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An Eye For The Future

The Antriksh Group; a dream that started 29 years back in 1986 has changed a lot of lives and today in 2015 represents an idol and inspiration for the future of real estate.

We are constantly pushing the envelope to introduce next-gen innovations that reflect the future of real estate and empowers the present. This is represented by the modern structures we have built across housing and commercial sectors in real estate.

After we have successfully delivered more than 50 projects across India, we further strive to maintain and go beyond our habit of achieving excellence. We simply focus on innovation rather than blindly following trends.

Powering the Power for Disaster management System

The need for effective management in dealing with various crisis & disaster situations with specific reference to power sector/electricity grid/transmission system is of vital importance. The Disaster Management Act enacted has assigned the role/responsibilities to various Ministries/Departments for co-ordinate approach with other organizations. The objective & scope of Crisis & Disaster Management Plan, role of emergency management groups for dealing with crisis situations, measures for quick restoration of power supply in the event of grid failure and facilities required to handle crisis situations are also outlined in the paper.

Crisis in power sector is an event of acute danger which can cause sudden disruption of power supply. Such events are caused due to human error, equipment failure or sabotage by anti social elements. 'Disaster' is an event which brings sudden great misfortune, causing disruption to normal life including that of the power supply. Disasters are situations of great calamity beyond coping capacity of affected community. As far as power sector is concerned, the Disaster is generally synonymous with crisis.

Over the last one year, India has made remarkable progress in adding power generation capacity. Honorable Power minister Piyush Goyal displayed the achievements of his ministry citing an 8.4% increase in power generation in the last year. However, there are a lot challenges ahead in managing Power Sector and additionally taking it to the level of Helping Hand of Disaster management System. More importantly, it ought to push officials in the policymaking circle towards undertaking long-pending structural reforms in the sector. By accelerating, although not through fundamental reforms, the clearance of supply-side bottlenecks, power generation is one front on which the government has indeed done well. The assurance of coal linkages in particular has brought life back to power generation units that were lying idle without fuel. As mentioned earlier, additional facilities have been added to the nation's total power capacity over the last one year. Given the increasing energy demands of the nation, this could not have come at a better time.

We, Smart City Smart Living wish to see the revolutionary changes in the Power Sector, so that it can be an asset to the overall Disaster Management System while our country is passionately waiting for the Being Smart Nation with the initiation of Smart Cities.

Cheers!
Abhishek Katiyar

Letter from the Editor

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Advisory Board

Rajbir Goyat, CMD, The Antriksh Group

A veteran in the Real Estate and Infrastructure industry; He is the acting Chairman & Managing director of one of leading real estate companies of North India i.e The Antriksh Group. Under his able leadership, the company has successfully delivered more than 55 projects in northern India. A civil engineer by academics, Mr. Goyat started his career as a college lecturer in Pilani and remains a mentor and teacher for most even today and has been driving the Company in a growth path for continuous 3 decades. Mr. Goyat is an associate member of the Institute of Engineers Calcutta (AMIE-Civil) and specializes in structural engineering.

Vinit Goenka, Member, IT Task Force, Ministry of Shipping, Road Transport & Highways

Vineet is a fervent nationalist, technocrat, educationist, social activist, people's man, and visionary with a tenacious drive to inspire and bring about change within society. After spending over a decade in the private sector, he quit his growing and lucrative career to join politics and serve his nation.

He is currently appointed as a Member of IT Task Force under the Chairmanship of Hon'ble Minister for Shipping, Road Transport & Highways to facilitate simplification of procedures by leveraging the use of Information Technology (IT). This is in the context of Minimum Government Maximum Governance envisaged by Hon'ble Prime Minister.

Dr. Udit Raj, Ex.IRS Officer, BJP MP N-W Delhi

Udit Raj is the Member of Parliament (Lok Sabha), from North-west Delhi constituency and National Chairman, All India Confederation of SC/ST Organizations. He is one of the most influential leaders of the BJP and a strong dalit leader. He is also an Indian Social Activist and member of National Executive (Special invitee) of Bharatiya Janata Party. He is an Alumnus of Allahabad University and JNU. He has served as as the Dy, Commissioner, Joint Commissioner and Addl. Commissioner of Income Tax at New Delhi. He is a prominent activist working on behalf of India's Dalits.

Dr. Udit Raj is not merely a national figure but is also known internationally. Besides the M.A and L.L.B degrees he holds, he has been awarded a Doctorate Degree Honoris Causa by an International University. His intellectual acumen is recognized in U.S.A and Europe. He frequently holds dialogue with Congressmen of U.S.A and members of the European Parliament. He is also a prolific writer and till now, 355 by him articles have been published in various national newspapers. There was no organization for the Alumini of the Jawahar Lal Nehru University until he founded one.

Haryana signs 8 MoUs in China on smart-cities etc

Haryana is expecting a spike in foreign investments from China after eight MoUs were signed recently with top companies to set up a USD 10 billion industrial park and smart cities in the state during Chief Minister Manohar Lal Khattar's trip to woo investors here.

These MoUs were signed with top Chinese companies like Wanda Group, China Land Development Company Private Limited, and ZTE Corporation.

The MoUs were signed during the Investment Roadshow organised here, attended by representatives of more than 100 top-- notch Chinese companies.

Khattar strongly pitched Haryana as an ideal investment destination based on its strategic location, excellent infrastructure and supportive administrative system.

The chief minister also highlighted the changes introduced by his government through various policy reforms in the governance mechanism under Ease of Doing Business, On Line approval system under single roof and Incentives to the industry.

He also invited the companies to participate in the Haryana Global Investors Summit scheduled for March 7 and 8, in Gurgaon.

The chief minister met Wanda Group Chairman Wang Jianlin and an MoU was signed for development of a World-Class Comprehensive Industrial Park at Kharkhoda district in Sonipat.

Wanda Group will invest a total of USD 10 billion to develop "Wanda Industrial New City" over an area of approximately 13 square kilometers.

The government also signed a MoU with ZTE Corporation for the development of smart cities in Haryana.

Another MoU was signed with China Fortune Land Development Company Private Limited (CFLD) for development of large format Industrial Parks in Haryana.

MODI THANKS ABE FOR SHARING KASHI EXPERIENCES

Prime Minister Narendra Modi thanked his Japanese counterpart Shinzo Abe for sharing with people of Japan the experiences he had had during their joint visit to this ancient temple town last month, and described the gesture as a "matter of pride for all Indians".

"I recently read a news report on the Internet about a speech delivered by Abe at a Buddhist conference. I was amazed to see that he had spoken at length about the wonderful experiences he had had when he visited Kashi, along with me, on December 12 and watched the 'Ganga Arti'", Modi said while addressing a function here.

"I deeply thank the Japanese PM for his kind words. I had felt grateful when he came to Kashi, which I have made my home, on my request, and took part in all the functions with great interest.

His wonderful remarks made before his own countrymen are a matter of pride not only for me but for all the residents of Varanasi, indeed all the countrymen", said Modi, who represents Varanasi in the Lok Sabha.

Maharashtra cities submit proposals worth Rs 29,647 crore for 'Smart City' projects; Mumbai's lowest

Ten major cities in Maharashtra, including Mumbai, have submitted their proposals worth Rs 29,647.45 crore for the Central government-funded 'Smart City' projects.

However, the Mumbai proposal estimate of just Rs 1,118 crore is the lowest among all the ten cities.

The Thane Municipal Corporation's proposal with an estimate of Rs 6,630 crore tops the list, followed by Amravati worth Rs 5,305 crore and Nagpur Rs 3,409 crore.

The estimated proposal of Mumbai has raised eyebrows as the Shiv Sena, which is in power in the Brihanmumbai Municipal Corporation (BMC), has already red-flagged the Centre's move accusing it of trying to get back-door access to controlling the city.

It is also likely to become an issue during the BMC elections due to be held in early 2017.

The 'Smart City' proposal submitted by BMC has lower estimate than that of Aurangabad city, which is around Rs 1,595.5 crore.

The other cities to submit their estimated proposals include Pune - Rs 2,932 crore, Solapur - Rs 2,921 crore, Kalyan-Dombivali - Rs 2,057 crore, Nashik - Rs 1,945 crore and Navi Mumbai - Rs 1,734 crore.

During the winter session of the state Legislature held at Nagpur in December last year, Chief Minister Devendra Fadnavis had rejected Shiv Sena's contention that the move was Centre's ploy to gain back-door control of the city.

He had said that a Special Purpose Vehicle (SPV) would be set up to implement the project that will be dominated by civic officials.

Even Maharashtra Navnirman Sena (MNS) president Raj Thackeray had questioned the belated opposition of the Sena to the project, pointing out that the Sena-ruled BMC had approved the proposal in July 2015.

Fadnavis, without taking names, had recently said that all parties (including the Sena) in the Pune Municipal Corporation had approved the 'Smart City' project there. He had said that the scheme no way takes away powers of the civic bodies, and instead it is the civic bodies which will decide on their priorities, on who should be awarded the contracts and allocation of funds.

Singapore inks 4 pacts with Madhya Pradesh

Singapore has inked four pacts with the Madhya Pradesh government in various sectors, including one worth Rs 7,000 crore to produce nearly 1,000 MW non conventional energy in two phases.

It has also agreed to extend co-operation with the state government in five sectors - food processing, renewable energy, urban planning and smart city, skill development and Information Technology.

"Singapore has agreed to cooperate with Madhya Pradesh in five areas including food processing, renewable energy, urban planning and smart city, skill development and IT," Chief Minister Shivraj Singh Chouhan told reporters .

Chouhan, who was on a four-day visit to Singapore, is also the 50th person in the world and fourth in India to get the prestigious Lee Kuan Yew Exchange Fellowship.

"We have also inked an agreement to produce 540 MW in first phase and 407 MW in second with an investment of Rs 7,000 crore in wind energy with Sembcorp Green Infra Ltd," he said.

Besides, the state has also signed MoUs with Singapore in sectors like Urban Planning, Skill Development, Clean Energy and Food Processing Industry, he informed.

For Urban Planning and Smart City, an agreement was inked between Directorate of Town and Country Planning and Singapore Corporation Enterprises.

The second agreement was inked between MP's Technical Education and Skill Development Department and Singapore ITE Education Services, he said.

The third pact was signed in the renewable energy sector while the fourth one is in the area of food processing sector between LT Foods Limited India and DMM Nutrition Products, Singapore.

He also informed that both Madhya Pradesh and Singapore have also reached an understanding to work in the IT sector.

On the occasion, the Chief Minister also congratulated the farmers because of whose hard labour, the state has got Krishi Karman Award for the fourth time in a row and also expressed gratitude towards Prime Minister Narendra Modi for launching new crop insurance scheme in the country.

On January 13, the Centre cleared a crop insurance scheme under which farmers' premium has been kept at a maximum of 2 per cent for foodgrains and oilseeds and up to 5 per cent for horticulture/cotton crops.

INDIA, UK TO OPEN TRADE, MARKETS TO SUPPORT GROWTH

Amid fears of the global economy edging close to recession, India and UK have agreed to open up trade and markets to support growth, carry out structural reforms and address issues related to cross-border tax evasion.

After talks between India's Finance Minister Arun Jaitley and UK Chancellor of the Exchequer George Osborne, the two nation's agreed to boost economic ties particularly in areas of infrastructure and financial services and renewed pledge for autonomical exchange of tax information from 2017.

"From the Indian point of view, we were extremely interested in having the British investors look at infrastructure investments in India for which various possibilities were discussed," Jaitley said after the talks.

India, he said, is "extremely keen that large British companies, particularly involved in infrastructure financing, start investing in Indian infrastructure".

The two nations will work together for developing an India-UK partnership fund under the umbrella of National Investment and Infrastructure Fund (NIIF) recently created in India.

