear energy renaissance. The Nuclear Energy International Standardization Project aims to turn the Korean nuclear energy industry into a major export industry like semiconductors and automobiles. For overseas expansion of nuclear energy industries, it is very important to develop new technologies and to have existing advanced technologies adopted as international standards. Furthermore, Korea plans for expansion and investment in its nuclear energy portfolio to meet the domestic target of 27.8 percent by 2030 from 14.9 percent in 2007.

In conclusion, President Lee Myung-bak announced a very ambitious development model named "The Green Growth Policy" of green growth with low carbon emissions. "Low carbon, green growth" is a national vision that envisages sustainable growth and development without endangering the climate. Clean energy is the central theme of the developmental model. The success of the Green Growth Policies will facilitate Korea to develop as a green hub for the Global Market. The mobilization of resources and favorable public acceptance are the most imperative factors to realize Korea's development policies in renewable energy and environmental technologies.

The author is an assistant professor of Physics at Kyung Hee University, Seoul, South Korea.





# SEOUL CITY PROMOTES PEDAL POWER

BY AMANDA MIN CHUNG HAN

One of the most high-flying Korean equities of this year is Samchuly Bicycle Co. This stock traded for a mere 2,730 won on Oct. 10, 2008. However, it quickly soared to 37,400 won as of May 15. There were jokes that Samchuly Bikes are not rolling, but instead are flying in the market. Another bicycle manufacturer, Very Good Leisure Co., has also enjoyed a soaring share price for some time, thanks to the series of government green transportation polices.

To effectively reduce greenhouse gas emissions, the Korean government has announced its Green Growth policy, with green transportation a significant part of it.

The government's plan has set green targets for mass transportation as well. The share of passenger transportation by rail will be increased from 18 percent in 2009 to 22 percent in 2013 and 26 percent by 2020. The overall share for mass transit will be increased from the current 50 percent to 55 percent by 2013 and 65 percent by 2020.

As the tale of Samchuly Bicycle Co.'s share price hinted, bicycles will be promoted as one of the most convenient and important green transportation means. The volume borne by bike transport will be increased from 1.5 percent of the total passenger transport volume in 2009 to 5 percent by 2013 and 10 percent by 2020. Public bike rentals will be offered and national bike road networks will be expanded.

The Lee Myung-bak administration plans to build a 3,114 kilometer-long bicycle road around the coastline, investing 1.2 trillion won by 2018 in order to encourage bicycle riding. Insurance for cyclists was introduced recently and the

government also plans to launch an annual international 'Tour de Korea' race beginning in 2012. A bicycle registration system will be introduced from next year to prevent thefts and a bike riders'-only subway car will be created, moreover bike-only lanes on major roads will be built to promote bicycle commuters.

Bike commuters were common in Korea in the 1960s and 1970s. But as the Korean economy rapidly developed, cars and motorcycles replaced bikes. However, commuters are thinking twice about pedaling to work for their health, to save money and to contribute to the fight against global warming.

President Lee Myung-bak said in his radio address that "bringing back pollution-free bicycles as a key means of transportation is a path we must take." Fortunately, it seems like bike riders are on the steady rise for leisure, sports and transportation. It is not uncommon to see salary workers show up to work with all the cycling gear – helmet, bicycle, water bottle and more.

According to the National Statistical Office, spending on bicycles rose 23.3 percent in the second quarter from a year ago. The figure has been on the rise since the third quarter of 2007, when it marked a 4.7 percent increase. It jumped by 29.9 percent in the first quarter of this year. This significant increasing expenditure on bicycles is due to increasing demand for it as well as the view of bicycles as a luxury good. Spending on bicycles is currently 57.1 percent higher than in 2005, while spending on cars dropped by 2.2 percent in the second quarter of this year.

In order to keep pace with this, the Seoul Metropolitan Government (SMG) announced its master plan for 'low carbon and green growth,' which aims to spend a total of 45 trillion won (US\$35 billion) by 2030 to make the capital one of the greenest cities in the world. The Seoul government plans to replace all buses and taxis with electric vehicles by 2020 and to increase the use of public transportation to 70 percent from the current 62.5 percent. Also, 207 kilometers of bicycle roads is planned. Other provincial governments and local authorities are building more bike roads. The SMG started separating the bike roads and walking paths along the Han River in October 2007 and the 69.9 kilometer-long walk will be completed this year at a cost of



13.2 billion won (\$11 million). The current bike roads along the Han River cover only 28 kilometers. On top of separating the bike path and pedestrian roads, the SMG expanded its bike trails to the borders between Guri, Gyeonggi Province, and Seoul. In addition to that, the SMG aims to rebuild five bridges with bike paths, including the Seongnae Stream Bridge. The city government expects the riverside to be transformed into a pleasant resting place for both pedestrians and bicycle riders.

It is expected that bicycles will be allowed on subways soon as part of the SMG's low carbon plan. A pilot program allowing passengers to board subway trains with their bicycles is in operation from October 4 to April next year. Initially bikes will be allowed only on Sundays and public holidays to avoid morning and night rush hour. Subway stations will also get bicycle-keeping spaces; Seokgye station has a bicycle keeping facility at the moment. Eight subway stations will have bicycle spaces by next February including the Jamsil Sports Complex, Ilwon, Samgakji, Ogeum, Korea University, Hwarangdae, Bonghwasan and Sinpung stations. Once the pilot program term is over, bicycles will be allowed on subway trains on Saturdays and after 2012 on weekdays as well.

In addition, the SMG aims to introduce a bike rental system for visitors to allow them to ride around in Seoul. This idea was inspired by Canada's Bixi and will be seen from early next year in Yeoido and Sangam Digital Media City. Bixi is a public bicycle sharing system. It was launched in May 2009 in Montreal, Canada. The system provides 3,000 bikes and 300 stations located around Montreal's central core. Seoul city government mayor Oh Se-hoon who recently visited Montreal, was impressed by the Bixi system and decided to launch a similar system in Seoul. For the pilot service, there will be 22 bike stations in Yeoido and 18 stations in Sangam Digital Media City. To use these bikes, people need to enroll and present a membership card.

Meanwhile, the SMG also celebrated its fourth car-free day on Sept. 22 by blocking the streets of Jongno and Teheran, which were the busiest streets in Seoul. Private cars were not allowed to drive on a 2.8 kilometer stretch of Jongno Street or a 2.4 kilometer section of Teheran Street in Gangnam, from Samseong Subway station to Yeoksam station. Buses were the only allowed public transportation on the Car-Free streets. Many Seoul citizens took public transportation such as buses and the subway, instead of private cars and enjoyed riding bicycles on the roads.

Seoul began its annual Car-Free days in 2006 to promote cleaner air and green transportation with less traffic congestion in order to reduce inconveniences to citizens, while at the same time encouraging people not to take private cars. All buses and the subway were free until 9 a.m. for commuters.

SMG Mayor Oh Se-hoon said that this event resulted in a 21.9 percent reduction in the use of cars and reduced pollutants in the atmosphere by 20 percent.

Other provinces are also very active in this green project. Currently, all 12 cities, provinces and 80 districts are involved. The city of Changwon, which is in South Gyeongsang province launched the public bike rental system "NUBIJA" last year in October. The name NUBIJA means going around and is also an acronym for 'Nearby Useful Bike, Interesting Joyful Attraction.'

Daejeon City also started a public bike rental system last year and is planning to increase the number



of bikes. One of the popular tourist spots, Bukchon Hanok Village (traditional Korean housing district), provides free rental bikes and also tour guides in English and Japanese for foreign tourists.

Meanwhile, the SMG plans to replace all buses and taxis with electric vehicles by 2020. The president's office also introduced three electric vehicles for office use to promote carbon-free green transportation.

The Korea Advanced Institute of Science and Technology (KAIST) recently showcased On Line Electric Vehicle (OLEV) in Daejeon. OLEV buses run on recharging roads in which power coils are buried. That is why these OLEVs do not have to be recharged unlike conventional electric vehicles. Daejeon city plans to replace the current fossil-fuel-burning public transportation with these OLEVs in the near future.

As part of the green and advanced transportation program, the Incheon Metropolitan City government and the Korea Road Transportation Association hosted the third International Road and Traffic Expo (ROTREX) 2009, the largest road and traffic exhibition in Asia, to showcase the latest road and traffic technologies including natural gas buses from Sept. 23-26 at Songdo Convensia.

About 450 booths from more than 150 road and traffic companies from Korea and abroad participated in the exhibition to display their advanced technologies and to penetrate both foreign and Korean markets. The exhibits were divided into four categories: road construction and maintenance, traffic signs and safety products, ITS and public transportation and parking systems and bicycles.

Exhibited items included a low floor bus, a natural gas bus, bus shelter, parking facility, parking control, pay and display systems and advanced traffic controls.

One of the popular exhibit items was the Electronics and Telecommunications Research Institute's USN (sensor network) based vehicle detection system, which is designed to detect the movement of vehicles based on changes in the magnetic field to save costs and be user friendly compared to the conventional loop detector.

The Road Engineering Association of Asia and Australasia (REAAA) conference was held with the theme 'Future Road: Safer, Greener and Smarter' during the expo. Lee Hyun-Sun, vice chairman of Hyundai Motors delivered the speech titled 'The Automotive Industry's New Era of Low Carbon, Green Growth,' which was received very well by the audience.

Although these green modes of transportation are still in their early stages, people are confident about their future prospects.

Samchuly Bicycle's investor relations representative said that there is no visible change yet in sales regarding the Seoul bike taxi system, but he is hopeful the public bike taxi system will accelerate sales for the company. Samchuly recently introduced electric bicycles targeting elderly people who may be too weak to pedal by foot.

The IR representative said, "Currently, the sales of electric bikes is under 1 percent. However, it will be part of the company's major profit sources in the near future. We are also planning to produce electric bikes in Korea from next year in addition to the current production in China."



# FAMILY REUNIONS

BY DON KIRK

**N**orth Korea wants to resume the lucrative business of tours to Mount Geumgang. That's the message North Korea sent by hosting in late September the first visits by members of families divided by the Korean War in nearly two years. South Korean observers doubt, however, if the latest round guarantees regular visits in the near future.



“They won’t institutionalize family visits,” said Lee Sung-hoon, dean at prestigious Yonsei University. Rather, he believes, North Korea might want to reopen Geumgang to regular tourism, closed in July of last year after a North Korean soldier shot and killed a middle-aged South Korean woman who had wandered outside the barbed-wire fringe of the tourist area to gaze at the sunrise over the sea. “They need the money,” said Lee. “That’s all they’re after.” And then there’s the obvious need to try to make ever more money from the Gaeseong Industrial Complex, on the west side, where the North has resolved to admit normal traffic after making life difficult for months by limiting access to South Koreans and their vehicles.

South Korea, meanwhile, is playing a waiting game. While South Koreans were visiting North Korea in late September for the first North-South family reunions in nearly two years, officials at the Blue House, the center of presidential power, said no one was thinking about renewing the South’s shipments of food and fertilizer. President Lee Myung-bak stopped them after his inauguration in February of last year – a move that sent the North into a paroxysm of rage from which it only seemed to have recovered when former U.S. President Bill Clinton, went there on his “unofficial” mission in August.

For good measure, the Blue House also said the “grand bargain” that President Lee has broached definitely does not include resumption of the construction of twin light-water nuclear reactors to help fulfill the North’s energy needs. That project came to a halt in early 2003 after the breakdown of the 1994 Geneva framework agreement that

hadn’t seen since 1951. Lee was standing beside her 100-year-old mother, resting in a wheelchair, recovering from a meeting they fear will be the last, when she spoke to me. “My mother has suffered so much,” she said. “She has been praying every day.”

Lee Kyong-hee, 62, mingled bitterness with her memories of the ten hours that she, her mother and two other sisters and a brother were able to see their long-lost sister before crossing back to South Korea over the three-day period at the base of Mount Geumgang. “It’s a humanitarian program,” she said, “but it’s inhuman and cruel because we don’t know if we can meet again.”

Moreover, she continued, the fact that the North Koreans selected her sister as one of 100 North Koreans to meet relatives from the South only deepens the realization that thousands of other families torn apart by the war were not so fortunate. For several hundred thousand South Koreans, in the final stages of their lives, the ultimate dream is to see fathers and mothers, brothers and sisters, from whom they were separated in the desperate chaos of war. For most, the dream remains a chimera, wrapped up in the politics of confrontation between the two Koreas, even though the leaders of the North and South agreed in June 2000 on regular family visits as integral to inter-Korean reconciliation.

Lee’s sister was 16 when she simply vanished in March 1951 after Chinese forces captured Seoul from the Americans, who had taken the capital from the invading North Koreans, but then retreated before the Chinese onslaught. Her father, she says, had already fled to escape capture

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## Still, family visits may provide a real sign of where North and South Korea are going. Until the last week of September, there had been no visits since October 2007, shortly after Roh Moo-hyun, then president of South Korea, flew to Pyongyang for a summit with Dear Leader Kim Jong Il.

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committed the South to 80 percent of the \$5 billion cost of the reactors if only North Korea would stick to its promise to shut down the nuclear complex at Yongbyon.

