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ASIA-PACIFIC

Business & Technology

REPORT

INTERVIEW:

ROH CHUL-RAE

High Technology and Educated Labor Force Will Take Korea to the Top in the Next Decade

ISSN 2092-7738

ASIA-PACIFIC
Business & Technology
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March 2010 / Vol. 2, No. 3 | **www.biztechreport.com**

Publisher: Lee Deuk Ho
Editor-in-Chief: Lee Deuk Ho
Published by: Asia-Pacific Business & Technology Report Co.
Registration date: 2009.09.03
Registration number: 서울중. 라00307
Price: ₩8,500/ US$8
Annual subscription fee: ₩96,000/ US$90

To contact Asia Pacific Business and Technology Report for advertising, submissions, subscriptions or general comments please email to **contact@biztechreport.com**

Issue date: March 2010

INTERVIEW

BY STAFF REPORTER

Recently, Asia-Pacific Business and Technology Report caught up with Roh Chul-rae, the floor leader of the Pro-Park Geun-hye Alliance, a political party founded in 2007, comprised of Hannaradang party members who support representative Park Geun-hae. Here are excerpts from the interview.

High Technology and Educated Labor Force Will Take Korea to the Top in the Next Decade

Question: Despite the serious global economic downturn, the Korean economy has emerged mostly unscathed from this crisis. Can you let us know what the main reason for this is? What is the economic and business outlook in the next five to 10 years?

Answer: Though the international economy and trade volume were damaged by the world's economic downturn, as well as the international balance of trade, it doesn't mean that a country's technology will disappear. Technology-intensive industry in Korea has been the major reason why the Korean economy wasn't impacted harshly by the world recession. Also, South Korea has previously gone through the IMF crisis. As there is a saying that "beating steel makes the steel harder," our economy has already been vaccinated from the economic depression.

So this is why I think that the South Korean economy wasn't hit hard by the world's economic depression. Also, we had a fundamentally self-recovering power. As we have a high rate of literacy due to the high zeal for education in Korea, we should work hard to propagate our high technology and the technology-intensive industries. All these, I believe, were the groundings we had in place to overcome the international economic depression.

As we have previously gone through the process (the IMF crisis), our economy has been through a hard time. We have overcome the hardship with wisdom, such as having the gold-gathering campaign (a grass-roots level campaign in which thousands of Koreans volunteered during 1997-1998 to cooperate to overcome the Asian Financial Crisis), and eventually established grounds for self-recovery. So, when the South Korean economy was hit by the west, we were able to overcome it very well. If we had not gone through the previous financial crisis, South Korea might also have had to suffer from what the United States is suffering.

I view the future of South Korean economy to be very optimistic. We are very well developed in the IT and electronics fields. We are now living in a world where it demands new culture, new technology, and I believe South Korea is ready to meet those demands. For example, our technologies in semi-conductors, automobiles, cargo-ships, etc, have been well recognized in the world market. Any country, even small- and medium-sized nations, and Africa, would need high technology and high-quality labor. Just by looking into one cell-phone, the cell-phones made with our technology have become recognized as the number one brand in the world. Human beings feel most satisfied when they buy and possess the best of a product's kind.

Q: Korea is emerging as a high-tech economy. What is the future of Korea's technology sector? Which technologies should Korea focus on to keep itself ahead of its other Asian competitors?

A: If South Korea maintains its rate of growth in the technology-based industries in which it has been surpassing other countries, South Korea will be in the spotlight on the global stage during the next five to 10 years. The high assessment of South Korea's economic value will continue.

I believe that since our country has world-class technology in the IT, cargo ship and steel fields we will continue to have great economic strength over the next five to 10 years.

Q: What will be the main issues at the G-20 Summit to be held in Korea in November? What effects will it have on Korea's stature in world economic governance?

A: There will be three or four things that we will be discussing. As the economies in Asia start to rise, the countries of the West started to perceive us as competitors. So-called neighboring countries should minimize their trade protection measures in the market. Also, the issues include financial problems and dollar holding issues that need to be dealt with at this G-20 Summit.

There is a serious problem regarding carbon gas emissions. Regarding climate change, due to the Green Business policy, the goal is to shut down so called 'chimney industries' and transform them into high tech IT industries. South Korea should be a leading nation for this initiative at the G-20 summit. South Korea's role at the G-20 Summit should be to show other nations there must be a transformation of industries to prevent the further destruction of the environment.

The countries comprising the G-20, which live together with other countries of the world, should not only be maintaining the rights and status they have been sustaining, but they should also be able to share it with the underdeveloped countries.

Lastly, I want to mention that the standard axis of the economy has moved from the U.S.-European side to the East Asian side. Consisting of Korea, Japan, China, Vietnam and India, the world's economic axis will be moving from the European countries to the Asian countries.

With a population of only about 50 million, Korea isn't a large country, however, since we have high technology, our country will be part of the central axis of the world's economy. In this regard, Korea can stand in comparison to any other country in the world.

Q: Recently, the environment is emerging as an important factor in world affairs. What kinds of role can Korea play in solving environmental crises?

A: Regarding environmental issues, our government is pursuing a Green Development policy. So we are trying to promote cars run by hydrogen fuel, producing as little carbon dioxide as possible. In terms of energy generation, we are pursuing nuclear power generation, solar power generation and tidal power generation, which can enormously reduce carbon dioxide gas emissions and make every industry into a low-carbon, green growth industry. This would make Korea a leading country in transforming the traditional chimney industries into high-tech IT industries and be an example to the rest of the world, and therefore play a leading role in solving the global warming issues. Eventually, Korea will be producing world-scale industries that will not release any carbon dioxide.

> **"So we need to make some changes to the export-based economy."**

Q: What do you think the main problem is in developing and implementing green technology in Korea and what can we do to solve it? What is your vision for Green Korea?

A: I don't think there are many domestic issues that are preventing the economic development of Korea. Citizens in Korea have been following the policies very well. But I do think there are problems internationally. A convention on global climate change was recently held in Denmark. Almost all nations were concerned about their own nation's situation and were passing on the blame and responsibility to other nations rather than trying to find and eliminate the causes of the contamination within their own country. It would be hard to immediately close down the factories that were causing the pollution, and since the countries are trying to buy time, they are passing the responsibility to other nations. South Korea has already begun to show some changes in the amount of its carbon gas emissions. Korea has to continue to grow its IT industry to actively cooperate with other international countries.

Q: What are the important problems the Korean economy is facing today and what are your solutions to those problems?

A: South Korea is an export-based economy. When the international market isn't good, our exports decrease, but when the international market is vitalized, our exports also increase. So we need to make some changes to the export-based economy. The international market is in a period of recovery, so it wouldn't be a great hardship for us to change our export-based economy, however, in order for South Korea to be of help to the international economic recovery, we need to develop our domestic market as well. We need a new economic policy that can create a harmonious balance between our export-based economy and our domestic economy.

Q: Today, job creation for young people and the aging population are two serious problems facing Korea. What is your view on these two important issues?

A: There is a statistic that shows that about 3.8 million people in Korea are unemployed. They aren't all youths, however. South Korea's corporations have built an inner basement while overcoming the global

financial crisis. Taking this as an opportunity, corporations should pursue more open policies to create workplaces to employ more people and make every effort to reduce the unemployment rate for youth and women to the minimum. I think we need to have a more flexible employment policy. Ultimately, for corporations to have a stable settlement, they have to provide high quality work places, which could provide good working conditions. Now, the generations are changing and young people should present new and creative ideas so that the corporations can walk in step with the evolving world. If the corporations do not hire new people, they will soon have a gap. When the economy has recovered and is stable, corporations should provide many jobs. I hope they would provide vital jobs for young people.

Another issue we easily forget is this. Until 10 or 20 years ago, the average lifespan was 60-65 years old. However, according to last year's statistics, the average lifespan rose to around 79-80 years old. Therefore, the official age for retirement should be extended from what was 55-57 to 65 years of age. In this way, not only we can solve the unemployment issues of youth and women, but also the issue of an aging population. In this structure of a society in which people are aging, we need devices that can create jobs and protect a healthy, aging people.

So, I believe that we should actively adopt the Wage Peak System, which is a salary system that cuts the wages of the employee when they reach a certain age in return for job security.

Q: What can be done to develop Economic Human Resources in Korea?

A: We were able to overcome the global financial crisis because of our highly-educated work forces. Korean mothers are well known to be the top ranking people in terms of their enthusiasm for educating their children. Especially during economic hardship, the fervor for education grows. This is how good companies were able to nurture and develop talented manpower, and now they have formed the axis of Economic Human Resources in Korea. This is all due to Korea's enthusiasm for education. Noted scholar Jeffrey Pfeiffer said that "human labor is the competitive force." Yes – people, high quality labor, high quality brains are the competitive forces.

Our technology skills in the IT industry – Samsung Electronics, Hynix Semiconductor – technology skills are making today's Korea into a nation strong in creative ideas. A high quality labor force is the competitive force. I hope many citizens can have a good position in better jobs. For example, create a patented technology and make a strong base for our country's industrial technology.

Q: Today, Korea's trade with Asia is growing very fast. Korea's dependence on its traditional markets is declining. What are the most urgent steps Korea should take in its integration with the Asia-Pacific countries?

Korea should intensively gather the know-how of the preoccupied technologies and the advantages of the competitiveness of various industrial sectors and play a leading role in maintaining our current status. If we are not careful, we might be caught up by the developing countries.

In my opinion, our country should help the developing countries and the underdeveloped countries. It is because South Korea has also had times like that. Also, in order to help them, we should sustain and develop our advanced technologies and accumulated know-how and not get caught up by other countries.

Also, when we scale this down to the East Asian region, Korea, Japan and China would be the first partners to form an integrated economic axis and carry on the partnership in the exchange of goods and technol-

ogy. Currently, Japan's right to take the leadership role has weakened while not being able to get out of the economic crisis. On the contrary, Korea has been growing very strong. So I hope that Korea will play the leading role in this partnership.

This would mean that the Japan-centered East Asian economy would be moved to a Korea-centered East Asian economy. It is too early to overestimate China yet. So the baton for the leading role is being directly handed over to Korea from Japan. In either case, whether Korea supersedes or Japan supersedes, China will be following, so Korea should not rest on its laurels, but continue to put more investments and efforts into being the center of the economic axis in the East Asian region. And I hope that we will continue to develop the various advantageous parts as well as the initiatives.

Q: Recently, President Lee visited India. What is the importance of Indo-Korean economic ties for Korea's economic growth? In your view, what are the important business sectors that Korea should focus on in its relationship with India?

A: A new economic term was coined a few years back, which is "the BRIC" constituting the new economic powerhouse countries: Brazil, Russia, India and China. India has a huge population, cheap labor and abundant resources. India is a rapidly developing country also because the IT industry has high quality technology. Korea should form a network with these newly emerging countries and create a partnership that will benefit us in what we can receive and what we can give. The Korea-India partnership has great potential because India can provide a vast marketplace to advertise Korea to its 1.3 billion people and teach them our technology. We should cooperate to come up with middle- and long-term cooperation plans. We established diplomatic relationship around 1973 in areas such as economics, science and education. After the Korean War of 1950-1953, Korea has become far more advanced than India in terms of our education system and the effects of it. We can form a good partnership by giving our education to India and also receive what we lack in return.

Both countries can exemplify what a good economic partnership is and we will maintain good relationship.

Q: Recently the EU and Korea concluded an FTA. What are the benefits for Korea from this free trade agreement?

A: The FTA between Korea and the EU means a lot to our technology-intensive high-quality industrial structure. Korea will give that to the European countries and receive cheap agricultural products and resources. We will have active trade in these areas and will be benefiting all involved countries. It's not a one-way benefit to a country; rather, it is mutually beneficial.

Q: What is your point of view on the U.S.-Korea FTA?

A: Both countries need each other, so I believe that it will be ratified. However, there have been a few conflicting issues, such as the automobile industry and tariffs. However, since our FTA with the EU was successful, an FTA between Korea and the U.S. will be encouraged and will be ratified soon.

Q: Politically the Obama administration is not so excited about Korea. Do you still think that the Korea-U.S. FTA will be concluded?

A: I believe that it will come to a conclusion by any means. We need each other. We are almost at the very end of coming to a conclusion. Though the Obama Administration took office, it will not bring about a big change to the fundamentals. Encouraged by the EU-Korea FTA, I think that Korea-U.S. FTA will too be ratified.

INDIA-KOREA SCIENCE AND TECHNOLOGY COOPERATION:

MEETING OF THE MINDS

BY MATTHEW WEIGAND

On Jan. 18, 2010, at the Millennium Seoul Hilton, approximately 100 people met at an event called "New Opportunities in Science and Technology Collaboration Between India and Republic of Korea." The event was sponsored by the Ministry of Knowledge Economy, Daedeok Innopolis, the Embassy of India and the Indo-Korean Business and Policy Forum. Many distinguished guests were invited to attend and to participate. There were opening remarks by a number of dignitaries and six different presentations from experts in the field of India-Korea relations.

Dr. Emanuel Pastreich, master of ceremonies for the event, started everything off by introducing His Excellency Skand Tayal, ambassador of India, who made welcome remarks. He welcomed everyone to the event and recognized the assembled dignitaries including as Mr. Rim Chae-min, vice minister of industry and technology, and Kang Gye-doo, president of Daedeok Innopolis. He then spoke briefly about the then-upcoming visit of President Lee Myung-bak to India's Republic Day celebration and marked it as a "momentous occasion in India-Korea relations." He went on to say that the Indian government is very impressed with the Korean government's focus on green technology, renewable energy, water treatment, LED applications, green transportation systems and solar energy. He said that India also places great importance on science and technology research, including nanotechnology. He ended by saying, "I hope that this session proves to be both stimulating and thought provoking, and that from your discussions, ideas would emerge which our scientists and institutions would follow for tangible and productive outcomes." He was followed by Vice-Minister Rim, who expressed similar sentiments and hoped for a good outcome of cooperation between the two countries.

Technical Presentations

After the introductory speeches, the forum launched straight into the keynote address by Kang Gye-doo. He presented a talk about "Korea-India Collaboration on Science and Technology." And, as the president of Daedeok Innopolis, his focus was on that research park. He believes that changes to the world's economy and global R&D trends can move Asia forward rapidly, and he believes that Korea and India can be at the center of such movement. Korea has 60 years of rapid economic growth, with a GDP of $1.4 billion in 1948 and of $950 billion in 2008. It has light industry, construction, chemical industry, electronics, information technology and other industries. India, on the other hand, has the highest growth potential and a bipolar structure to its economy. It has both a traditional light industry economy and new information-based economy. The industrial structures of both countries are complimentary, which will promote globalization and boost competitiveness. Kang also said that in modernizing conventional industries, a win-win business structure can be formed. Kang also pointed out that the Comprehensive Economic Partnership Agreement (CEPA) between the two countries has significantly changed the environment.

From all of this backdrop, Kang outlined a future path for cooperation between Korea and India. He said that the two countries could work together building a Korea-India economic, scientific and technological network. With more exchanges in human resources and sophisticated expertise, the next step could be support for joint research and development for industrial technologies development. After that, the two countries can set up core trading in science, technology and industry and the sharing of economic results.

This is where Daedeok Innopolis can come in, according to Kang. Daedeok Innopolis's strengths would be ideal for linking with Gujarat City in India and sharing know-how on the construction of a Korean-model science and technology park. After a sister institution to Daedeok Innopolis is created, the two parks can implement joint research and development projects on green technology, biotechnology, nanotechnology, aerospace engineering and all of the other things that Daedeok Innopolis does today. There are other possibilities for cooperation between the two countries that Daedeok Innopolis can help out with, like project start-ups and joint venture companies. Korean and Indian firms can get involved, and, well, the possibilities would be endless.

History Lesson

Next up was Dr. Sun Joong-hae from the Korea Development Institute with a presentation titled "Korea's Transition to a Knowledge Economy." Dr. Sun started off with a rather detailed summary of the history of Korea's economic development, which should be familiar to most people these days. His presentation got more interesting when he entered into the "Lessons" portion. He said that market competition provides the motivation for innovation in a growing economy. Pressure for technological competitiveness between several actors can be effective to promote any economy. Also, a small economy will be very effective if it looks outward in its development strategies. He also noted that human resources are the key to learning a new global system. Finally he outlined that the government's role at later stages of the game needs to be changed. In a young economy, government direction can be very helpful, but in a more mature economy, intervention would do more harm than intended. If a government body must be involved, he suggested that it should be selective and focused, and that strategic planning is very important for success. And, finally, when developing a technological economy, commercialization should be part of the plan from the beginning. He also pointed out that large research centers are good for industrialization, but that universities must be more highly valued if creativity and curiosity are to be fostered.

The final part of his presentation dealt with Korea's challenges in the 21st century. He said that this was the end of the road for a high-input, high growth regime. There are changes in the return on investment in college education. There are large changes in management in large Korean companies. There are gaps in the requirements of human resources and the education provided to people. An innovation is also in transition, according to Sun. Also, excessive government intervention was harmful to the venture capital market. All of these challenges that Korea faces are a different ball game from the last 40 years. But, in closing the presentation, he expressed confidence that Korea can meet these challenges.

This is where Daedeok Innopolis can come in, according to Kang.

Clean Energy

The day was full of interesting presentations. Another was given by Professor Ramchandra Pode from Kyeonggi University on the subject of "Clean Energy India-Korea Cooperation." He began by giving a short presentation on the world's energy reserves, and then zeroed in on India and Korea. He showed that India's primary source of energy is coal, which makes up 53.4 percent of the mix. Following coal is oil at 31.6 percent of the total energy India uses. Korea was opposite, with 43.4 percent of its total energy being oil and 25.3 percent being coal. One big difference that he pointed out was that India only got 0.81 percent of its energy from nuclear power, while Korea got 14.9 percent of its total energy supply from nuclear power. He said, "We are in a new era where growing energy needs and environmental and health issues are the key challenges. The two are closely interconnected."