"This fund will seek to increase flows of private sector capital and expertise alongside multilateral support into Indian infrastructure," a joint statement issued after talks said.

Kochi Smart City to be inaugurated next month

The first phase of Kerala's much-delayed Kochi Smart City will be inaugurated next month, a meeting of the project's board of directors in Dubai decided on Sunday.

The first phase that would be inaugurated is the 6.5 lakh square feet building, in which, according to the minister, 25 new companies have already booked space.

Along with the inauguration, the foundation stone for the second phase -- of a 47 lakh square feet building -- would also be laid. The organisers are making efforts to bring in the United Arab Emirates Vice President and Prime Minister Sheikh Mohammed

Bin Rashid Al Maktoum, who is also the ruler of Dubai, for the inauguration.

This signature IT project, coming up on 246 acres at Kochi, was first mooted in 2004 during the first term of Chief Minister Oommen Chandy but got delayed. It was only in 2014 that the construction of the first phase began.

IIT-KHARAGPUR, JAPANESE EXPERTS TO WORK ON SMART CITIES

The Indian Institute of Technology-Kharagpur (IIT-Kgp) has inked a deal with Japan's Nikken Sekkei Research Institute (NSRI) to plan, design and implement smart technologies to develop sustainable habitats for India's smart city growth.

IIT-Kgp's Ranbir and Chitra Gupta School of Infrastructure Design and Management (RCGSIDM), in association with the department of architecture and regional planning (ARP), has picked up the challenge to re-address the dimensions of smart city growth based on twin concerns: sustainable infrastructure and liveable habitat, officials said.

Under the Memorandum of Understanding signed recently, collaborative projects such bullet train, other smart transportation technologies and smart agriculture will be brought in.

"This MoU targets design, planning and implementation of such projects and technologies for sustainable cities. Japan has the expertise in smart technologies and we are banking on our cultural history to take the relationship forward," said IIT-Kgp director Partha Pratim Chakrabarti.

Metros like Kolkata and peri-urban cities such as Asansol and many others in West Bengal and other states will be part of the plan, he said, during the international symposium on 'Liveable habitat and sustainable infrastructure: a key to smart city growth'.

Shigehisa Matsumura, principal consultant for NSRI said the deal would be a "good starting point" for the fruitful execution of the smart city programme.

Projects under IIT-Kgp's Sandhi initiative such as the Varanasi-Kyoto programme have been brought under the ambit of the agreement.

"This envisages recovery of Varanasi's greenery, creating heritage trails and tourism in the city. For Kyoto, the vision is to recover cultural ethos through revival of hand-tools, vocational education," said IIT-Kgp's professor Joy Sen, in-charge of the work.

INDIAN CONSUL GENERAL IN NEW YORK VISITS THANE TO DISCUSS SMART CITY PROJECT

The Indian consul general in New York Dnyaneshwar Mulay recently visited the Thane Municipal Corporation and held discussions with regard to the proposed Smart City project being undertaken by civic body.

Mulay held meetings with city mayor Sanjay More and Municipal Commissioner Sanjeev Jaiswal. He assured all kinds of assistance to the city and its citizens with regards to the projects being undertaken by them, an official release issued by the Mayor said.

The mayor and other senior civic officials made a presentation to Mulay on the various projects being undertaken by the civic body, it added.

Meanwhile, Vijay Joshi, the president of Gujarat unit of the Chamber of Small Industry Association, who accompanied Mulay during his visit, told PTI that a Maharashtra Association would be set on the lines of the Maharashtra Sadan (state guest house in New Delhi) in USA for co-ordination of the activities in the state.

According to Joshi, Mulay has asked Thane Commissioner to forward him brief of projects which require financial assistance.

Use small-scale, evolving technology for smart city plan: Expert

Instead of adopting large-scale technologies from big corporate players, India's smart city plan should incorporate "appropriate technologies" that are smaller in scale and can evolve with new innovations at minimum cost, says an Indian-origin US-based sustainability expert.

This means creating an information infrastructure, data infrastructure on which a lot of small-scale firms and individuals can develop their own applications," Subhrajit Guhathakurta, director of the Center for Geographic Information Systems at the Georgia Institute of Technology in the US, said.

"And by institutionalising that infrastructure, you have different solutions coming in from different places that you may not even know of," he added

Guhathakurta, a professor of city and regional planning as well as an expert in geospatial technologies, was speaking at the international symposium on "Livable habitat and sustainable infrastructure: A key to smart city growth".

Highlighting some "cautionary tales" in the smart city concept seen across the globe, Guhathakurta vouched for technologies that evolve.

"You buy some big technology from a big corporate player, you are locked in to that technology because it is expensive to shift.

"They should evolve with new innovations at minimum cost," he said, adding that India's smart city plan was "mostly about good planning and a very small component is about technology," he said

INDIA'S LARGEST TEXTILE PARK TO COME UP IN WARANGAL

India's largest textile park will come up in Telangana's Warangal town, Chief Minister K. Chandrasekhar Rao announced recently.

He said the proposed 'cotton-to-garment' park will be set up in an area of 2,000-3,000 acres.

The Warangal district collector has already released Rs.100 crore for acquiring land for the textile cluster.

The chief minister said that while textile parks in different parts of the country like Solapur, Tirupur and Surat were engaged in manufacturing specific categories of garments, the proposed park in Warangal will cover all segments.

KCR, as the chief minister is known, said the international standard park will also have an apparel park for readymade clothing.

He said the government would promote the park in collaboration with various companies. "Some companies have already come forward."

He was confident that with a major railway junction in Warangal and the possibility to build an airport, the textile cluster would have tremendous potential.

He believes the park with a township will increase Warangal's population by four to five lakh in three to four years.

With a population of 10 lakh, Warangal is the second biggest city in Telangana after Hyderabad.

KCR announced that Warangal will also be developed as an education hub. He said the foundation stone for a health university would be laid soon.

He also declared that a tribal university, veterinary and agriculture colleges and a sainik school too will come up in the town.

Smart cities will tackle rapid urbanization: PM

Terming rapid urbanization as a challenge and critical for sustainability, Prime Minister Narendra Modi said smart cities would make the cities networked to become efficient, safe and better in delivery of services.

"For the first time in human history, we are in an urban century. By 2050, two-thirds of the world's population will live in cities and three billion people will join 3.5 billion dwellers, with 90 percent of the increase from developing countries," Modi said at the 103rd Indian Science Congress being held in the University of Mysore .

Quoting some studies, Modi said the country would have over 10 percent of the global urban population by 2025 and 50 percent of its people in urban habitats by 2050.

"About 40 percent of the global urban population lives in informal settlements or slums, facing a range of health and nutritional challenges," he said after inaugurating the five-day annual science jamboree in the 700-acre sprawling Mansagagotri campus in the heritage city.

Observing that many urban clusters

He announced the formation of a special development authority for development of Warangal, which has been selected under the Smart Cities project of the central government.

Every year, Warangal will be allocated Rs.300 crore in the budget. A total of Rs.3,000 crore is expected to be provided under all schemes.

A multi-speciality hospital, multistoried buildings for the offices of municipal corporation, district collector, police commissioner, development of a theme park and convention centre were the other announcements made by the chief minister.

The government will also construct 30,000 houses under double bed-room housing scheme for poor over next two years to make Warangal a slum-free city.

in Asia would exceed the population of mid-sized countries in the world over, Modi noted that cities account for more than two-thirds of global energy demand and result in up to 80 percent of global greenhouse gas emission.

"As cities are major engines of economic growth, employment opportunities and prosperity, they have to be sustained to become locomotives of our economies and havens of healthy living," he said.

Admitting that much of the urban infrastructure was yet to be built, he told the galaxy of scientists, Nobel laureates and hundreds of students that affordable and practical solutions had to be found for solid waste management, converting waste into building material and energy and recycling waste water.

"Though we need sound policies to achieve our goals, we will rely on science and technology to provide creative solutions. We have to also develop better scientific tools to improve city planning with sensitivity to local ecology and heritage and reduce demand for transportation, improve mobility and reduce congestion.

"We need your inputs to make our cities immune to consequences of natural disasters and homes resilient. This will also mean making retrofit of buildings affordable," Modi added.

Indian job market on revival mode: Monster.com

Leading job portal Monster.com has said that Indian job market is on a revival mode owing to a gradual upswing in the economy.

"The job market opened up in 2014 with an average 17 percent rise in demand," said the job portal's 'Monster Employment Index' analysing hiring activity in the past five years.

"The year 2015 started on a promising note where we have witnessed economic growth as a result of much needed political stabilitya. heartening to see is the robust growth of the startup ecosystem that's urging individuals to explore new business avenues," said Monster.com MD India/Middle East/South East Asia Sanjay Modi in a statement.

According to the index, banking, financial services and insurance (BFSI) led online hiring activity followed by IT, production and manufacturing.

BFSI experienced a growth of 14 percent in 2014 after witnessing consistent fall from 2010, the statement said.

"With the infusion of capital following the approval in FDI, the BFSI sector has opened up generating more opportunities. The improved job market is fuelling renewed optimism in the banking, financial services and insurance (BFSI) sector," it said.

In September 2015, online hiring in BFSI saw 85 percent growth on a year-on-year basis.

From witnessing negative growth every year for the three years prior to 2014, production and manufacturing sector stabilized by the end of 2014 with 18 percent growth, the statement said.

IT sector was the one of the most stable employment generating sectors, growing by 32 percent in 2014.

The index highlighted Tier II cities to be among the highest contributors of employment in 2016 owing to government's push on 'Make in India' and Smart Cities Initiatives.

"2016 is anticipated to deliver the returns of the various reforms proposed by the government. The push on 'Make in India' and the plan to create 100 smart cities is expected to increase hiring in manufacturing and commerce as well as in the infrastructure sector," the statement said.

IT, healthcare and BFSI will continue to be bullish in 2016 while emerging ecommerce and internet related sectors are expected to create the highest employment opportunities, it said.

Modi said employment from government could be generated through industrial corridors, participation of private sector in railways following reforms and the boost Defence Procurement Procedure (DPP) 2016 will give to 'Make in India' with the private sector set to play greater role.

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Bengal investment summit nets proposals worth over Rs.2.50 lakh crore

The two-day Bengal Global Business Summit organised by the West Bengal government recently rece attracted investment proposals worth at least Rs.2,50,104 crore ($37 billion), Chief Minister Mamata Banerjeeannounced .

Addressing industrialists on the summit's concluding day, she said the manufacturing sector has drawn proposals valued at Rs.1,16,958 crore.

Banerjee said the proposals have come from a wide range of sectors like mining, textile, power, IT and telecom, urban development, housing, tourism, health transport and education.

"Many MoUs have been signed and many are in the process. We are yet to make detailed estimates of the proposals. The investment proposals are not less than Rs.2,50,104 crore," she said.

The previous edition of the BGBS had netted investment proposals of Rs.2,43,100 crore, of which proposals worth Rs.95,000 crore have taken off and the rest are under process, the chief minister told the media.

Describing the latest summit as a total success, she exuded confidence that thousands of crores of additional investment will come to the state in the near future through ancillary industries.

Banerjee enumerated the achievements of her government since coming to power in 2011 and projected Bengal as the ideal destination for investments. "Our aim is to make Bengal the number one destination for business."

Among the sectors which got the largest chunks of investment are urban development (Rs.29,000 crore), mining (Rs.23,300 crore), transport (Rs.9,384 crore), IT and telecom (Rs.8,650 crore), power (Rs.8,462 crore), and micro, small and medium enterprises (Rs.50,000 crore over the next three years).

In manufacturing, the TCG group would pump in Rs.20,000 crore, while China's Zhongtong Bus Holding Company injects

Rs.1,500 crore, and Great Eastern Rs.1,700 crore.