Still, family visits may provide a real sign of where North and South Korea are going. Until the last week of September, there had been no visits since October 2007, shortly after Roh Moo-hyun, then president of South Korea, flew to Pyongyang for a summit with Dear Leader Kim Jong Il. They have provided hope for hundreds of thousands of still-living members of families divided by the Korean War – as well as heartache and frustration. As of now, scarcely more than 16,000 South Koreans have seen relatives in the North, and many of them come back saddened by the realization that they will never see their loved ones again after a few hours of monitored conversations. Like diplomatic negotiations, inter-Korean visits remain on at the mercy of the host, North Korea, depending on the need for aid and trade and the likelihood of acceptance of the North as a nuclear power.

All the while, the granite crags of Mount Geumgang gleam on the horizon like magnets drawing South Koreans to North Korea and the dream of reunification of their divided nation – or at least of reuniting with relatives whose faces remain etched in the memories of old men and women who last saw them amid the suffering of the Korean War. “We’re lucky to have this occasion,” said Lee Kyong-hee, a retired editor, after returning across the line between the two Koreas from a fleeting three days at the base of Mount Geumgang meeting a sister whom she

and possible execution, and her mother was struggling to evacuate the entire family. When the sister disappeared, the family stayed, hoping in vain to find her. “We couldn’t leave Seoul,” she said. “We were waiting for my sister the whole time.”

Unlike so many other stories from the Korean War, this one was not tragic. Years later, they learned her sister had been put to work caring for wounded North Korean soldiers. Taken to North Korea, she became a medical doctor, married a teacher and had three children. “We were lucky,” said Lee. “There are so many people who have family members across the border. They don’t know when they can meet their family members.”

There’s no telling if the latest round of family visits will be the last – or will go on, offering respite from despair for some, while many more go on wondering and waiting. Like a vast multi-act drama, the curtain has risen and fallen on visits with only 16,000 South Koreans actually selected to see relatives from the North before North Korea abruptly halted the program nearly two years ago.

Then, after a year and a half of mounting confrontation with the South, North Korea’s leader Kim Jong Il just as abruptly shifted course and agreed on another round of visits. The curtain began to lift in early August when Bill Clinton flew to Pyongyang on an “unofficial visit,” ostensibly to bring home two American women who had been held for 140 days since North Korean soldiers grabbed them while filming along the Tumen River border with China. Clinton met with Kim Jong Il for three hours and 17 minutes and

briefed President Barack Obama when he returned to the U.S. The switch seemed to reflect the reality that North Korea needed to open its doors slightly while looking for dialogue with the U.S. – and aid and trade to halt the downward spiral of its dilapidated economy.

Many South Koreans doubt if North Korea will ever give up its nuclear program, as demanded by harsh sanctions imposed by the UN Security Council after the North’s second underground nuclear test on May 25, but no one questioned the emotions captured in pooled television reports relayed by South Korea’s networks as the visits resumed in late September with 97 old men and women gathering here for the ride on North Korean buses to the meeting area at the base of Geumgang. The format called first for 100 South Koreans who had fled from North Korea to see all the relatives the North Koreans said they could find, in this case more than 200, and then for the next three days of meetings in which more than 400 South Koreans crossed the border to see 100 North Koreans whom the North said had chosen to leave the South.

The sudden cries, the frantic efforts at recognition, the grasping at withered faces, epitomized the legacy of a war that cost more than 2 million lives and simmers on in a state of truce, not a peace treaty. A South Korean pool report from Mount Geumgang showed a 75-year-old woman weeping, asking her mother, in her 90s, “Are you all right,” then wiping away her mother’s tears, saying, “Mother, don’t cry.” After 58 years, the daughter, 16 when she fled south, told her mother, “I’ve been missing you even in my dreams.” To which her mother responded, “I’m happy beyond words, it’s so good I have lived to see my daughter.”

For most, however, the dream will never come true. One third of the 120,000 South Koreans who applied to see relatives in the North have since died, and the death rate is increasing by several thousand a year. There has been no resumption of mail privileges, and telephone contact is not even up for discussion.

Nor is there any assurance that the visits will go on. U.S. President Barack Obama made clear in his maiden speech before the UN General Assembly that the U.S. remained firm on sanctions that have blocked North Korean arms exports as well as the import of military materiel and luxury goods for North Korea’s elite. And South Korea’s President Lee has been just as firm, insisting in his “grand bargain” that North Korea must give up its entire nuclear program. North Korea has warned the U.S. it will conduct more nuclear tests and has denounced Lee’s plan as “ridiculous.”

As expected, North Korea also rejected strengthened sanctions agreed on by the Security Council after Obama’s speech and demanded the United States stop its policy of “confrontation” or face yet another, that is, a third, nuclear test. The demand for the U.S. to cease and desist was so familiar as to be hardly worth noting except that it came in a speech at the United Nations by a senior North Korean diplomat, several days after President Obama had, in the same forum, said North Korea and Iran must give up their nukes – or else.

The great political pronouncements worry Lee Kyong-bok and her sisters. They pray for both Koreas to stop the



politicization of the family visits and make them routine events. “I want the authorities of the two sides to try to continue this humanitarian program for the people who have suffered too much,” said Ms. Lee. “And for those of us who have met family members, I hope they will find a way to exchange correspondence.”

Lee turned toward her mother, beside her in her wheelchair, and asked her for her impressions of the visit. “I never forgot her even for a single day,” said Lee, relaying her mother’s words. “I was pleased to meet my daughter, but feel sad in my heart.” Slowly, the 100-year-old woman began counting the number of her grandchildren. “Fourteen here, and three in North Korea,” she said. “That makes seventeen.” But she appeared sadder still as she contemplated the separation that divides the family, the realization that she may have spent a few hours with the daughter she had not seen in 58 years, but will never see her daughter’s three children. Nor is she likely to see her daughter’s husband, who was also unable to accompany her.

Lee Kyong-hee made a final plea – a constructive suggestion for breaking down the barriers – though she doubted if anyone would take her up on the idea. “If free visits are impossible,” she asked, “why don’t they designate a certain area for people who are elderly and sick?” Given such a special visiting zone, she said, “they could allow family members to visit and look after them.” An agreement on that much, she explained, on free visits, in a confined area, open to all, “will be a good beginning from which to expand.”

BY ANURADHA SHUKLA

**W**eb-based training or e-learning allows individuals to easily access education through the web from anyplace at anytime they want. Many companies see these programs as cost-effective alternatives to training a large number of employees in-house. Essentially, these types of training programs need efficient computer network technologies to develop, manage and administer training to employees in organizations. WBT is a lucrative field and many established companies like Oracle have come forward to tap the revenue opportunities it offers. Trained employees can improve the productivity of organizations and the enterprises pushing this goal can hire training and consulting companies to design courses and train their employees on various relevant softwares applicable to their industry.

For instance, U.S.-based Bluewolf has earned thousands of dollars by training employees to use CRM software. Online training is popular in both developed and emerging economies like China where enterprises extensively use the web to train their employees. Network technologies are also helping Korean executives to keep up with their Western counterparts. Many companies have adopted WBT and have decided to move away from instructor-led classroom training. It is true that WBT does offer many benefits, but it also has some drawbacks that give organizations pause before implementing them for their executives.



# 8 REASONS WHY WEB-BASED TRAINING MAY NOT WORK FOR YOUR COMPANY

## Drawbacks of WBT:

1. **Bandwidth limitations:** Online training courses provide users with content and videos that require adequate bandwidth. Not all networks of companies or institutions are optimized for heavy use and in most cases they are unable to deliver if too many learners want to access the Internet at a time. If you want to deliver bandwidth-hungry content such as audios or intense graphics, it is best to choose some other instructional methodology or you will only frustrate your learners. Some training programs are incomplete without videos and an absence of adequate Internet access simply defeats the purpose.
2. **Cost constraints:** Sales professionals often elaborate on how cost-effective web-based training programs are. They are quick to point out the travel expenses a company has to spend on hiring a qualified trainer and the employee downtime as a result of lengthy training sessions. Web training companies also stress that since a trainer cannot train hundreds of employees at once the enterprises should adopt their applications to increase the efficiency of training programs. But the truth is that a WBT can be equally or more expensive than traditional training programs. Setting up a web-based training system needs significant investment in infrastructure. The company has to invest in computer terminals, training software and also has to spend on the maintenance and upgrading of the system.
3. **Time constraints:** Web-based training software takes more time to develop, as the developers have to ensure that end users are able to use it with ease. This is more applicable in large organizations that need customized and specially developed training programs addressing their training needs. Trial runs are often required to find any loopholes in the training and the system is then adjusted to fill these gaps. This entire process may take several months and the company who ordered the training program may have to wait a long time to see the end result.
4. **Motivation of learners:** The employees may not be very motivated to get trained and may see attending online training sessions as extra work. It is human nature to resist change and the employees who are asked to complete the training program may be less enthusiastic about the entire initiative. Sometimes the problem is simple – the employees just don't know how to navigate the web pages. They may need training first to actually get trained by the new system. In many cases the managers will have to make more effort to encourage them and be more comfortable about using the web. This defeats the purpose of online training, as managers have to spend precious time in activities that were supposed to save time for organizations.
5. **Higher dropout rate:** A trainer in the classroom is often more successful in motivating the employees or learners and can counsel them to pursue their goals. Virtual classrooms usually have a dry environment with no human interaction. All these factors lead to higher dropout rates in web based training programs. An employee getting trained may get

frustrated if his query doesn't get answered quickly and he may then decide to quit the program.

6. **More distractions in virtual classrooms:** Learning is slower in virtual classrooms as compared to traditional training centers where students are more focused and are 'not allowed' to get distracted. A trainer keeps the executives engaged by asking questions or giving them tasks. Also, employees in a classroom with an instructor are usually not interrupted by other people, as others can see that a formal training session is underway. On the other hand, an employee getting self-trained on a computer terminal may be interrupted by a colleague who thinks his query is more urgent than the training.
7. **Inability to freely interact with trainers:** A web-based training program doesn't allow employees to ask questions to the instructor simply because there is no one at the other end. These programs are designed to deliver the basic knowledge, but are not able to facilitate any interaction between the instructor and the end users. If you want to ask any question that comes to your mind, you will have to either ask someone in your office or send a query form to the training company. A person may have to wait up to a week to get an answer from the training company.
8. **Cannot train soft-skills students:** Certain skills are best taught by instructors in a classroom setting, as they require regular feedback and extensive practice. Companies organize soft-skills training programs to teach their employees ways to better interact with colleagues and customers. Productivity of the entire organization increases if all workers are operating as a team and this is what drives managers to hire trainers for developing social skills among workers. For instance, managers may want their new employees to learn acceptable workplace behaviors or train them to service their customers in a better manner. A virtual environment cannot effectively provide any of these and, thus, is not suitable for delivering soft-skills training.

Many IT enthusiasts say that all disadvantages associated with WBT will eventually fade away with time. The promoters of these programs identify poor bandwidth network connections as the only real disadvantage to WBT. The human touch in training can be included by using message boards or chat rooms. True, this form of communication is not as good as interacting in a live workshop, but this can be improved by using technology such as videoconferencing. Once learners have access to higher speed connections, they can easily leverage WBT and interact in real time with their instructors through video calls. Higher Internet speeds will ultimately allow students to virtually "raise their hand" and ask pertinent questions to their live course instructor.

Availability of higher bandwidth may also encourage developers to use more multimedia in their WBT programs. These inclusions will make these programs more interesting and engaging and this will remove certain barriers discussed earlier. The students will be more involved in their training, become less distracted and be more motivated to attend interesting virtual training sessions.



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# ADOPTION OF HEALTH IT SYSTEMS IN ASIA: A LONG ROAD AHEAD

BY ZANURADHA SHUKLA

**U**.S. President Barack Obama has created a storm with a new bill that is encouraging hospitals in the country to digitalize healthcare. His government has set aside \$150 billion for health care and promises incentives to practices that implement health IT systems like EMR. Good health is very important. Modern healthcare systems can help deliver better patient care if they adopt Information and Communication Technologies (ICT) and more countries are devising strategies to modernize their health facilities. Health IT systems can not only bring down overall healthcare costs, but can also improve patient safety and administration of services.

The benefits offered by health IT systems have driven worldwide healthcare organizations to increase spending on computer technologies. The health industry has become one of the major consumers of ICT products and services according to Frost & Sullivan. The Health Information Technology (HIT) market, by revenue, in APAC (Southeast Asia, China, Japan and Australia) was around US\$5.04 billion in 2008 and the research firm forecasts that this figure will double in the next 10 years.

The health IT market will expand in the coming years and give revenue opportunities to various industries such as computer hardware, telephony and network devices. The popularity of these modern technologies is increasing because a large percentage of medical practice activities can be improved by using them. If human errors can be prevented by machines, the quality of care can improve dramatically and give a feeling of security to patients walking into a health care facility.

Hospitals in Asia are focused on adopting health IT and this is apparent from an increase in medical tourism in countries like Malaysia. Another report

from Frost & Sullivan shows an increase in the upgrade of existing healthcare infrastructure within the public sector in this nation. Medical tourism revenue per patient in Malaysia is expected to reach \$590 million by 2010 and this growth shows the increasing trust of Westerners in modern health care facilities of Malaysia.