Then he changed the focus to the future. He said that the future energy mix for countries will mostly consist of nuclear fuel, natural gas and renewable sources. He began speaking about solar energy, pointing out that the total amount of solar energy that falls to earth is 5.5x1017 kWh/year, and that the total amount of energy that the entire population of the earth uses is only 4x1014 kWh/year. Even the potential amount of wind energy surpasses what we use, as it is calculated to be 6x1014 kWh/year. He also pointed out that the solar energy available in India is "relatively greater than in many other heavily populated regions of the world." He said that only 1 percent of India's land area can supply all of its electricity requirements up to the year 2030. This is why India is so interested in renewable energy sources.

He went on to speak about Korea's budding solar panel industry, which began in 2001. Korea's existing flat panel display industries give an advantage in developing solar cell technology, because many of the same techniques and materials are used. He envisioned a feedback loop where heavy investment in Korea's solar panel display industry would provide nearly seven-times growth in production by 2012, which would provide more than $8 billion in revenue by 2013 and generate 2.67 GW of energy. India's new focus on solar power, its large potential market size and its lack of solar power technology create a great market for Korea's nascent solar panel industry. Korea has the technology, but lacks a large market and raw materials. Fortunately, India can supply both of these. Professor Pode strongly

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FOLLOWING THROUGH ON THE CEPA

BY MATTHEW WEIGAND

There were some naysayers wondering if the recent Comprehensive Economic Partnership Agreement (CEPA) between India and South Korea, which was ratified last year and went into effect on Jan. 1, was actually worth the paper it was printed on. The agreement, while definitely comprehensive and totally about economic matters, seemed to lack the quick and decisive stance of a full-on Free Trade Agreement. The percentage that tariffs were lowered by was smaller, the time taken to lower them longer, and the whole affair seemed to be anti-climatic after the several years of analysis and negotiations that created it. Why not have a simple FTA with India? Why not have true free trade between the two countries? It seemed like a cop-out, and almost a failure. But recent events have seemed to change all that.

Since the agreement was put into effect on Jan. 1 of this year, Lee Myung-bak has wasted no time in acting on it to create even stronger ties between the two countries. The president visited India from Jan. 24 to 27 at the invitation of Indian President Pratibha Devisingh Patil. On Jan. 24, he visited a Hyundai Motor Factory in Sriperumbudur, near Chennai, and spoke with employees there. On Jan. 25, Lee met with Indian Prime Minister Manmohan Singh in New Delhi. And on Jan. 26, the president was the chief guest of the country's Republic Day celebrations. The last time he visited India was in 2007, which shows that this South Korean president recognizes India's growing importance on the world stage. Also, other recent chief guests at India's Republic Day celebrations have been then-Russian President Vladimir Putin in 2007, French President Nicolas Sarkozy in 2008, and President Nursultan Nazarbayev of Kazakhstan in 2009.

The two leaders spoke about a number of different issues for boosting bilateral relations and strategic partnerships. Trade was among those issues, with both leaders agreeing to expand bilateral trade from the US$12.2 billion it was in 2009 to $30 billion by 2014. After the meeting, Lee and Singh signed a joint statement that contained 31 different agreements about diplomacy, security, economy, trade, science and technology, society and culture. One of the most important was creating a diplomatic and defense communications channel and establishing a joint committee to review military supply projects.

The two sides also signed four different accords after the talks were finished. They were related to cooperation in space usage, information technology and science and technology for the next two years. Also, the two countries set up an extradition treaty for criminals. One of the more detailed consequences of the signing was an agreement to set up a $10 million fund to promote bilateral research ventures. And Singh said that India was doing everything it could to fast-track a $ 12 billion POSCO steel project in Orissa, despite some civil protests.

Far-reaching Implications

South Korea and India's ever-expanding relationship is like a match made in heaven. They just go well together, and this fact has been easily realized by the quickly growing trade between them. In 1990, the trade between the two countries was only $500 million, and it has grown to be 25 times that, $12.2 billion, in just 18 years. And this growing trade has been because the two countries just have good things to give each other. South Korea has the capital and technology that India needs, while India has the cheap labor and growing middle class market that South Korea needs. Also, South Korea's emphasis on IT hardware and India's expertise in software go well together. South Korea's POSCO has

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THE JUDICIARY:

A PILLAR OF INDIAN DEMOCRACY... IN DIRE NEED OF REFORM

In the past couple of years, few allegations of corruption in the judiciary have been reported in the newspapers

BY RAJIV KHANNA

The Indian judicial system is independent and impartial. Rather, this is the only pillar of Indian democracy in which all Indians have full faith and confidence. This faith is amply demonstrated by the fact that every day many new cases are being heard in courts all over the country. The Indian judiciary is thus one of the strongest pillars of Indian democracy.

The Indian judiciary is independent and separate from the government and the legislature. The judges of Indian courts have maintained very high standards of judicial integrity. This fact has also been recognized by the international business community. This is one of the main reasons multinational corporations have been entering into joint ventures with Indian businesses and are investing billions of dollars in India to set up not only huge industrial units and develop town-ships, but also develop India's infrastructure.

However, some people feel that the justice delivery system in India is expensive and time consuming. It is estimated that there are about 250 million cases pending in the various courts in India. This huge backlog is causing delays in getting justice. Some say "justice delayed is justice denied." For speedier justice, some litigants are indulging in corrupt practices. The high cost of litigation is mainly due to the exorbitant fees charged by lawyers.

In the past couple of years, few allegations of corruption in the judiciary have been reported in the newspapers (the Sumit Mukherjee scandal of the Delhi High Court; the club scandal of the Punjab High Court; the Ghaziabad Provident Fund scandal, etc.). The Dalai Lama, a Nobel laureate, has equated corruption in the Indian judiciary with "pocket money." Indian Vice President Hamid Ansari stated in his valedictory address at the International Conference of Jurists, "The challenge to the supremacy of the rule of law is elitist behavior. National and international media is full of reports of how the elite are able to subvert the rule of law with money or influence. A large swathe of society and polity even accept this situation as a way of life." He also stated that corruption "shakes the legitimacy of the state, erodes sovereignty of the state and its capacity to exercise sovereign functions including ensuring law and order for the citizens."

A study conducted by the Centre for Media Studies in 20051 revealed "during the last one year, three-fifths (61 percent) of respondents had paid money to lawyers, whereas 29 percent had paid money to court officials, and 15 percent paid money to middle men to get their work done." This study had made many valuable suggestions for reforming the judiciary. One of these was that a new judge, before taking up the appointment, should declare his or her assets and liabilities. A couple of months ago the Delhi High Court upheld the order of the Central Information Commission under the Right to Information (RTI) Act directing the Supreme Court of India to declare the assets of its judges. Against this judgment an appeal is pending before the Supreme Court. In spite of the pending appeal, the Supreme Court judges have now declared their assets.

In regard to corruption in the judiciary, the Bar Association of Bangalore recently sparked a controversy about the contemplated elevation of their chief judge as a judge of the Supreme Court of India. They alleged that the said judge had accumulated huge wealth, which was disproportionate to his means, when he was a judge of the subordinate judiciary. Senior advocates of the Supreme Court and also other state bar associations voiced their concern on this issue. Consequently, the said judge was not elevated (the allegations of corruption against the said judge have yet to be established). In the past, peer pressure has worked in ensuring that a judge against whom allegations of misconduct are established voluntarily resigns from his post.

Only the Indian Parliament can remove a Supreme Court judge or any state's high court for misconduct through the process of impeachment. In 1993, a motion was moved in the parliament to remove Justice V. Ramaswami of the Supreme Court of India by way of impeachment. It was alleged that Justice Ramaswamy had spent huge sums of government money on the renovation of his official residence. This impeachment motion, however, failed in the Lok Sabha as the members of the ruling party abstained from voting on the said motion.

Last year, the chief justice of India recommended to the prime minister the impeachment of Justice Soumitra Sen of the Calcutta High Court for misconduct, alleging that prior to his elevation he had appropriated Rs 3.2 million as a court-appointed receiver in 1993. This motion was moved in the Rajya Sabha and its chairman has instituted a three-member committee to investigate the grounds on which the removal of Justice Soumitra Sen is sought.

The Right to Information Act and also investigative journalism in the print and electronic media are proving to be very effective tools in not only curbing corruption, but also ensuring transparency. Recently, the Central Information Commission, set up under the RTI Act, has even directed the Supreme Court to disclose the reasons for appointing three judges to the Supreme Court in supersession of three senior chief justices of high courts.

To ensure that the people's faith in the judiciary is preserved and that the rule of law is not shattered, immediate remedial measures need to be undertaken:

- Set up more fast-track courts;
- Frequent setting of Lok Adalats;
- Set up an All-India Judicial Service similar to that of the Indian Administrative Service;
- All courts should use digital technology and be converted into "e-courts" for speedier delivery of justice (India has its first paperless e-court in the High Court of Delhi);
- The provision for summary trials, plea bargaining, compounding procedure code to be utilized more frequently;
- Setting up of new courts and the appointment of retired honest judges on a contractual basis;
- Shift-working of courts;
- Setting up of more specialized courts/tribunals; and
- Setting up of circuit-benches not only of the state high courts, but also of the Supreme Court of India.

It has also been reported that the government of India has initiated various measures to introduce reforms in the judiciary. It has proposed to enact a new law – *"The Judges Standards and Accountability Act"* – which would make the judiciary more accountable. This law would reassure the people that the Indian judiciary is above board. Simultaneously, the Indian government proposes to set up Gram Nyayalayas (village courts) under the Gram Nyayalayas Act of 2008 to make justice available to the rural population in their villages.

These and other reforms would ensure a speedier justice delivery system and would also reassure the people all over the world that the Indian judicial system is independent, impartial and upholds the rule of law. Rather, this is the only pillar of the Indian Democracy in which not only all Indians, but also all multinational businesses that are carrying on industrial and business activities in India, have full faith and confidence. A-P

** By Professor Rajiv Khanna, Professor of Law, University of Delhi, Delhi, India*

1 INDIA CORRUPTION STUDY 2005 to Improve Governance, Vol. II (Eleven Public Services) - CORRUPTION IN JUDICIARY

TICKET TO HOLLYWOOD

BY NADEEM AKHTAR

The presence of Hollywood is not new in India. But the way these Hollywood films have done business in recent times is definitely surprising. Generally, the Indian audience is fond of stories involving a love triangle, but now tastes are changing, so in the business of these films, Hollywood has magical effects on the people. To put it simply, the business of Hollywood films is growing smoothly.

If we look at the business of recently released films, the picture becomes clearer. "Spiderman 3" has done record business of Rs. 19.17 Crore. The James Bond film "Quantum of Solace" posted sales of Rs. 17 Crore. These films are an indication of the growing fascination of the Indian audience towards Hollywood. In big cities, audiences prefer to see Hollywood movies over ordinary Hindi movie in multiplexes. The foreign audience of such movies is already present in our country. Previously, they had to either depend on the video CD, VCD, DVD or wait for the movie to be released. Of late, Hollywood movies are being released in India and the rest of the world simultaneously. Rigorous advertisement and promotion of Hollywood films attracts the already exposed and globalized viewers of big cities.

If we look at it superficially, it seems that the business of Hollywood films is temporary, however if we ponder over it, there is a hint of change in viewers' tastes. In particular, the multiplex audiences who pay Rs 200 for a film illustrate the entertainment quotient of a movie. And if a foreign film is fulfilling their expectation they will certainly go for it.

Experts of the movie market believe that in coming years a large number of Hollywood movies will be released. And along with the movies, the number of prints will also increase. More than 600 hundred prints in four Indian Languages of the film "2012" were released. Even middle-category Hindi movies do not release as many prints in the market. Hollywood films are still not able to shake the market of Indian language or Hindi movies, but they have started denting it. Sometimes, these movies are reaping a huge income. Hollywood films are spreading their tentacles gradually into the market. Some experts also believe that the success of "2012" is not a good sign for Indian movies. Ticket sales for "2012," released in November, has surprised the trade pundits – released in English, Hindi, Tamil and Telegu, the movie made Rs. 19.15 Crore in ticket sales in the very first week. Hindi film "Tum Mile," released the same week, was rejected by the audience. "Tum Mile" refers to the incidence of July 26, 2005, whereas "2012" is based on a hypothetical holocaust to come in three years. There is no doubt that from the point of production and direction "2012" is a costly movie. Video effects are heavily used, and to change the imaginary scenes, modern technology was employed, techniques and special effects make this film more expensive. The market for Hollywood is global, so there is no dearth of investment. Filmmakers do not bother worry about the investment, since it is usually recovered. If we see ticket sales for "2012" as an average film, it has surprised everybody.

We can call it sheer fascination with Hollywood that "Avatar" reached the height of popularity and the famous industrialist of India, Anil Ambani's group Reliance Big TV & Fox Star Studios, has signed an agreement. This deal is done for Rs. 20 Crore. "Avatar" is a 3D film with full special effects. "Titanic" director James Cameron directed this movie. The film took nearly four years to complete. Fox Star Studios have all the rights of distribution of the movie all over the world.

Hollywood directors are aware of the fact that their movies may pull in average ticket sales in America, but in India they can have blockbuster sales. And due to this reason, Hollywood directors do not hesitate to add the magical flavor of Indian Music. The recent winner of an Academy Award and internationally famous musician, A.R. Rehman, has composed the music of the upcoming romantic comedy "Couples Retreat" of Universal Pictures. Saregama India Limited has released its soundtrack music. A.R. Rehman is known as a magician of the music world. And this is what he has done for this American film. Creating the music for "Couples Retreat" was a challenge for A.R. Rehman. Rehman accepted the challenge and created fusion music that everyone will enjoy. Besides that, he has mixed Indian music, which is his specialty. After winning two Oscars, A.R. Rehman is now a known music personality around the globe. A.R. Rehman won both the best original score award for the film "Slumdog Millionaire" original score and best original song (Jay ho). He is also the first Indian artist to receive a golden globe award.

Besides this, he won a Critics Award for his work on "Slumdog Millionaire." For his score and sound track, Rolling Store, Time Magazine, The New York Times, The Los Angeles Times and many other publications have appreciated A.R. Rehman's endeavors. Moreover, he is among the top 25 people in the world for sales records of his albums.

Indians are overwhelmingly participating in all aspects of the American entertainment industry, be it writer, director or other. Mere decades ago, actors of South Asian origin were hardly seen in American films and television serials, or seldom did films contain such characters. But gradually, looking at the demand of Hollywood movies in India, films and TV soap opera producers became attracted to Indians. Indian born Noel D'Suza, who was educated in theatre in California during the 1950s, got very few opportunities or was given roles of Latin American characters. But his contemporaries from the same school, Gene Hackman and Dustin Hoffman, are today famous personalities in the Hollywood industry. In contrast, Noel D'Suza compromised with the circumstances and left acting for film journalism. There are numerous such examples of the bygone era. Things are rapidly changing. Nowadays, there are several artists, writers and directors of Indian origin who are playing various important roles in the American entertainment industry. There are a few known personalities who have shown their talents, such as Kalpen, Reshma Shetti ("Royal Page"), Jay Chandrashekhar ("Dukes of Hazard"), Senthil Rama Murthy ("Heroes"), Parminder Nagra ("ER"), Puja Kumar ("Flavors' Bollywood Heroes") and Asif Mandwi ("The Daily Show"). Hollywood director M. Night Shyamalan, who is also of Indian origin, has created his own niche. Asif Mandwi recalls the period when artists of Indian origin were almost negligible in American films and TV shows. Slowly, the number of viewers of Hollywood films grew in India. Similarly, the acceptance of Indian artists also started growing. In the 1980s, Indian faces were rarely seen in America. There were no roles for Indians on TV or film. Now it is said that the globalized environment is the main reason for the changed attitude.

Indians are overwhelmingly participating in all aspects of the American entertainment industry, be it writer, director or other.

The last decade has placed India on a high pedestal in the world economy. It has changed the image of our country and respect for the people of Indian origin in America. Besides the success of "Slumdog Millionaire" at the Academy Awards, the films of Meera Nair and Deepa Mehta are recognized in the entertainment world. Nowadays, many Hollywood companies have tied up with Indian companies to produce films together. The writer of the popular film "Monsoon Wedding," Sabrina Dhawan, is teaching movie writing at New York University. Even film critics admit that there is a sea change in America regarding India over the last 10 years. That is why blockbuster movies from Hollywood and Bollywood are not released at one time. In other words, if a Hollywood film has announced its date of release, Bollywood directors prefer not to release their films on the same date.

Merchandised Business in India

Everyone likes a touch of Bollywood in his or her life. And there is no other way to feel close to a movie if you happen to buy and use a product of that particular movie. Obviously, lots of people are used to it and therefore, Bollywood filmmakers are taking it seriously. Like Hollywood, our Indian merchants are also taking notice that it could be a means toward handsome earnings from the public. The Bollywood merchandise industry is in its nascent stage. As of now its earning is around 20 to 30 Crore. On the other hand, Hollywood is mature enough and has learned how to make money from merchandised items. Almost $1 billion was earned from products related to the movie "HarryPotter."