Banerjee said the Deocha-Pachami-Dewanganj-Harinsingha coal mine in Birbhum district, that envisages an investment of Rs.23,000 crore, would be inaugurated on January 18.

In the IT and telecom sector, Airtel would invest Rs.3,500 crore, while ITC Infotech has come up with a Rs.1,650 crore proposal.

HP, Oracle and Erricson would be partners in the Smart City project, while the state transport department has inked a MOU with the Calcutta Goods Transport Association for setting up a Rs. 5,000 crore logistics hub at Baidyabati in Hooghly district. The hub would provide employment for 10,000 people.

A freight terminal would come up in Howrah at an investment of Rs.2,000 crore.

In education sector, Amity University would pump in Rs.2,000 crore.

Bhutanese airlines Drukair entered into an MOU with the Bengal Aerotropolis Pvt. Ltd (BAPL) to use India's first private Greenfield airport at Durgapur in Burdwan district for technical stoppage or refueling.

The state government also announced three policies. "These are policy for start-ups, design policy and township policy including development of theme cities," the chief minister said.

Banerjee said her government was mulling setting up an eco-tourism hub over

12,000 acres at Nayachar of East Midnapore district.

She invited industrialists to set up projects by utilising 5,000 acres of land available with the government in industrial parks.

She said a deep sea port "Bhor Sagara" would come up in South 24 Parganas district for which the central government has already floated a tender. The state government has 26 percent equity in the project.

Prime Minister Narendra Modi would lay the foundation for the work to commence in March.

Another port would come up at Rasulpur.

The state government has given land for expansion of the Bagdrogra airport in north Bengal, while small flights have started operating from Cooch Behar airport. She said efforts were also on to start air services from Malda and Balurghat.

The event saw an impressive gathering of industrial honchos like Reliance Group chairman and managing director Mukesh Ambani, Bharti Enterprises vice-chairman Rakesh Bharti Mittal, JSW Steel chairman and managing director Sajjan Jindal, and Hiranandani Group director Darshan Hiranandani besides ITC chairman Y.C. Deveshwar, and city-based businessmen like RP-Sanjiv Goenka Group chairman Sanjiv Goenka and Ambuja Neotia Group chairman Harshavardhan Neotia.

There was also a strong line up of government leaders, including Bhutan Prime Minister Tshering Tobgay, and four Indian central ministers - Finance Minister Arun Jaitley, Railway Minister Suresh Prabhu, Power Minister Piyush Goel and Road Transport, Highways and Shipping Minister Nitin Gadkari. Also present were Britain's Employment Minister Priti Patel and Bangladesh Commerce Minister Tofail Ahmed besides ambassadors and delegates from 25 countries.

High-level US trade mission set to visit India

A high-level American trade mission is set to visit India next month with the aim of increasing bilateral trade focussing on technologies, systems and services in key sectors like security, transportation and power, the US Department of Commerce said.

US Deputy Secretary of Commerce Bruce Andrews would lead the delegation of 18 American companies on a Smart Cities Infrastructure Business Development Mission to India from February 8-12.

With stops in New Delhi, Mumbai and Chennai, Director of the US Trade and Development Agency (USTDA) Lee Zak and Vice President of Global Business Development at the Export-Import Bank Ray Ellis will also participate in the mission.

"The trade mission will help US companies launch or increase their business in India, focusing on technologies, systems and services in the safety and security, intelligent transportation, water, wastewater, and power sectors," the US Department of Commerce said in a statement.

This engagement will drive and enhance the sustainable growth of India's infrastructure sector while making India's growing urban centers more attractive to business and providing a better quality of life for India's citizens, the statement said.

"By joining the global consensus agreed to in Paris last month, India made clear that it will be an important part of the world's solution to a truly global problem," said Andrews.

"US industry stands ready and able to help India make its cities more sustainable -- an effort that will greatly benefit India's economic growth and our world's ability to address a changing climate," he said.

The companies part of the trade mission include Alcoa Inc, Aquatech International, Black & Veatch Pvt Ltd, Convalt, Danaher Holding (DHR), Ecolab/NALCO, EI Technologies, MasterCard, Smart Cities Council among others.

As the world's third largest economy in the world in terms of purchasing power parity, India has the second largest population and is projected to add 500 million people to its urban population over the next four decades, the Department of Commerce said.

The Indian government has made infrastructure development a priority, along with a plan to develop 100 smart cities -- developed urban areas that would create sustainable economic development and high quality of life through efficient and innovative energy, transportation, digital and social platforms.

To connect these proposed cities with existing air and sea ports, India needs infrastructure upgrades and technologies, it said.

Indo-France signs 16 MoUs

An agreement between Airbus Group and Mahindra for manufacture of helicopters and three MoUs under the 'Smart City' theme were among the 16 pacts signed between India and France on 25th January, 2016

The Memoranda of Understanding (MoUs), which cover a wide range of sectors like urban development, urban transport, water and waste treatment and solar energy, were signed in the presence of Prime Minister Narendra Modi and French President Francois Hollande, who began his three-day visit from chandigarh on 25th Jan, 2016

As part of 'Make in India' initiative, an agreement was signed between Airbus Group and Mahindra to manufacture helicopters here.

From the French side, the agreement for "cooperation" to manufacture the helicopters was signed by Pieree De Bausset, President and Managing Direcor Airbus Group India, while from the Indian side, it was inked by Prakash Shukla, the Group President of Mahindra Aerospace.

Besides, three MoUs were signed under the 'Smart city' theme for city-specific urban development between French Development Agency (AFD) with the state governments for the cities of Chandigarh, Nagpur and Puducherry.

The aim of the MoUs is to provide specific technical assistance on urban development experts from the French government's programme.

Urban Development Experts from the French public sector will be based in each city, CII President Sumit Mazumder said on the occassion.

Under the MoU, expert in the fields of urban transport, water and waste treatment, solar energy, urban planning and architecture and heritage they will assist the three cities with their smart city development plans.

A joint Venture between Indian SITAC group and EDF Energie Nouvelles was signed to acquire 50 per cent stake in its renewable energy business in Gujarat.

This JV investment is worth 155 Million Euros in 2016 and would generate 142 MW power. Its objective is to produce one gigawatts wind energy in five years period.

Government of India announces list of first 20 Smart Cities

Urban Development Minister M Venkaiah Naidu has announced the first list of 20 cities o that will be developed to have basic infrastructure.

Bhubaneswar emerged on top among 20 cities, including Pune, Ahmedabad, Chennai and Bhopal that have been selected as part of the first batch of the Smart City initiative for which the NDMC area of Delhi has also made the grade.

Assured water and power supply, sanitation and solid waste management systems, efficient urban mobility and public transportation, IT connectivity, e-governance and citizen participation are some of the highlights of the initiative.

Pune, Jaipur, Surat, Kochi, Ahmedabad, Jabalpur, Visakhapatnam, Solapur, Davanagere, Indore, Coimbatore, Kakinada, Belagavi, Udaipur, Guwahati, Chennai, Ludhiana and Bhopal are the other cities selected in the first batch.

"Nobody can stop an idea whose time has come and this applies to the Smart City (initiative as well)," Naidu said while announcing the list of cities that were selected through the 'Smart City Challenge Competition'.

Congratulating the winners of the competition, Prime Minister Narendra Modi said, "I wish the cities the very best as they move forward with implementation and transform urban India."

The contest was as rigorous and demanding as the civil services competition, Naidu quipped.

"For the first time in the country and perhaps in the world, investments in urban development are being made based on a competition among cities. The results of the competition revealed the unrecognised strength of our federal structure," he said.

The cities in the first list have made it to the top of the competition based on on implementation framework, including feasibility and cost-effectiveness, which had a weightage of 30 per cent, followed by result orientation (20 pc), citizen participation (16 pc), smartness of proposal
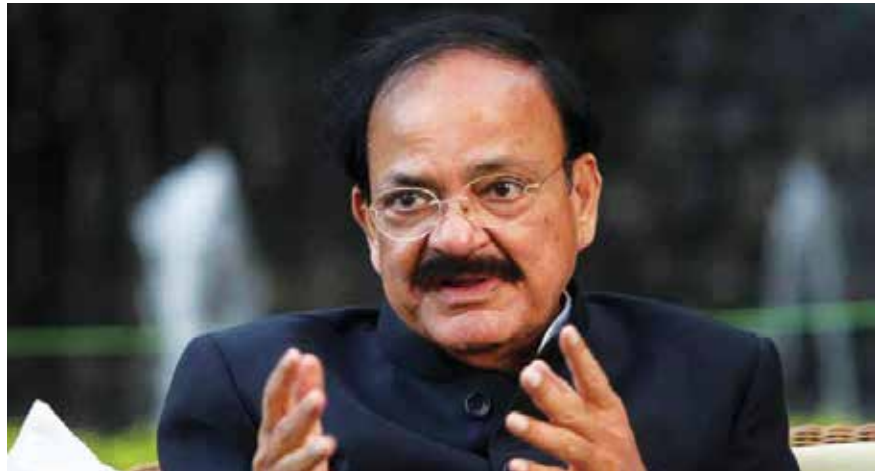
M VENKAIAH NAIDU, Minister of Urban Development, Government of India

(10 pc), strategic plan (10 pc), vision and goals (5 pc), evidence-based city profiling and key performance indicators (5 pc) and processes followed (4 pc).

Naidu said that the various states selected the cities and sent a list of 97 names, out of which 20 have been selected.

A bottom-up rather than top-down approach has been the key planning principle under Smart City Mission, he said.

While Delhi is spread over 1,484 sq.km, the NDMC zone covers three per cent, or 42.7 sq.km, of that area.

Urban Development ministry had in June last year released the guidelines and mission statement for the project to develop 100 Smart Cities. The mission is a flagship programme of the Modi government.

The focus of the mission includes the provision of clean water, setting up of sanitation and solid waste management systems, efficient mobility and public transportation, affordable housing and governance.

The cities have come up with clear strategies for implementation and have identified partnerships and collaborations for producing the desired results.

Of the 20 cities, 18 have come forward with retrofitting proposals. Ahmedabad has proposed both retrofitting and

redevelopment while Bhopal will only take up redevelopment.

Naidu said a total investment of Rs 50,802 crore has been proposed in the selected cities over the five-year period. Of this, Rs 38,693 crore will be spent on area development.

The proposals are based on detailed assessment of strengths, weaknesses, opportunities and threats specific to the city and the area chosen for development.

In all, a total area of 26,735 acres will be taken up for improvement across these 20 cities, including redevelopment of 425 acres (Bhopal-350 acres and Ahmedabad-75 acres).

Under retrofitting, deficiencies in infrastructure and other areas will be holistically addressed. Redevelopment means demolishing built-up areas which are not amenable to any intervention.

Investments proposed range from Rs 1,049 crore (Ludhiana) to Rs 5,099 crore (Indore).

The 20 cities account for a total population of 3.54 crore with city-wise population ranging from 2.58 lakh (New Delhi Municipal Council area) to 55.78 lakh (Ahmedabad).

Five cities have a population of below 5 lakh, four in the range of 5-10 lakh, six in the range of 10-25 lakh, four between 25 and 50 lakh. Only one city (Ahmedabad) has a population of more than 50 lakh.

'Hybrid annuity model' will boost Road projects in India: Prime Minister Narendra Modi

The hybrid annuity model was conceived in the last financial year to bring back private participation in highway projects, which has dried up in the last few years. Welspun Enterprises Ltd. won the prestigious Package I of the Delhi - Meerut Expressway bid by the National Highways Authority of India. 8.716 km in length, the project stretches across the city of Delhi

By SUNITI KUMAR BHATTACHARJYA

Prime Minister Narendra Modi recntly laid the foundation stone for India's first expressway project under the Hybrid Annuity Model proudly being developed by Welspun. Welspun Enterprises Limited (WEL), part of the $3 billion Welspun Group operates PPP projects in various sectors like roads, water, and urban infrastructure. In the highway sector alone, the Company has successfully completed six BOT (Toll) Road projects with a total length of over 500 km. Apart from that, the company holds equity investments in Welspun Energy Private Limited (renewable energy) and Welspun Natural Resources Private Limited (Oil and gas exploration).