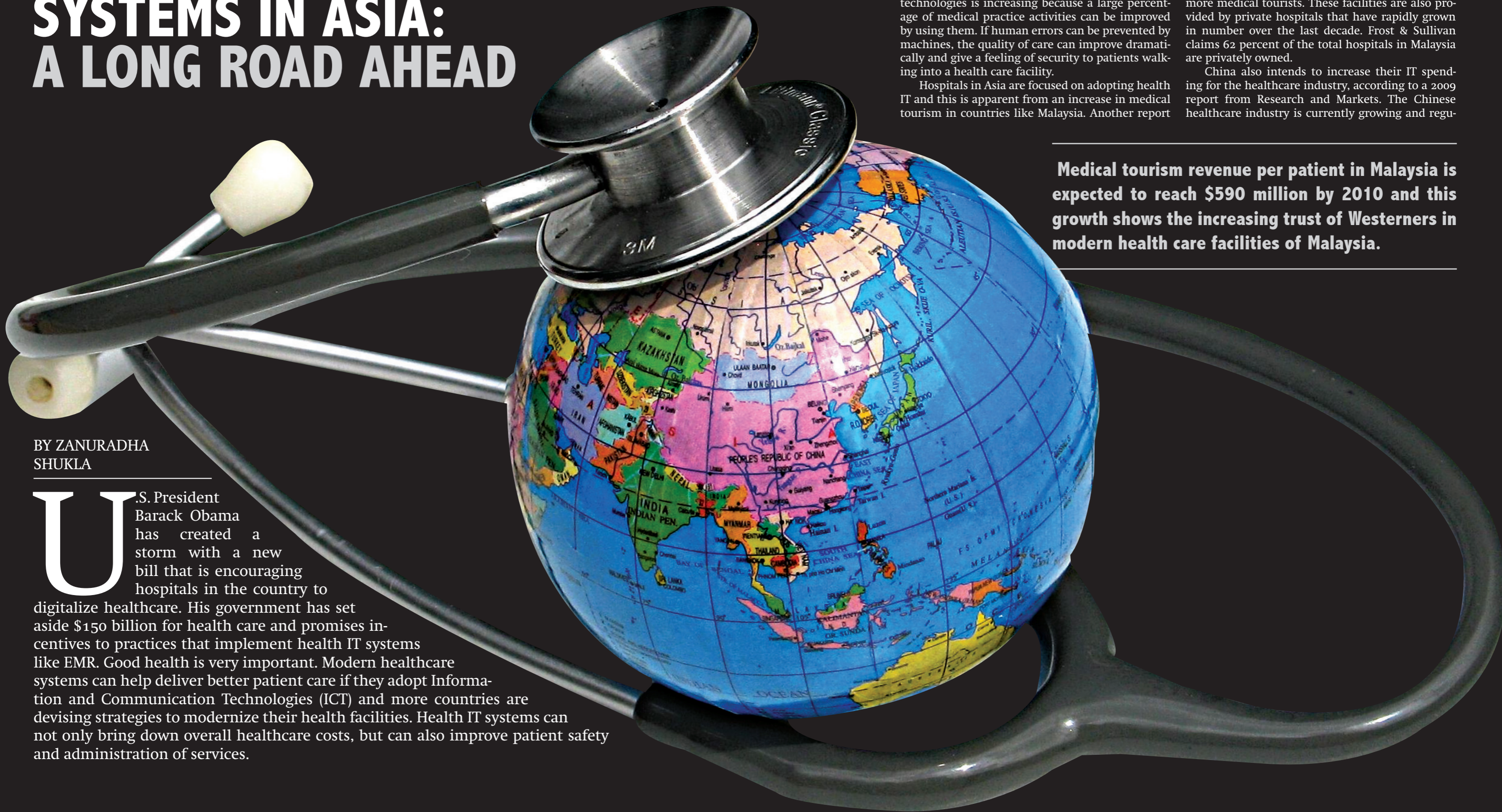
It is interesting to note that a large percentage of foreign patients in Malaysia are Indonesians who don't have a similar health infrastructure at home. Other patients are from various regions including Japan and the Middle East. The Malaysian government is keen on promoting their health facilities to the world and has set up referral gateways to attract more medical tourists. These facilities are also provided by private hospitals that have rapidly grown in number over the last decade. Frost & Sullivan claims 62 percent of the total hospitals in Malaysia are privately owned.

China also intends to increase their IT spending for the healthcare industry, according to a 2009 report from Research and Markets. The Chinese healthcare industry is currently growing and regu-

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**Medical tourism revenue per patient in Malaysia is expected to reach \$590 million by 2010 and this growth shows the increasing trust of Westerners in modern health care facilities of Malaysia.**

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lations in this market are thus undergoing changes. Many healthcare technologies are being implemented in this sector, which is comprised of government health care organizations, private practices and health insurance providers.

Sourabh Kankhar, a Frost & Sullivan research analyst for Asia Pacific healthcare practice, pointed out that the levels of healthcare IT adoption vary widely in Asia. Countries such as Japan, South Korea and Singapore are using modern health IT systems in their hospitals. But many countries still have a long way to go. India, China, Thailand and Indonesia still don't have a very high level of health IT adoption when compared to developed nations. Most Asian countries are using administrative solutions, but have not yet moved towards complete integration of their IT systems. Clinical systems such as electronic medical records (EMR) and picture archiving and communication systems (PACS) still have low adoption rates. Kankhar sees both India and China as having the maximum potential for healthcare IT providers in the future. These two countries are thickly populated and together have more than 70,000 hospitals. This market will grow rapidly in the coming years giving opportunities to vendors of PACS, EMR and other health IT products.



Let's take a look at a few popular health IT products and review their benefits for the industry and patients.

**Electronic Medical Records (EMR)** - This software allows healthcare providers to enter, store, retrieve and transfer health information of individuals. A paper-based record system is inefficient and time consuming. It can also cause duplication of entry, leading to medical errors. Digitalizing information offers a number of benefits such as a reduction in the time spent on maintaining records, improved patient care and a reduction in medical errors.

**Picture Archiving and Communication Systems (PACS)** - These systems are comprised of computers that are used to store, retrieve and distribute medical images to physicians and other healthcare providers. As these images are distributed through computers, hospitals save a lot of time and are able to deliver better care to their patients.

**Computerized Physician Order Entry (CPOE)** - Hospitals use the CPOE technology to allow their clinicians to electronically enter data related to patients' medications, tests and services. This application is especially useful in warning physicians about any drug allergies. As all the medication information is entered in the system, it alerts the user if he or she is ordering a drug that doesn't suit the patient.

**Personal Health Records (PHRs)** - This health IT product is meant for health-conscious individuals who are keen on managing their own health. Personal health records allow people to collect and distribute their health information electronically. Users can even enter information related to home diagnostics and insurance claims.

**E-Prescribing** - Prescribing medicines to individuals has been made easy with this application that allows health care practitioners to enter medication data into computers. This information can be shared by other doctors who are taking care of the same patient and helps them see how an individual is responding to treatment.

A review of health IT applications indicates that these solutions are basically focused on improving the efficiency of the healthcare facilities and saving costs by automating the systems. The benefits these systems offer are tremendous and most hospitals desire to go paperless. However, the adoption rate of these systems is not very high in Asia. This is due to following reasons:

- High upfront costs** - An EMR system can be very expensive and cost up to \$40,000. Hospitals in developing Asian countries such as Indonesia may not be able to set aside this huge amount for a health IT system. These systems also need regular maintenance and upgrades and this again may be out of reach for many low-budget hospitals.
- Training costs** - Health IT systems can only be utilized properly if the employees of the hospital are able to use it easily. The employees may need some training to learn how to operate an EMR or PACS. This requires additional costs and not all hospitals have the capacity to bear them.
- Privacy issues** - These records are stored in the computers and are meant to be accessed by authorized personnel only. But in recent years, the incidents of 'hacking' or unauthorized access of information have increased. The hackers may use this information without the consent of the patients and this causes severe distress to both the hospital and individuals.

Although the rate of adoption of health IT systems in Asia is currently low, it may take off in the future if the government supports these medical practices. The high-budget hospitals can afford to deploy world class IT solutions from the vendors of their choice, but health facilities with low budgets operating in smaller regions need aid to keep pace with technology. Well-designed health care initiatives for these hospitals can help them digitalize information in a cost effective manner and provide better care to all of society.



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# CLOUD COMPUTING POSSIBILITIES

BY RAJANI BABURAJAN

**C**loud computing is the process of accessing and using a computing application via a Web browser. While the hosting company takes care of the hardware, software and support services of the entire application or platform, the user simply pays the 'rent' for using it over a period of time. Users need not have the knowledge or expertise of the technology they are using, but they can customize them according to their needs. Cloud services are also called on-demand services because they offer the flexibility to use as and when needed. More importantly, most of the services offered via the cloud are highly scalable, meaning a company need not invest in a complete software application or a platform in the initial stages. As the business grows, the company can scale the application and pay for it.

## What is 'Cloud' all about?

Imagine that you are starting a business. Since all businesses today demand an online presence, the first and foremost requirement for starting a business is a robust IT infrastructure. This holds true even in the case of a small gift store that sells their goods online. They too need a full-fledged IT infrastructure – a datacenter with up-to-date hardware and software, cooling systems, power backups, networking equipment, server and data backup facilities. Plus, they require a team of hardware and software engineers to monitor the system 24/7 to protect it from hackers and other external threats such as network outage, hardware failure and the like. Next is the huge investment in software applications like e-commerce applications, database management software and anti-virus/ anti-spyware software. It would take at least six months for a company to put all these things together. By the time things are set and the business starts running, it'll be time to upgrade the network or update the software.

Suppose all of these headaches evaporate to the cloud and you are given a 'free' datacenter with better hardware and backup facilities, along with all software support as you desire. Yes, such an option has become a reality. Many companies are offering virtual hardware and software through the Internet so that customers across the world can 'draw' them from the cloud as and when needed. This is the concept behind cloud computing. Prominent cloud computing providers include Microsoft, Amazon, Salesforce.com, IBM, Soho, Rackspace, Sun Microsystems, Google, Yahoo, and many more. They have their own facilities to store, manage and service their resources; their employees manage the software and hardware so as to make them available 24/7 to the customers. The robust datacenter offers the storage space for user data and makes them available for use later. Thus, the user does not need the storage space or other infrastructure support needed to save and run the software. In short, the provider hosts the software/hardware along with all its components while the user only uses a virtual image of the application that is stored in their computer. This facility saves significant storage space and other related expenses. Of course, there is an expense – the rent for using the application. That's the one and only cost, and it's very reasonable. Compare this cost with the savings on space, hardware, software, human power and hundreds of such recurring costs you will incur if you are running the application directly from your business premises.

## Different Types of Cloud Services

Currently, cloud services include three important services: Infrastructure as a service (IaaS), platform as a service (PaaS) and software-as-a-service (SaaS).

**Infrastructure as a service (IaaS):** Infrastructure as a service refers to delivering the service of a computer infrastructure via Web browser. IaaS provides customers with a virtual infrastructure that includes servers, software, data center space, and network equipment as a service. Customers pay according to the utility and amount of resources consumed. Web hosting services and virtual private server hosting services can be considered as a form of IaaS. IaaS has several benefits. The virtualized environment saves the hardware expenses as well as other resources including power, coolants, human resources, and software. IaaS offers greater scalability. Customers can scale the resources as their demands grow. They can opt for higher bandwidth or greater storage space as needed. By outsourcing IaaS, customers can also get the benefits of the enterprise-grade servers and advanced hardware and networking resources offered by the providers. This results in greater economies of scale because a service provider can offer better, cheaper and more reliable applications than that offered by the companies themselves.

## Platform as a Service (PaaS)

Under this service, a computing platform and solution stack are offered as a service. Such platforms available through the cloud are also known as cloudware. Typical PaaS offerings include workflow facilities for design, development, deployment and testing of various applications such as collaboration, database integration, storage and more. These services are provisioned as integrated services through the cloud. Different PaaS offerings include different types of services to support the application development cycle. A typical PaaS offering provides all service options in an integrated development environment. Users have the freedom for source code control, version control, dynamic multiple user testing, roll out and roll back with the ability to audit and track the changes. PaaS offerings typically provide support to create user interfaces based on HTML, JavaScript or other Rich Internet Applications such



## Call the 'Ghost' at your Desktop

The desktop cloud is a relatively new development in the cloud space. G.ho.st is an innovative cloud computing offering poised in this direction. Founded in 2006, G.ho.st aims to deliver a free virtual computer to every user. To realize this goal, G.ho.st has developed its own Web operating system, the global hosted operating system that works openly and seamlessly with leading third-party Web applications. The G.ho.st Virtual Computer service includes a personal desktop, files and applications, available from any browser or mobile phone. Soon you will be in a position to boot your system from the Cloud.

as Flash and Adobe Flex. The service supports multiple users through a multi-tenant architecture that provides concurrency management, scalability, failover and security.

PaaS enables the deployment of applications without getting into the cost and complexity of buying and managing the underlying hardware and software. The built-in platform provides high levels of security, scalability and failover, so users are free from the task of testing and integrating these applications separately. Moreover, they also get the benefits of the ad hoc features developed by the development teams of such platforms. Some of the popular PaaS offerings include AppJet, Force.com, Google App Engine, Windows Azure platform, QuickBase, WaveMaker, and WorkXpress. Experts say PaaS will see immediate growth with Google offering support to more scripting languages. Also, there will be a strong push for the .NET platform on the clouds by Microsoft.