Whether or not merchandising Bollywood products could raise the same amount of money is not known. Industry sources believe that it is still in the trial stage in India. Some days ago, products for Bollywood movies like "Wake up Sid," "Dev D," "Love Aajkal" and "London Dreams" were merchandised. The main point of such merchandising is publicity for the films along with the extra income. Navin Shah, who is a CEO of a production company, says that film merchandise and the band with the tie up both reaps the benefits from it. Generally, products like t-shirts, coffee mugs and masks are launched in the market. Experts believe that due to star power, t-shirts based on movies are very popular among fans. The head of a leading production house, Sandeep Bhargav, says that in comparison to others the merchandised film products of Amir Khan and Shahrukh Khan do sell well, but if the effort was made, others stars' products could also do good business.

Besides, there is the positive point that people now like to wear the same clothes as their favorite stars. Adman Santosh Desai says, "In a nutshell, people try to emulate the lifestyles of stars and when they use these products, it truly feels the same." Producer and director Bipul Shah has launched merchandised products for his new film "London Dreams" on the market. He says, "We are looking forward to what response and revenue our movie merchandising is getting. Though it's a trial, we think that when the products of the films enters the market, it leads to gossip about the movie, which is a double benefit." A-P

FOLLOWING THROUGH ON THE CEPA

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invested in Indian steel works, while India's TATA Company has invested in Korea's Daewoo. Korea is now the seventh largest investor in India. The way that the two countries can work together has been serendipitous.

Because of this, the two countries have been working closely to create a common approach to political and strategic issues in regional politics. There are several factors that have caused the countries to work together more closely in recent years. The first and most remarkable thing about them is a growing strategic understanding between India and the United States. South Korea has a long history of working closely with U.S. strategic interests since the Korean War, and while such cooperation is new for India, that country is also working more closely with U.S. interests. Also, the rise of China has given both countries reason to work together in order to meet this new challenge from their behemoth neighbor. A steady, stable Asia will benefit both countries' trade ties, which are increasingly more important for India and have always been important for South Korea. It is in the best interests of both countries to make sure the Asian theater does not devolve into war.

Both countries also have belligerent, nuclear-armed neighbors in North Korea and Pakistan, which brings for even more mutual cooperation. There are many rumors that North Korea and Pakistan have provided military expertise to each other. North Korea has provided missile-related technology to Pakistan, and in return Pakistan supplied nuclear-related technology to North Korea. Preventing such cooperation in the future is in the best interests of both India and South Korea.

The peaceful applications of nuclear technology are also important to both India and South Korea, which was evidenced by the announcement on Sunday, Jan. 24, saying that both countries will work together on nuclear issues. President Lee said that he promoted Korea's nuclear power technology in negotiations, and expects a nuclear power plant construction deal to come out of the talks soon. This is not unprecedented, since a South Korean consortium recently won a $20.4 billion contract to build four 1,400-MW civilian nuclear power units in the UAE.

India Reaching Out as a Trend

President Lee got the royal treatment in India in January, but he hasn't been the only one. As mentioned before, there have been a string of foreign leaders invited to the Republic Day events: Nazarbayev, Sarkozy and Putin are just the three most recent. Each guest has been invited for very sound and sensible reasons. President Nazarbayev of Kazakhstan was invited because his country is one of the largest producers of uranium, which India desperately needs for its new nuclear reactors. India signed a civil nuclear deal with Kazakhstan during the visit and has since received the first uranium delivery. Good times all around. President Sarkozy was invited because the two countries finalized their bilateral civil nuclear cooperation agreement while India was awaiting the conclusion of its Safeguards Agreement with the IAEA. President Putin of Russia formally acknowledged India as a nuclear power during his visit in 2007, and offered to build four more nuclear reactors at Kudankulam in Tamil Nadu, and more in other places. Russia also promised support for a special wavier from the Nuclear Suppliers' Group during the visit.

So India is doing everything it can to secure nuclear power for its growing infrastructure. It discussed this at length with South Korea as well, and both parties expect to sign a deal to build some nuclear power plants in the near future. India is very interested in becoming a nuclear power-fueled nation, since it still has to provide enough energy to its people to create steady infrastructure. Since the meeting with South Korea, India signed a deal with Britain allowing it to compete with Russia and France in providing $150 billion in nuclear power equipment. This is part of a larger plan, because India is trying to increase the power it generates from nuclear sources 100-fold in the next 40 years. U.S. government officials estimate that deals worth at least $150 billion will be generated during that time. It looks like Korea is also in the bidding for these kinds of future deals now. The Indo-U.S. nuclear deal and waiver granted to India from the Nuclear Suppliers Group (NSG) has opened the country to global nuclear commerce. With access to global technological advances and uranium fuel supplies, the country renewed an ambitious nuclear energy program, creating a huge demand for equipment and services.

Going with the Flow to a New Asia

Korea and India's cooperation is not something that is forced, political or detrimental to either party. It is simply recognition of what is going to be best for both parties. In the complicated world of international politics, it is refreshing to see two countries setting up agreements and increasing bilateral ties just because it is good for both economies. For someone who is used to following the policies of established countries who have already set up their trade agreements and now play power politics with them, this is a marked change. Neither India nor South Korea is interested in controlling each other, causing each other to adopt military or philosophical stances, or forcing each other into regional military conflicts. They just recognize that they are mutually beneficial, and have established more trade ties.

While the specter of a changing power structure in Asia is always hanging over these talks, it is not the primary focus of the agreement, or even a peripheral focus. The focus is simply money through trade. Korean companies are going to be raking in the dough selling to a market they can never satisfy in India. Indian labor is going to be working itself into a well-paid froth creating all the hardware that Korean designers want. Money from one country is going to be invested in the other, and vice versa. And both countries will be climbing the cooperative ladder to riches.

In previous articles, I've mentioned before that India and China can be seen as two giant whirlpools in the world's economy, drawing more and more goods and services their way and obstructing the free flow of those same goods and services into other areas. In the nuclear power sector, India is drawing bids from France, Russia, England and now South Korea as well. What other countries will be denied a new nuclear power plant because all of the existing nuclear power construction companies are busy in India? What kinds of half-rate nuclear power plant contractors that have never actually finished a plant before will get a job and cause accidents? The far-reaching implications of India sucking up all the nuclear power production in the world cannot be predicted. However, after India's 1 billion people are all safely getting their power from fission, the world will most likely be a better place.

India also has the potential to use all of Korea's resources. Korea could grow its trade with India until the United States is no longer a significant part of Korea's exports. This could shift Korea from a country obsessed with learning English to a country obsessed with learning other languages. Cultural exchange could also result, enriching both cultures. Because both India and Korea have a strong history of Buddhism together, they could find cultural similarities to be much stronger than in any potential relationship between Korea and the United States or with India and the United States. The end result of this new economic cooperation could be the diminishing of U.S. influence in Asia.

Despite what might happen in the far future, for now both countries couldn't be happier with the agreement. India gets what it wants and Korea gets what it wants as well. Power shifts, money changes hands, and the future swirls into another set of potential fantastic shapes. But for now, everything works out for both parties. This can be the day when Asia starts taking care of itself as a region and cooperation between south and east becomes something historic. Let's see what happens next. A-P

MEETING OF THE MINDS

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recommended Korea-India cooperation in solar panel technology within the next three years.

Policy

Another interesting presentation at the event was given by Dr. Deok Soon Yim, a research fellow at the Gyeonggi Science and Technology Center. He spoke about the contributions to the development of science in human history that India has made. "India is the home of many scientific fields such as mathematics, medicine and so on," he said. He also said that both countries could benefit from science and technology cooperation, but complained that nothing has been realized yet, only talked about. In an effort to move the discussion forward, he recommended a specific course of action. "First, the initiatives from both governments need to be strengthened," he said. He said that governmental cooperation is the only true way to make things work, because private investment will always be too small. Secondly, he recommended institutional cooperation between the research centers of both countries, something beyond the signing of MOUs. "Third, it is recommended that both countries should build the platform for science and technology cooperation," he went on to say. Fourth, he pointed out that in order to keep the cooperation efforts strong, the two countries need to organize promotional efforts like technology exhibitions, job fairs, and joint conferences. His final recommendation was to prepare for and work through possible misunderstandings and mistakes to focus on the long-term benefits of mutual cooperation between the two countries.

Discussion

While there were several other presentations, all of them had a similar tone and positive outlook. The general consensus of the event was simply that Korea and India are extremely complimentary. The wrap-up session, which allowed for questions and discussion, was presided over by Mr. Chang Kook Hyun, secretariat director general of the International Association of Science Parks. Participating in this session were Dr. Cho Young-sang, principal research scientist at the Solar Cell Center of KIST; Kim Bong-hoon, Ph.D. and CEO of MAXtin Business Advisory; Chander Wanchoo, senior manager of global business for SK C&C; and Professor Deb Kumar Mukherjee of Kyunghee University. All of the post-presentation comments were positive. When taking questions from the audience as well, Chang received upbeat, excited responses. Judging from the reactions of everyone at the conference, there is nothing but good things happening for the future of India-Korea cooperation. The only possible drawback is that there were not as many people in attendance as there could have been. India is a large country, and they should be able to flood meetings like this with qualified personnel in every field, more than enough to say whatever needs to be said. However, there are still only a few Indian citizens actually living in Korea – fewer than 10,000 – and the same is true of Korean citizens living in India. If all goes as people at this conference say it will, expect those numbers to skyrocket in the coming years. A-P

VAS

The Emerging Service Mantra for Indian Telcos

BY RAJANI BABURAJAN

A recently-launched commercial from a leading mobile communications provider inspired me to think about the immediate possibilities of mobile value added services in India. A rural woman bargains with a "machiwala" (fish seller). At the end of a typical bargaining drama and the deal following, she picks up the mobile phone from her bosom and presses a few buttons and asks him with a casual look, "Did you get it?" The machiwala picks up his phone lying in the mutilated fish and replies in a contented manner, "Yes." The money is in his account.

Everything from choosing the appropriate monsoon crops to choosing an affordable tax-savings plan is available right on our mobile. All we need to do is opt for the service from the service providers. With the rapid evolution of mobile technologies and the popularity of high-end mobile phones, sophisticated services such as sending/receiving payments and tracking a flight are becoming commonplace. As technology evolves to offer all communications services including TV, telephone and Internet on a single handheld device, operators and businesses are in the race to grab the maximum opportunity available in the mobile value added services (VAS) arena.

With a significant reduction in telecom tariffs resulting in lower ARPU, VAS services emerge as the most viable solution available to operators to maintain their ARPU. With the mobile subscriber-base surpassing 500 million, India opens immense opportunities for mobile marketers to reach their target customers. Compared to conventional advertising, mobile advertising offers several benefits. In an interview with Asia Pacific Business and Technology Report, Rohit Dadwal, managing director, APAC, Mobile Marketing Association (MMA), said mobile is a medium that offers "maximum impact at minimum cost."

"Immediacy, effectiveness and personalization are some of the other benefits of mobile marketing that are becoming increasingly relevant as marketers look for ways to cut through the market clutter to reach out to their audience," Dadwal said. "As consumers need to opt-in to receive communication on their mobile phones, marketers can be sure that they are seen as trusted messaging sources. The frequency with which a mobile handset is used by the owner contributes to the medium's effectiveness. The medium offers a guarantee that your message will reach the consumer the next time he checks his handset."

A mobile component in the integrated marketing communications program is fast becoming a must-have for brands in India and across the globe, according to Dadwal. Mobile is an affordable and highly-targeted medium that can carry a campaign on its own or support traditional media campaigns, he said.

The mobile marketing industry in India has matured considerably over the last few years, finds the MMA. Over a hundred mobile value-added services and technology companies are active in the industry offering innovative solutions to advertisers and publishers. According to MMA, mobile marketing in India has grown to a $25 million per annum industry. However, this represents a bare minimum of the global market size that is estimated to grow to $24 billion by 2013.1

Mobile Marketing Opportunities

The success of mobile marketing is directly linked to the mobile penetration and popularity of mobile Internet. Currently, mobile marketing in India is at a very nascent stage. There is a big opportunity waiting for businesses to advertise their products through this revolutionary medium. It also opens up innovative business opportunities to companies involved in businesses like finance, banking, entertainment, education and many more offered under the VAS tag.

Mobile money transfer is one of the lucrative mobile VAS opportunities equally beneficial for the banks, mobile service providers and application providers. Mobile banking is especially attractive to rural India where banking services are limited. Obopay, the U.S. and India-based mobile payment company, has launched their instant money transfer service in India through an alliance between wholly-owned subsidiary Obopay India and YES BANK, an Indian private sector bank. With Obopay, YES BANK customers can transfer money to and from any mobile phone number with Obopay's mobile application, text message or mobile Web. Customers can instantly withdraw cash received using their YES BANK debit card. The service also offers consumer bill payment services. Obopay has teamed up with leading telecom service providers like Tata Teleservices, Aircel and Loop Mobile.

Money transfer via mobile has to go through a series of complex regulatory procedures in India. For this reason, mobile devices companies have not stepped into this arena seriously. In a significant move in this line, earlier last year Nokia invested $70 million in Obopay. A few months later, Nokia also announced the launch of Nokia Money, a new mobile financial service that offers consumers with a mobile device access to basic financial services including money transfer among mobile users. The service is based on Obopay's mobile payment platform. However, Nokia intends the service to be open and interoperable with other payment services as well.

At the announcement, Teppo Paavola, vice president and head of Corporate Business Development at Nokia, said the money transfer will particularly benefit rural consumers, while the utility bill payment offers will benefit the urban customers.

Nokia is collaborating with mobile network operators and financial institutions in different markets around the world. The company is reportedly in talks with six leading banks in India. It is building a wide network of Nokia Money agents through whom consumers can deposit money in or withdraw cash from their accounts. The service is likely to bring about a revolutionary transformation in the electronic payment industry in India. Despite the strict regulatory issues, Nokia is confidently moving ahead with its plan to offer a "universal platform where the mobile phone can be a medium for banking, international remittance, payment of utility bills, payment to merchants for goods and services and buying tickets." Nokia Money will initially act as an extension of a bank's branch.

Mobile Advertising

A recent study conducted by Nokia and TNS India shows that mobile Web users in India are using their mobile to access the Internet almost as much as the traditional Web. More importantly, the number of users who use mobile Web to find out about product information (28 percent) surpasses the number of traditional Web users who get the same service (26 percent). The TNS study, which was conducted on a sample of 3,500 consumers across 15 metro and Tier I cities, reflects the emerging face of the mobile advertising industry in India. Industry experts also share the view that members of the younger generation in rural India are more inclined to mobile advertising than traditional forms.

"The rise in the ownership of smartphone devices like the Apple iPhone in the APAC region will see more users adding mobile data plans as value-added services," said Dadwal. "Applications that are specifically developed for the iPhone, Android phones, Blackberry devices and others will eventually convert many to mobile data use for Internet access. This is a pull factor for subscribers to add mobile data VAS Ð in turn this will add to the ARPU for each subscriber and improve the bottom line for operators.

Mobile advertising in India largely depends on WAP banner sales. There are no premium sales happening, rather they all are bulk sales. The industry needs to do a lot more in terms of technology, customer experience and advertising options. The proposed 3G rollout and reduction in GPRS service offerings will add further momentum to this growth.

Setting a revolutionary trend in the highly competitive telecom market in India, state-owned BSNL recently crashed GPRS price barriers by announcing five new packets. The service is offered for its existing 2G GSM users. The announcement is yet another boost in a country that has 525.15 million mobile users, of which about 12 million of them are mobile Internet users2. Within a few months, the GPRS network in the country will see a surge in the number of users, giving another testing time for other operators who have been desperately waiting for the arrival of 3G in the country. BSNL's move will surely encourage the Internet-savvy customers in India, especially those who cannot afford the

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More Indian Techies in South Korea

BY ANURADHA SHUKLA

During his recent visit to India, South Korean President Lee Myung-bak said in an interview with the Times of India, an English-language daily, that it would be great to see more Indian software professionals working in the manufacturing sector in South Korea. He also wished to promote increased collaboration in the area of mobile-WiMAX, the latest in wireless broadband Internet technology.

Cooperation between India and South Korea is not a new concept. Both countries share a common history of oppression, as both were under foreign colonial rule for a long time. Although miles apart, South Korea and India have had trade relations from time immemorial. Both countries have royal marital ties too, as it is widely believed that an Indian princess from Gaya, India, traveled to Korea in search of her dream prince long ago.

President Lee quoted Rabindranath Tagore who referred to South Korea as the "Lamp of the East." This was much appreciated by the Koreans who were struggling under Japanese rule. This inter-country relationship has been active since 1970 with workers moving between India and South Korea. At present, there are about 9,000 Koreans working in India and 7,000 Indians living and working in South Korea.

The synergy between the two countries is unmistakable. The South Korean workforce excels in IT hardware manufacturing while the Indians have expertise in the IT services sector. The software companies of both countries will help build the IT infrastructure in India and South Korea.

Already, South Korea is involved in setting up the POSCO steel plant in Orissa, being experts in steel, oil and gas plant technology. India will benefit a lot from such endeavors. The collaboration between the two countries began with huge investments made by South Korea in the consumer electronics category and automobile business almost two decades ago. By operating manufacturing facilities in India, South Korea hopes to achieve more growth in terms of presence and revenues from the Indian market.

Exchange of Experts and Technical Skill

The visit of the South Korean president as the guest of honor at India's Republic Day celebrations speaks for itself and shows the enhanced relationship between two friendly nations. The heads of both countries spoke at length regarding bilateral, regional and global issues including improving economic ties and cooperation in civilian nuclear cooperation and space technologies.

Following the president's visit many agreements are expected to be drawn in the areas of IT and the peaceful use of space technologies. The agreement on IT will leverage the IT software capabilities of India and IT hardware capabilities of South Korea, resulting in an increased flow of IT professionals between the two countries.