Prime Minister of India Narendra Modi laid the foundation stone for India's first Hybrid Annuity Model expressway project - Package I from Nizamuddin Bridge to UP border, to be developed by Welspun Enterprises Ltd on 31st January, 2016. Also present at this milestone ceremony were Ram Naik - Governor Uttar Pradesh, Nitin Gadkari - Minister Road Transport & Highways and Shipping and P. Radhakrishnan - Minister of State Road Transport & Highways and Shipping.

This prestigious project was auctioned under the Hybrid Annuity Model introduced by NHAI to attract private developers - and is among the first projects to be awarded under this model. The project stretches across 8.716 km and is entirely within the city of Delhi. It consists of a six-lane expressway in the centre, flanked by two four-lane highways on either side - making it 14-lanes in all. Welspun Enterprises Ltd. will develop the project in two and half years years, and thereafter undertake maintenance on the stretch for 15 years. The project has a total cost of Rs. 842 cr out of which 40% will be funded by NHAI (AAA rated institution) under the new hybrid model while balance 60% will be serviced over next 15 years with interest.

Commenting on the development, Mr. Sandeep Garg -Managing Director of Welspun Enterprises Ltd. said, "We are proud to be amongst the first developers of road projects under the Hybrid Annuity Model introduced by the Government. With rich experience in executing large infrastructure projects, we are confident of completing this project well within the stipulated time-frame. Once the prestigious Package I of the Delhi - Meerut Expressway is completed, it will serve to ease traffic congestion in Delhi and provide better connectivity between the Delhi and neighbouring towns."

The government is looking at awarding 8,500 km of road development projects in the current financial year, nearly half of which would be executed under the new 'hybrid annuity' model. The hybrid annuity model was conceived in the last financial year to bring back private participation in highway projects, which has dried up in the last few years.

Under this model, the government would provide 40 per cent of the project cost to the developer to start work. The remaining investment will have to be made by the contractor. The National Highways Authority of India (NHAI) will collect toll and

NARENDRA MODI
Prime Minister of India

Prime Minister of India Narendra Modi laid the foundation stone for India's first Hybrid Annuity Model expressway project – Package I from Nizamuddin Bridge to UP border, to be developed by Welspun Enterprises Ltd on 31st January, 2016. Also present at this milestone ceremony were Ram Naik – Governor Uttar Pradesh, Nitin Gadkari – Minister Road Transport & Highways and Shipping and P. Radhakrishnan – Minister of State Road Transport & Highways and Shipping.
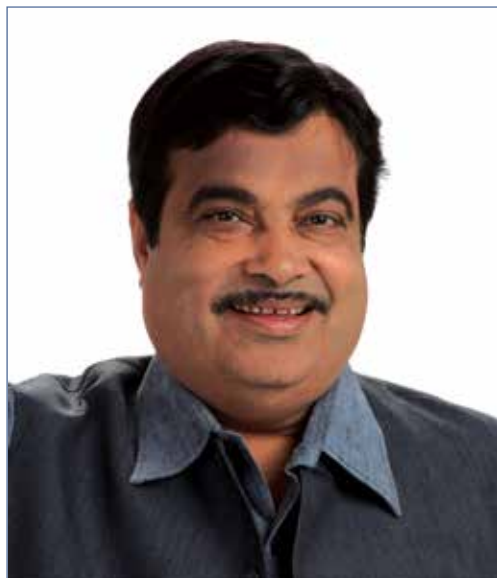
THE GOVERNMENT IS LOOKING AT AWARDING 8,500 KM OF ROAD DEVELOPMENT PROJECTS IN THE CURRENT FINANCIAL YEAR, NEARLY HALF OF WHICH WOULD BE EXECUTED UNDER THE NEW 'HYBRID ANNUITY' MODEL. THE HYBRID ANNUITY MODEL WAS CONCEIVED IN THE LAST FINANCIAL YEAR TO BRING BACK PRIVATE PARTICIPATION IN HIGHWAY PROJECTS, WHICH HAS DRIED UP IN THE LAST FEW YEARS.

NITIN GADKARI
Minister for Road Transport and Highways and Shipping

refund the amount in installments over a period of 15-20 years, cutting down on upfront investment required to be made by the government.

The cabinet committee on economic affairs (CCEA) has approved the hybrid annuity model for national highways, clearing hurdles to stranded road projects worth Rs.25,000 crore on January end of 2016.Hybrid annuity model is the fourth to be introduced in India for the execution of road projects and is intended to kick-start stalled projects and accelerate highway construction. Under this model, the government will share 40% of the project cost and would allocate funds to the developer to start work depending on the case. The remaining investment would come from the developer over the duration of the project's execution. Revenue collection would be the responsibility of the National Highways Authority of India (NHAI); developers will be paid in annual installments over a specified period of time.

Road projects in India are awarded in three formats. One is build-operate-transfer (BOT) annuity, in which a developer builds a highway, operates it for a specified duration and transfers it back to the government, which pays the developer annuity over the period of concession. A second model is BOT-toll, under which a concessionaire generates revenue from the toll levied on vehicles using a road. The third model is engineering, procurement and construction (EPC), under which a developer will execute engineering design, procure equipment, materials and labour and build a project; the government provides the money.

The hybrid annuity model is a mix of (BOT) toll and EPC models. An important feature of the hybrid annuity model is allocation of risks between the partners—the government and the developer/investor. While the private partner continues to bear the construction and maintenance risks as in BOT (toll) projects, it is required only to partly bear the financing risk. The developer is insulated from revenue/traffic risk and inflation risk, which are not within its control. The cabinet, in a media statement, said the hybrid annuity model would be adopted for highway projects not found viable on a BOT mode. The main objective is to allot new highway projects that are stuck because of funding crunch being faced by developers.

The hybrid model will provide stakeholders in public-private-partnership (PPP) arrangements—the NHAI, creditors, and the developer—increased comfort in reviving stalled road projects, the statement said. ■

SANDEEP GARG
Managing Director of Welspun Enterprises Ltd

EMPOWERING THE POWER SECTOR

THE MOST SIGNIFICANT WORK TO DO BEFORE INITIATING INDIAN SMART CITIES

Smart cities are visualized to have continuous power supply and that's why it is compulsory to be methodically equipped to deal with sector specific problems, whether man-made or natural, to power supply and also strong backup power arrangements that could be relied upon in case of disruption of grid supply.

By NOOR MOHAMMED

No one can forget the successive collapse of the northern power grid on July 31 and 30, 2012, which plunged more than half of the country's population into darkness and brought critical services like rail and metro services to a standstill while forcing hospitals and airports to use backup power.

Since smart cities are envisaged to have uninterrupted power supply, it is necessary to be systemically prepared to deal with threats, whether man-made or natural, to power supply and also robust backup power arrangements that could be relied upon in case of disruption of grid supply.

The two grid failures resulted from excessive drawal of electricity by power-deficient states at a time when frequency was at the low end of the permissible band. Cash-strapped states were overdrawing electricity from the grid as they were not required to pay upfront for it unlike in case of power purchase from the spot market.

Later, it was found in investigation that states were misusing the weak regulations relating to overdrawal of electricity as penalty was not prohibitive.

Learning its lessons from the massive blackouts, the sector watchdog Central Electricity Regulatory Commission tightened grid frequency norms and also hiked penalty to minimise possibility of such grid failures.

But such incidents can still happen due to cyber attacks on the electricity grid or natural disasters.

For example, cyber attacks are increasing threats to the control systems used in the critical infrastructures including electricity grid in the world today. According to experts, such attacks may not be as easily identified and may go unnoticed even to the companies for long periods of time. Even though the resources and tools for cyber attacks are becoming readily available, companies that own and operate or make up the critical energy infrastructures are often unaware of the problem and may have poor cyber security designs and weak protection.

Learning its lessons from the massive blackouts, the sector watchdog Central Electricity Regulatory Commission tightened grid frequency norms and also hiked penalty to minimise possibility of such grid failures.

Recently, a cyber attack paralysed Israel's electricity grid when someone in Israel's Electricity Authority, a government department charged with providing utility services, fell for a phishing attack, opened an email and was infected with ransomware which spread to other computers in the network.

The malware was sent by email. Although neither the exact type of encrypting ransom ware, nor the extortion amount was mentioned, payment was demanded to unlock the computers.
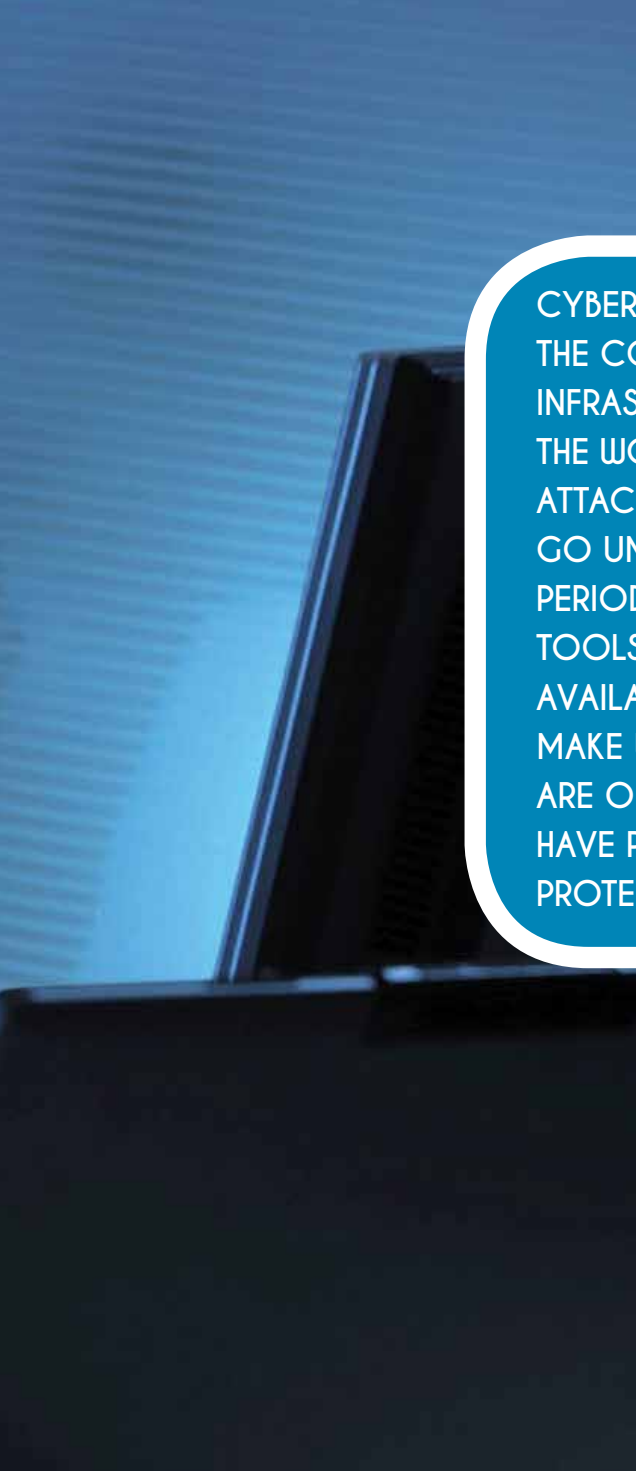
Significantly, the cyber attack on Israel's electricity network was launched when the country was facing the coldest days of winter. The incident occurred during two consecutive days of record-breaking winter electricity consumption, with the Israel Electric Corporation reporting a demand of 12,610 MW as temperatures dipped to below freezing level.