## Software as a Service (SaaS)

Software-as-a-service (SaaS) is the most common cloud computing service. SaaS is a model of software deployment in which a software provider licenses an application to customers as a service on demand. Customers can either download these applications or host them on their web servers. The service is made available as long as the contract is valid. Like other cloud computing models, SaaS also features the multi-tenant architecture. The centralized services such as updates, security, and maintenance obviate the need for end users to download patches and upgrades. The service is usually charged on a per-user basis, with additional fees charged for extra bandwidth or storage. The SaaS model is more cost efficient than the traditional software license model. They also save on software upgrade charges and maintenance fees. Further, the software applications offered via the SaaS model are feature-rich as there is ongoing demand from the user community for rich and advanced features. These features are available to all end-users without extra cost.

SaaS may also use virtualization, allowing organizations to develop a multi-tenant application without additional

programming. Popular virtualization techniques applied to SaaS include operating system virtualization, application virtualization and virtualization appliance (a virtual machine image designed to run on a virtualization platform). SaaS can also utilize the service-oriented architecture (SOA), allowing software applications to communicate with each other. A particular SaaS can expose its functionality to other applications via a public platform, and can also incorporate functionality from other services. A typical example of such SOA is SAP Business ByDesign, an enterprise resource planning (ERP) software from SAP AG.

## Impact of the Cloud on Next-Gen Computing

As the popularity of computers and the Internet grows, the concept of computing as a commodity finds more relevance. In such a scenario, high-end computing applications are viewed as more important because they control the business processes and the data itself. SaaS and other cloud offerings ease the process of application licensing by means of outsourcing and cost reduction. According to Peter Coffee, director of Platform Research at Salesforce.com, "Lower costs of market entry and application deployment, faster payback on development costs, and superior return on investment will make cloud-based platforms the target of choice for both entrepreneurial and enterprise developers."<sup>1</sup>

## Some of the popular PaaS offerings include AppJet, Force.com, Google App Engine, Windows Azure platform, QuickBase, WaveMaker, and WorkXpress. Experts say PaaS will see immediate growth with Google offering support to more scripting languages. Also, there will be a strong push for the .NET platform on the clouds by Microsoft.

Coffee predicts that the developers outside the United States and Europe, especially those in countries like India, China and Brazil, will find their most rapidly growing opportunities in their own home markets, and will shift their focus toward building high-value applications for compatriot companies rather than providing low-cost labor to mature markets overseas.

According to Markus Klems<sup>1</sup>, Research Assistant at the FZI Research Center for Information Technology, more and more desktop applications are turning into SaaS or at least hybrid online/offline apps that live in the cloud. The scalable, on-demand middleware, Klems says, is an appealing vision for large enterprises because it avoids bottlenecks by outsourcing parts of the middleware infrastructure into a SOA-Cloud.

## REVOLUTIONARY CLOUD PLATFORMS

### Microsoft Azure

Microsoft Azure is an application platform in the cloud that provides a cloud operating system called Windows Azure that serves as a runtime for the applications and provides a set of services that allows development, management and hosting of managed applications off-premises. The platform includes five services — Live Services, SQL Services (Azure Data Services), .NET Services, SharePoint Services and Dynamics CRM Services — which the developers can use to build the applications that will run in the cloud<sup>2</sup>.

## Amazon's Cloud Services

Amazon CloudFront is a content delivery service that integrates with other Amazon Web Services to give developers and businesses an easy way to distribute content to end users with low latency, high data transfer speeds and no commitments. Experts view CloudFront as the promising future for do-it-yourself content distribution and media hosting. Amazon Elastic Compute Cloud (Amazon EC2) is another Web service that provides resizable computing capacity in the cloud by providing developers with the tools to build failure-resilient applications and isolate themselves from common failure scenarios.

## Force.com

Force.com, a cloud platform from Salesforce.com, enables users to build multi-tenant applications for database, security, workflow, user interface and other tools that take them through the process of building powerful business applications, websites, and mobile application. Salesforce.com markets this as 'development as a service' offering.

## Made for Recession

The proverb "Necessity is the mother of invention" holds very true in the case of cloud computing. This service model evolved rapidly during the recession and yielded amazing results to companies suffering from shrunk bud-

gets. There is no doubt that cloud services will flourish in the future. However, experts feel that the main driver of cloud computing services will be the user experience, especially the quality in scaling and managing the infrastructure. Unless the providers live up to the expectations of end users and treat them well beyond the terms of the contract, the scenario will not look prospective. Efficiency of the service is another key component that decides 'who will survive the cloud computing market.' To ensure quality, service providers must be able to offer automated services, and customers should be able to draw the service without human intervention. In short, any cloud service provider that seeks a bright future should be ready to offer a user-centric performance management system rather than the data-centric performance management system.

There will be a significant rise in the opportunities available to cloud service providers. Cloud computing will hit the traditional hosting market hard, experts feel. The tough competition prevailing in the cloud computing market indicates a further fall in prices as an approach to remain competitive in the market. This scenario will affect all types of service providers including Web hosting companies, managed hosting providers, independent software vendors offering their software-as-a-service (SaaS), traditional system integrators, online service companies and value added resellers.

<sup>1</sup>. Geelan, Jeremy. "The Future of Cloud Computing." — <http://cloudcomputing.sys-con.com/node/771847#>  
Cloud Computing Journal. Accessed on 3rd October 2009.



Boston

# SNOVASOFT

## EMERGING GIANT IN INFORMATION TECHNOLOGY

Information Technology is becoming an integral part of our daily lives both in the personal and business spheres. Currently, it is impossible to lead a successful business without the support of an experienced and successful IT company. One such company that has earned a good reputation for itself around the world in the IT services sector in recent years is Snovasoftware.



Harish Chintapalli – Director

- Insurance, Healthcare and Life Sciences
- Banking & Capital Markets
- Communications, Media and Entertainment
- Energy, Utilities and Services
- Manufacturing
- Retail, Consumer Products and Logistics
- New Markets and Services

In addition to these, there are Horizontal Business Units

- Consulting
- Enterprise Solutions: ERP, CRM, HCM, SCM, BI/DW, BPM-EAI
- Infrastructure Management Services
- Product Engineering and Validation Services
- Systems Integration

Snovasoftware maximizes the long-term value of their customers with business solutions that support the entire customer lifecycle and provide a high return on investment. "Two words best describe the people at Snovasoftware: passion and vision," says the Snovasoftware VP of Technology Chaitanya Muvvala. Their knowledge of emerging technologies and business processes across industries, and the integrity they bring to their business relationships are second to none. "That means our clients don't have to waste their valuable time explaining what needs to be done, why and how. Or hire consultants to help," adds Muvvala.

"Just as important, our philosophy is to treat every client the way we would want to be treated ourselves. This simple approach means we always put our clients and their needs first. Our mission statement at Snovasoftware: We deliver knowledge-based services that have one measure of success — customer satisfaction. But don't take our word for it, ask our clients," says the company's young and successful founder Harish Chintapalli.

Since its inception, Snovasoftware has also been involved in charities such as funding FREEDOM, a non-profit organization helping rural communities in the southern state of Andhra Pradesh, India.

Headquartered in Boston with delivery and support locations in the United States and Asia, Snovasoftware is one of the fastest growing IT firms in the U.S. With a senior management team with over five decades of combined experience in the software industry, Snovasoftware is emerging as a dominant force in the field. As a result, many successful business relationships have been fostered and strengthened over the years all over the globe.

Snovasoftware is a multinational information technology services company specializing in both applications development and infrastructure support. Its client-base is broad, ranging from small businesses to Fortune 500 companies and stretching across numerous vertical markets and spanning the globe.

Currently, it serves various clients through its Industrial Business Units such as:



### Overview

#### Who we are

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

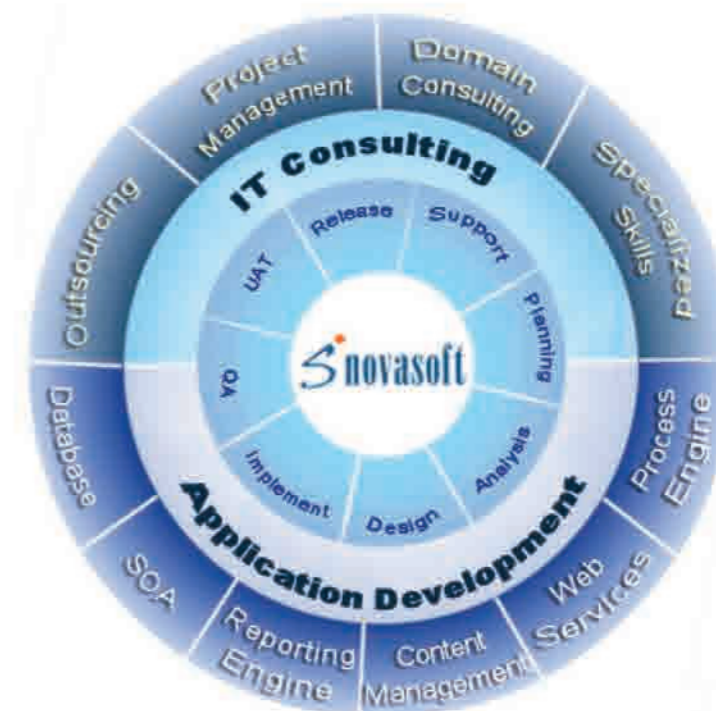
- Financial Services
- Health Care
- Insurance
- Human Resource Management
- E-Commerce

#### 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.



To learn more, please visit us on the web at [www.snovasoftware.com](http://www.snovasoftware.com) or to contact our regional representative in Asia Pacific please write to: [parvkaur@kornet.net](mailto:parvkaur@kornet.net) (Phone 82 2-7653990 mobile 82- 17-7098230)

# WHERE HAS ALL THE MONEY GONE?

BY ZACH BARDON

**K**orea is primed for startling growth in the small and medium enterprise (SME) sector. Korean SMEs account for 99.9 percent of all enterprises, 87.5 percent of all employees and 49.4 percent of production, according to numbers from the Korean Small and Medium Business Administration. However, right now, SMEs are not generally growing at a rate that can positively impact the economy. They are missing a few essential ingredients. These ingredients make up the differences between second-string economies based around copying good ideas from outside sources and first-string economies, which are centers of true innovation and new ways to make money. While enumerating all of the missing ingredients is beyond even the best expert, some can be identified. And the most acutely missed ingredient is the “angel” investors.

## Angels in the Sky

The angel investor is a legendary figure in such innovation centers as Silicon Valley in the United States. They are responsible for the entire idea of an innovation center, and roll previous generations of successful profits into new generations. Anonymous, whimsical and unpredictable, these faceless benevolent rich guys seem to buy into the Next Big Thing all the time. However, in Korea, they are noticeably absent. And their absence hinders the growth of a successful SME sector, especially in the technology market.

The path of technological success in Silicon Valley follows a predictable pattern. Small companies start out with a good idea or skilled people. Two or three gifted guys work in a garage or a basement, working on their idea. Because of their location, they eventually run into the right people who give them the venture capital that they need to hire more staff and develop their idea further. There are several rounds of investment, each time upgrading the office space and personnel of the company. Eventually, the company either burns out or begins turning a profit, and all

the investors of the previous rounds breathe a little easier. The burn out vs. turning a profit rate is actually very low, something like 10 or 15 percent, and yet the 85-90 percent of companies who are not successful still get some investment capital they need to develop their idea.

Where do these angel investors come from? Most of them are from the previous generation of Silicon Valley success. The area has been the center of technological innovation for approximately 100 years, from radio tech to silicon transistors – from which the valley gets its name – to Ethernet, to the dot-com bubble, to the Web 2.0 era. Many of the successful businessmen who made it big in the dot-com era, for example, have the capital around to serve as angel investors for the Web 2.0 era. This self-perpetuating ecosystem of innovation has been changing the way we live for the past 100 years, and may continue to do so for the next 100 as well. Korea has nothing like that yet.

## Conglomerates Everywhere

There are, of course, several other missing factors affecting the growth of SMEs in Korea. One of these other factors is customers. Most Korean SMEs have only one customer with which they do business. Usually it is Samsung or LG, or some other Korean conglomerate (chaebol). Most Korean SMEs are locked into a relationship with their chaebol, who almost acts as a patron. It's a good gig if you can get it, as you always have a dependable buyer for goods. However, this limited customer base cripples the SME in the areas of marketing and sales. When the company wants to expand its customer base, it has no idea how to go about doing that. And if your chaebol client discovers one of your inevitable competitors, they will drop you in an instant for the faster, cheaper alternative. Then you're down to zero customers.

This one-customer problem is a symptom of a self-limiting thought process in Korean entrepreneurs – they think locally and act locally. The axiom in other business circles is think globally and act locally. Everyone and their brother who starts up a business is hoping to become an international powerhouse some day. Well, everyone outside of Korea that is. However, inside Korea, it seems as though becoming a reputed local supplier to a chaebol is the highest dream to which most companies aspire. Unfortunately, the dream is high-risk, even if it is successful, for the reasons mentioned above.

## Giant, Clumsy Hands

A third missing piece of the puzzle is a fertile ground for innovation. Korea has several areas set up to match the archetype of innovation – Silicon Valley. These areas, such as Daedeok Innopolis in Daejeon and Guro Digital Complex in Seoul, do have collections of small and medium businesses put together in parks. They also have many of



the best graduates in Korea working for those small companies. They have government programs set up to aid deserving companies, and those programs do help some small amount of companies per year. However, this government reliance can actually harm more than good. Many businessmen realize that even the benevolent hand of a government is large, clumsy, and can easily and carelessly destroy whatever it touches. Government bureaucracy is a frightening thing.