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Increasing Role of Managed Services

GUEST ARTICLE
BY DEBI PRASAD DE

1. Introduction:

The evolution to a converged world has put practically all businesses under increased competition and has squeezed their profit margins. To respond to these pressures, solutions that enable a shorter time to market for newer, differentiated services while increasing customer focus are required.

There is a strong pressure to use a combination of resources including the call center and the World Wide Web, in addition to the normal marketing and delivery channels. Issues around reliability and security in an IP-based world need to be addressed properly, as it is critical to minimize the risk of any IT failure that could adversely impact business. With a large contribution of information communication technology (ICT) processes in the successful operation of any business and the core technology itself becoming obsolete very fast, it has become virtually impossible for any business organization to tackle all such issues in-house. Therefore, businesses have to sharpen their core competencies while seeking the best-of-breed services in other areas by outsourcing them to those who are capable of providing those services. Starting with the outsourcing of IT processes during the later part of last century, it has spread to other non-core areas like network security, web hosting, OSS BSS, call centers, network operation, etc. Most operational challenges center on the reduction of OPEX, optimization of CAPEX, access to technical expertise and competencies, improved performance and efficiency.

These requirements are impacting traditional business models and challenging businesses and telecom operators to ask: "What are our core areas? What is of strategic importance to us?" Earlier, many enterprises believed that their IT systems and telecom operators thought that their networks were of core importance. But convergence has shifted this strategic importance to the actual services provided in today's dynamic market and to being proactive to market demands. For the Indian telecom operators, while there is a continued decrease in average revenue per user (ARPU), primarily due to future expansions in rural, low-spend areas and competition from greenfield operators, there is an increased demand for new, value added and content-based services. Operators do not have core expertise in the areas of value added services or content-based services. The shift in business dynamics has forced them to include an area once thought impossible to consider – strategic outsourcing of specific areas using managed services. As Jack Welch said, "You shouldn't have something in your back office that exists in someone else's front office."

Contracting with a managed services provider (MSP) appears to be a more flexible form of out-tasking, and with specified contract period(s) and built-in service level agreements (SLAs), it reduces the risks associated with long-term, all-encompassing outsourcing agreements. Managed service enables businesses to convert their capital expenditures into operating expenses and establish a more predictable cost structure for their operations. So, what exactly is managed services?

2. Managed Services

Managed Services may be defined as "the ongoing, automated and remote, but proactive, management of computing resources and business applications to ensure their continuous availability, optimal performance and maximum security." The services are rendered by a third party managed service provider (MSP) under contracted SLAs. The services may include design, planning, installation, operations and management, etc. SLAs are written in documents which define the nature and quality of service (QOS) that is to be delivered by the MSP, with measurable key performance indicators (KPIs) and associated penalties. It may or may not involve the transfer of people and/or assets from the served to the serving organization for greater operational savings. Managed service arrangements also typically include more flexible contractual agreements and better reporting mechanisms to ensure the MSP is meeting the needs of the company.

Going up the value chain in the managed service model, the MSP becomes a partner in the business and, keeping in view his share of the returns, strives for increasing revenues through a combination of network upgrades, better uptimes, process re-engineering, etc., while maintaining control over expenditures.

Outsourcing – for and against

Outsourcing using MSP may enable businesses to:

- Address lack of in-house skills, especially related to security, new technologies, and voice/data integration
- Address the problems of integration in a multi-party vendor scenario
- Have rapid growth by focusing on core business tasks
- Provide for 24 x 7 coverage
- Get insulated from technology obsolescence
- Provide for conversion of capital costs to a consistent monthly expense item

On the other hand, reasons why businesses may not choose to outsource include:

- Strategic decision/inability to quantify SLA in terms of KPIs
- Fear of leakage of confidential company data and processes
- Lack of accountability/responsibility (particularly when many processes are outsourced)
- Management inability to 'sell' the concept of managed services to own staff

Managed services has gained a large deal of success and popularity in the telecom and IT areas. The proliferation of the Internet, rapid technological developments in ICT and the fiercely competitive telecom market have been instrumental in this regard. The Telecom Operators are playing a dual role. They are taking the help of telecom and IT vendors to manage their network, billing and call center operations, value added services (VAS), etc. They are also leveraging their network and expertise to provide managed services in areas like VPNs, web hosting, enterprise-wide networking, etc., to businesses and governments that are willing to outsource their telecom/IT related requirements. The size of the managed services segment of the telecom sector in India is estimated to be around US$3 billion, with both existing and greenfield operators opting for managed services for, perhaps, different reasons. Existing operators look at MSPs to reduce their OPEX while improving operational performance. The greenfield operators want their CAPEX to be minimized, as they seek early payback on their investments.

3. Problems of Telecom Operators

Telecom operators are under severe pressure due to falling tariffs and increased churn from the high percentage of the prepaid segment. They need to constantly innovate and attract customers with services the customer desires and, thus, improve their revenues and profits. The requirements are many – capture the market before the competition does, provide excellent service to end users and improve the return on investment for business to grow, to name just a few.

With the advent of digital switching, new features were introduced including intelligent network (IN)-based services. Internet, broadband and mobile telephony brought new paradigms to the customer experience. However, as the services improved, the end-user's expectations started increasing. Although voice was considered the 'killer app' for telecom operators, it is now regarded as a commodity. With the advent of the Internet and the convergence of multimedia, voice, data and IT, and the availability of multiple delivery channels, the priority has shifted from pure voice to other non-voice revenue streams. The introduction of 3G will shift the competition to a higher level and may become the key to increased market share. Hence, operators need to differentiate themselves with new service offerings matching customer needs. Telecom operators have handed out the core activities of designing, rolling out, managing and upgrading their networks to parties (mostly equipment vendors) who have the expertise of network management. With the emergence of multiple technologies, standards, applications and a myriad of ever changing content, a managed services business model also enables them to transfer end-to-end management of VAS services to a managed service provider with proven expertise in the delivery of these services. IT (Billing/OSS/BSS) forms a crucial part of telecom operations and therefore it is critical for operators that they minimize the risk of any IT failures that could adversely impact their business, by handing their billing, OSS & BSS to a MSP. With multiple MSPs in place, operators can focus on activities that generate greater value for the business by exploiting their real core competencies: their ability to acquire customers and maintain customer loyalty.

Some telecom operators who have tasted initial success in the basic MSP model have ventured further and are trying out higher versions of the managed service model wherein the MSP is also made responsible for managing the capacity of the network and/or revenue from services on a deferred payment/revenue sharing model. Once these concepts are also built into the model, the MSP automatically becomes aware of his share of the pie and the need to attract and retain more and more customers through a combination of service innovation, timely network upgrades, higher uptimes, etc. Future versions of managed services may be all-encompassing including management of the customer interface.

4. Making the decision for Managed Services:

The decision to go for managed

services has to be a strategic decision and management will have to make the call as to what are the 'core areas' where they would like to retain internal control and what are those areas they would like to hand off. The possible impact of these actions on the business delivery will have to be assessed beforehand. It may also be more appropriate that the outsourcing decision is taken in phases with experience gained during the initial phase playing a major role in deciding future endeavors.

While making the crucial decision, the organization would need to:

a) Identify the areas to be outsourced

b) Analyze the market for availability of genuine third party MSPs

c) Constitute a strong team for working out the modalities for outsourcing

d) Set realistic and measurable objectives. Define the SLAs and KPIs to be used for measuring the SLAs.

e) Prepare an exhaustive document detailing the existing processes, proposed requirements including SLAs, KPIs, methods and periodicity for their measurements, proposed penalties in case KPIs are not met, nondisclosure clause, periodicity for review of the arrangement, etc.

f) Float an RFP amongst prospective partners (MSPs)

g) Analyze the offer documents with specific emphasis on examining each MSP's service portfolio, delivery capabilities and business viability; enter into detailed discussions and negotiations before identifying a prospective partner

5. Benefits of Managed Services

A well-qualified MSP brings with him vast knowledge and expertise of all facets of the business including planning and operation and, hence, can bring about significant improvements in the processes leading to better customer experience. To the operator, it provides relief flowing out of process improvements – these may be in terms of reduced operational expenses/capital expenditure or in terms of early marketing of a new service/product. Keeping in mind the need for early capture of market, the MSP also ensures that the network of the operator is kept 'future ready.' The operator is thus able to focus on his core business activities and on the end customer.

Managed services also utilize a pay-as-you-grow or a pay-as-you-use subscription pricing model that eliminates the upfront financial commitments found in traditional maintenance and outsourcing arrangements.

6. MSP Selection – Probable Questions for Partner Selection

Outsourcing can bring tremendous benefits if the right partner is chosen. When evaluating potential partners the following factors may be considered:

What is the managed services provider's experience in deploying and operating end-to-end managed services?

Does the MSP have experts (certified engineers and technicians) who have years of end-to-end solution experience in the area of managed services and are familiar with a wide range of multivendor systems and associated interoperability issues?

Does he have an extensive track record of designing and building service provider networks quickly and efficiently?

What level of systems integration expertise does he have?

Does he have in-house design, planning, engineering and training capabilities?

What is the scale of vendor management that the MSP is capable of?

Does he have knowledge of what's happening in the industry, particularly a vision of the future and the roadmap to achieve the same?

7. Business Models

Managed services may be categorized under the following business models, although there may be other ways of categorization.

Managed SLA

Under this, an SLA-driven managed services contract exists between the operator and the MSP. Here, the operator specifies the SLAs to be achieved, keeping in mind the implications for the network, infrastructure and operational requirements – and end user service requirements. With a managed SLA model, the operational approach may vary. In this scenario, the managed services provider may only be responsible for operational and management tasks related to achieving the SLA – and all hardware, software and applications are owned by the operator.

Managed Capacity

As an extension to the concept of MS, the MSP is now also made responsible for expanding the capacity of the network as per requirements. With a managed capacity model, the managed services provider is responsible for meeting SLAs, as well as managing capacity of the deployed solution(s) proactively. Various operational models can be adopted with this approach, though typically the managed services provider would share, or be entirely responsible, for costs involved in expanding capacity. This model is based on a co-ordinated effort on both parties, otherwise any promotional campaign may lead to network blockages due to increased traffic from new customers.

Managed Revenue

This model focuses on revenue assurance, one of the prime objects for the success of any business. In this model the operator and the managed services provider agree on revenue targets and generally share the costs of deploying and managing the service in line with the proportionate share of revenue between the parties. The aim of this model is to motivate the managed services partner to drive revenues, whilst maintaining strict controls on costs. In this model, the MSP will be required to also provide market intelligence, innovative services, analytical support, etc. This model is higher on the value chain and encompasses both SLA as well as capacity-based managed services in its fold.

8. Key Success Factors

While much has been written about managed services and its usefulness, it should not be assumed that MS is a panacea for all ills and a word of caution is advised. The success of MS will depend on a large number of factors. However, as I see

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Information Imperialism vs. the Information Curtain

BY MATTHEW WEIGAND

On Jan. 12, 2010, David Drummond of Google Inc. posted an entry on Google's official blog titled "A new approach to China." In it, the senior vice president of Corporate Development and the chief legal officer outlined the broad details of a cyber attack against Google's corporate infrastructure originating from China. He said the attack was launched in the middle of December, and that Google had been investigating the attack since that time. "As part of our investigation we have discovered that at least 20 other large companies from a wide range of businesses—including the Internet, finance, technology, media and chemical sectors—have been similarly targeted," he wrote in the blog entry.

The blog entry went on to emphasize that the primary goal of the attackers on Google's services was to access the Gmail accounts of Chinese human rights activists, although it says that the attack failed. The attackers largely failed because they were only able to see subject lines and account creation dates for two specific Gmail accounts, according to Vice President Drummond. However, the investigation revealed that "…dozens of U.S.-, China- and Europe-based Gmail users who are advocates of human rights in China appear to have been routinely accessed by third parties." This was not accomplished in the large-scale attack, but had been accomplished over some time prior to the attack using a variety of methods.

Drummond went on to speak about the reason he was announcing this to the world – Google's apparent disillusionment of China. He spent the last four paragraphs of the entry essentially reprimanding China for free speech restrictions and human rights violations, concluding that Google will "review" their business operations in China and that "we are committed to working responsibly to resolve the very difficult issues raised."

This blog entry caused an explosion of words on the Internet. On technology news sites, the whole thing quickly became known as The Incident, or the Google Incident. Bits were, and still are, flying fast and furious about the whole thing. Coverage from every major and minor news source created a spectrum of responses about Google's announcement, ranging from hopeless optimism that Google would now openly attack and destroy the Great Firewall of China, to cynical pessimism that Google was only covering for its own defeat in the Chinese market by Baidu, a China-based search engine.

But the greatest effect of this message was that it got the attention of two governments and untold numbers of businesses that took sides on the issue. Out of all the news reports, blogs and discussions about the event, only a few seemed to catch on to its significance. Google is a corporate entity and is in the private sector. However, it publicly denounced the practices of the government of China, the largest country in the world, and got a response. Companies are re-evaluating their Chinese operations. U.S. Secretary of State Hillary Clinton mentioned this event, using it for political fuel to also denounce China's restrictions on freedom of speech, and on the free flow of information. Google got help from the National Security Agency and support from the U.S. Senate, which passed a resolution condemning the attacks. Google has been the catalyst for a chain of events that has not even finished yet, and the company is only 10 years old. The reigning king of the information age is testing its strength, and the results are impressive.

Taking the Opportunity

There are a number of political consequences to what Google has done. China responded to Google's statement two days later by issuing an official statement calling for all Internet businesses in China to follow the law. "China's Internet is open. China welcomes international Internet enterprises to conduct business in China according to law," said Jiang Yu, a spokeswoman for the foreign ministry. This is a common theme when China speaks about its Internet – it says that it is open within the law. But compared with most other countries' version of open, of course, there are deficiencies.

Ten days later, Secretary Clinton took the opportunity to give a speech declaiming the limits to freedom of speech and information imposed by several countries in the world. She grouped China together with Saudi Arabia, Egypt, Tunisia, Vietnam and Uzbekistan as countries that have lately stepped up their threats to the free flow of information. She compared these practices with the Iron Curtain of the Cold War by saying, "With the spread of these restrictive practices, a new information curtain is descending across much of the world. And beyond this partition, viral videos and blog posts are becoming the samizdat of our day." She also linked the free flow of information directly to the U.S. economy, and said that that United States will protect "our networks." She went on to say, "Those who disrupt the free flow of information in our society or any other, pose a threat to our economy, our government, and our civil society. Countries or individuals that engage in cyber attacks should face consequences and international condemnation." Hillary Clinton claimed the Internet for the United States just as if she had stuck a flag in it. And not only the Internet, but the actual free flow of information. This is an entirely unprecedented statement by a leader of government and the consequences cannot be completely predicted.

China's response, however, was predictable. Foreign Ministry spokesman Ma Zhaoxu said, "Regarding comments that contradict facts and harm China-U.S. relations, we are firmly opposed. We urge the U.S. side to respect facts and stop using the so-called freedom of the Internet to make unjustified accusations against China." But the best rhetoric came from China's state-run English-language Global Times newspaper, which said, "China's real stake in the 'free flow of information' is evident in its refusal to be victimized by information imperialism." It claimed that Clinton's speech is a disguised attempt by the West to impose its values on other cultures.

Ripples in a Pond of Money

The immediate effect of the announcement on Google's blog post was the quick rise of stock of its rival in the Chinese market, Baidu. Baidu's stock gained 52.99 points, which was 13.71 percent. Google's stock did not change significantly. Other than this, there were no truly immediate effects from Google's actions.

However, the long-term effects of Google's announcement can be quite far-reaching, based on the other 20-some companies that Google said were attacked. The number was later upped to 33. These included companies such as Adobe Systems, Northrop Grumman and Juniper Networks. And this well-documented cyber attack exposes what many companies were not willing to or afraid to speak about before – the hidden costs of doing business in China.

Many companies are eager to do business in China. The entire world seems to be waiting at the doorstep of the Chinese empire, hoping to be let in. They see an economy growing at an amazing rate, and a huge number of people looking for new services. And, they estimate that the costs of doing business will be much lower than in their original countries. However, many times when companies enter the Chinese market they find themselves on the losing end of what was supposed to be a great bargain. There are many hidden costs to doing business in China – from simple things like quality control issues and management overheads to difficult things like bribes to government officials and intellectual property theft. Google's choice whether or not to leave the Chinese market due to one of these hidden costs can very well become a trend-setting act. Other companies can also evaluate what's going on in their Chinese subsidiaries and think again if the benefits outweigh the costs.

Some editorials have gone so far as to say that China is waging a war against foreign companies within its borders. They say that the Chinese government would much rather see local copies of foreign companies instead of foreign firms, and that they actively encourage local companies to do whatever it takes to gain an advantage of their foreign competition. Google's potential withdrawal in the face of stiff competition from Baidu highlights this phenomenon, since Baidu is actively aided and sponsored by the government of China. Google can show by example that the rules of the land just do not favor foreign companies, and China's economy could suffer as a result.

There is also a question that nobody has asked. What is the economic cost to a country losing access to Google? Google is a great driver of commerce. Without it, people find it difficult to use the Internet at all. Other search engines can offer some services, but rarely the comprehensive suite of free features that Google offers. If Chinese companies lose access to Google as a market tool, will there be economic consequences? It is impossible to say, but some are worried that this is the case.

Ideology Abounds

Some of the more ideological on the Internet trumpeted Google's move as a stand against evil and a fight against censorship for the good of all mankind. Google's corporate motto, "Do no Evil," has been under criticism since the company entered the Chinese market in 2006, agreeing to censor its search results in compliance with the Chinese government's policies on the strict control of information. This announcement that Google is no longer willing to comply with Chinese government policies is viewed by many as an ideological shift and the beginning of an information war directly against the Chinese government.