Yuval Steinitz, the Israeli Minister of National Infrastructure, Energy and Water, said, "We need cyber tech to prevent such attacks. Cyber attacks on infrastructure can paralyze power stations and the whole energy supply chain from natural gas, oil, petrol to water systems and can additionally cause fatalities."

Not to mention a developing country like India, experts say, even the US electric grid is vulnerable to cyber attacks.

In April 2013, an attack on an electrical substation near San Jose, California demonstrated both the

CYBER ATTACKS ARE INCREASING THREATS TO THE CONTROL SYSTEMS USED IN THE CRITICAL INFRASTRUCTURES INCLUDING ELECTRICITY GRID IN THE WORLD TODAY. ACCORDING TO EXPERTS, SUCH ATTACKS MAY NOT BE AS EASILY IDENTIFIED AND MAY GO UNNOTICED EVEN TO THE COMPANIES FOR LONG PERIODS OF TIME. EVEN THOUGH THE RESOURCES AND TOOLS FOR CYBER ATTACKS ARE BECOMING READILY AVAILABLE, COMPANIES THAT OWN AND OPERATE OR MAKE UP THE CRITICAL ENERGY INFRASTRUCTURES ARE OFTEN UNAWARE OF THE PROBLEM AND MAY HAVE POOR CYBER SECURITY DESIGNS AND WEAK PROTECTION.

vulnerability of the US physical grid infrastructure as well as the fact that terrorists also had been thinking about multiple ways to attack America.

Assailants who were never apprehended attacked the Pacific Gas and Electric Metcalf substation with automatic rifle fire on the night of April 16, 2013. Firing more than 100 shots altogether, they knocked out 17 transformers and, even though electric officials were able to avert a blackout, the damage took 27 days to repair.

The US Department of Homeland Security has reported that cyber attacks on the electric grid system are increasing in both frequency and sophistication. Such attacks come from a variety of different sources,

YUVAL STEINITZ
The Israeli Minister of National Infrastructure, Energy and Water

Electricity is the lifeline of an economy as well as of the society. Power supply is the major input for the social and economic welfare of the society of any country. Any disruption in the supply of electricity causes not only loss to the economy, but also creates hardship to human beings, as every aspect of modern life depends on electricity.

including nation states and sub-national terrorist organisations. Concern over their ability to hack into US power grid software and possibly disrupt the electrical supply system is growing because such an attack could be one of the quickest ways to destroy the American economy.

A major cyber attack on the US electric grid could cause loss of over a 1 trillion dollar and some 71 billion dollar in insurance claims, as per an estimate.

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The power sector, which is one of the major critical infrastructures, gets affected due to any kind of disaster and thus leads to disruption in the generation, transmission and distribution of electricity. Power system operations and control was initially local, including automated isolation and concentrating on continuity or reliability of the system of supply.

But with the introduction of Information and Communication Technology-based Control Systems, efficiency, reliability and operational flexibility of power system has increased exponentially. These control systems like SCADA and EMS can be operated in isolation and also in connected mode with corporate network as well as internet. The result is exposure of the power systems controls to cyber space and hence vulnerability to cyber attacks.

Experts say that the operation of critical electrical infrastructure in India could be at risk due to increasing cyber incidences. Electrical infrastructure depends on electronic control systems for its operation.

India is planning to deploy smart grid technologies to deal with challenges likely to be thrown by the growing share of renewable power generation as well as to tackle power theft. However, the use of this technology could expose our electric grid to cyber attacks due to creation of consumer interfaces (Consumers taking electricity from grid-connected roof-top solar plants can also export electricity to the grid).

PIYUSH GOYAL
Minister of State (IC) for Power, Coal, New & Renewable Energy

> Experts say that smart grids will change the institutional map of the power sector, creating a new ecosystem of players extending well beyond today's network of system operators, distributors and end-users. However, opening the electricity system to third party innovation will require dealing with new issues such as interoperability, cyber security and consumer privacy.

Experts say that smart grids will change the institutional map of the power sector, creating a new ecosystem of players extending well beyond today's network of system operators, distributors and end-users. However, opening the electricity system to third party innovation will require dealing with new issues such as interoperability, cyber security and consumer privacy.

So it is extremely important to evolve crisis or disaster management plan to restore the generation, transmission, and distribution of power to the affected areas in the shortest possible time.

India is vulnerable to natural as well as man-made disasters. For example, some 38.6 per cent of its land mass is prone to earthquake of moderate to high intensity and over 12 per cent of land is prone to floods and river erosion. Of the 7516 km of the country's coastal line, around 5700 km is prone to cyclones and tsunami and 68 per cent of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches. There is also risk of disasters due to chemical, biological and radiological attacks.

Now the people of India especially the coastal folk are much appalled with tsunami. The unanswered question, today, is how to tackle such disasters.

India can learn from Japan's experience in carrying rescue and relief operations in the aftermath of the 2011 Japan earthquake, which was followed by tsunami.

The challenges posed by the natural disaster in Japan brought to the fore the fact the backbone of any comprehensive smart city disaster solution is information and communications technologies.

After the 2011 earthquake in Japan, NTT DoCoMo

The information provided by the portal covers power outages, weather forecast systems, transportation blocks and diverted routes. The web portal also offers Twitter-style functionality so that all citizens could use it to leave personal messages. These services have now been integrated into the main web site on a permanent basis.

Experts say that cities' ability to process, store and share vast amounts of data is crucial for building up their resilience and preparedness for natural disasters. In Japan, for example, the government has implemented a coordinated data distribution project for the monitoring of radiation, where SIM-enabled devices located in farmlands, parks, offices and danger and evacuation zones use the mobile networks to transmit measurements of radiation.

Municipalities then use this data to keep the public away from the areas where high radiation has been detected.

Mobile operator participation is crucial throughout the entire process of city crisis planning, coordination

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DURING THE JAPAN EARTHQUAKE, PEOPLE WANTED TO GET GENERAL INFORMATION FROM A SINGLE SOURCE. WHILE MANY PEOPLE USED THE MICRO-BLOGGING SERVICE TWITTER TO INFORM FRIENDS AND RELATIVES ABOUT THEIR OWN CONDITION, LARGE GROUPS OF AFFECTED CITIZENS DID NOT HAVE TWITTER ACCOUNTS.

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decided to construct 100 highly-resilient "Large Zone" stations, separate from the ordinary base stations which will be able to provide mobile coverage to 35 per cent of the population in the event of a wide-area disaster or power outage.

Networks are equipped with backup 24-hour storage batteries and access to alternative power sources such as solar and wind, to ensure they can operate even after long-term power outages.

During the Japan earthquake, people wanted to get general information from a single source. While many people used the micro-blogging service Twitter to inform friends and relatives about their own condition, large groups of affected citizens did not have Twitter accounts.

To address this challenge, in September 2012, the Japanese government started a month-long pilot of a new central web portal that could communicate critical information during an emergency, collected from a large number of governmental agencies, to improve citizens' safety in the wake of a natural disaster.

and recovery. Mobile networks need to be beefed up to connect all stakeholders, including police, hospital and nuclear plants, to complement existing proprietary networks.

Mobile networks also need to be used to connect a wide range of sensors, in order to monitor land and ocean changes, and accurately measure crucial parameters, such as wind speed, waves, radiation, and salinity.

Mobile connectivity needs to be combined with different types of observation systems and global satellite systems.

If smart cities mission envisaged by the NDA government is to bring a noticeable improvement in the experience of urban living, credible systems to deal with threats like cyber attack on electricity network and necessary power back-up to maintain communication and information in the event of a contingency like failure of grid power supply must be incorporated into the development plans. ■

LOOKING FOR A SMART APPROACH TO DISASTER MANAGEMENT

ONSITE EARLY EARTHQUAKE WARNING AND SECURITY SYSTEM

It is the right time for Indian Government to introduce some smart technologies like Onsite Early Earthquake Warning and Security System to the Disaster management. Department of Earth Science is mandated to look for all such inventions and dedicate to the people of the country. Let's examine …

By SUNITI KUMAR BHATTACHARJYA

India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes and landslides have been a recurrent phenomena. About 60% of the landmass is prone to earthquakes of various intensities; over 40 million hectares is prone to floods; about 8% of the total area is prone to cyclones and 68% of the area is susceptible to drought. In the decade 1990-2000, an average of about 4,344 people lost their lives and about 30 million people were affected by disasters every year. The loss in terms of private, community and public assets has been astronomical.

Considerable concern over natural disasters: Even as substantial scientific and material progress is made, the loss of lives and property due to disasters has not decreased. In fact, the human toll and economic losses have mounted. It was in this background that the United Nations General

Assembly, in 1989, declared the decade 1990-2000 as the International Decade for Natural Disaster Reduction with the objective to reduce loss of lives and property and restrict socio-economic damage through concerted international action, especially in developing countries.

The super cyclone in Orissa in October, 1999 and the Bhuj earthquake in Gujarat in January, 2001 underscored the need to adopt a multi-dimensional endeavour involving diverse, scientific, engineering, financial and social processes; the need to adopt multi - disciplinary and multi-sectoral approach and incorporation of risk reduction in the developmental plans and strategies.

Over the past couple of years, the Government of India has brought about a paradigm shift in the

Disaster management occupies an important place in this country's policy framework as it is the poor and the under-privileged who are worst affected on account of calamities/disasters. In order to making the approach neat, India needs Onsite Early Earthquake and Warning System, a Smart system that predicts when an earthquake occurs seismic waves radiate from the epicenter like waves on a pond. It is these waves we feel as earthquakes shakeand cause damage to structures. The technology exists to detect moderate to large earthquakes so quickly that a warning can be sent to locations outside the area where the earthquake begins before these destructive waves arrive.

The steps being taken by the Government emanate from the approach outlined above. The approach

Over the past couple of years, the Government of India has brought about a paradigm shift in the approach to disaster management. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built into the development process. Another corner stone of the approach is that mitigation has to be multi-disciplinary spanning across all sectors of development. The new policy also emanates from the belief that investments in mitigation are much more cost effective than expenditure on relief and rehabilitation.

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has been translated into a National Disaster Framework [a roadmap] covering institutional mechanisms, disaster prevention strategy, early warning system, disaster mitigation, preparedness and response and human resource development. The expected inputs, areas of intervention and agencies to be involved at the National, State and district levels have been identified and listed in the roadmap. This roadmap has been shared with all the State Governments and Union Territory Administrations. Ministries and Departments of Government of India, and the State Governments/UT Administrations have

been advised to develop their respective roadmaps, taking the national roadmap as a broad guideline. There is, therefore, now a common strategy underpinning the action being taken by all the participating organizations/stakeholders.

There are two basic approaches to earthquake early warning (EEW): the "single station" ("on-site") approach and the "network" approach.