The national government in Korea shows an unprecedented interest in the private IT sector and offers substantial programs, awards and incentives in order to encourage SME growth. However, the value of these programs is dubious. As an example, the Korean government offers research grants to SMEs to research technologies it favors, such as augmented reality, robotics, and ubiquitous devices. However, the details of the research criteria, lack of expectation for adequate results and evaluation procedures for proposed plans are sub-par. This has created a bubble of parasitic SMEs that exist only to create and present unrealistic research proposals to the Korean government in order to get free government money, which they then squander, without creating any worthwhile results.

## Other Options

Some might think of foreign investment to get the sector off the ground. In fact, Silicon Valley itself could come to Daejeon and transform the place. However, Korea has some serious problems with foreign investment, despite the amount of ink used to talk about it in any Korean IT

magazine or newspaper, including this one. Foreign investment can become a small part of the Korean SME scene, but cultural and political factors will most likely prevent it from becoming more than a small part.

Others might look to the chaebol to increase SME ventures. But while Samsung and LG are always happy to sub-contract out their work to affordable alternatives, they are also always happy to keep those affordable companies close to the vest. A docile stable of SME companies that follow an economic giant only benefits said economic giant, and not the SMEs.

Still others think that government-led ventures, government-sponsored technology parks, and government-hosted trade shows and expos are the way out. However, centralized, bureaucracy-managed programs, while they can have some good points, also have limitations that must be understood. The government's hands are tied by its very nature, and it can only be counted on for a small portion of what is necessary.

So while the Korean government does inject some cash into the system, it can never inject enough to create a self-sustaining SME ecosystem. And while chaebol such as LG and Samsung also serve as an excellent first customer for growing companies, they will not help a company to move past the one-customer barrier. Foreign investment can work for some companies, but not enough. Only by creating a self-sustaining domestic venture capital market can Korea create the next Silicon Valley. And only through a multitude of customers, domestic venture capital, and a minimum of government interference can it be made. When it happens, I recommend it be called Silicon Han.

## POTENTIAL RISK FACTORS AHEAD

BY SHAWN G. DUBRAVAC, CFA

**A**s we enter the final months of 2009, we look toward what one hopes will amount to a brighter holiday season propelling the consumer tech industry into a better year ahead. By most accounts, 2009 was a dismal year. As we start Q4, we believe the worst is now behind us. It appears April – which experienced double digit revenue declines from the same period a year ago – will mark the low point for 2009 consumer tech sales and this recessionary cycle.

While the picture remains murky, the economy is beginning to recover. As this goes to press, we continue to believe the recession ended in July or August – concluding the longest recession in the post World War II period. Some economic indicators are already turning up. Consumer spending likely bottomed in early 2009. Other indicators are improving as well. While the industry and the economy continue to heal, there are important risk factors to watch.

As we move into the final quarter – an important one for tech spending – here are two risk factors worth watching:

### 1) The Crowding Out of Consumer Tech Spending:

During the past 18 months, consumers have cut back significantly on spending. Discretionary spending is down as consumers defer and delay purchases that can be pushed into the future. Typical of recessionary environments, consumers have cut back most significantly on durable goods purchases like major appliances, home furnishings, furniture and vehicles, because these purchases can most easily be delayed. As a percentage of overall durable goods purchases, consumer tech spending has held up incredibly well – and is now higher than it has ever been. In many ways, this suggests consumers are opting to spend on technology, while cutting back more severely elsewhere.

The risk comes when one looks at where those spending cuts have materialized that in turn have allowed tech spending to relatively outperform. New vehicle purchases are a great example. Vehicle purchases have fallen to levels rarely seen. Another way to look at this data is to divide the number of registered vehicles by the number of vehicles sold. This tells us how long vehicles are currently projected to last before being replaced. As this graph illustrates, vehicles have on average lasted roughly 14 years. Current sales levels suggest the average vehicle today will last 26 years. Note that this trend changed abruptly as we moved into the recession – a clear indication of spending cuts rather than vehicles becoming significantly more durable. It is clear this trend is not sustainable in the near-term – vehicle sales will rise. Our current forecast suggests sales bottomed in the first quarter of 2009 and, while down on an annual ba-

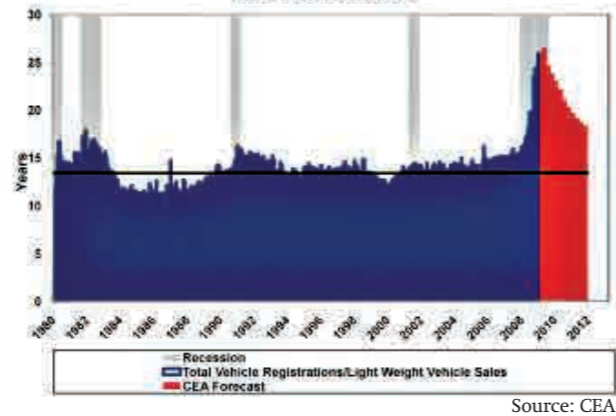
sis in 2009, will increase by 18 percent in 2010. The money for these purchases will ultimately take away from spending on other categories, which could impact consumer tech spending.

### 2) Restocking vs. Sales:

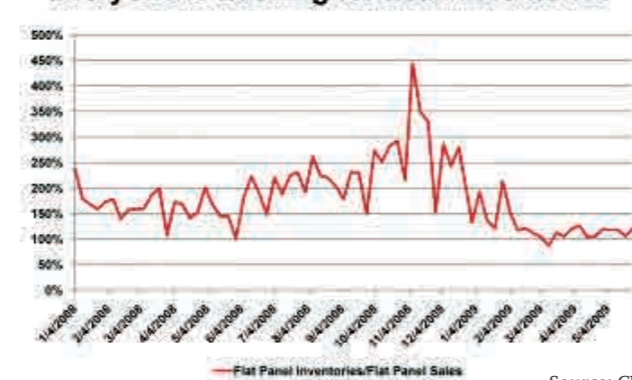
As the economy unraveled and consumer sentiment deteriorated, manufacturers, distributors and retailers moved to quickly cut inventory levels. Headed into the fall of 2008, manufacturers, for example, were holding flat-panel TV inventories on the order of three times sales. The graph shows the inventory-to-sales ratio for flat-panel TVs, but the story is similar for most categories. A year later, as we move into the fall of 2009, manufacturers now are holding one-times sales. As we approach the final quarter of the year, there are indications that shipments into consumer channels are outpacing sales to consumers – suggesting there is some inventory rebuilding and restocking. Retailers, anticipating slightly more robust sales, do not want to be caught empty-handed. The biggest risk here is for a company's up-stream to perceive the uptick in orders as an indicator of end-market demand. If inventories are too quickly inflated without subsequent end-market demand, manufacturers and retailers further downstream might face potential price compression as players work to rein in inventory levels.

Certainly, there are other risk factors, but these two stand out as the biggest risk factors currently on the horizon and with the most potential to impact fourth quarter sales.

### Decline in Vehicle Sales is not Sustainable



### Everyone is Looking for Lean Inventories



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BY ZACH BARDON

**K**orea is the land of 99 percent Internet connectivity for its citizens. However, it is also the land of ugly websites. Its sad to say, but it is true. It is as if most Korean web designers opened up a book of best practices in website design, went down the list, and did the opposite of every single suggestion. Confusing, flash-based menus, unnecessary blinking, extremely small fonts and a million links on one page hurt the eyes. Javascript and HTML tricks that are designed to hide the destination URL of a link and prevent it from being displayed in the address bar are the norm. Extremely confusing URLs, such as `sitename.com/page01/page01_01.html` boggle the mind.

Now, on the other hand, some would say that Korean websites are not ugly, they just make an efficient use of space. There is a lot of information out there, and Korean web users don't want any of it to be hidden. They want to be able to, for instance, scan all of the headlines of the newspaper in just a few seconds, or find the latest and greatest gadget in their online store without much moving or clicking of the mouse. The compact design of Korean websites are ideally suited for this situation.

Also, Flash is used to good effect to create a cute and approachable character for each site. Without the limitations that HTML has, Korean web designers can make something that is truly unique for each site, and displays the character of both the designers and the website owner. They have traded standards compliance for cuteness, and it is not such a bad trade.

Finally, the web works differently in South Korea. Most of the portals do not crawl web pages automatically, but base their search databases on registration and payment from websites. They do not need to go out and find a website's data, but let the site owners present their site in the best possible way – manually.

The World Wide Web is built with HyperText Markup Language (HTML), and this language was specifically designed to be easy, open and accessible to both automated systems and human users alike. But on the Korean peninsula it has be-

## STATE OF KOREAN WEBSITE DESIGN

Korean website designers love ActiveX controls, even though they only work with Microsoft Windows and Internet Explorer. And visitors to even supposedly respectable, mainstream websites can download a virus or trojan program through an advertisement listed on the page, which begins cluttering up their computer with useless programs and pop-up advertisements even as it compromises system security and perhaps adds the computer to a growing botnet.

Korean websites are so hard on the eyes and difficult to use and understand, that even if they are written in English, English-speaking users avoid them whenever possible. They seem to take longer to load, have much more potential of having errors, and generally don't work well at all.

The strange design choices of Korean website creators work together with the Korean language to effectively cut off the Korean Internet from the wider global net. This leaves Korea high and dry when it comes to global resources like Wikipedia or Google, because Korean users' awareness of or participation in these services is little to none.

Also, many of the choices made by Korean website designers seem to be along the lines of obscuring information. They hide links, hide individual pages, hide information. If the entire Internet followed those practices it would be a serious pain to find anything at all. Every site would be a walled garden, and it would be difficult to find or link to anything at all. The World Wide Web would become a Super Local Nothing.

come a tool for obfuscation, eye-strain and headaches. Without getting too technical, here are some major points that Korean websites could follow to make their sites more accessible and useful to the average visitor. While Korean web users might be used to the status quo, if Korean companies are interested in making websites that people from other countries can tolerate, and even enjoy, then they should follow these points.

### First Comes Layout

Layout is a very important part of any design, but especially part of website design. Since websites are always about information, they should present their information in the best way possible. Information must be presented clearly, cleanly, and intuitively so that it can be read by the largest amount of visitors. Korean websites usually try to cram as much information as they can into four or even five tightly-squeezed columns of information. If a user has an older monitor, say with a resolution of 800x600, this information can become frustratingly illegible. And since one or two of these columns seem to contain flashing, scrolling advertisements, it can actually make someone physically sick when trying to concentrate on tiny text while yet another k-pop star dances like mad a few pixels over. Korean website designers should consider putting fewer things on a given page, and giving it more white space. This creates a calm, clean atmosphere like the page of book, allowing visitors to absorb the information

quickly and easily.

Websites should be cleanly divided between video and text. Video too close to text makes the text difficult to read, and text too close to video makes the video difficult to con-

centrate on. This includes moving animations such as .gif files. Putting the video in the video area and the text in a text area makes both easier to understand. An efficient and minimalistic use of boxes can delineate the two areas without making anyone want to tear their eyes out.

Even if the layout is only text and photos, the organization of the average Korean website leaves much to be desired. The division between main menu items and sub-menu items seems to often be arbitrary and designed by committee. There is not a greater hierarchy or structure; no way to see any underlying organization in the design. This is further complicated by the standard Korean website practices of hiding a message board deep in the third or even fourth levels of the website innards. This message board can only display one message at a time, and its threaded replies. It looks like the message board hasn't been updated since 1998, and even when it is updated the replies are not so useful.

### That Leaves Flash...

Flash is an over-used practice all over the Internet, not just in Korea. The Web was built on HTML, which is a very accessible form of information. It can be viewed in a variety of ways by both computers and people. Search engines such as Google generally send out automated web crawlers, called spiders, that automatically read and index HTML-based information. However, information contained within a Flash applet, such as a YouTube video, cannot be read or identified

by a web spider. If a website's main menu is also a Flash-based menu, the automated spider cannot read the links in the menu, and cannot even access the rest of the website. This can be worked around by providing an alternative to the main Flash menu, usually a site map. However, without this workaround, a Flash menu website is essentially invisible to search engines, and therefore the world. This is basically a death sentence for any website that is trying to attract visitors. Websites should eliminate Flash whenever possible and replace it with standard HTML. Its faster, easier, cleaner and clearer.

Also, with HTML 5.0 coming out soon, Flash may become increasingly irrelevant for anything besides streaming video. HTML 5.0 includes a lot of new code for animation processing, code that is still accessible to text-based search engines. HTML 5.0 might take some time before it spreads to the world, but Korea needs to be prepared for it. It cannot expect its users to use Windows XP, IE7, and Flash 9.0 only, forever, until the end of time.

### Then Comes a Revolution in Online Presence

This advice is not so useful for websites that are only interested in communicating with Korean users, because, of course, Korean users are already used to these practices. They expect flash animations, not knowing what the next link is pointing to, and the inability to share specific web pages with other people. But for websites looking to appeal to a wider audience, by simply implementing these two simple ideas they can attract more of the international web surfing crowd, which hopefully gains them a larger measure of success.

Korean companies talk about globalization all the time. They always express their desires to do more business worldwide. If a company is interested in doing anything at all beyond the borders of South Korea, it must have a standards-compliant, clear, understandable website with which to represent itself to the outside world. This is not optional, it is a requirement.



BY RAJANI BABURAJAN

**M**ost innovations happen during harsh times. Currently, the global economy is going through a transition period owing to the recession. A majority of the corporate sectors are facing the worst sides of the recession that started with the mortgage crisis in the United States in early 2007. Companies have curtailed expenses. Mass layoffs have become the order of the day. To survive, they are forced to adopt such tough measures. Strategic partnerships and innovative technologies are reshaping the markets worldwide.

novative and intellectual approach.