There have been some changes to Google's search result offerings on its Chinese website already. The greatest example of this is searching for the 1989 Tiananmen Square massacre on Google.cn. This event, with pictures iconic in the Western media and instantly recognizable, is virtually unknown to younger generations of Chinese due to extreme censorship. However, searching for it on Google.cn brings up images and articles that were not there before. It is unknown how much longer this will work, or whether citizens inside

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Industrial Robotics in Asia

BY VINTI VAID

Great advances in science and technology have ensured that humans need not do anything on their own, especially with automation entering all facets of human life. Industrial robots are becoming increasingly popular all over the world and are responsible for decision making as well as controlling motion, something which was not possible a few years ago. Given the fact that these industrial robots can do mechanical tasks with the same consistent results and without feeling bored, it is obvious that they are the biggest marvels of today.

With nearly 6.5 million operating robots in the world, it is obvious that Asia, which is considered to be the haven of automation, cannot be far behind. Japan is considered to be the pioneer in robotics technology and still rules the roost in Asia as well as the world when it comes to usage of industrial robots, along with the Republic of Korea and China taking second and third places respectively for using industrial robots in Asia.

According to a robotics research conducted by wtec.org, though industrial robots are manufactured in Japan and Europe in great numbers, they are largely used in Japan, with countries like Korea and Taiwan following close in line. This research says that the United States and the European countries are currently lagging behind in the use of industrial robotics, in comparison to these countries. This has been attributed to the attitude shown by the governments of these countries towards industrial robots and automation. In Japan, if you want to start a new industry, one of the seven factors that should be available is industrial robots. Similarly, in Korea, industrial robotics has been defined as one of the 10 most important growth engines of the country. European countries such as Sweden and Italy are said to follow close on the heels of these two Asian giants.

Recent trends in the usage of Industrial Robots

The quality of industrial robots is improving while the price tag is getting smaller, and such robots are used in a multitude of operations including welding, painting, the automobile industry as well as food & beverages. The current market figures state that industrial robotics account for nearly $4 billion of the market economy and boast of a growth rate of nearly 4 percent.

FANUC is a major industrial robot manufacturing company supplying industrial robots to various countries in Asia, especially Japan, and is thereby contributing to the overall growth of industrial robotics in Asia. The recent economic downturn affected the sales of industrial robots in the automobile industry in Japan, Western Europe and the United States. However, this did not diminish the sales of industrial robots to the automobile industries of China, India, Malaysia and Thailand.

It is interesting to note that despite the economic slowdown, the sale of industrial robots has been consistent in the food and beverage industry, which actually showed an increase of nearly 10 percent. Similarly, the machinery and metals industries were also unaffected and showed a consistent rise in the implementation of industrial robotics.

Manufacturing industries in China, Korea and Western countries are now looking forward to using industrial robots for manufacturing. This trend is being witnessed despite the economic slowdown, largely because of the need to reduce the costs of manufacturing, which incidentally is possible with the use of automation. Manufacturers have experienced an increase in labor costs in these countries, especially China, India and other similar, highly populated countries. By using industrial robotics, it is possible to ensure lower investment in business venture while shooting for higher returns. Although many would say that the initial investment is high, there is no recurrent investment, and this makes it a profitable venture for those countries with high labor costs.

In Japan, the industrial robots were largely used in the electronics industry alone, thereby creating a need for their use in other sectors as well. Sectors like clock making, apparel making and other industries are being targeted in a move to enhance the use of industrial robotics in this pioneering country in recent years.

The past few years in India have been marked by an increase in the usage of industrial robotics in areas like the logistics, food & beverage as well as the FMCG industries, where the advantages of palletizing robots are being considered in order to enhance productivity, which will ultimately lead to increased profitability. According to ciol.com, such robots are basically used for packing and loading heavy goods that weigh anywhere between 700 kg and 1300 kg. This requirement, coupled with the fact that KUKA robotics has set up its own plant in India, is a definite move towards the automation of different sectors in India.

Statistics of Industrial Robot Sales in Asia and other Countries

A 2009 report from worldrobotics.org indicates that the sale of industrial robots took a beating in 2008, with only 113,300 units being sold worldwide. This has been attributed largely to the economic downturn that was witnessed during the period. In fact, the automation industry witnessed a large setback during this economic downturn in 2008, mainly because many industries refused to invest in this technology. However, despite this setback, the year 2008 saw 60,300 robots being supplied to different countries in Asia alone. The surprising aspect of these statistics is that while Japan, a pioneer in industrial robotics, was not investing in robotic technology, other countries like China, Thailand, Malaysia and India decided to increase their investments in robotics technology for their industries. In China alone, the increase in investment in industrial robots was nearly 29 percent, wherein these industrial robots were extensively used in the automobile sector as well as the electronics, synthetics and rubber sectors.

Interesting statistics are also available related to the increase of usage of industrial robotics in the non-automobile sectors like furniture, metal industries, machinery industries, photovoltaic industries, glass or ceramic industries and the semiconductor industries. The easy availability of industrial robots and the reduction in cost are the main reasons this technology is being adopted by small and medium scale industries in the Asian continent. The added advantage of being able to compete with the global market has led to nearly 1 million industrial robots being used in Asia alone.

KUKA Robotics has already opened a plant in India to help meet the demands of the country with regard to industrial robots. The KUKA robotics plant in India manufactures state-of-the-art industrial robotic systems, which will help automate different industries including foundry, metal, welding, plastics and automobiles. The start of the KUKA plant in India acknowledges the rise in demand for industrial robotics in India as well as the entire Asian continent.

Future of Industrial Robots

It is important to realize that just like any other technology implementation, the extensive use of industrial robotics will also have its challenges. A wtec.org report shows that manufacturers will have to get the ability to create industrial robots that are well adjusted to the requirements of the real world. Additionally, it is essential that these industrial robots come with a certain level of comfort in the future so humans can easily use them. Thirdly, with the increase of embedded systems and networks, robots might have to work with other robots through networking and sensors, which can be said to be a challenge at present where there is only a single interface between a human and a robot.

Despite the myriad challenges facing the automation industry, several industries will opt for automation for various reasons. Given the fact that automation will reduce the overall investment costs of any industry, it is obvious that people will try and opt for industrial robots. Moreover, quality of product is increased through the use of such automated practices, which makes it another point in its favor. Thirdly, flexibility in the manufacturing process and reduced quantities of wastage of raw materials also ensure that industrial robotics is definitely a force to be reckoned with in the future. Last but not least, automation is a greener way of doing business, which makes it a highly preferred choice for industries that want to be more environment conscious and play their roles in making the planet greener.

Under these circumstances, experts from worldrobotics.org claim that though the current economic downslide created a dent in the sales of robots in the year 2009, it will pick up gradually during the period from 2010 to 2012. Many analysts believe that the Asian market will see an increase of nearly 40 percent in the sale of industrial robots, which incidentally is claimed to be the highest increase across the world. An average increase of nearly 15 percent every year is expected in the European and Asian subcontinent. By the end of 2011, the stock of industrial robots is expected to rise to 1,057,000 from the existing stock of 1,036,000 in 2008. Proponents of industrial robotics believe that this technology will be increasingly used in industries other than the automobile industry, which includes food & beverage, metals and metal products, photovoltaic and pharmaceutical industries. A-P

Increasing Role of Managed Services

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it, the three key components for its success are:

Right Technology

Right People

Right Processes

Besides this, a clear-cut governance mechanism will need to be put in place for MS to be a success. A high-performance governance process can transform the agreement into a strategic relationship that is focused squarely on adding value. The governance model should be designed to:

- Set expectations, goals and measurement methodologies
- Form peer-to-peer teams to closely monitor performance of services
- Establish clear accountability and provide an escalation path for dispute resolution
- Provide a process for changing scope and terms of the contract
- Offer a vehicle for leveraging new technologies with the objective of exceeding end customer expectations.

9. Conclusion

A large number of businesses including telecom service providers have resorted to managed services for outsourcing parts of their operational areas and a good number of case studies are available to demonstrate the success of this model. However, it needs a very rigorous effort in identifying specific area(s) to be outsourced based on requirement and availability of MSP, formation of a dedicated team, simulating business models, defining SLAs and KPIs, preparing RFP and evaluating proposals received thoroughly before launching the process. Surely, the businesses that successfully separate the design, implementation and management of their infrastructure from their core, customer focused areas will free resources and expertise to concentrate on the development and marketing of services that customers value. Managed services has to be a fundamental part of a long-term, value-creating strategy. A-P

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Information Imperialism vs. the Information Curtain

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China can follow the links, but for now it is a small token of concrete change on the part of Google.

Also, Google's stance, which is cloaked in ideology, seems to have had a large effect in China itself. Chinese residents have started to put flowers and candles out at Google's Beijing headquarters, as if in mourning. This act was quickly banned, however. Discussion on Chinese Internet sites referred to "feifa xianhua," meaning "illegal flower tribute," but that term was quickly banned from most Chinese-language sites as well. When interviewed for a story at APIAsia.com, a student said, "Google is the entrance, the freedom to the Internet." Another student commented, "As a leader, Google's leaving implies the downfall of the Chinese Internet, including the respect of free speech."

Some people's hopes that Google's move may be the beginning of the company's efforts to actively thwart Chinese censorship have gotten a boost of promises from the U.S. government. In her speech, Secretary Clinton also said, "We are also supporting the development of new tools that enable citizens to exercise their rights of free expression by circumventing politically motivated censorship. We are providing funds to groups around the world to make sure that those tools get to the people who need them in local languages, and with the training they need to access the Internet safely." Whether Google itself will be involved in this effort still remains to be seen, but if it does not do so, another company probably will.

Google's announcement may very well go down in history as the most powerful blog post ever written, depending on what happens next. With the latest news coming in as this article is written being that China is linking these issues with larger trade issues and Taiwanese defense issues, a major political showdown may result between the two largest powers in the world, at least partially because of Google's stance. If a well-funded private sector effort is made to ensure the unrestricted flow of information through the Internet, and it succeeds, it may very well bring vast political consequences to not only China, but also Iran, North Korea and other regimes that try to maintain power by restricting information. The companies that may change their stance on the Chinese market, and the economic considerations there, may also have far-reaching consequences. At the risk of sounding too optimistic, Google might have just begun showing that the pen is mightier than the sword, or the bit mightier than the bullet. A-P

Impact of Nanotechnology on the Asia-Pacific Region

BY ANURAG AGNIHOTRI

The term nanotechnology conjures up something very small in size to be measured in the range of nanometers. It is the engineering of functional systems at the molecular scale, according to popular definitions given by experts in the field.

When the technology became popular two decades ago the aim was to build machines as small as possible or just a few nanometers wide. Scientists and engineers wanted to make motors, robot arms and even computers on a molecular scale. This was considered to be weird and only later did the technology gain some acceptance.

According to a research study, nanotechnology is defined as the design, characterization, production and application of structures, devices and systems by controlled manipulation of size and shape at the nanometer scale, i.e.; atomic, molecular and macromolecular, that produces structures, devices and systems with at least one novel or superior characteristic or property.

Richard Feynman, a Nobel Prize winner for Physics, defines nanotechnology as the building up of components from the basic level with atomic precision. He said that very small working components can be made, but it is too difficult because we are too big to make them. The success in building such systems will result in a manufacturing revolution as was predicted by many scientists and is seen in some sectors already.

Presently, nanotechnology is mostly confined to research and development efforts taking place in laboratories around the world. The nanotechnology products created are made using nanotechnology-enabled materials like carbon nanotubes, nanoparticles of a substance or made by using nanotechnology processes like nanopatterning. This is an endeavour to make better products known as nanoproducts at lower cost as well as a higher volume of production.

In summary, nanotechnology or nanotech can be defined as the study of the controlling of matter on a molecular scale concerning structures of sizes measured in nanometers and includes the development of materials or devices within that size. Like any other new technology, the harmful implications are also unfathomable although it has great potential in creating new materials and may be useful in applications encompassing medicine, electronics and energy production.

However, the negative implications of nanotechnology have been sidelined at the moment with governments and other agencies keen on boosting, aiding and promoting nanotechnology on a larger scale.

The Asia Pacific Nanotechnology Forum

The Asia Pacific Nanotechnology Forum (APNF) is one such example of an international effort to service the Asia Pacific region by "Facilitating Growth through Nanotechnology." The APNF is a collaborative network that will benefit member countries educationally, socially, environmentally and economically by focusing on regional and global nanotechnology issues. Supported by 15 countries in the Asia-Pacific region, the forum includes Australia, China, Hong Kong, India, Indonesia, Iran, Korea, Japan, Malaysia, New Zealand, Singapore, Taiwan, Thailand, the UAE and Vietnam.

The APNF serves as a platform for networking across the Asia Pacific region between governments, industry and venture capital markets. The Forum is a not-for-profit non-government organization that coordinates nanotechnology development and programs for encouraging regional collaborations among governments, industry, R&D institutions and scientists.

The APNF organizes annual conferences, symposia, workshops, seminars and exhibitions concerning nanotechnology. It was a major supporting organization of several initiatives and nanotechnology events in Asia, Europe and the United States.

It has successfully organized events through APNF workshops on societal impact in China as well as organizing the Malaysia Nanotech Forum and other international and bilateral nanotech events in Korea, Hong Kong, Indonesia and Taiwan. To further its initiatives, the forum started a human resource exchange program between Malaysia and Japan.

The objectives of the APNF are to increase collaboration in nanotechnology in the Asia-Pacific region through information sharing, human and physical resources and expertise. Member economies will have mutual access to major nanotechnology infrastructure. Also, members are required to initiate, promote and manage scientific and technology research projects. This will enable regional, economic and environmental development via joint projects to deal with major regional issues and the development of emerging economies.

Emphasis is given on boosting public awareness and education of nanotechnology and associated social, environmental, health and economic issues. The APNF acts as an advocacy group for nanotechnology covering the Asia-Pacific region and takes care of regional representation of nanotechnology at global forums.

Nanotechnology – Asian Scenario

The rapid development of nanotechnology and nanoscience has resulted in nanomaterials that are used in various consumer goods and industrial products.

A good example of this is the introduction of fireproof and waterproof clothes produced by a Chinese firm a few years back. This is a multifunction material made from nano-bamboo carbon fiber. The material is made by a special synthesis process involving the grinding of bamboo carbon into nano powder followed by processing into bamboo carbon fiber. Similar in looks to ordinary clothes, these are used mostly for making labor insurance clothes and outdoor sportswear.

In 2007 Bharathiar University in Coimbatore, India, signed an MOU with the Institute for Nano, Micro and Neuro Electronics, Sensors and Systems, at the University of Arkansas, for establishing a nano-facility on the university campus. The research facility enables the exchange of knowledge, technology, expertise and faculty between the two institutions. At present, the university is offering several undergraduate and postgraduate programs besides M.Phil and Ph.D programs in microbial nanotechnology and other related fields.

The nano-facility is involved in the research of new techniques in the field of developing preventive medicine for Parkinson's disease and heart attacks and making wireless sensors for the monitoring and control of cardiovascular and neurological diseases.

Experts opine that the economic development of a country depends on innovations and it is imperative for countries poised for growth to leverage nano-technology for future economic growth. But the technology has to be handled carefully, as it may turn into an undesirable tool in the hands of anti-social elements.

Japan also started investing in nanotechnology some years back. Japan's Toshiba Corp. reportedly bought nano-imprint lithography tools from a U.S.-based firm. The Imprio 250 tool is useful in NAND flash development and is based on the nano-imprint lithography technology. This technology is suitable for semiconductor applications, making hard disk drives (HDD) and light-emitting diodes (LED) and is much cheaper than optical scanners.

Disadvantages

New technologies christened as 'disruptive technologies' have made drastic changes in society from time immemorial. After the advent of microscale technologies which spawned microelectronics and telecommunication industry solutions, nanoscale technologies are here to make an impact. By manipulating matter on the scale of atoms and molecules, scientists look for means to tackle all crises like climate change, diseases and even poverty.

In their endeavor to produce nanoparticles and nanomaterials, scientists are transforming existing materials to make new ones. Carbon nanotubes can replace silicon, which can be used to make ultra high-speed computers. Nanodevices in molecular drug delivery can penetrate a tumor cell by targeting it chemically when injected into the bloodstream. Nanoparticle films with embedded sensors can detect food pathogens and food spoilage. A nanosensor can measure blood glucose in diabetics. Even cancer can be monitored and cured using the 'quantum dot' technology.

Arteminism is a natural product used in Chinese medicine to make anti-malarial drugs. The short supply of the product has been resolved, as it can now be synthesized using nanotechnology. Also Vivagel is a microbicide developed using nanotechnology. This reduces the transmission of HIV and other sexually transmitted diseases. Such research may be actually shifting the focus on easily available, less expensive alternatives and may compromise public safety, according to experts.

However nanotechnology's major use is in replacing industrial raw materials. If there is full success in the development of alternative nanomaterials to rubber, copper, etc., the trade of such industrial raw materials will be widely affected.

Also, there seems to be no proper regulation or monitoring for such new technologies.

"Hundreds of products containing unregulated and unlabeled nanoscale particles are commercially available. And yet, no national government has developed a regulatory regime that addresses the nanoscale or the societal impacts of the invisibly small. We should not allow the private sector to decide on who will own the technologies and regulate their use," said Edward Deveza, Technology Licensing Officer at the University of the Philippines System to development.asia.

This century is going to witness continued development in the field of nanoscience and nanotechnology. Nanomaterials are manufactured on a large scale and are incorporated in consumer goods and industrial products. Although offering advantages in the form of increased productivity, drug efficacy, agricultural benefits and so on, the actual effects of nanoparticles on our body and environment are not fully known.