Single-station approach: This is often called the "on-site" approach because a single sensor located at the site to be protected detects the arrival of the faster but weaker P-wave and warns before

> THERE ARE TWO BASIC APPROACHES TO EARTHQUAKE EARLY WARNING (EEW): THE "SINGLE STATION" ("ON-SITE") APPROACH AND THE "NETWORK" APPROACH.
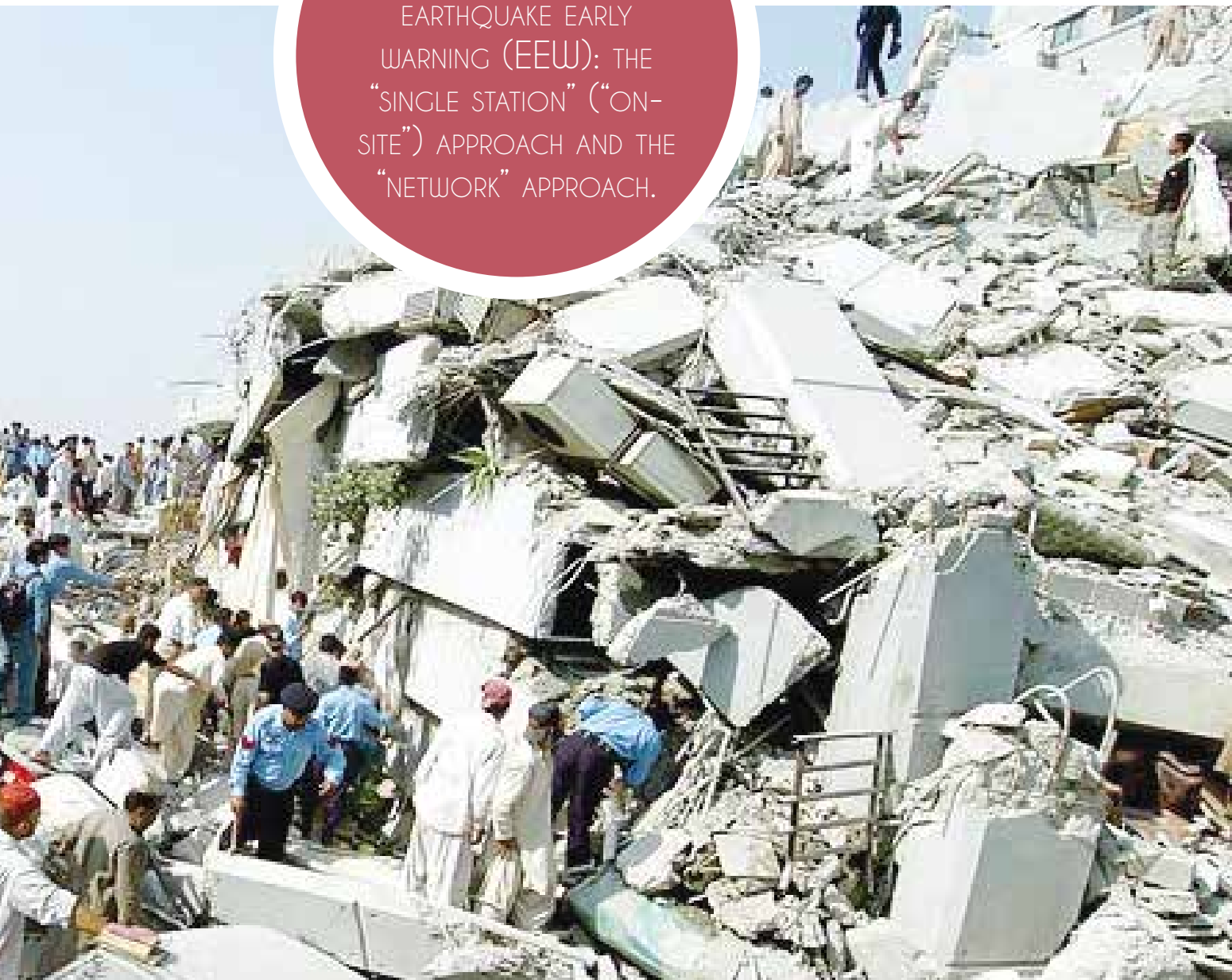
the arrival of the slower, more destructive S-wave. This approach is relatively simple, but it can be less accurate and more prone to false alerts compared to the network approach. It also provides less warning time than the network approach for most events.

Network approach: The network approach utilizes many seismic sensors distributed over a wide area where earthquakes are likely to occur. This network of sensors sends data to a central site where ground motion signals are analyzed, earthquakes are detected and warnings are issued. The network approach may take more time than the single station approach because it requires multiple stations to detect the earthquake before alarms are sent, but this makes it less prone to errors than the on-site approach. Using a network of seismic sensors also has the advantage that the system is constantly exercised and tested as it detects daily small earthquakes. For this reason, the system maintains a high level of readiness. Finally, only a distributed network of sensors is capable of characterizing large, complex earthquakes as they evolve. Thus, estimates of intensity and extent of shaking gain accuracy as more data are recorded and analyzed.

Disasters caused by earthquakes have destroyed lives and livelihoods, killing people and damaging homes and businesses. Disasters in the past 14 years have taken an estimated 2.5

million lives. A devastating 6.9 earthquake in 2001 in Gujarat which have killed 2,370 people, destroyed over 12 lac houses, the magnitude 7.8 earthquake that killed more than 9,000 people in Nepal and recently in Manipur has made us to think about to deal with such eventualities. Indian government is determined to find a way to prevent such types of loss of life in future and it is looking and working hard for the invention of any such technology and recently formed a group of 27 countries for the solutions and implementing a pilot project at IIT, Roorke with Taiwan .

In 2016, India is all set for the success of "Onsite Early Earthquake and Warning System" launched by Secty Electronics GmbH, Germany that will reduce damage to the infrastructure and save lives in earthquake. The Secty electronics launched its " Onsite Early earthquake warning and security system" in India in a joint venture with Terra Techcom Pvt. Ltd., New Delhi. This is first ever "Onsite Early Earthquake warning and security system" for India.

Secty Electronics Gmbh, Germany had developed "Early Earthquake Warning and Security System "about a decade before with the collaboration of German GEO Research Centre, Potsdam (GFZ). This is much-needed technology for India especially for those rural areas and cities that are under highl-risk seismic zones 4 and 5. If Kathmandu city residents and people of Bihar knew that this 7.8 earthquake is rippling towards their homes and any such Early Earthquake Warning and Security System existed and that wouldhave old people that an earthquake is on the way then thousands of lives could have been saved !

Speaking about the technology, Mr. Bijender Goel (Managing Director), Terra Techcom Pvt. Ltd says, the System proposed by us is the only system in the world for early earthquake warning along with all-in-one security features including building management system". 100 years of study, research and data made GFZ- Potsdam, Germany to develop an algorithm (speed and acceleration of earthquake) which Mr. Juergen Przybylak, Managing Director, Secty Electronics has programmed in software. This is brain of our technology which is 100% accurate after 2006 and has been installed in more than 25 countries. It has proved itself by giving prior alarm of an earthquake after sensing primary waves and saved hundreds of lives . No false alarm has been given by this system after 2006 which is most important.

The system is not only a seismic switch for onsite early warning but capable of releasing early warning of an earthquake. It gets activated automatically and takes step automatically for the security and safety of people and infrastructure by shutting off lifts, electricity, gas supply, water supply, opens emergency gates and warn people of an earthquake by giving alarm, etc. The most immediate warning time of our system was 30 seconds in Chile 2010.

Recently in 2015, a special presentation of this technology was made in front of United Nations for United Nation Development Program. It has also won "WIN Award" of United Kingdom for best innovation product in 2006.

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This Technology is having patents in 5 countries including USA, Turkey and Iran .

Seismologists record more than 20,000 tremors annually. The 10 most earthquake- prone countries in the world are Japan, India, Nepal, Ecuador, Philippines, Pakistan, El Salvador, Mexico, Turkey and Indonesia.

Strong Earthquakes have a frequency of 0-20Hz and small earthquakes have frequency higher then 20Hz. Most important point of earthquakes is "speed of the wave" which means acceleration. It is a matter of record that there is no such technology available in the world that can pre-alarm much in advance of an earthquake. The technologies, presently available, are based on detecting P waves of an earthquake and it is a matter of seconds to act to save our lives and infrastructure. GFZ-Potsdam has developed an algorithm and Secty Electronics has programmed it in its software to detect the P-Wave. It is very useful for Government infrastructure, Chemical Plants, Highly Sensitive Laboratories/plants, Multi-storey buildings, Shopping Malls, Cinemas, Row houses, Hospitals, Schools/Colleges, Industries, Metro railways ,Airports, CNG Stations, nuclear stations etc.

Keeping in view the experience of decades of Secty Electronics and good track record of this system across the globe, the Haryana government has come out to find a solution for the people of this country and awarded a pilot project to Terra Techcom Pvt Ltd, an Indian partner of Secty Electronics,Germany for its Mini Secretariat at Sector-17, Chandigarh. Delhi government has also proposed for a pilot project for its secretariat which is yet to be finalized. ■

ABHISHEK GOYAT
MANAGING DIRECTOR & CEO
THE ANTRIKSH GROUP

INTERVIEW – ABHISHEK GOYAT, MANAGING DIRECTOR & CEO, ANTRIKSH GROUP

WHENEVER WE PLAN ANY PROJECT, WE ALL BRAINSTORM, DO 360 DEGREE RESEARCH AND DRAFT A SHOCK-PROOF, SUSTAINABLE, CONSTRUCTION MODEL

After every earthquake or natural calamity everybody talks about the safety measures but neither the authorized bodies nor government comes out with strict guidelines to make & implement polices to minimize the devastation and decrease the losses of lives, property and other key resources. Let's connect to a country's leading developer who delivered more than 55 projects in Northern India and comes from a civil engineering background. A Chat with The Antriksh Group Managing Director & CEO, **Abhishek Goyat….**

First of all many congratulations for completing 3 decades in construction business. How do you see this successful journey so far?

It was the dream of my father Mr. Rajbeer Goyat to build homes for every Indian which now comes true. We built homes for more than 50,000 families across the country and offered them a quality lifestyle. We have everything for everybody starting from budget home to luxury apartment to villas. We feel quite happy and satisfied that me and my younger brother both are working on our father's footprint and delivering happiness to every customer. We are customer friendly organisation and will continue with the group's legacy.

Generally other developers outsource the construction but you have your own setup so what all challenges you face and how you come out with it?

From the day oneour focus was quality construction, that's why we have created our own constriction setup and workforce. My father, who is the founder of company has a civil engineering background and construction is his passion and he is deeply involved with it. He looks into each and every aspects of construction, designing of project, sourcing of raw material, placement of manpower to monitor every block so that we can deliver the quality space to our customer. We are very strict on our construction quality and that's why we do not outsource it. What we can deliver nobody can as it is an emotional bonding and passion for construction. Manpower management in construction work is a tough challenge, however since we have our own manpower pool; we have been able to manage it smoothly. We consider all of them as the part of The Antriksh family.

As you do all the projects construction yourself, how safe are your buildings given the frequency of recent earthquakes?

We believe in quality construction and never compromise on it. We have a panel of engineers, architects and experts from infrastructure sector. Whenever we plan any project, we all brainstorm, do 360 Degree research and draft a shock-proof, sustainable, construction model. We use the modern technology, best engineering techniques and follow the BIS guidelines to make our building strong.

What measures should be taken by developers and government ?

National Disaster Management Authority (NDMA) recently warned of magnitude 8 or higher earthquake

People should use the Japanese style construction technique and ask the developers for the same . Developer should be liable for any miss-happening and should face ban in the Industry.

From the Government side there should be a pro-active coordination and communication between ministries of Home Affairs and Urban Development which influences the shaping of policies and programmes in respect of construction of buildings and development of cities. Alongside, Ministry of Consumer Affairs which is responsible for the Bureau of Indian Standards chartered to update the building codes also has to be looped in. The need of the hour may well be to have a joint task force to handle the issue.

Do developers need any certification from the Government for earthquake free building or any construction guidelines to be followed necessarily?

Today India is not prepared for high-rise building as we do not have the certain quality check, strict guidelines to follow or government monitoring system to watch out. First Government should create a basic building code of design and construction guidelines and make developers as well as the end users aware about following it. Government should create/hire planning and monitoring agencies area wise and after checking the material quality and building design, they should give the approval to start the construction so that incase of natural calamities we should save our people and decrease the damage ratio.

The frequency of earthquake has increased in last few months so as a developer what are major steps are being taken by you in construction?