MindTree is a global IT solutions company specializing in IT Services, Product Engineering, Infrastructure Management and Technical Support (IMTS), Independent Testing and Knowledge Services. The company was founded in 1999 by a team of IT professionals led by Ashok Soota, who was then heading Wipro Infotech, the technology wing of Wipro. The company is known widely for its focus on 'minds' as its name suggests. MindTree's focus on human capital complements its strong knowledge management function at the core level. MindTree has been consistently rated as one among the best by several industry surveys. The following explains what MindTree is:

MindTree was ranked No. 1 among the Most Admired Knowledge Enterprise (MAKE) India Award winners for the second consecutive year in 2008.

MindTree is the winner of the National Award for Excellence in Corporate Governance in India in 2007-08.

MindTree was ranked 45th among the global leaders in outsourcing by the International Association of Outsourcing Professionals (IAOP).

## COPING WITH GLOBAL RECESSION THE MINDTREE WAY

The Indian IT industry, which has been marked by steady growth over the past several years, is also affected by recession. The IT boom in India, which started with the globalization approach adopted by the Indian government in the mid 1990s, motivated several companies to enter the scene; but time proved that only the best can survive in a highly challenging market like India. Now, this recession is proving a testing time for them again. Since Indian IT companies are mostly serving international clients, the repercussions of a meltdown in markets like the U.S. and the U.K. are deeply felt in the Indian IT industry.

However, there are companies that are taking their growth forward without yielding to the financial pressure faced from all corners. The secret behind their success is continuous innovation and open mindedness for strategic partnerships and technological sharing. Identifying appropriate marketing strategies and implementing them on the right scale requires a lot of intelligence and a deep insight into the market scenario. Here, we bring to focus one such company – MindTree – that has set an example of success for other medium IT businesses in India through their in-

MindTree was selected among the Great Places to Work in India by the Great Places to Work Institute in collaboration with The Economic Times for the fifth consecutive year.

MindTree has undergone a major restructuring, effective April 2009, as part of its growth plan and objective to become a \$1 billion organization. This branching out process included entering new market segments, setting up new business units and allotting new roles for senior management. The five focus areas of MindTree now are: IT Services, Product Engineering Services, Infrastructure Management and Technical Support (IMTS), Independent Testing and the newly formed Knowledge Services.

Through this restructuring, MindTree expects rapid growth to happen in each segment. Each of these entities functions as independent companies, competing independently in the market. Each of them will have its own sales structure, so they are not confined by overall budget constraints. The more they grow, the better are further growth opportunities.

### Knowledge Services

The new MindTree Knowledge Services are a combination of data services, analytics and business intelligence. These services will help companies gain deeper insight into their business, risk and opportunity areas, and customer behavior for improved sales, marketing and operational effectiveness. Scott Staples, who has been appointed president and CEO for Knowledge Services at MindTree, said, "Knowledge Services can open doors for our clients to grow, become more profitable, become more innovative, and leapfrog their competition."

While MindTree is a relatively new player in the Analytics space, they have been a long-standing dominant player in Data Services and Business Intelligence. By including Analytics, they have now completed the picture and are ready for growth.

Staples views outsourced analytics as a growth driver for the next few years. "Once clients realize the power of looking at data services, analytics and business intelligence inclusively they will start to open their eyes as to what else can be coupled with this and outsourced. That next phase will include things like market research, digital marketing and other high-end KPO offerings," he said.

### Product Engineering

MindTree's Product Engineering Services (PES) deliver design engineering services to product companies in the spaces of semiconductor, platforms and products that involve electronics and/or software. The services range from licensing intellectual properties (IPs) to sub-system design to complete end-to-end system designs. These services will emerge as an extension of the R&D and Engineering organi-

zation of the customer.

Janakiraman S., president and group CEO of Product Engineering Services at MindTree, said, "We will possibly be the only product engineering services organization that covers end-to-end portfolio of products from chip to cloud. We started the business of MindTree in 1999 when there would have been more than 150 organizations in India ahead of us in this space. Today we are within the top five. This was possible due to the intensity of the technical know-how and the IPs that we built (and continue to build) over the last decade."

MindTree's accelerated growth is clearly reflected in its financials. Despite the challenging economic conditions, the company recorded 13.7 percent YoY revenue growth (US\$62.1 million) for the quarter ended June 30, 2009. Eighteen new customers were added during the quarter, bringing the current active customer base to 239. MindTree now has three \$10 million+, twelve \$5 million+, and 60 \$1 million+ customers.

The company also achieved a reduction in attrition – a

plague affecting the outsourcing industry. During the last 12-month period, the attrition has been reduced to 11.4 percent from 13.7 percent in Q4 and 16.3 percent in Q1 of 2008-09.

Janakiraman now wants to see MindTree becoming one of the top five product engineering services organizations in the world in the next five years, from the current top five position in India. Commenting on the future plans of Product Engineering Services, Janakiraman said, "We will invest more in creating our own technology and products that can be licensed to our customers. This will enable them to cut down costs and time to introduce new products in the market. We will take more projects under joint risk-reward models that will enable our customers to work on more products with us and create a non-linear opportunity for both."

The opportunities for the PES business lies where there is more convergence of technologies. There is a significant revolution taking place in the electronics market with the convergence of wireless, multimedia and the Internet. A similar revolution is taking place in the software arena with virtualization, cloud computing and software as a service.

"The intersection of electronics and software in those areas will create newer products and services in the market. And MindTree is well geared up to address that, thanks to our 'chip to cloud' coverage," Janakiraman said.

### Independent Testing

Here comes one of the most challenging sectors in IT services – application and software testing. According to Ananda Rao Ladi, vice president and co-head of Independent Testing at MindTree, the market is challenging just because of the responsibilities given. "The testing group is the last gate before the end user gets to use the application or product. Understanding the domain and the profile of the end users is very complex. Managing the conflict between maintaining independence and safeguarding the business interests becomes difficult. It is a challenge to ensure the desired quality in the compressed time lines."

Testing Services have become one of the major and fastest growing services lines of MindTree. The company acquired Aztecsoft last year, doubling the size of the testing unit. Aztecsoft is a leader in the outsourced product development (OPD) and testing markets, offering full-lifecycle product engineering, independent testing, sustenance engineering and professional services to application and infrastructure software vendors, as well as to new media and Internet-based companies. It has successfully completed over 1,600 product releases to date.

Ladi added, "MindTree's testing business unit is uniquely positioned to take advantage of the opportunities in product testing. We have the capability to test any product from Chip to Cloud. In the enterprise IT space, the growth areas are travel and transportation, and banking and financial services industries."

Ladi has set the goals for the company for the next five years: Be one of the top five independent testing services companies in the world (in terms of revenues), become one of the top three globally in both test maturity and offerings, build a robust and admired "MindTree Way" of testing, and nurture and build the "MindTree Testing Team" brand.

### Infrastructure Management and Technical Support (IMTS)

Under this branch, MindTree offers four core services to their clients: Consulting and Implementation services in the IT Infrastructure area, Managed Security Services, Managed IMS and Technical Support Services.

Ram C. Mohan, senior vice president and head of Infrastructure Management and Technical Support at MindTree,

says MindTree's IMTS is the fastest growing business. As more and more enterprises look for offshore-based production support, remote infrastructure management (RIM) will gain momentum. The mid-sized companies (Fortune 1,000 to 5,000) will explore the offshore support for their applications and the infrastructure. This opens up immense potential to MindTree to focus on mid-sized companies, specifically those clients who are planning to offshore their infrastructure management for the first time. Their focus will be end-to-end production support, encompassing IT help desk, application support and maintenance and Infrastructure Management.

There are immense challenges in the industry. The prevailing economic crisis has curtailed IT spending significantly, forcing CIOs to focus on reducing maintenance costs. To add to the woes, the IT infrastructure is becoming more complex day by day, making the management more complex and expensive. To achieve a balance between the two is the real challenge to organizations.

MindTree is helping organizations overcome such challenges by offering a common production support service that encompasses both application and infrastructure, decreasing the cost and increasing the efficiency. "Our enormous focus on execution and quality is helping our clients to be more effective and efficient as far as their IT utilization and performance are concerned. We specialize in bringing processes and tools to increase the resilience and efficiency of the IT infrastructure," Mohan added.

## IT Services

MindTree's key areas of focus in the IT segment are: manufacturing, travel and transportation, insurance, banking and financial services, media and government. The service areas are Internet technologies, data warehousing, enterprise resource planning (ERP), infrastructure management and testing.

MindTree's success lies in its consulting and business-led approach. "Rather than looking at a problem as a technology implementation, we approach it from a business requirement standpoint and bring the best solution to the table. Through a close interaction with the customer, we are able to understand the specifics of the required solution better and hence implement and sustain large and complex solutions," says **Anjan Lahiri, president and CEO of IT Services at MindTree**. Added to these is its people-centric strategy. "Through training, appreciation and immersion in business situations, our people are well equipped to deal with the demands of our customers and realize our vision of "Successful Customers — Happy People — Innovative Solutions," **Lahiri said**.

According to Lahiri, the IT services business today has transformed from just enabling the business to becoming the key driver of a forward-looking business strategy. However, this can only be done one customer at a time and one

person at a time. "We intend to dig deeper into untapped areas in our current customer relationships, we will create wider domain competency and create new markets and broaden our reach by creating relationships with more customers across the world."

MindTree is continuously investing in people, in training, in functional and technical frameworks. "As we go towards our stated goal of becoming a \$1 billion company in the next five years, we will also look for the right acquisition opportunities, but we will not be driven by a need for acquisition as much as by the availability of good candidates within our needs," Lahiri said.

The IT landscape is undergoing a transition. The manner in which software is built and consumed is changing. The conventional software delivery model is being replaced by alternate channels such as software-as-a-service (SaaS) and virtualization. The evolution of Internet technologies has also contributed to this change. These changes have resulted in defining new business principles and service delivery models.

## Growth Never Ends

As part of its ongoing growth strategies, MindTree is serious about further acquisitions. Some of the key areas where acquisition is expected in the future are package application, product engineering and remote infrastructure management. These are the services areas which have either a gap to be filled in or where there is further scope for growth. Though MindTree has a reasonably large package application business, there is still scope for further growth. This can be achieved by acquisition, officials think. Product engineering services is an area that has a gap to fill in. Apart from software and hardware, there is also a certain element of mechanical design that is required to bring the design ready for manufacture. MindTree is focusing on this line to fill this gap. Infrastructure management services, on the other hand, are becoming an attractive option to customers. To leverage this opportunity, MindTree will focus on enhancing this area of services too.

The latest in MindTree's series of acquisitions is Kyocera Wireless (India) Pvt. Ltd. The company recently signed an agreement to acquire the Indian subsidiary of Kyocera Wireless, which is engaged in wireless product development, software engineering and product testing. MindTree also announced plans to set up a subsidiary in China recently. The proposed facility is expected to become operational in a month or two. According to Janakiraman, the Chinese setup will provide a very good combination of leveraging the Chinese manufacturing ecosystem, its market and MindTree's software capability.

As the industry is gradually recovering from recession, MindTree is positioned to reach its goals — thanks to its people and their innovative minds.



Anjan Lahiri, president and CEO of IT Services

Janakiraman S., president and group CEO of Product Engineering Services

# GROOVE KOREA

GROOVEKOREA.COM





ARPAN BANERJEE

**G**lobal product companies or Independent Service Vendors (ISVs) are always under performance pressure as are any of us in our respective jobs. They strive for market expansion, new products with increased or improved product features and face the regular constraints of decreasing profitability, increased competition, a dearth of skills and rising costs with simultaneous pressure to upgrade and widen product offerings while using fewer resources.

complex systems through analysis of interaction networks. Research has resulted in network modeling methods to examine a network of interacting elements that are in complex systems being developed. The challenge of engineering complex systems with many components, sometimes called systems engineering, remains a key success factor.

**Customer Involvement:** Involving customers when improving product features and the user experience is no secret, but it poses perhaps the biggest myriad of challenges to a product developer. Some companies are using the order information about what features, components or configurations customers are ordering and are interested in, and they use that in real time, or as quickly as possible, to reconfigure the next generations of the product. Paying attention to these trends can help managers and design engineers plan their product design processes and achieve their goals with higher efficiency, lower cost and less time to market.

**Outsourcing and Offshoring:** Finally, the biggest challenge that remains is optimizing in-house skills, supplier skills and capacity, international operations and new mar-

kets. Sometimes outsourcing saves considerable cost and sometimes a little cost, but more importantly, they're actually taking advantage of global product development networks, largely to access new markets in places and leverage global talent pools. Let us look at the outsourcing opportunities closely.

Modern communication tools and the Internet have reduced the need for product development partners to be geographically close. Indeed, product development is increasingly being divided into parts, created in multiple centers around the globe, and brought back together for integration and testing. The ability to succeed at global project management is the key challenge in this model.