With several economies in the rapidly growing stage in the Asia-Pacific region, due diligence should be given to the adoption of nanotechnology. Safety should not be compromised for high-speed growth. The onus lies in the hands of government bodies and the scientific community to ensure public safety and prevent harmful environmental impact. A-P

Connecting Remote Areas with Wi-Fi

BY ANURADHA SHUKLA

Technology has made our lives so dependent on the Internet that we can't even imagine spending an entire day without our valuable connection. But people living in remote areas don't have access to amenities such as an Internet connection, and they lose out on both the basic and good things in life.

However, despite this dependency on the World Wide Web, very few people around the world are benefiting from this wonderful mode of communication. Some companies such as Datacraft are attempting to overcome this problem and facilitate communications in regions where laying cables is an extremely difficult and expensive task.

IT solutions and service provider Datacraft is set to collaborate with World Vision Taiwan to set up a wireless Internet service network for communities and schools in the remote areas of central and southern Taiwan.

The most significant challenge faced by Internet service providers (ISPs) in remote areas is the lack of infrastructure required to set up proper communication systems and the inadequacy of funds to create such infrastructure. Given the recent economic slowdown, analysts believe that this situation has become more acute with Internet service costing more than what such countries or areas can afford. A cheaper alternative to traditional and conventional communication methods has been devised by the advances in technology, which include setting up Wi-Fi hotspots in such areas at a much lower cost, which would have the same effectiveness as conventional Internet connections.

The availability of laptops and desktops with in-built wireless technology has enabled ISPs all over the world to take advantage and enable Wi-Fi hotspots across the globe, especially in remote areas and villages, where traditional communication systems are not available. It is interesting to note that wireless technology is constantly changing and adapting to the requirements of today. WiMax, a high speed wireless connection is a significant example of what the future of wireless holds for us. This 21st century application will allow for downloading and streaming videos at a much faster speed than today. The best part is that this high speed wireless will soon be available in all parts of the world, thereby bringing about a significant change in the mode of communication.

Examples Set by Progressive Nations

Wireless connectivity is also needed while on the move on various interstate highways. Most interstate travelers, especially business travelers, lament at not being able to check their e-mails or respond to queries while on the move. The installation of high-speed wireless Internet service is required, which is unlimited and free to use for those people resting in the rest areas along the highway, while on the move. Recently, the Texas government that has taken steps to provide access to the Internet even in the remotest areas of Texas, including the highway. Such rest areas equipped with Wi-Fi access also serve to enable drowsy drivers to rest before they resume their journey, thereby reducing the occurrence of accidents.

Countries like India and other Asian nations should attempt to copy this concept to connect business travelers with their partners and companies they want to interact with. But these plans need funds. Aaron Reed from roadtripamerica.com says that Texas is getting funds for its Wi-Fi services out of maintenance budgets set aside by the state. Business travelers and other users get the most desired connectivity through satellite uplink/downlink equipment, and the authorities have implemented routers and distribution equipment in areas inaccessible to the public.

Asian nations have another example in the Institute for Connectivity in the Americas that has collaborated with the Latin America School of Network Foundation to install a portal to help set up wireless communication systems in the remote areas. This portal is called WiLAC and it helps in the installation of the pilot Wi-Fi project in the Latin Americas and the Caribbean, which incidentally is being connected by a single antenna. A similar national program is being developed in Costa Rica that's called communication without borders, which believes that irrespective to which society you belong, you should be able to avail Internet connectivity. Various access points have been marked for setting up hotspots under this scheme, which include public places like schools, libraries, post offices and other community centers.

European countries have also made use of Wi-fi in remote areas to connect those who do not have the basic infrastructure for conventional methods of communication. Freerunner, a UK based Internet Service Provider, is one of the forerunners of such a project, which believes that Internet access should be provided to all. Community hotspots have been identified all across Britain along with local people and NGOs, and Freerunner has decided to set up Wi-Fi access in those community spots for the locals. Interestingly, only 50 hotspots were chosen for the trial run. However, once the trial run is done successfully, the company aims to repeat the process in other parts.

Communication and Education Together through Wi-Fi

Wi-Fi Internet access in remote areas has been used for educating the locals on how to use this technology as well as enabling them to pursue their basic education. This can be seen from the example set by a non-governmental organization in Bangladesh, which used boats to set up educational centers and Internet centers in its remote villages. The specialty of such boats is that they rely exclusively on solar power and mobile phones for Internet connectivity.

A similar set up has been organized by the Government of India along with MIT Media lab and other academic institutions called DakNet, which enables people in remote parts of India to communicate with each other through local kiosks connected to a wireless network. Villages collect mails and letters throughout the day and send or distribute the same. According to a news site by the International Telecommunication Union (ITU), DakNet is offering data connectivity to regions that don't have communication infrastructure through a combination of wired and wireless transport. Unique hybrid network architecture allows high-bandwidth intranet and Internet connectivity among kiosks and between kiosks and hubs. This move has brought happiness in the life of people living in the villages as they can now send e-mails to their loved ones. All the multimedia messages are stored on the local kiosk server and this device is then connected to a wireless access point. Similar to our local postman in brick-and-mortar post offices, each day, the mobile van with an access point and external antenna comes to "collect" the requests/messages that have collected in the local server. This van meanders through the villages that lies on its route, and drops off messages as well as collect them on its way to the hub or the central Internet-connection point. Many things happen at the hub: processing of the requests, sharing of files, sending and receiving of messages sent and so on.

Cities in Asia can also run a pilot project similar to that of a project in which Wi-Fi was provided to remote areas through a two-wheeled Wi-Fi initiative in Cambodia. For this effort, both Japan Relief for Cambodia (JRfC) and American Assistance for Cambodia (AAfC) created a project that consisted of a motorcycle with a box mounted on the rear, which can send emails to schools in nearly thirteen villages, all situated in remote parts of the country. The ITU points out that these villages do not have any electricity, running water or any other mode of communication system but they can still enjoy the email facility.

Another example of setting up Wi-Fi in remote areas using the given resources is that of Fort Portal in Uganda by a U.S.-based company called Inveneo. The city of Fort Portal, though remote, is not completely cut off, but the challenge faced by the company, which makes this attempt noteworthy, is the complete redesigning of the usual wireless model for a climate that is hot, dusty and humid. Additionally, the company faced the problem of severe power cuts in this place, which caused them to look for alternative sources of energy for charging the wireless device, namely solar energy. The impact of creating such a device for this remote area has been huge as the residents now can get easy access to medical help via the Internet. Moreover, children can use this tool now for educational purposes, which was not possible before. Women weavers use this technology to sell their crafts over the Internet to a larger consumer base. Given the fact that these places do not have access to telephones or even continuous power supply, this effort made by Inveneo along with Green Wi-Fi is definitely noteworthy.

Future of Wi-Fi in remote Areas

Informal, a team comprised of wireless specialists from Europe, wants to recreate the DakNet model all across the world and is looking for methods to help and train NGOs to set up their own Internet structure using wireless technology. They believe that this will help reach more people than possible with traditional Internet systems and infrastructure. This project has been approved by United Nations General Secretary Kofi Annnan, who feels that Wi-Fi applications will help utilize the spectrum that is lying unlicensed to provide Internet and communication access to remote areas of the world. Simon Crab, a team member of the Informal group, stated that each country has different opinions about Internet access, which is why it is important to address each country differently, without relying on media reports, which he felt could be misleading.

Lastly, while setting up Wi-Fi access in remote areas, it is important to understand the effects of conditions such as climate, distance, availability of power, the nature of the terrain and any other special requirements that you may need for setting up wireless connectivity. Researchers feel that these factors will play a significant role in determining the nature of access available to the people. A-P

VAS
The Emerging Service Mantra for Indian Telcos

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broadband at home or those who need to get updated with the world while on the go. In all senses, BSNL's move will be hailed by the mobile VAS industry in India.

The recent merger of Google and AdMob validates the power, reach and value of the wider mobile marketing industry, says Dadwal. "For big brands that already leverage Google's vast suite of online advertising tools, we will see an expansion across mobile channels, as well as more integrated campaigns that captivate and engage across Web, mobile, print and experiential channels."

Through this acquisition, Google targets the rapidly growing, still very nascent, mobile advertising market. Though Google offers many forms of mobile advertising, its focus to date has been on mobile search ads, while AdMob's focus has been mobile display ads and in-application ads, said the company's official Web site. AdMob's advertising platform has been highly popular among iPhone users. Morgan Stanley found that iPhone and Android users browse the Internet more than anyone else, contributing to quintupling search growth for Google over the past two years. The merging of Google's popular Search Ad platform with AdMob's Display Ad platform will bring new advertising opportunities for brands.

Entertainment

A phone is also a handy multimedia device that everyone would love to possess. Says Dadwal, "The phone in your pocket may also double as a music store, as a new music distribution model with mobile operators the choice of music supplier becoming commonplace across Asia."

Moser Baer, the leading CD manufacturer, has set a new trend by announcing "content-laden Micro SD cards for handsets," that offer music and movies to handsets at a nominal price. The company so far has not announced industry tie-ups with any music/video production company. Rather it uses the content from the Moser Baer Home Video division that owns the rights to approximately 10,000 home videos. Moser Baer cards, similar to the pre-loaded CDs or DVDs, will threaten the existence of multimedia CDs/DVDs in the near future.

While the content-laden cards will provide entertainment companies and distributors with new revenue opportunities, they also offer a lucrative advertising platform for brands targeting the mobile-savvy consumers.

Handsets, especially smartphones, are emerging as high-tech gaming machines. As their popularity increases, they will also provide a convenient advertising platform and create new revenue opportunities for publishers, distributors and service providers. Nokia's Ovi Store and Apple's iTunes App Store already provide over-the-air distribution for mobile games, and advertisers have started utilizing this opportunity.

"The revenue from in-game advertising may also be used to partially or completely subsidize the price of mobile games/services that the application provides," says Dadwal. "The current market size for the mobile gaming industry in India is estimated to be US$15 million, a substantial amount for a market that is very much still in its infancy, and other Asian countries are likely to follow suit."

The Healthcare segment

"Mobile healthcare is another fast-growing segment in Asia with its aging but tech-friendly population," says Dadwal. In a recent study, Solidiance estimated that by 2010 the Asia Pacific mobile healthcare business would be worth just under $1 billion with 70 percent of users in more advanced economies. Important applications for mobile in healthcare include remote patient monitoring, mobile nursing, mobile medical records access, access to free mobile healthcare information and more. Indian operators are expected to make use of mobile healthcare business opportunities very soon.

Setting the Stage

Mobile marketing faces some fundamental challenges that hinder mass usage of content on mobile phones, according to MMA. These include lack of knowledge among users, mobile browser constraints leading to poor content quality/experience and the data charges associated with the use of Internet over the phone. Innovations that will solve these challenges will unlock the true potential of the mobile mass media.

Content integration is a key challenge for providers. The market is overflowing with different types of mobiles. To meet this challenge, content providers have to develop content that suits different phones available with different capabilities.

Dadwal feels there is a lack of regulations and guidelines that marketers should adhere to that may also lead to the risk of mobile phone spam and consumers losing trust in mobile marketing. MMA is hoping to address this in the near future together with its member companies. The organization has set in place guidelines that will further enhance the consumer experience of mobile marketing and help to build a level of trust. They include a Global Code of Conduct and Consumer Best Practices, which aim to ensure that the mobile marketing experience that consumers receive is a positive one. The MMA also strives to provide consumers with recourse to convey concerns and criticisms of brands that do not adhere to these guidelines.

With cooperation from the industry, government and associations like MMA, the mobile VAS in India can improve the living standard of mobile users in the country. The industry will flourish as new services emerge and customer trust builds in those services. A-P

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More Indian Techies in South Korea

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The flow of Indian techies to South Korea and vice versa is not a new phenomenon. Back in 2004, the then Union Minister of IT and Communication Dayanithi Maran and the Korean Minister of Information and Communications Chin Dae-je signed cooperation agreements in the IT field. The flow of investments and expertise from Korea to India in the hardware sector and from India to Korea in the software sector were agreed upon.

The joint statement made by the ministries said that the focus will be on the development of technology and human resources in the software sector and the next-generation ICT industry, such as 4G and next-generation mobile communications and research networks. The scope of the agreement also included sectors like broadband infrastructure, e-government, digital signature and Cyber Emergency Response Team (CERT).

"India has one of the largest skill bases in software technologies. South Korea has some of the most competitive industries like electronics, hardware and telecom. These industries require sophisticated software, strong R&D infrastructure, digital products and solutions. These are the areas where the two nations can cooperate, which can lead to a win-win situation," said an expert in this field.

It is a known fact that Indian software professionals power most ventures out of Silicon Valley in the United States. The English speaking, hardworking, tech-savvy and economical Indians are much in demand in the developed and developing world. With borders merging and the world converging under rapid globalization, the coming together of countries in the fields of trade and technology is a foregone conclusion. It is not surprising that Indian techies are making their mark in South Korea as well.

Boosting People-to-People Relations

India is striving to make a broad pact with major Asian countries like Japan, China, South Korea and the ASEAN nations to boost economic ties in this region to create regional cooperation similar to that seen in the European Union. The underlying strategy is to form an Asian Economic Community. Discussions are afoot between the leaders of the concerned nations to make this a reality. This is expected to further induce more Indian software professionals to move to South Korea and other countries within the alliance.

The large presence of Indians in South Korea has not gone unnoticed even by the movie industry in India. Korea has been chosen to host a large Indian film festival this year. Andre Timmins, an organizing committee member for the international Indian Film Academy Awards, said during the Korea Night Event that Seoul will host the annual IIFA Awards in June 2010.

Euh Yoon-dae, former Korea University president is driving Korea's efforts to boost its international image through the Presidential Council on Nation Branding. The Indian IIFA Awards' function is recognized as a grand festival akin to the Academy Awards in the United States. It is expected to bring scores of Indian actors, actresses and filmmakers to Korea. This will add color to Indians living in South Korea and will be indicative of the greater cooperation between the two nations. This will enhance the comfort zone for professionals working on foreign soil.

More good news comes in the form of the Comprehensive Economic Partnership Agreement (CEPA), which includes goods, investment and services that became functional with the dawn of the new year. Greater collaboration will be possible between South Korea and India.

Indian professionals will benefit from the market-opening trade pact with South Korea, a net importer of Indian services. Also, India can scale down the trade imbalance with Korea, according to a Federation of Indian Chambers of Commerce and Industry (FICCI) research study. It was also revealed that India will have huge opportunities to become a leading supplier of services to the Korean market. Korea looks towards India to nurture its software services market more than anything else.

Even in 2003, the Korean government was keen on tapping Indian skills in software to derive mutual benefits. South Korean companies arrived on Indian shores, taking over the consumer durables market by storm. Be it televisions, washing machines, microwave ovens, music systems or refrigerators, Korean names like Samsung and LG have become popular. As for cars, Hyundai is next only to Maruti cars on Indian roads. The country's presence can also be felt in the construction sector. In return, Indian techies migrated to Korea to feed the software industry there.

The Future of Indo-Korean Relations

The Korean president's visit to India in January 2010 led to the signing of a science and technology program agreement between the two nations. The arrangement signed by the science ministers of the two countries will enable joint efforts in developing chemicals, materials engineering, water resources, environment and IT engineering spheres. This will facilitate the movement of professionals and their families.

The recent announcement by the government in Seoul spelled out plans for the expansion of economic ties in the IT and software sectors to build the global competitiveness of both countries. The Korean Ministry of Knowledge Economy said that Samsung Electronics and LG Electronics were excelling in the global IT field and high-speed Internet infrastructure sector.

India, for its part, has a strong software presence in the world with global giants like Wipro and Infosys making a mark in the IT sector. Indian software professionals were praised by the Korean officials owing to their research and development expertise in embedded software.

According to South Korean officials in the Ministry of Knowledge Economy, Seoul's strength in IT-related hardware and New Delhi's software expertise transferred to Korean soil will be the driving force for future growth in both countries. Greater cooperation between the two countries in various other fields like textiles, small business, iron and steel, oil and petrochemicals is also set to take off thanks to the IT revolution and the increased sense of trust between these two nations. A-P

GREEN

COPENHAGEN AND AFTER

BY DONALD KIRK

Wonderful, wonderful Copenhagen
Friendly old girl of a town
'Neath her tavern light
On this merry night
Let us clink and drink one down
To wonderful, wonderful Copenhagen

The officials and experts and journalists who flocked to the 15th United Nations Climate Conference in the Danish capital of Copenhagen in December were probably in no mood to sing the Frank Loesser song from the 1952 movie "Hans Christian Andersen." They may have appreciated the welcoming Little Mermaid statue in the harbor, but by the time the talking and arguing was all over they were more likely to be badmouthing and complaining than clinking glasses. There were no merry nights, just nightmares, as the conference ended with one lesson learned: the world's powers, great and small, industrial and developing, all agree that climate change is bad and emissions cuts are needed, but they are nowhere near a binding, disciplined, unified way to combat the danger.

On that note, the mushroom cloud of verbiage from COP15 ("COP" for "Conference of Parties," not Copenhagen), may pose more danger to international atmospherics than the emissions the participants paid lip service to wanting to reduce. The U.S. delegation, more than many of the others at the climate control summit, was clear on one thing: the ambivalence of its view of the Copenhagen Accord, a non-binding document to which about 30 countries said they were committed to adhere. They represented the economies responsible for more than 70 percent of emissions, said the U.S. Climate Action Network, but the conference was a severe disappointment if not a failure to those who wanted stronger action.