For the new projects we have hired an international agency (structural engineering firm) which is advising us in the project designing and drafting of the construction guidelines. Right from the soil investigation to wind stability conditions to the apt foundation design as per the height and shape of the building, these high-rise structures can be made capable of taking all types of loads and deflections in case of an earthquake so that our building should become more sustainable and long-lasting. Our construction is according to Green building norms so that it does not harm the environment.

We are very much aware that safety lies in correct usage of steel and RCC concrete in quantitative and qualitative terms as designed by the respective engineers and we are monitoring it personallyt. ◼

MY FATHER, WHO IS THE FOUNDER OF COMPANY HAS A CIVIL ENGINEERING BACKGROUND AND CONSTRUCTION IS HIS PASSION AND HE IS DEEPLY INVOLVED WITH IT. HE LOOKS INTO EACH AND EVERY ASPECTS OF CONSTRUCTION, DESIGNING OF PROJECT, SOURCING OF RAW MATERIAL, PLACEMENT OF MANPOWER TO MONITOR EVERY BLOCK SO THAT WE CAN DELIVER THE QUALITY SPACE TO OUR CUSTOMER.

striking India in near future, causing massive damage to life and property but no steps have been taken to strengthen buildings, incorporate seismic risk reduction strategies or to educate the public on what needs to be done in case disaster strikes.

As earthquakes don't kill people but falling buildings do and this makes India the most vulnerable place in the world. More than 80% of buildings of Delhi NCR region will collapse should high magnitude earthquake hit north India.

First people need to be educated about the earthquake-resistant buildings defined by NDMA.

UNDERSTANDING
SMART CITIES

The fundamental concept of a Smart City is the seamless integration of physical infrastructure, such as fiber optics, to the digital infrastructure with a pervasive overlay of ICT connecting things, organizations,and people.

By SUNITI KUMAR BHATTACHARJYA

Infrastructure, Action and Inhabitants are the three stakeholders in a Smart City. These stakeholders are not only infused with intelligence, but more importantly they work in an interconnected and integrated fashion to utilize resources efficiently. Whatever the center of attention of a smart city project, it is likely that it can be differentiated by its adherence to the certain enablers. A smart city endeavors to carry services remotely over networks. Cities embracing the smart city philosophy aspire to move the vast majority of their processes for engaging with and delivering content or services to citizens online, such that the interaction between the citizen and the public authority is carried out on a connected device. The aim here is to extend the reach of service delivery beyond the confines of government premises and beyond the restrictions of the normal working day for public administration employees. It is designed to automate and integrate to achieve clarity of view.

Many city managers and representatives recognize that the traditional method of delegation of delivery
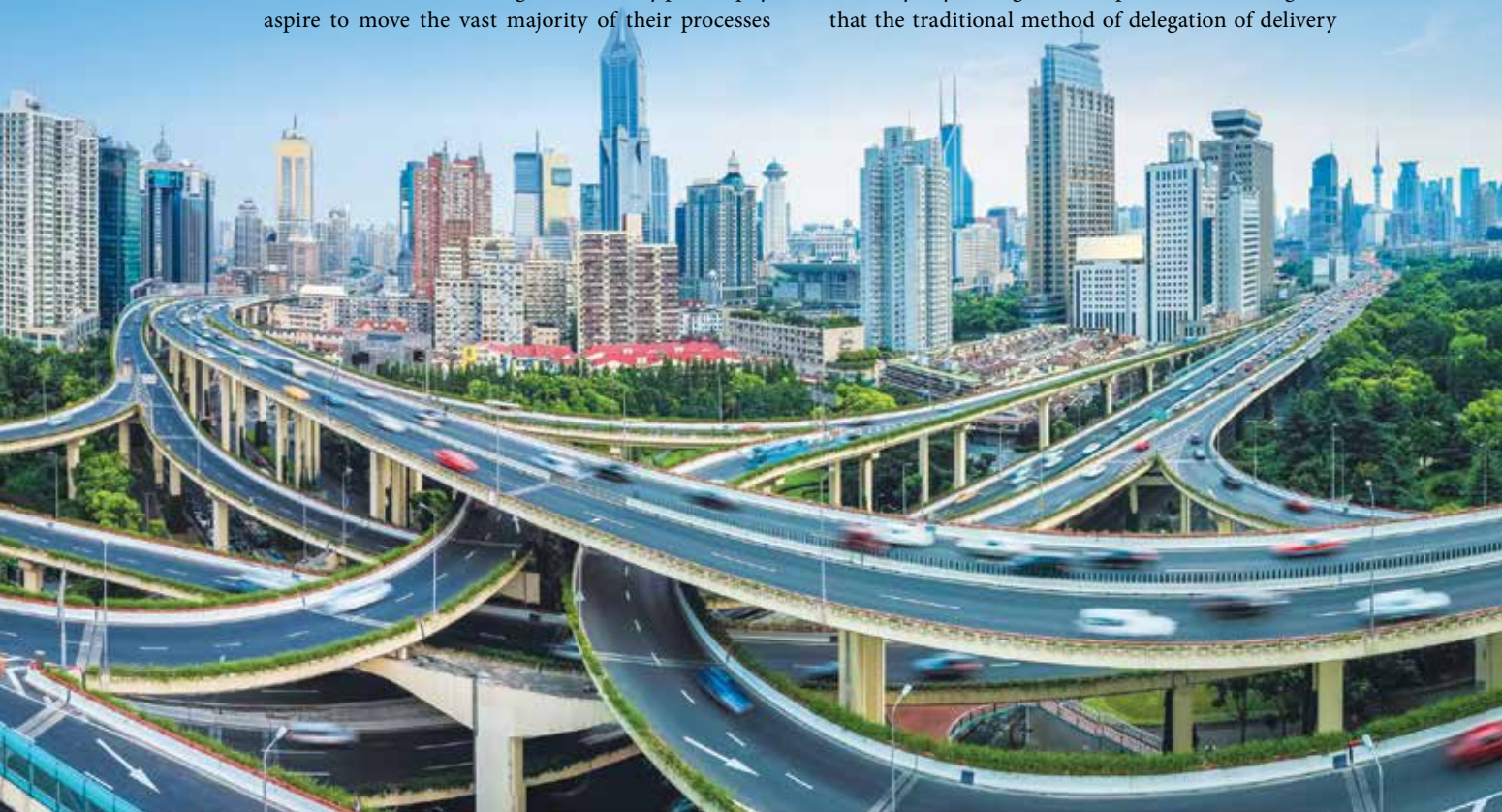
responsibilities to individual departments or agencies meant that no one can obtain a clear view of the holistic "state of the city". Smart city thinking seeks to change this by opening up channels by which distinct parts of the city's administration can share data and insights. It also includes taking steps to make the fabric of the city itself part of the system, by including the capability to automatically report status and other useful information in physical devices deployed on the streets. Roads, street-lights, trafficlights and other devices like this become valuable new sources of real-time, automated data that can be used to enhance the picture of what is happening "Right-now" in the city.

A smart city strives to personalize its interactions with each individual. Citizens differ widely in their circumstances and preferences. Smart cities recognize this and strive to use data to ensure that their

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interactions with citizens take account of individual circumstances and preferences where these are known.

A smart city strives to optimize operations in real-time to maximize efficiency. The application of modern analysis and processing techniques to the streams of data flowing around a city offers the prospect of using predictive techniques to intervene in the functioning of a city to solve problems and to improve efficiency. Early intervention in the flow of traffic on a motorway in the

afternoon – for example, activating traffic signal controls on entry ramps or temporarily elevating prices in the city's road-user charging scheme – can

mitigate the build-up of congestion in late afternoon in the city center. It is only now that predictive analytic techniques are becoming sufficiently sophisticated to be able to design reliable interventions 'on the fly' that decision-makers can implement in advance of problems to prevent them happening.

The capabilities and solutions deployed in a distinctive Smart City can be categorized as follows:

Infrastructure

City Administration must provide the fundamental infrastructure to deliver services such as water, energy, telecommunications and transportation while making the city a desirable place through the intelligent application of Information and Communication Technology (ICT). The fundamental concept of a Smart City is the seamless integration of physical infrastructure, such as fiber optics, to the digital infrastructure. Figure 2 illustrates the vision of the future city, a city with

a pervasive overlay of ICT connecting things, organizations, and people. For example, imagine having sensors in cars connected to transportation management systems that analyze day-to-day traffic flow data that will provide drivers with better routes to their destinations and provide public safety officials with quicker routes to improve response times.

Power Distribution & Smart utility networks

A Smart City's power distribution infrastructure will be built on Smart Grid technologies, which will integrate with local power demand patterns, grid supply variations, and a well-defined operational process – to manage the available energy most efficiently. A Smart City will integrate energy needs across the board – from home consumers (starting from more energy efficient investment in their own homes) to powering city-wide infrastructure such as lighting to ensuring reliable supply of energy for manufacturing jobs. This is accomplished through the use of data to predict energy trends and to compensate through redirection of energy and use of efficient materials to reduce demand.

Smart Grids alleviate problems such as reducing outages and faults, improving responsiveness of utility companies to handle demand variations, increasing efficiencies by reducing transmission & distribution losses, and managing costs better. More importantly, they allow customers to participate in the energy value chain, by enabling more intelligence throughout the grid. Smart Grid solutions are built on instrumentation such as smart meters, digital sensors,

advanced communication networks and sophisticated analytics. By enabling intelligent flow of information, Smart Grids optimize regulation, generation, supply and consumption of electricity.

Next generation smart grid would enable the Smart City to to meet growing energy needs on its own. And as multiple generators from diverse energy sources (hydroelectric, fossil fuel, solar, wind, etc.) feed variable demand thru variable generators, the grid would be designed to provide for minimizing the fault-currents thru use of next generation fault-current limiters and switch-yard designs. Moreover, the potential of solar rooftop would be maximized by deploying guidelines on roof-heights and shade-limiting, individual rooftop solar harvesting opportunities.

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Smart lighting

According to several surveys, Street lighting equals 40 percent of the electricity bill of municipalities. Maintenance of streetlights is an operational issue given their large numbers and geographical distribution. According to the data, lighting accounts for 19 percent of all electricity consumed. One-third of the world's roads are still lighted by technology dating back to the 1960s. The installation of new street lighting solutions can save up to US$13.1 billion in energy per year.

A leading lighting company estimates that a complete switch to LED technology can generate savings of about US$179 billion - an enormous sum equivalent to the elimination of 640 medium sized power stations globally.

Furthermore, an independent, global trial of LED technology in 12 of the world's largest cities found that LEDs can generate energy savings of 50 to 70 percent - with savings reaching 80 percent when LED lighting is coupled with smart controls. The program also indicated that citizens of pilot cities prefer LED lighting, citing the social and environmental benefits, such as a greater sense of safety and improved visibility.

A smart lighting approach helps cities manage street lighting to reduce energy and maintenance costs through a common network infrastructure. The technology includes energy efficient lights (LED or equivalent) with wireless controllers, remotely manageable streetlights and network for connectivity, light management systems, and maintenance system to view the operational status of lights.