As the challenges grow in the face of global inflation, strengthening currencies, slowing economies and dried up venture funds, so will be the opportunities to springboard ahead of competition by globalizing. Two immediate channels to bring in the advantages of globalization are building captive centers across the globe and outsourcing. Both have its pros and cons, but given the scale of expansion and flexibility, outsourcing is well acknowledged as the greatest opportunity in the globe for the entire product engineering

## PRODUCT DEVELOPMENT CHALLENGES AND GLOBAL RESOURCING AS AN EMERGING OPPORTUNITY

Product-development planning remains crucial to organizations' survival. Some key challenges (and thus, success factors) are as follows:

**Development Speed:** Faster and faster is the mantra of product development. One way to hasten development speed is through digital design, analysis and collaboration tools to get products to market faster. Using collaboration software, file-sharing software and more, engineers can transform ideas into digitized virtual designs for testing and viewing a new product in three dimensions, in months rather than years.

**Platform Flexibility:** Every product guru will acknowledge that a key success factor of a product in the market is its platform flexibility. This results from using modular product architecture to provide more product variety to customers. Computer aided design and engineering tools permit easy reuse of already-completed design files. All these files make product design much more efficient, cost effective and accelerated than ever before.

**Complexity Management:** A product stands apart from an application in its complexity. It involves engineering

ecosystem.

The opportunities using outsourcing, leveraging local presence of partners, 24x7 development and support centers, multi-dimensional skills and matured processes and best practices are fairly known as follows:

At this stage the founder(s) start pondering their next step. Must they exit? If so, how? Should they take the company public or should they sell the company to a larger player? Should they step back from the company and let professional management take over completely? The answers to these questions decide the path that sometimes leads them to the beginning of their journey once again, i.e.; to start another product company.

- ▶ Skill leverage
- ▶ Speeding up time to market
- ▶ Global market expansion
- ▶ Superior Customer support
- ▶ Enhancing product development processes
- ▶ Localization benefits

The emerging best practice for software development is to decouple product design and development (along with testing and support) elements in the value chain. The life cycle of product development is increasingly being divided into phases that require internal expertise (and value-adding), which is essentially in the product definition and design phases, whereas steps that are highly commoditized include development, testing and support.

The division of responsibilities between IT personnel and outsourcing staff is a critical factor in the success of the project specifically and the outsourcing relationship generally. Moreover, outsourcing vendors have made tremendous advancements in the metrics for quality and investment that drive greater efficiency into the overall process.

Offshore is usually regarded as a tool for labor arbitrage. However, it has its hidden benefits like higher quality and development discipline of the "right partners" which lead to greater efficiency and productivity levels that are sometimes superior to the in-house engineering organizations of ISVs. Moreover, during the coming years, outsourcing vendors will expand further into the value chain of product development. Additional expertise are emerging to dominate emerging technologies (e.g., Web 2.0) and develop deep vertical expertise.

Let me use a brief Innominds case study here to bring out a product engineering story using the global resourcing model.

### An Innominds Case Study

A Bay Area company develops and sells a compatibility server, which is an affordable, high-performance relational database that is compatible with popular databases. The Compatibility Server enables applications to run against consolidated databases with minimal to zero rewriting. This compatibility server helps customers who are looking for reduced operational expenses on licensing, maintenance and hardware, reduced complexity by consolidating multiple database and single/simple data access and ease of migration.

With its flagship product of a database server, the company was getting into a high-level competition zone. The business situation demanded aggressive scale-up and a high-performance, next-generation product. In this scenario, the need of the hour was a product engineering partner to design, build and test the features of its compatibility server, leveraging the economies of scale and global talent pools. The requirement was to build an extended offsite engineering and QA team with the expertise for building database kernel and drivers, which will co-develop, test and release



the product for multiple platform certifications.

In Innominds, the company found a competent partner that was also an expert in building complex database servers and applications. Further more, utilizing its brand pull, Innominds attracted the best available talent from the industry and technology schools, which was one of the primary success factors of the outsourcing engagement.

Innominds started building high performance development and QA teams for database compatibility, database server internals development and quality engineering for the customer in early 2007. Agile ramp up of the team and executing the knowledge transfer flawlessly using innovative training methodologies in a blended offsite-onsite model was the key factor to begin the engagement with quick wins. Innominds brought in leadership in database internals and cross experience in multiple RDBMS and connectors that created the new features in the compatibility server.

Innominds created long term value for the customer in mitigating maintenance and QA risks and reducing costs by remote management of the server regression beds by more than 45 percent. The team that Innominds created utilizing a global pool (there are talents from outside the country as well, namely from Vietnam) is a pillar of the customer's engineering success and market growth today.

To conclude, today's next generation software products are evolving with a distinct global flavor. The products are developed with the globalization model already deployed by large companies like Microsoft and IBM, but are extending down to regional and specialty players — enabled by offshore outsourcing. Offshore vendors are increasingly being involved in architecture, development and deployment, ranging from embedded products to software and hardware design. Products that are not born out of the Global Sourcing model will lose their competitiveness in the coming years.

BY ANURADHA SHUKLA

**I**n September this year, Brady Corporation, a U.S.-based manufacturer and marketer of identification products and specialty materials, opened its research and development center in Singapore. The Brady Innovation Center was established for two reasons: to help the company efficiently serve its regional operations and customers and to leverage Singapore's talented workforce for its rapid progress in the region.

Brady is among the growing list of employers who are setting up a base in Asian countries. Globalization has led to more hiring from different countries and employees are more open to working in foreign locations. But packing bags and shifting countries is not an easy task. No two humans are alike and, similarly, nations differ from each other with respect to their cultures, languages, beliefs and attitudes. When an employee decides to move from one country to work in another, they have to face 'culture shock' at the workplace. The ways of doing things are different in a new country and a person has to learn a new language and new customs and they have to work with people who have absolutely different cultural beliefs than his or her own.

Emerging economies understand the changing business environment and countries like Malaysia have changed to accommodate the increasingly diverse work force. "Malaysia has got what it takes to win in an increasingly global multicultural environment," says Chan-

# WORKFORCE DIVERSITY IN ASIAN ORGANIZATIONS

dran Nair from ethicalcorp.com. The diversity of the workforce in this country is very commendable and one can see a number of people fluent in English, Mandarin and Tamil. Most people here get along very well with those who practice the major religions of the world and employers find this to be a very significant asset. Because many foreign organizations have already made a home in this nation, the executives have honed their management skills to lead diverse international employees. Malaysia has a sizable Indian population and they can use this asset to build business ties with India and tap the opportunities presented by its emerging economy.

Singapore is another nation that has kept pace with the changing times. A report by Singapore Management Review shows the increasing diversity of workers in the multinational corporations based in Singapore. This has brought many changes in how organizations in this nation manage their human resources. More global companies now recruit local and foreign staff to expand in this nation and have employees from different socio-cultural backgrounds. The challenges of relocation have not dampened the spirit of people who travel to different countries to work. Well-established global companies are constantly searching for opportunities to expand their footprint in the global market. While doing so, they search for the right kind of talent who can help grow their business. A 2008 report from Business Week noted William J. Amelio, the CEO of Lenovo, the world's third-largest computer maker. The CEO follows a global workforce strategy and calls it "world sourcing." The global

computer maker operates throughout the world and taps experts from Asian countries such as Japan for hardware design and India for its marketing talent. Employees at Levevo must do their bit to adjust to the corporate culture of Japan and India, as they are very different from Western organizations.

### **Corporate Culture of Asian Countries**

In Japan, organizations typically offer lifelong employment and offer a lot of security to their workers. Western organizations focusing on corporate profitability may find it difficult to operate in Japan if they are quick to lay off people who don't give quick results. People joining Japanese companies will also have to wait for a long period to get promoted, as a lot of importance is given to age and seniority in this country. An American who is used to fast performance-based promotions may not find it easy to adjust to this corporate culture. In Japan, you may have to work longer hours and nobody leaves until their boss leaves for the day.

U.S. executives relocating to Japan to manage an American operation cannot work in their usual manner and have to change their management style according to the local customs. In Japan, employees have to put the company's needs ahead of their personal needs and are not appreciated if they take all their annual vacation days.

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**Korea: An individual relocating to Korea can better adjust in the company if he has been trained in the Korean language and has useful insight into Korean corporate culture. In Korea, people are very punctual and expect you not to be late for appointments. The authority is very centralized and managers holding senior positions have more power over their subordinates than in the West. Personal relations are given a lot of importance even in business and successful enterprises are built on mutual trust and respect for business partners.**

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**China:** Western work relationships are mostly formal and the business partners remain professional and aloof, even after a long time of doing business together. Things are different in China and here a business/work relationship gradually becomes a social relationship. If you are in sales, you can expect to have a better relationship with your business partners if you begin to share details about your family, personal life and even your hobbies. A businessman in China has a higher chance of giving business to your organization if you are able to establish a good relationship with him.

**India:** Corporate culture in India encourages teamwork and the employees are empowered to do their jobs. Hierarchy is present in organizations and promotions are mostly time-bound based on the seniority of the employees. The workers are allowed to freely interact with the senior members of the organization, but they are expected to be professional and deliver results.

It is apparent that organizations in each nation have a different work culture and employees moving from one country to another have to readjust their beliefs to work productively and contribute positively to their companies.

### **Multinationals operating in Asia and their take on diversity**

**IBM:** The Company boasts a multi-pronged diversity policy as per their website and aims to have a workplace that doesn't discriminate against employees on any basis, such as sex, religion or place of origin. IBM's policies are directed towards providing employees equal opportunities for training, development and promotion. China has acknowledged IBM for providing employment opportunities to people with disabilities and Japan gave IBM the 'Best Practice' prize in recognition of their programs encouraging the professional growth of women.

**HP:** Hewlett-Packard promotes diversity in the workforce and is especially focused on hiring and retaining female employees in the organization. Vice-president of Human Resources (Asia-Pacific and Japan) Michael Vavakis told StarBiz that their company aims to provide equal opportunities to people from different backgrounds and abilities. The company wants to expand in the emerging markets and has around 4,000 managers in the Asia-Pacific region.

HP believes in creating awareness about diversity, and organizes diversity campaigns to this effect. These campaigns are organized to create a greater acceptance and appreciation of a mixed workforce, said Vavakis.

**HSBC:** Established in 1865 to finance the growing trade between China and Europe, the Hongkong and Shanghai Banking Corporation strongly believes in workforce diversity. This global organization values the differences between people and leverages this to differentiate itself from the competition. HSBC practices and strongly recommends diversity because their managers think a diverse workforce is better equipped to market their products and services to a diverse target population.

It is not easy to move people across continents, and companies that want to relocate their employees have to manage issues such as arranging employees' visas and work permits. This task can be very daunting and often discourages CEOs from expanding to certain regions. A U.S.-based worker relocating to China may have to attend language classes and need training in adjusting to the new culture. Organizations with a diverse workforce have to effectively manage their employees in order to get their best performance. Workforce diversity is no longer a choice and companies not open to this concept may be left behind by competitors who can leverage a diverse workforce. Today, managers and CEOs must develop and implement strategies to encourage diversity in their companies, as it is ever more critical for business success.

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# COME TO EXPERIENCE Incredible India

BY NADEEM AKHTAR

Indian tourism is now recovering from the global recession. In particular, the last two months' developments encouraged the Ministry of Tourism. After the recession, these two months showed an increased number of tourists. Now, the Ministry is trying to promote it through its new efforts. The slowdown of the past few years was a major setback to the ever-increasing Indian tourism. In 2008, from January-March, around 1.7 million tourists visited India, while during the same period in 2009, only 1.46 million tourists decided to visit India. The 13.8 percent drop occurred despite the upward trend in tourism. Besides the recession, November 26 and other terrorist attacks were another blow to an industry that demands 'peace' at all times to flourish. However, the situation has started to look up a bit.

The Ministry's statistics have shown an increase in the number of tourists in the last two months. Last June presented an increase of 2 percent and July showed a 6 percent increase. Although the difference is small, the Ministry sees it as a very positive sign. Foreign exchange earnings reached to Rs.4983 crore in July 2009.

Keeping in mind the immense tourism potential in almost every Indian state, various schemes are being offered to tourists. To boost tourism in the state, the Madhya Pradesh government has introduced a flight facility plan to its different tourist spots. Madhya Pradesh State Tourism Development Corporation is making all its efforts for this plan aimed to promote tourism in the state. If everything goes well, tourists will start enjoying their trip to far and remote state tourism sites sitting in charter flights or helicopters within five to seven months. The corporation has invited private companies and promised to facilitate infrastructure for the service. The service provider company will have to invest around Rs.50 crore. Three helicopters to different tourist places are planned in the first stage. If properly used, helicopter services will open several new destinations that are not conveniently approachable and can certainly help in the growth of tourism.

The government wishes to utilize these airstrips for private charters and non-scheduled airline operations with the object of bringing in tourists and providing them with proper reception facilities, besides keeping the airstrip and appetent land and

buildings in good order.

Significantly, the corporation is spending a huge amount to attract and provide new facilities to its tourists. It has been spent around Rs.8 crore just in advertising in a year. It also started providing taxi facilities along with bus services. Tourist buses are regularly available in Ujjain and Mandu, radio taxis and rail-bus facilities are being provided in Bhopal.

Ashwani Lohani, Managing Director of Madhya Pradesh Tourism, said, "the state government has identified tourism as a thrust area for development and the proactive tourism policy of the state makes it a favored destination. The state has taken several initiatives to promote tourism in general and eco and adventure tourism in particular."