No one was impressed when the United States submitted a letter indicating its association with the document after President Barack Obama, in a whirlwind visit to Copenhagen, proposed emission cuts of four percent below the 1990 levels by the year 2020. The letter, addressed to the United Nations Framework Convention on Climate Change (UNFCC), came with a catch that suggested the vagueness of the commitment. First, of course, the U.S. Senate would have to give its approval. In that spirit, the words of U.S. climate change negotiator, Todd Stern, appeared as so much hot air. Obama's words showed the United States' "commitment to meeting the climate change and clean energy challenge through robust domestic and international action," said Stern, calling on "all major economies" to live up to promises to "submit their mitigation targets or actions."

The agreement for "major economies" – meaning major greenhouse-gas offenders – to come up with their own targets means that no one really has to live up to anything other than their own interests. The executive secretary of the UNFCC, Yvo de Boer, put the best face on matters when he remarked that the Copenhagen Accord "reflects a political consensus on the long term, global response to climate change." If only the signatories are able to "follow up Copenhagen's outcomes calmly, with eyes firmly fixed on the advantage of collective action," he said, "they have every chance of completing the job." And, if they miss their targets, who's going to penalize them or force them to do better? The answer is no one. Todd Stern was frank in an off-hand remark at the UN Foundation in New York when he said the accord was "lumbering down the runway," but "we need it to gather enough speed to take off." Or, as the European Commission put it, the European Union needed to give the accord "a life" by playing "a pro-active role in strengthening and expanding support."

Questions focus on how to discern whatever major developing economies – Brazil, India, China and South Africa, are joined in opposing any binding commitments on growth – are doing. They and more highly industrialized countries all have to live up to their non-binding pledges if all the world's 194 nations are to achieve the stated goal of the Copenhagen Accord of limiting the average rise in global temperatures to 2 degrees Celsius.

With the dust settling from Copenhagen, China faces the daunting task of attempting to lower its emission of carbon dioxide by 40-45 percent by 2020 from where it was in 2005. China's other goals appear equally ambitious, including increasing the share of non-fossil fuels in energy consumption to 15 percent by 2020, according to a letter obtained by Reuters, and adding 40 million hectares of forested land by 2020 from the level in 2005. That should come as a relief to millions of Chinese, and millions more in Korea, who every spring have to breathe air that turns the skies cloudy with yellow dust blowing in from China's deforested wastelands. The particle level keeps rising as the dust rises not so much from the Gobi desert, as we were told years ago, but deforested lands in Manchuria and Mongolia. China's willingness or ability to keep its word is critical – and may portend the success or ultimate failure of the international climate control movement.

Remember, China has surpassed the United States as the world's biggest polluter, contributing 16.64 percent of the world's greenhouse gas compared to the United States' 15.78 percent of the global total, and Russia, the third worst, at approximately 8 percent. Russia's President Dmitry Medvedev proclaimed Russia's determination to slash emissions by 25 percent by 2020 from the 1990 level, but that lofty promise was deceptive since the 1990 figure reflected emissions from the entire Soviet Union, not merely the Russian republic, which accounted for about 70 percent of the emissions of all the Soviet states.

The ability of Brazil, another major player in formulating the accord, to meet its target figure also raises questions. Brazil's President Luiz Inacio Lula da Silva signed a bill at the end of December that committed his country to a 39 percent cut in greenhouse emissions from the 2005 level by 2020, but a statement read at Copenhagen made clear Brazil had in mind a "voluntary commitment." Lula da Silva, moreover, vetoed references in the bill to developing "clean energy sources" and the "phasing out of energy from fossil fuels," meaning that Brazil will rely as much as ever on oil, coal and natural gas.

South Africa, responsible for nearly 1 percent of emissions worldwide, professed great disappointment over the results of the conference but still hoped to cut emissions by 34 percent by 2020. That goal, however, appeared unrealistic. A report by the German Development Institute found that efforts to improve energy efficiency and reduce dependence on fossil fuels had "failed to have any large-scale effect" with the capacity for renewable energy "lacking at every stage of the technology cycle, from research and development to installation and maintenance."

The European Union, with 11.69 percent of emissions, promised to adhere to an earlier pledge of a 20 percent cut by 2020 from the 1990 level – and said it might even cut emissions by 30 percent but with an important caveat, namely that "other major emitters agree to take on their fair share of a global reduction effort." Japan came up with a similar condition, pledging to reduce emissions by 25 percent from the 1990 level by 2020 provided "all major emitters commit to ambitious targets" – a condition that might seem counter to serious commitment. In Japan's favor, however, the nation's policymakers and business tycoons in recent years have been more sensitive about pollution than those in most other countries. Despite Japan's enormous industrial output, Japan contributes only slightly more than 3 percent of emissions worldwide, a figure that places it below Indonesia, 4.73 percent, and India, at 4.32 percent. Both Indonesia and India signed on to the accord, promising emissions reductions of 26 and 20 percent respectively, though there was no telling how certain either was to achieve what might be difficult goals.

South Korea, responsible for 1.3 percent of greenhouse gas emissions, sought to appear totally cooperative, signing on to the accord without hesitation while pledging to reduce emissions by 4 percent by 2020 from the 2005 level. Lee Manee, the environment minister, sought to portray Korea before the summit as a good world citizen, pledging Korea would "lead efforts to reduce greenhouse gas emissions and do its best to reduce damages." This position, refreshing though it was, scarcely hid the reality that Korea's emissions growth had been the fastest among members of the Organization for Economic Cooperation and Development (OECD). Nor was there any guarantee that Korea would be able to keep to the schedule. "Aiming high," said Lee, "the environment ministry hopes to set up a target as high as possible."

President Lee Myung-Bak built on the same cooperative spirit, talking up plans for a Global Green Growth Institute that would conduct research on climate control and also announcing Korea's bid to host the 18th UN climate control summit, COP18, in 2012. The timing is key. That's the year in which the Kyoto protocol, adopted in 1997, but approved by only 37 industrialized countries, not including the United States, expires. The protocol calls for an average of five percent in emission cuts from 1990 levels between 2008 and 2012, another dream that at this stage seems impossible. Lee saw Korea, however, as doing more than its share, investing 2 percent of its gross domestic product each year into research and development of green technologies. "Taking on climate change must begin with each of us doing our own part," he said. "Once we do, then we can start a truly positive cycle around the world." The Green Growth Institute would demonstrate "the spirit of global partnership," he said, "as a global think tank and as a bridge between advanced and developing countries."

Korea's bridging role could be crucial. Officials of developing countries charged that the 30 or so industrialized nations had put their heads together to draft the final accord, non-binding though it turned out to be, and ignored their interests. They complained that the industrialized countries had the right, under the final document, to pollute the atmosphere twice as heavily with the excuse that they have more than twice as much industry, motor vehicles and all the other accoutrements of relatively advanced and wealthy societies. The summiteers made an enormous effort to answer this storm of criticism, allocating $30 billion a year for 2010, 2011 and 2012 for assisting impoverished and developing countries in emissions control and setting a goal of $100 billion annually for that purpose by 2020. That bait was enough to convince a number of developing countries to go along – albeit with reservations. Botswana, for instance, welcomed the accord – though Kitso Mokaila, Botswana's environment, wildlife and tourism minister, did say it was "not entirely what the developing countries were after."

While many countries quietly, if reluctantly, endorsed the Copenhagen Accord by the deadline of Jan. 31, critics could not hide their disappointment over the level of commitment. Niklas Hoehne, director of energy and climate policy at Ecofys, a climate consultancy, put "most of the industrialized countries in

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GREEN

CHINA
THE SMART LEADER IN THE EAST

BY RAJANI BABURAJAN

The recent Copenhagen summit concluded reiterating the need for energy efficiency and a carbon footprint reduction strategy among the participating countries. While the world is split on political and economic grounds on the climate front, technology is acting as the conciliator by offering universal and cost-effective energy-saving solutions like the smart grid.

Smart grid technology has already gained popularity in the United States and Europe. With developing countries like India and China facing the axe from the West on the pollution front, the green focus is being shifted to the Asia-Pacific region, especially to China. China, nicknamed the world's manufacturing market, is the clear target of smart grid companies around the world. They think that a robust smart-grid infrastructure will help the country sustain its energy resources while taking its business goals forward. The market is now dynamic with a lot of new smart grid projects led by global leaders like IBM, Cisco and GE.

Energy Savings from Smart Grid

"Smart Grid" refers to a "modernized electricity network" that utilizes a two-way digital technology to send electricity from the source to end users and establish a connection between the end user and the provider. A smart grid, in short, is an intelligent monitoring system that can track the electricity flowing through a system. While the technology offers huge power savings benefits to countries, it spares customers from inflated electricity bills. A smart meter is an important component of the smart grid.

Applications and Benefits of Smart Grid Technology

- The smart grid enables integration and management of alternate energy sources such as solar and wind, providing seamless power supply, especially when there is a shortage of energy from conventional sources.
- The technology empowers users with smart control over their electrical devices and keeps their electricity bills under control. The technology is especially helpful to enterprise customers, as they can continuously monitor their power consumption and adopt proactive measures to keep their energy expenses under control.
- The smart grid divides energy consumption into two categories. It turns on select machines, for example a washing machine or an industrial machine, during arbitrary hours when the energy cost is lower. During peak hours, it could turn off such appliances automatically and reduce the demand.
- The technology allows users to track how much electricity is used at a given time. The price of electricity is greater during peak hours and lower during off-peak hours. By convincing users about the economic benefits of using electrical appliances at the suitable hours, governments can fight the challenges associated with energy management.
- The smart grid follows a system wherein the user pays only for the power they consumed, meaning they will not have to pay for the power lost due to power blackouts.

Global Smart Grid Market Scenario

Currently, the United States and the European Union are at the forefront of smart grid deployments.

A recent smart grid research report from ZPryme Research & Consulting1 reveals that the global smart grid market is estimated to grow at an explosive rate, jumping from the current $69.3 billion to $171.4 billion by 2014. A major factor driving this growth is the rapid smart grid deployments happening in the United States. The $3.4 billion in smart grid grants announced by the Obama administration and several investments that followed the announcement encouraged the smart grid market in the country to grow to about $21.4 billion in 2009. The market will witness explosive growth in the coming years to hit at least $42.8 billion in 2014, the report said.

According to Frost & Sullivan2, the smart grid/smart meter market in Europe is expected to reach $11 billion by 2015. The study covers market segments such as automated meter infrastructure, IT systems and communication technologies. While Italy scores as being the forerunner of the technology since 2005, Denmark gains the credit as the developer of the most intelligent grid to manage the power load generated by wind (the country currently meets approximately 20 percent of its total energy need from wind power).

Smart Grid Initiatives in China

No other country benefits from the power of the smart grid as China. In view of the massive industrial development in the region and acute power shortage, experts say the smart grid is the magical solution that improves the economy of electric supply, energy consumption and environmental protection in the country.

China's energy demands will double in the next ten years, say government officials. With this target, the country is keen to build a smart grid network. Over the past couple of years, the government spent massive amounts on conducting research and initiating smart grid infrastructure build-out. Official estimates say the smart grid initiatives in the country will take up enormous resources. Earlier last year, Bloomberg3 reported that China will spend as much as $10 billion a year through 2020 to build a modern grid.

The State Grid Corp. of China (SGCC), China's largest power grid builder that serves 26 provinces and 1.08 billion people throughout China, initiated the construction of a smart grid network earlier last year. The smart grid in China currently focuses more on the transmission side than the distribution side. This power grid will improve the power distribution and management between the remote thermal power stations and the regional power grids located in different parts of the country.

A unified national power grid network project called the "West-East Electricity Transfer Project," is underway in the country. The project includes construction of three major west-east transmission corridors, each of which will have a transmission capacity of 20 GW by 2020. The Chinese government hopes these power grids will balance the power generation and utilization disparities among different regions.

Smart meter upgrade and transition to a national Smart Grid system are included as key components in China's stimulus package announced in November 2008 and valued at about $586 million. According to official sources, Chinese utility companies may require approximately 300 million standard meters – both commercial and residential – during the country's transition to a national smart grid system. As of 2008, only about 1 percent of China's utility meters are automated. This indicates the sheer size of the smart grid market in the country.

China has been attracting several smart grid companies since then. After setting strong momentum in the West, the smart grid companies are shifting their focus to the East. China, being the largest greenhouse gas (GHG) emitter in the world, is the obvious target for all of them.

Recently, GE announced it is setting up a smart grid demonstration center in the Yangzhou New Economy and Development Zone. The demonstration center is set up with the goal of deploying some of GE's tested smart grid technologies within four years in the region.

The initial phase of GE's demonstration will include wireless-enabled smart meters, home energy management systems, programmable thermostats and smart appliances. Grid infrastructure and control technologies in the demonstration include automated outage identification and restoration software, field-force automation and deployment systems and grid-wide network management software, according to GE sources. The demonstration center may also showcase home-based charging stations for plug-in hybrid electric vehicles (PHEVs). PHEVs will gain popularity as they will reduce the country's oil consumption and carbon footprint.

"Yangzhou's initiative will be a showcase to demonstrate how China can get the power it needs and reduce energy's environmental impact at the same time," claims Mark Norbom, president and CEO of GE's China business. "China has experienced unbelievable growth over the past decade, creating a massive need for energy to power businesses and consumer lifestyles – so the time is right for Yangzhou to become a smart city."

GE is planning to collaborate with industry leaders to deliver a broad portfolio of carbon-smart technologies in the industry to modernize electrical systems from the power plant to the consumer, said company officials in a recent announcement.

Cogo Group, a provider of platform services for the technology and industrial sectors in China, is keen to capitalize on the country's Smart Meter upgrade over the next five years, according to Cogo officials. The company has already collaborated with several companies for a smart-meter rollout in China, including Holley Metering, Wasion and the Hexing Group.

"We are very excited about the opportunities available to Cogo over the next few years with China's new but rapidly growing Smart Meter upgrade," said Jeffrey Kang, CEO and chairman of Cogo, in a recent announcement. "We expect that Smart Grid and Smart Meter are going to be key factors in the overall growth of our industrial business, which we expect to grow much faster than the overall company in 2010 and beyond."

In November 2009, IBM, a leading technology provider, forged a partnership agreement with Chinese energy company ENN Group "to help Chinese companies and cities become more energy efficient," according to an announcement from the company. ENN operates natural gas, biofuels and thin-film solar panel manufacturing businesses. Under this partnership, IBM will provide consulting and information technology services to ENN Group to help it become "a total clean energy solution and services provider," an official statement said.

Earlier last year, Accenture, a global technology services and outsourcing company, announced the creation of Accenture Intelligent City Network, aimed at bringing together utilities and city authorities around the world who are committed to deploying smart electric grids. East China Grid Co., a Chinese transmission company, is included as one of the initial members of the Network. Accenture has grabbed over 10 projects in the country so far.

Hewlett-Packard (HP) recently announced it will buy network equipment manufacturer 3Com for $2.7 billion in a bid to grow its business in China. The acquisition of 3Com, which is a strong competition to networking major Cisco, will create tough competition in China where

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GREEN

GREEN CONSUMING

BY AMANDA MIN CHUNG HAN

Kim Jeong-sook, a 31-year-old homemaker in Seoul, buys groceries through the Internet shopping mall with her co-workers. The Internet shopping mall is operated by a group of farmers from her hometown.

"There are many advantages to buying vegetables, rice and honey directly from a farmer and a beekeeper," she says. "The price is somewhere between the wholesale price and the retail price because I place a large order with my colleagues. I feel I get ripped off whenever I see the retail price in a supermarket or a department store."

The price is not the only advantage that she finds. The vegetables, rice and honey from her hometown are all organic and are grown without any pesticides or chemical fertilizers.

"As a mother of a three-year-old girl, I pay a lot of attention to the food she eats. I don't want her to eat food covered with chemicals. She probably will eat instant food at some point, but I just don't want her to have it at such an early age. That is why my colleagues and I always order organic food."

As she is concerned about her carbon footprint, organic food is also a good alternative.

"I am not so sure how much I can reduce my carbon footprint by consuming organic food. I just try not to consume too much artificial seasoning and/or MSG (monosodium glutamate) for my health and, most of all, for my child. I hope she will enjoy nature as I did when I was a little girl."

The number of people concerned with their carbon footprint just like Ms. Kim is increasing.

You may wonder what carbon footprint is. According to carbonfootprint.com, a carbon footprint is a measure of the impact our activities have on the environment and, in particular, climate change. It relates to the amount of greenhouse gases produced in our daily lives through burning fossil fuels for electricity, heating and transportation. The carbon footprint is a measurement of all greenhouse gases we individually produce and has units of tons (or kilograms) of carbon dioxide equivalent.

For example, if you fly from Seoul to Mumbai by economy class, your total footprint is 1.01 tons of carbon dioxide. If you drove 40 km to commute from home to the office with a 2004 model Daewoo Lacetti, your carbon footprint is 0.01 tons of carbon dioxide. If the car is the 2000 model Daewoo Leganza, the carbon footprint becomes twice that to 0.02 tons.

If you drive a 125cc scooter for 40 km, the carbon footprints drop to 0.004 tons. Commuting on a bus reduces the carbon footprint to 0.004 tons when you travel same 40 km. If you take a subway, it drops the emission of carbon dioxide to 0.003 tons for the same 40 km travel. Taking a taxi for 40 km produces 0.01 tons, the same as the Lacetti.

If you are a vegetarian, you can reduce the emission of the carbon dioxide. When you eat red meat everyday, your carbon footprint is 0.76 tons. If you eat a mix of red and white meat, your carbon footprint drops to 0.62 tons. However if you are a vegetarian, the carbon footprint you leave drops dramatically to 0.20 tons.