Now, the corporation will present the grandeur and rich heritage of the state through its cultural programs to the tourists. The Baija Taal cultural complex has been modified and reincarnated as a cultural complex containing an art gallery and open-air theater. The Gwalior Heritage Festival will take place at Baija Taal, Moti Mahal Palace, and promises the splendor and brilliance of the Gwalior Gharana, known for its culture and music. This step by Gwalior Heritage Foundation will help in further boosting the tourism industry of Madhya Pradesh. Every year a large number of domestic and international tourists visit the city to explore its forts, Jaivilas Palace, tomb of Rani of Jhansi and other monuments and temples. It is a significant step to bring back the historical era, rich musical heritage and cultural



legacy of the city.

The economic meltdown might have slowed down tourism businesses in Himachal Pradesh, but now it is recovering with a pace. Himachal Pradesh Tourism Development Corporation has earned a profit of about Rs.7 crore by June 2009 and its gross profit touched the point of Rs.7.5 crore. The development of a multipurpose tourism complex to provide people quality Himachali hospitality besides looking after them in a professional manner presented a significant impact on tourist number in the state. The state plans to become a flourishing health and medical tourism center.

There are plans to take advantage of its sylvan settings and its 'Panchkarma' Ayurvedic cure system and established healthcare hubs. The Ayurvedic health rejuvenating therapy in the state-run chain of Himachal Pradesh Tourism Development Corporation (HPTDC) hotels attracted tourists not only in the high seasons, but throughout the year. In May 2009, there were 40 trained Ayurvedic medical officers in the state who had special training in the 'Panchkarma' system of health. The state would give priority to boost health tourism and develop health resorts to cure various incurable ailments. The government will also open nine other 'Panchkarma' centers in different remote parts of the state. 'Panchkarma' was finding popularity with tourists visiting hilly states

months are the peak season, while about 30 percent of visitors come to the state during the summer. Jagraj Singh, MD, of the Rajasthan Tourism Development Corporation (RTDC) has announced cuts in its hotel tariffs as well as other concessions to prop up sagging occupancy rates. "We are going in for aggressive marketing to see that our properties report full occupancy," he added.

The joint effort of the RTDC and the Indian Railway has made operational the luxury train "Palace on Wheels" in August instead of September, as originally projected. On August 10, 2009, the train arrived in Jodhpur with 32 tourists who got a 20 percent discount on their tickets. Another luxury train, "Rajasthan on Wheels," also launched in September.

Jodhpur RIFF will present its first ever RIFF 'Rustle' this year. Sivamani, award-winning drummer and percussionist, will lead RIFF's first Rustle - a spontaneous and power-charged, rhythm-based, dance floor extravaganza. He will also present three other Rajasthani percussionists on the khartal, morchang and nagada to bring a traditional mood and a mix of rustic rhythms and contemporary beats. RIFF will also present an exclusive evening with the Langa community of Barmer. Numerous artists from the community will take the stage to give audiences a rare glimpse of the stunning musical and vocal talent that this community has cultivated and passed

hotel rooms or air/railway tickets, are the lowest. These agencies are hoping that upcoming festivals and an improving economy will increase the slashed tour prices.

Travelocity.co.in claims that it has started to offer a 50-percent discount on the base fare of any airlines. Its global scale and partnerships enable it to offer customers the best available rates or more than 60,000 listed-hotels including 1,000 in India, a choice of 450 airlines and the ability to allow customers to build their own package for over 1,000 destinations. The company offers a Rs.1,000 cash-back discount on booking with these listed hotels. Travelocity Global has also acquired India's leading online hotel distribution network, Travelguru, to grow its business around the world. It's managing director, Himanshu Singh, said the company is involved in improving the website's search engine and is developing a multi-stop facility for every tourist stop. For instance, if a customer flies to New York, he has the option of a two-day stay in London.

Co-founder and COO of makemytrip.com, Keyur Joshi, said that the company has launched "Holiday Plus," which guarantees satisfaction to travelers. This is achieved by charging only half the amount up front and the balance after the traveler's return.

"Because of the higher volumes we handle online, cost per transaction is substantially low for us and, therefore, it is possible for online travel agencies like ourselves to pass on the price-competitive benefits to consumers. We book around 10,000 tickets per day. Compare this with 400-500 ticket bookings per day handled by offline agencies. The company has seen a yearly growth of 60-70 percent in revenues, while online visitors have grown 25-30 percent," he explained.

"Hotel and airline companies are ready to give a sweet deal if it is a bundled offer and in larger volumes. So, while a Delhi to Calcutta flight and a hotel booked separately would cost Rs 12,000 per person, a bundled offer would cost Rs 10,000 or so, if booked online," Joshi revealed. Makemytrip.com is also working on introducing weekend getaway packages for online booking. These would also take care of local

taxis and guides at the tour destinations. "This is a big initiative since it would include overseas destinations as well," Joshi said.

"At MakeMyTrip we endeavor to offer comprehensive travel product offerings in order to meet the needs of all kinds of travelers," he said.

Ashish Kishore, Head of Hotels and Retail Business at Yatra.com, explained the company's new plan. "Complying with our current promotional campaign 'Yatra.com Make your own holiday,' we are also providing enthusiasts the choice of adding more fun and adventurous activities in the travel itinerary." The company is planning to promote single destination tourism through its portal. This will be done in association with the tourism boards of various countries. With a target to open about 100 retail outlets at a cost of Rs 18-20 crore, Yatra.com is expanding its reach across India. It opened its holiday lounge in Gurgaon and another one has been launched in Chandigarh and about 20 more lounges will come up in Bangalore, Chennai, Ahmedabad, Hyderabad, Ludhiana and Jalandhar very soon.

Regarding the development, Noel Swain, Vice President of Marketing at Cleartrip.com, said, "We are looking at taking a huge leap in the overall Marketing Strategy in the coming year and making Cleartrip the preferred choice of customers.

The public's ability to understand our vision and effectively translate this into a creative strategy will make our association with them successful." Cleartrip said its hotel business grew 22 percent every month from April to September in 2008 and 10 percent in October and November. The company also launched another breakthrough product - the Flexible Dates Flight Search, which is a comprehensive search solution for end consumers. Flexible Dates give customers the opportunity to search for flights on more than just a single fixed date and with the best available prices.

Compared with last year, airfares are 30 percent less, but upcoming festivals and the winter high season will likely bring a hike to some of these fares. So it is the best time to plan your holidays to get maximum offers.

for health reasons, since it had the highest rate of curing various ailments with no side effects. The corporation hotels are providing online booking facilities through credit cards, while a debit card facility is in the pipeline.

Rajasthan Tourism Development Corporation has offered a king-size welcome to its tourists through various luxury trains. The traditional music of Rajasthan were presented by the minstrels of Langa and Mangania communities. European gypsy music, flamenco and urban folk music were also the highlights of the Rajasthan International Music Festival (RIFF) at the sprawling Mehrangarh Fort in Jodhpur in the first week of October 2009. The festival is organized to revive dying folk musical genres of the state and will promote the traditional music of the European gypsies, who are said to have migrated from Rajasthan at least 1,000 years ago. The Marwar Festival will also play a vital role to pull tourists towards the state. Besides terror attacks, economic meltdown and political instability, the trend of the record arrivals reaffirms the growing popularity of Rajasthan as the most preferred Indian tourist destination worldwide. The annual rate of growth of tourism in the state has increased by 7 percent for domestic tourists and 5 percent for international visitors. The winter

on for generations. The festival will significantly focus on Sufi renditions, songs composed for their traditional patrons, the Sindhi Sipahi, sounds of the various traditional instruments like algoza, surinda and sarangi.

At present, there are three five-star, five heritage, six three- and four-star, and more than 40 economy class hotels available in Jodhpur. Besides these, about 15 entrepreneurs have applied for new hotel projects under a new hotel policy announced by the state government. Some are under-construction, while others are waiting for financial help through banks and government approval.

With a boom in tourism businesses, various travel web-portals are entering with different new discount packages trying to attract tourists. They stepped up their efforts through the digital medium to make it more consumer-friendly. Some agents are targeting customers with huge budget and providing them loans before booking online.

Until now, these facilities were provided to tourists through travel agencies or travel agent operators. But online travel agents (OTA) such as cleartrip.com, makemytrip.com, yatra.com and travelocity.co.in are offering various tour packages and heavy discounts to their customers. They claim that the tariffs, either



**With a boom in tourism businesses, various travel web-portals are entering with different new discount packages trying to attract tourists. They stepped up their efforts through the digital medium to make it more consumer-friendly. Some agents are targeting customers with huge budget and providing them loans before booking online.**

# LEE HYE-JOO

CEO of Sejong Technology Transfer & Commercialization Center



**Question: What makes Sejong unique as a company?**

**Answer:** Sejong has focused all of its attention on establishing a network for effective technology transfer and commercialization. We have the expertise and the range of partners to quickly and accurately assess all the needs for a new technology and get the necessary patent and technical certification done fast. In today's competitive world, that speed is important.

Our technical and business expertise is complemented by a very open architecture within our firm. We have a lean and mean team with a strong sense of teamwork. We are all in this together and our staff exhibits the most remarkable coherence and commitment under pressure. That élan is what put Sejong on the map the last few years and what I take the most pride in.

Others may think us small, but we think that having a simple hierarchy and focused team is extremely effective for quick responses to the concerns of tech experts and venture companies. If you have a problem, we will put together a working team in an hour and get right on it. That responsiveness and flexibility means a lot to some companies and they are loyal to us.

**Q: Why are you located in the Daedeok Valley?**

**A:** Daedeok Valley is taking off as a world-class technology cluster. Every day, we see more companies and researchers coming into Daejeon to set up shop. The foreigners are increasing in number as well.

The big draw is the sophistication of the firms here; their technology, from robot and laser technology to nuclear power and telecommunications, is second to none. Above all, Daedeok is a center for innovation. We have researchers constantly peeling away from national research institutes to start venture companies here. That ability to put together a small, disciplined, response to an opportunity is a major advantage. Japan and Korea may have larger economies, but they cannot respond so quickly to change.

We feel that Daedeok Valley has all the assets in place to be a major center in the years to come. Some people compare it to Silicon Valley, but the truth of the matter is that although our scale is a bit smaller, we are more diverse in our technologies. These days, we have more vitality and creativity than Silicon Valley, or at least that is what your friends over there tell us.

**Q: What are Sejong's future plans?**

**A:** We have made a strong niche for ourselves as advisors and planners for technology transfer and commercialization for Korean firms. We can walk the technology experts through all the steps of technology transfer from patents and finance to marketing and manufacture.

These days, however, we are stepping out into the international market. We are starting to make matches between investors and venture capitalists around the world and Korean firms with technologies that deserve attention. We believe that if Korea can just get the financing it needs, we can go toe-to-toe with any competitor. Our technology is that good and we are that innovative.

So we are expanding our ties in India and the United States. We have ties with China and we are making a concerted effort in the Middle East. In fact, we will bring through a group of investors from the Middle East in the near future to look at our technologies.

That is why we have Dr. Lakhvinder Singh, founder of the Indo-Korean Business and Policy Forum, and Dr. Mezyad Alterkawi, CEO of the Riyadh Technology Incubation Center (RTIC) at King Saud University, Saudi Arabia, as regional advisors. We are serious about understanding what the Middle East and India need and responding to it. We also have Dr. Alp Malazgirt, a Silicon Valley entrepreneur, and Emanuel Pastreich, an expert in international relations, on our team as well. We want to move up to the next level as a professional and international technology company. Our clients in Korea and around the world need that sort of support to sur-

vive in this global environment.

We intend to find close partners around the world and eventually open overseas offices. First, we need to serve as a bridge between our outstanding technology experts and the institutions internationally they will turn to for finance and marketing help.

We will focus on commercialization and international marketing strategies in our work going forward. We think we can make some real progress. And at the same time, we want to keep hammering away at the R&D element. Korea is doing some excellent work today and proving those wrong who said that Korea does not have enough basic science to be a global competitor. Now, with our global posture, we can go even further.

**Q: What are the strengths of the Sejong team?**

**A:** All of our senior team members have long experience in technology and business, so we are not easily thrown off track by sudden shifts. We can assess the value of a technology and stick with it. Moreover, each member of our team is a shareholder who has a real stake in our effort. That sharing of responsibility and reward has served to build a strong sense of corporate commitment.

At the same, Sejong recognizes that it cannot do everything in house. We are constantly turning to a wide range of experts in specific technologies who can give us the best opinion. We may not have everyone in our offices, but we have managed to maintain strong ties over time with people who matter in Korea. The same is true for our international advisors as well.

There are some aspects of Sejong that are hard for the outsider to grasp. We are a small company with a very flat hierarchy that can respond to opportunities and challenges faster than anyone else. At the same time, we maintain the proper ties with the government and have official agreements for commercialization with technology leaders like KAIST and KIGAM, a research institute for geosciences and materials. That means we are both compact and agile and at the same time tied into the old-boy networks and standard industry-academic-government programs.

**Q: Why is Korea, and Daedeok Valley in particular, making headlines today?**

**A:** Just last year, people were down on Korea's prospects, but we have leapt back into prominence in a very short time. Korea is not a place to make things cheaply. It is a center for innovation in technology and a country that is unmatched in the number of start-ups created every day. We see Korea as the innovation center for the next century. When we start to get a few more internationals on board, Daedeok Valley will really take off globally. This little town is going to be the hub of Asia for technology. Mark my words.

Koreans are highly educated and highly motivated. Moreover, they are extremely flexible in their response to new challenges. In a nutshell, they have what it takes to respond to today's challenges better. We see that Koreans are striving to adopt global standards and reach out to partners around the world. That trend will continue.

## Outsourced Product Development Unleashed...



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