Although Ms. Kim was not sure if she could reduce her carbon footprint by consuming organic food, it does indeed help to reduce it. If you buy and grow only organic food as Ms. Kim does, your carbon footprint is only 0.02 tons, while if you don't buy or grow any organic food at all, your carbon footprint soars to 0.26 tons.

Eating only food in season is another way to reduce carbon emissions. Seasonal food drops the carbon footprint to 0.26 tons from the 0.37-ton footprint when you don't eat in season food.

Consuming locally produced food reduces 0.23 tons of carbon emissions compared to consuming imported food. Buying second-hand clothes also reduces 0.02 ton of the carbon footprint, compared to buying new clothes regularly.

If you buy goods with very little packaging instead of heavily packaged goods, you can cut 0.18 tons of your carbon footprint. If you use your TV set until it wears out instead of buying a new set whenever the latest version comes out, you will produce 0.02 tons less of carbon emissions. Having more than one car leaves a larger carbon footprint than you think. If you own three cars, your carbon footprint is 3 tons more than if you didn't own any cars.

From the previously mentioned things, you can guess that walking to work instead of driving a car, buying organic food instead of imported food, and consuming in-season, locally produced food will significantly reduce your carbon footprint.

For carbon footprint reduction, there are simple things to do as an individual. According to carbonfootprint.com, when not in use, turning off lights, television, DVD player and computer helps to reduce one's carbon footprint. When you use a 34-inch LCD TV for 6.5 hours per day, its annual carbon footprint is 215 kg of carbon dioxide. However, when you leave the TV on standby (plugged in without turning it on) it produces 5 kg of carbon dioxide per year.

Turning down the central heating just 1 to 2 degree Celsius and the water heating setting just 2 degrees will result in a significant reduction. Also, don't forget to check the central heating timer setting – there's no point heating the house after you have left for work. Fill your dishwasher and washing machine with full loads. This will save water, electricity and washing powder. For the kettle, fill it with only as much water as you need to save electricity.

For shopaholics this may be bad news, but if you do your weekly shopping in a single trip you can save on transportation fuel and produce a smaller carbon footprint. Many people use an electric tumble dryer, however, if you hang out the washing to dry rather than tumble drying it, you can save electricity and also reduce your carbon footprint.

If you make a small initial investment, you can reduce your carbon footprint more efficiently. Use energy saving light bulbs instead of incandescent light bulbs. Install thermostatic valves on your radiators. When you replace your old fridge/freezer, buy one with an energy efficiency rating of A, which will reduce the energy consumption dramatically. Also replace your old boiler with a new energy efficient condensing boiler. And don't forget to recycle your grey water.

If you're an avid traveler as I am, it would be a little disappointing to learn that less travel will save the world. If you have to travel, there are ways to travel in a more carbon-friendly way.

Share a car to work and/or use the bus or subway rather than your car. For short journeys either walk or cycle to a supermarket or department store. If you're the owner of a company, let your employees work from home one day a week, it will make a huge difference on the carbon footprints. If you replace your old car, buy a biodiesel fuel engine car. When you're staying in a hotel, turn the lights and air-conditioning off when you leave the hotel room and ask for your room towels to be washed every other day, rather than every day.

There are also many ways to cut carbon emissions through 'Green Consuming.'

Don't buy bottled water if your tap water is safe to drink. Seoul City Government promotes its tap water, branded 'Arisu,' to encourage people to drink from the tap rather than buying bottled water.

Buy local fruits and vegetables and, if possible, try growing your own in your back yard as the U.S. First Lady Michelle Obama does at the White House. Also buying local foods that are in season helps reduce carbon footprints. Those fresh fruits and vegetables that are out of season may have been flown in.

Reduce your consumption of meat, and if you have to eat meat, choose white meat rather than red meat. Try to buy products made close to your home; those items that are made in the distant place may have used a preservative to keep the food fresh. Buy organic products so as to avoid chemicals, such as preservatives, pesticides and fertilizers.

To reduce waste, don't buy over-packaged products. Koreans tend to like over-packaged things. For example, if you buy one box of cookies, each cookie is individually packaged with cellophane. Cookies in the cellophane package are then packaged with a bigger cellophane package and/or additional cardboard. Also recycle as much as possible, there are many shops selling second-hand furniture and electronic goods.

In your spare time, instead of driving a car to a department store and/or movie theatre, take a bike or go for a walk. It will help you be healthy and also reduce your carbon emissions.

It is still unfortunate that there aren't many options to buy environment-friendly products in Korea. In terms of green consuming, Korea is still considered an underdeveloped country. According to Hyundai Research Institute (HRI), 40 percent of the environment-friendly products are office supplies and office equipment. Moreover, the market share of environment-friendly products is under 5 percent.

The Ministry of Environment introduced the 'Carbon Dioxide Label' mark last year February. This mark applies to products that are produced by environment-friendly companies. As of September 2009, only 55 types of products acquired the Caron Dioxide Label. Moreover, most people are not aware of the mark due to the lack of promotion and advertisement.

Kim Dong-yul, a researcher at HRI, said, "It is considerable to adapt the 'Green Model City Competition' in Germany and Japan to promote green consuming. It is important to publicize 'Consuming Standard' through action programs."

According to the Korea Environmental Industry and Technology Institute (KEITI), the domestic market size for environment-friendly products is likely to be US$3.6 billion in 2012. That is about 1.4 times larger than in 2009. The market is divided by the public sector ($2 billion), the household sector ($1 billion) and the business sector ($0.6 billion).

The Public Procurement Service announced the Public Procurement Minimum Environmental Standard on January 27. For the year 2010, computers, notebook computers, TVs, refrigerators, air cleaners and some others of the total 18 products must qualify for the standard to be procured by the government.

Mr. Lim, Joong-sik, an officer at the Public Procurement Service, explained, "When the new standard is applied to the current procurement of products, only 60 percent qualify according to the standard. To relieve the shock and to give time to be prepared, the grace period will be applied to products respectively. It's six months for PCs, one year for refrigerators and air conditioners. Also, we will allow an additional six-month grace period for small and medium-sized companies." A-P

GREEN

THE ECO-CURRENCY: A PROPOSAL

BY EMANUEL PASTREICH

The environmental challenges we face today compel us to reconsider the conventional economic concept of growth and recognize that it cannot be easily reconciled with the dangerous implications of runaway consumption and unlimited development.

The obvious solution to the environmental crisis is to devise a mechanism that will link the health of the global ecosystem directly to the economic rules that undergird all aspects of global finance, trade and investment in the post Cold-War era. That is to say, the environment must be embedded deeply into the heart of the global financial system and its roots must extend into the concepts by which we assess growth and imagine the economy.

We would like to propose here that the most appropriate starting point for such a reform of our concept of the environment and its economic significance is with currency itself. The international community should establish an eco-currency that will serve either as a universal currency or as a factor that significantly impacts all the global currencies linked to the IMF. How much of that currency a nation possesses will be a reflection of its environmental policies. Such a mechanism stands the best chance of encouraging significant progress on the environmental front.

If the eco-currency serves as one of several factors impacting all global currencies, it might serve as something akin to the SDR (special drawing rights) system currently employed by the International Monetary Fund. According to the IMF website, member [nations] with sufficiently strong external positions are designated by the Fund to buy SDRs with freely usable currencies up to certain amounts from members with weak external positions. That strong external position could be redefined so as to consist primarily, or entirely, of environmental criterion.

The eco currency could also serve as a gold standard for all nations of the world, permitting each nation to increase its money supply in direct proportion to the environmental credits that it has accumulated through wise and effective policies by reducing emissions and preserving water and soil. After all, in that the gold standard was based on a mineral that was exceptionally rare and valuable, it is a logical extension of that concept to argue that a healthy ecosystem is the most valuable commodity available. In fact, the ecosystem is far more valuable than gold because it is so critical to human life. Each nation would continue to have sovereignty with regards to its own currency, but the calculation of that currency will take into account the environmental status of each country and its share of a calculated total of environmental credits for the entire world.

Whether it served as a universal currency, or as a factor impacting all hard currencies, the eco-currency available to the world would be calculated as equal to a total global sum of environmental credits. Those credits would be assigned to a country based on an evaluation of how good a job that nation does reducing harmful emissions, preserving undeveloped lands, caring for its water supplies and otherwise implementing policies that have a positive effect on the environment. Although the calculation of what the total number of environmental credits for the world should be and the division of that total number between the nations of the world would be difficult, and at times political, it would by no means be an impossible task.

Such an international currency program based on environmental credits would make the abstractions of carbon trading far more palpable and more visible in the financial world. The policy would require all makers of fiscal and developmental policy at the local level to engage in a serious debate on the implications of their policies for climate change as part of their economic policies. No longer would it be possible to think separately about monetary policy and environmental policy; the two would be effectively yoked together. By reflecting the consequences of good environmental policy at the core of our future economic system, we can ensure that environmental issues cannot be put on the back burner. A-P

COPENHAGEN AND AFTER

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the 'inadequate' category," including both the United States and the European Union. "For the major developed countries, it's still far behind what is expected, except for Japan and Norway," he said, though he credited some developing, partially industrialized countries, including Brazil and Mexico, with making greater efforts. Alarmingly, Ecofys predicts that temperatures worldwide will rise by 3.5 degrees Celsius by 2020 rather than 2 degrees, the limit stated in the accord.

The debate, and recriminations, will soon pick up as climate diplomacy shifts to Mexico City, the scene of the next climate control summit, COP16, in November. The atmosphere is definitely cloudy. "People want to reach a conclusion on the negotiating texts in Mexico," said the UNFCC's Yvo de Boer, but no one really expects a binding agreement to emerge. "Things don't look very good at all," Rajendra Pachauri told Agence France Presse. "They look very bleak."

At the bottom of this overwhelming sense of disappointment, if not failure, is simple nationalism. No nation wants another country or entity policing its affairs. "Both China and the U.S. remain skeptical about the prospect of establishing a strict set of international rules, or indeed devolving any power to international organizations," wrote Joseph Curtin, senior researcher at the Institute of International and European Affairs in Dublin. "This is especially the case with China, and is particularly evident in its spat with the U.S. over the monitoring of mitigation measures. China refused throughout the conference to consider any independent monitoring of its emissions reduction efforts."

Curtin does see a "silver lining" – the target of 2 degrees average rise of global temperatures. "Perhaps stronger commitments will eventually emerge," he concluded, although not very enthusiastically, "from what are sure to be long and protracted negotiations."

As the talking echoes through the corridors of other capitals, at other summits, the Little Mermaid goes on welcoming visitors to "Wonderful, Wonderful Copenhagen" – wonderful again, now that COP15 is over and fading into the miasma of history. A-P

CHINA

THE SMART LEADER IN THE EAST

FROM PAGE 45

Cisco has already established its networking business in the energy sector. The combined offerings of HP and 3Com will be able to manage the surge of data generated by the smart grids. Added to this, the network security capabilities offered by 3Com's TippingPoint intrusion prevention products will give an extra edge to their offerings.

Global companies entering the Chinese market are a bit wary of their survival in the region. With the Chinese government encouraging the local companies alone to flourish in the country, foreign companies are likely to be treated with the "stepmother" attitude. To be on the safe side, the global giants are interested in smart partnerships with interested parties in China. This will result in a win-win situation for both the global companies and their Chinese partners.

China will attract more investment in the coming years in smart grid-related industries including smart metering systems, power storage devices, telecommunication devices and software.

Smart Grid Challenges

Challenges involved in smart grid implementation are many. A relatively new technology, the smart grid market is faced with issues related to interoperability and data security. Many large-scale deployments are delayed due to lack of clarity in the business case, says Frost & Sullivan.

Since the smart grid involves communication among different sets of devices, interoperability is of paramount importance. A smart grid system that is able to run on multiple standards will undoubtedly win in the marketplace.

According to Frost & Sullivan analysts2, having high product differentiation is important to survive in the highly competitive smart meter market. "Smart meter manufacturers need to move from a product- to a services-based model," says Vikas Ravindran, Frost & Sullivan analyst. "Investments in meters alone will not yield higher returns. In order to rapidly gain market share, manufacturers need to customize their entire AMI solution for consumers."

The rising cost of electricity calls for energy efficient solutions like the smart grid in every market. Additionally, the ability of the smart grid to communicate energy usage data will attract both domestic and business customers, opening lucrative market opportunities for companies involved in this arena of business.

Ravindran of Frost & Sullivan adds, "Moving forward, complete automation of the grid is set to become the norm with real-time information at the customers' fingertips." A-P

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RTIC'S FIRST ANGEL INVESTOR

BY STAFF REPORTER

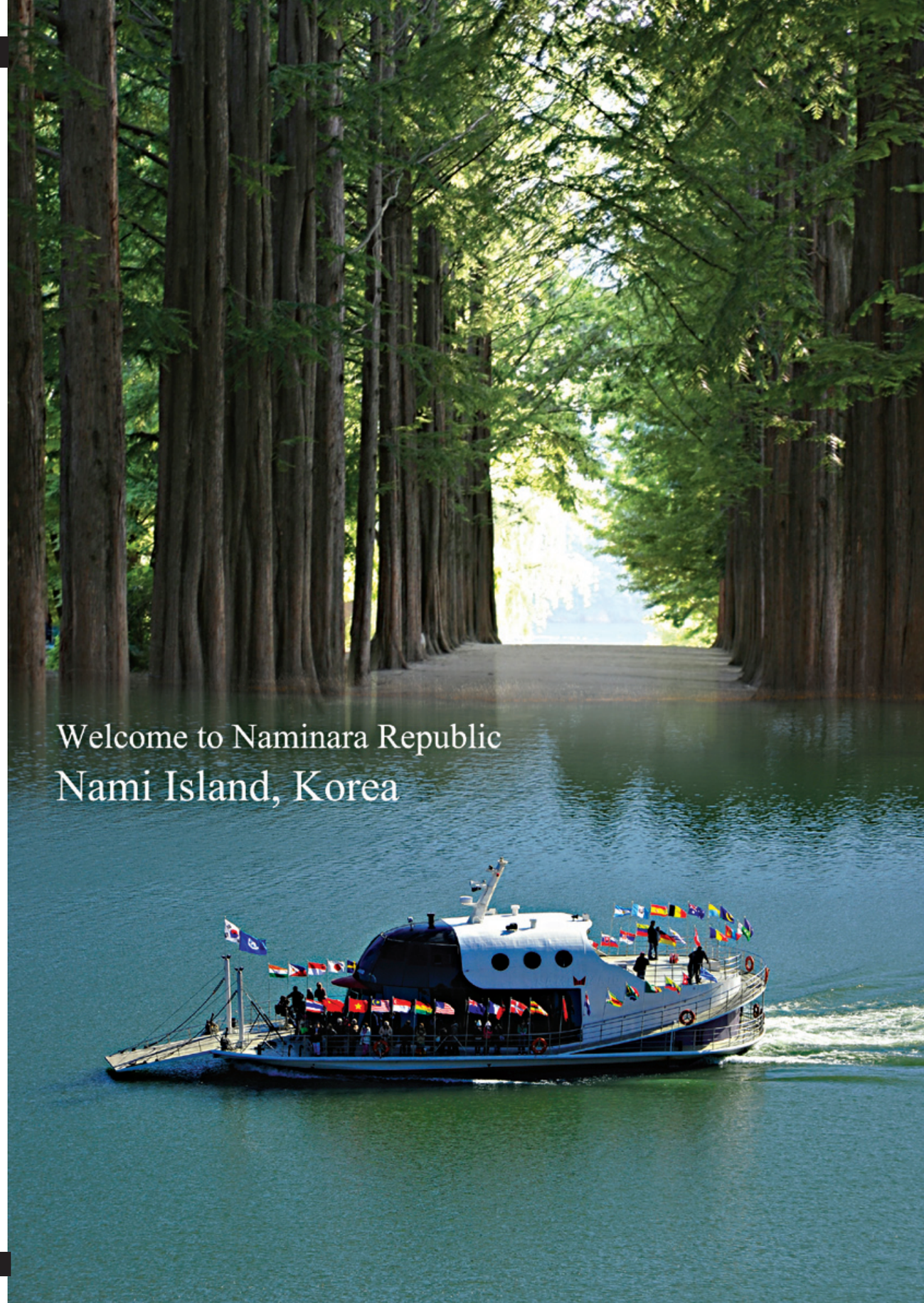
To effectively promote the culture of innovation and creativity, it is very important that all segments of society play their role in supporting activities geared towards the creation of a knowledge-based economy. Angel investors are a very vital building block to support the establishment of innovative start-ups. Angel investors provide capital for a business at an early stage when traditional financial institutions are hesitant to support them due to high risk.

Riyadh Technology Incubation Center (RTIC) is greatly honored to have Dr. Nabeel Mohammed Al-Ismail as its first angel investor. Dr. Nabeel has a doctorate in Quran and its Sciences from Islamic University of Imam Mohammad Bin Saud, Riyadh, Saudi Arabia. He is Assistant Professor in the Department of Quran and its Sciences, Faculty of Theology, Islamic University of Imam Mohammad Bin Saud. He is a member of different associations working for preaching the teaching of the Quran. He is also an imam and preacher at Jamia Al-Aqariah.

Dr. Nabeel M. Al-Ismail

Dr. Nabeel has invested SR50,000 in one of the innovative business ideas of RTIC's clients, an innovative tent without columns. This fund is being utilized at the early stage of development and testing of the product's prototype.

Speaking at a meeting, Dr. Mezyad Alterkawi, CEO of RTIC, thanked Dr. Nabeel for supporting the noble cause of helping entrepreneurs in the early stage of business establishment. Dr. Nabeel assured his commitment to encourage and support entrepreneurs to start their businesses and contribute to the economy and society. RTIC management is greatly pleased and encourages others to participate in its efforts and support the creation of innovative start-up companies. A-P



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