The outcome is reduction in energy consumption on street lighting and optimization of management/
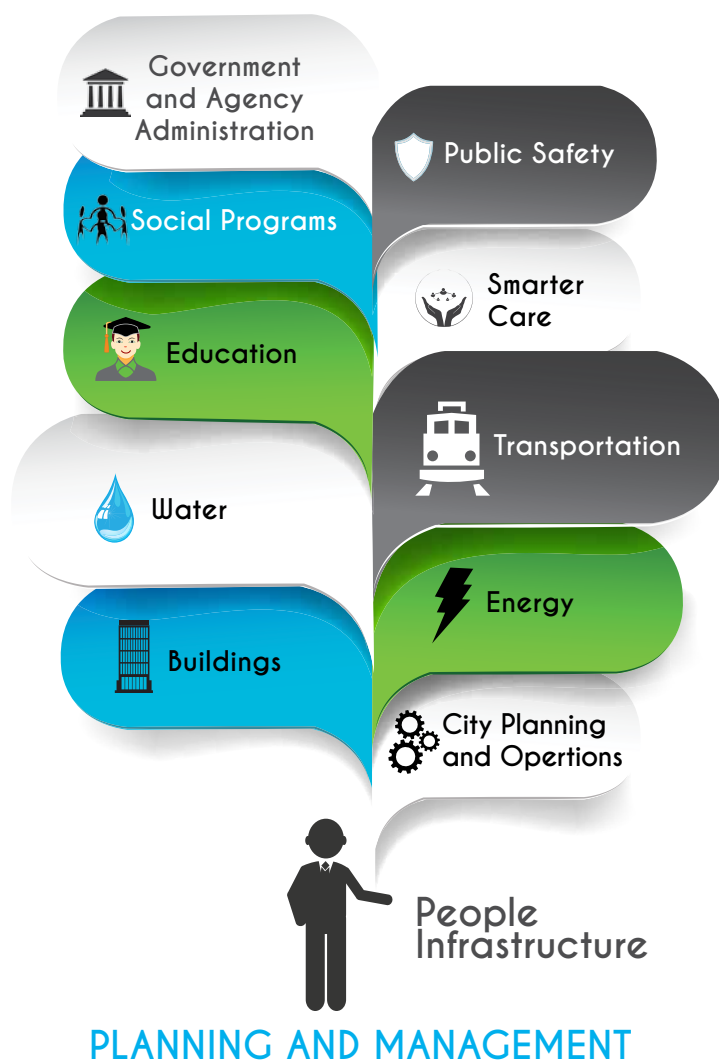

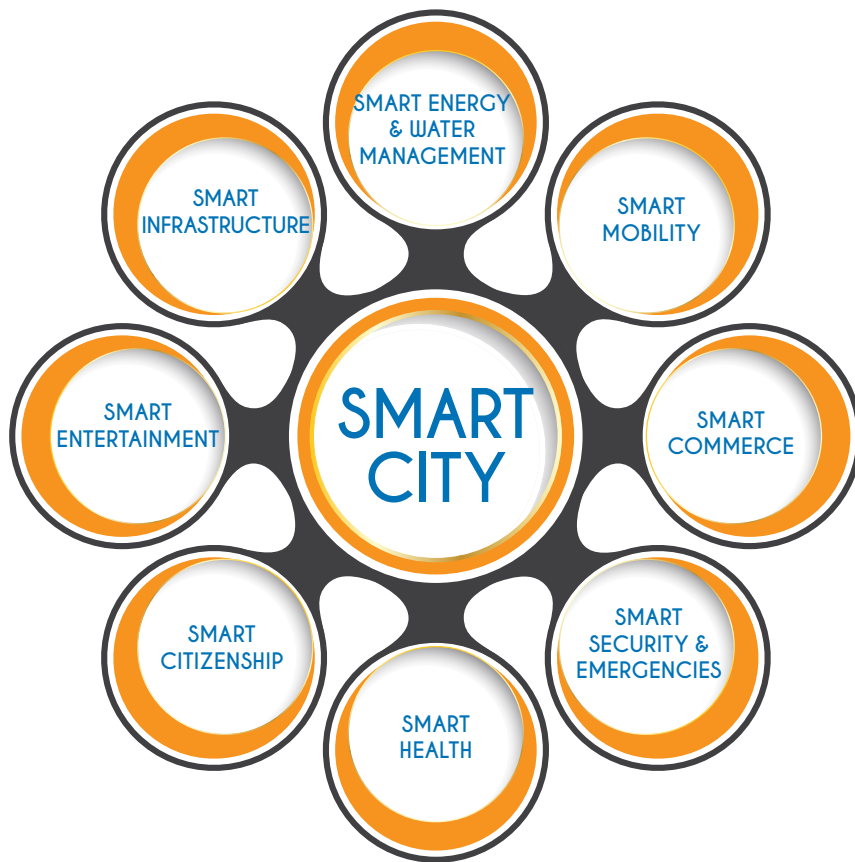
Figure 1: Components of a Smart City

Figure 2: Vision of the Future City

maintenance process of large-scale lighting deployments.

Policymakers can enhance the resources for a Smart Grid by simultaneously optimizing investment in energy-efficient infrastructure. Building insulation, alternative energy (solar for homes), and upgraded transmissions lines can ensure that the energy availability is maximized for all types of uses. Furthermore, Smart Grids can provide superior data on the amount of energy available which can lead to better prioritization of local manufacturing investments. In areas where a higher percentage is necessary for public consumption, governments can target energy-light manufacturing.

Incentivizing the appropriate type of investment will ensure that the energy grid is not overburdened, threatening the viability of investment and the jobs associated.

Smart water management

Water can often be one of the city's most stressed resources, where access to clean water affects economic activity, development and business. Challenges include better management of supply and distribution, preventing waste, and dealing with aging infrastructure.

Smart water management solutions use instrumentation (e.g. metering systems) and analytics to better manage demand and supply. For example, they can anticipate potential delivery disruption, better forecast long-term demand, and coordinate resources to protect water supply. Furthermore, intelligent water management solutions provide insights into the utility's infrastructure, assets and operations – detecting patterns and anomalies and then acting on them. Such capabilities include pressure and leak management, flood management, sewer overflow mitigation, quality management, and work scheduling. Most importantly, smart water management should focus on ensuring high-quality resources for public consumption by leveraging the appropriate technology (UV filtration, reverse osmosis membranes etc.) to meet the quality requirements for building healthy communities.

Additionally, intelligent water management should incorporate public-private sector cooperation on deploying technologies to support resource-smart manufacturing. Water is a necessary element of manufacturing – but the myriad of technologies and processes can encourage more efficient utilization from water management to recycling, to zero-waste plant designs. The Government of India should incentivize innovative technology uses for manufacturing investment and for appropriate leveraging of local water resources. ∎

NAYA RAIPUR, KOCHI:
SMART CITIES IN MAKING

Before Prime Minister Modi's vision on smart cities came in, there were few cities in the country which were aspiring to become smart cities. Naya Raipur and Kochi are the two cities which envision becoming first few smart cities of India.

The smartness of any city cannot be achieved only by information and communication technology. You can't call a city smart by just putting Wi-Fi, or internet connectivity. It has much more into it. Above all, economic viability should be the foremost priority. A smart city is a hub of economic activity—due to a thriving sector, be it manufacturing, services, tourism and hospitality, information technology, among others. The start-ups and small-scale enterprises should have easy access to financial and other resources to generate employment. The local government bodies should have financial independence. The city corporation should generate enough revenue so that it could invest in the city's infrastructure and in public services without help from the state government. It is also important to have an empowered and skilled pollution control authority with a good network of laboratories to ensure garbage and sewerage is treated and recycled in a smart manner without contaminating the air, land and water bodies.

## Naya Raipur India's First Smart City in Making

Naya Raipur, which has become a model for smart cities in India, is the first Green field smart city. Raipur city was declared as capital of Chhattisgarh serves as a regional hub for trade and commerce for the state. The city has many constraints- from land to basic infrastructure. Considering the growth potential of the city and with a view to decongest it, a new city is being developed as 'Naya Raipur' at a distance of 17 kilometers from the existing Raipur city. This is one of the smart cities envisioned by the state before the Modi government declared 100 smart cities.

Entire government secretariat shifting to the city has solar lighting in the premises. The city's core area spreads across 8,013 Ha. The planning area of Naya Raipur has been notified as a 'Special Area' under the 'CG Nagar Tatha Gram Nivesh Adhiniyam, 1973'. A Special Area Development Authority namely 'Naya Raipur Development Authority' (NRDA) constituted under the said Act has been entrusted with the development, operation and maintenance of infrastructures of the new city.

According to Union Ministry of Urban Development, there are three pillars of smart cities: physical, institutional and social infrastructure. The physical infra includes power, waste and solid waste management, sewage, multi-

Curtsey by: The Times of India
* Map Not to scale

The Digital Masterplan
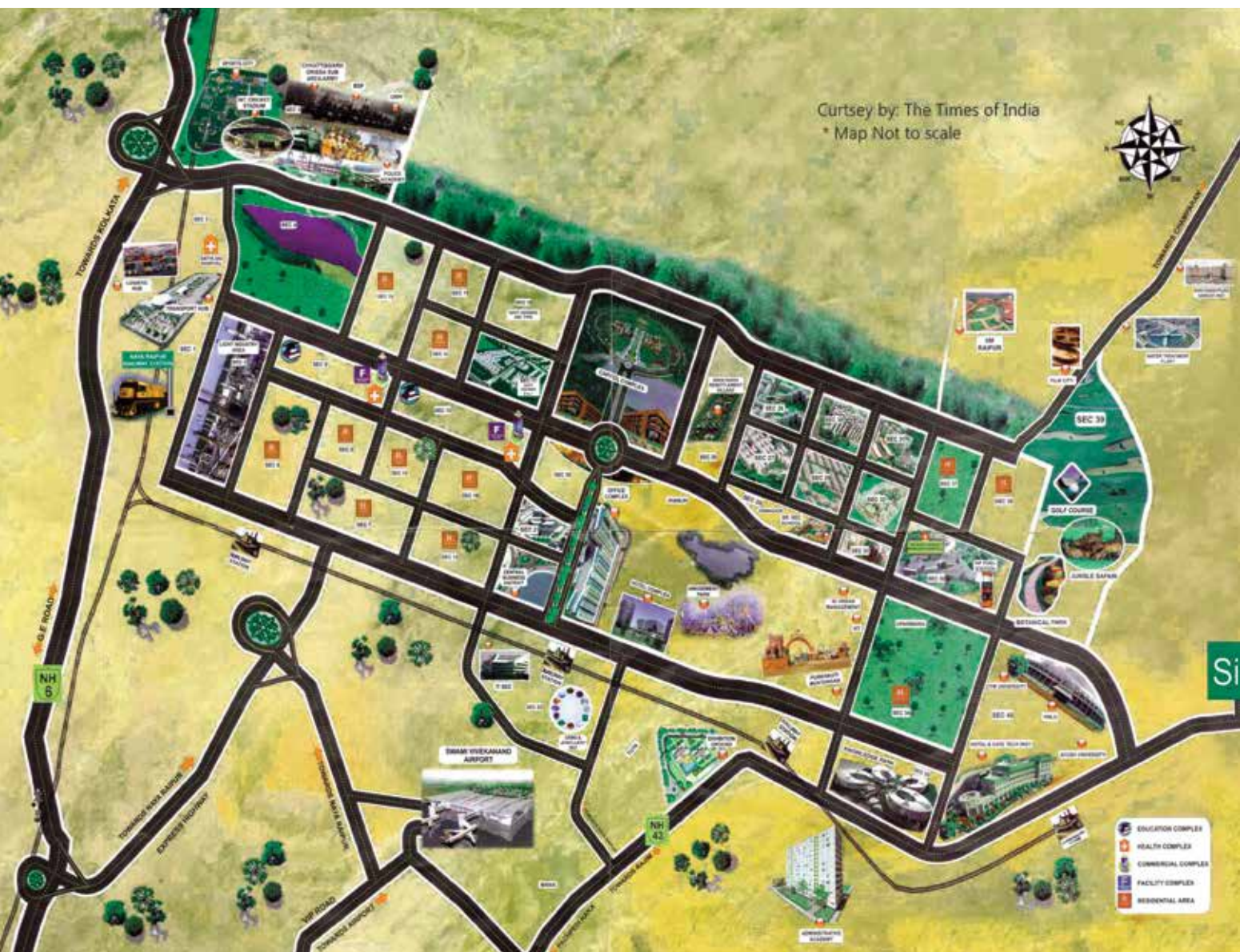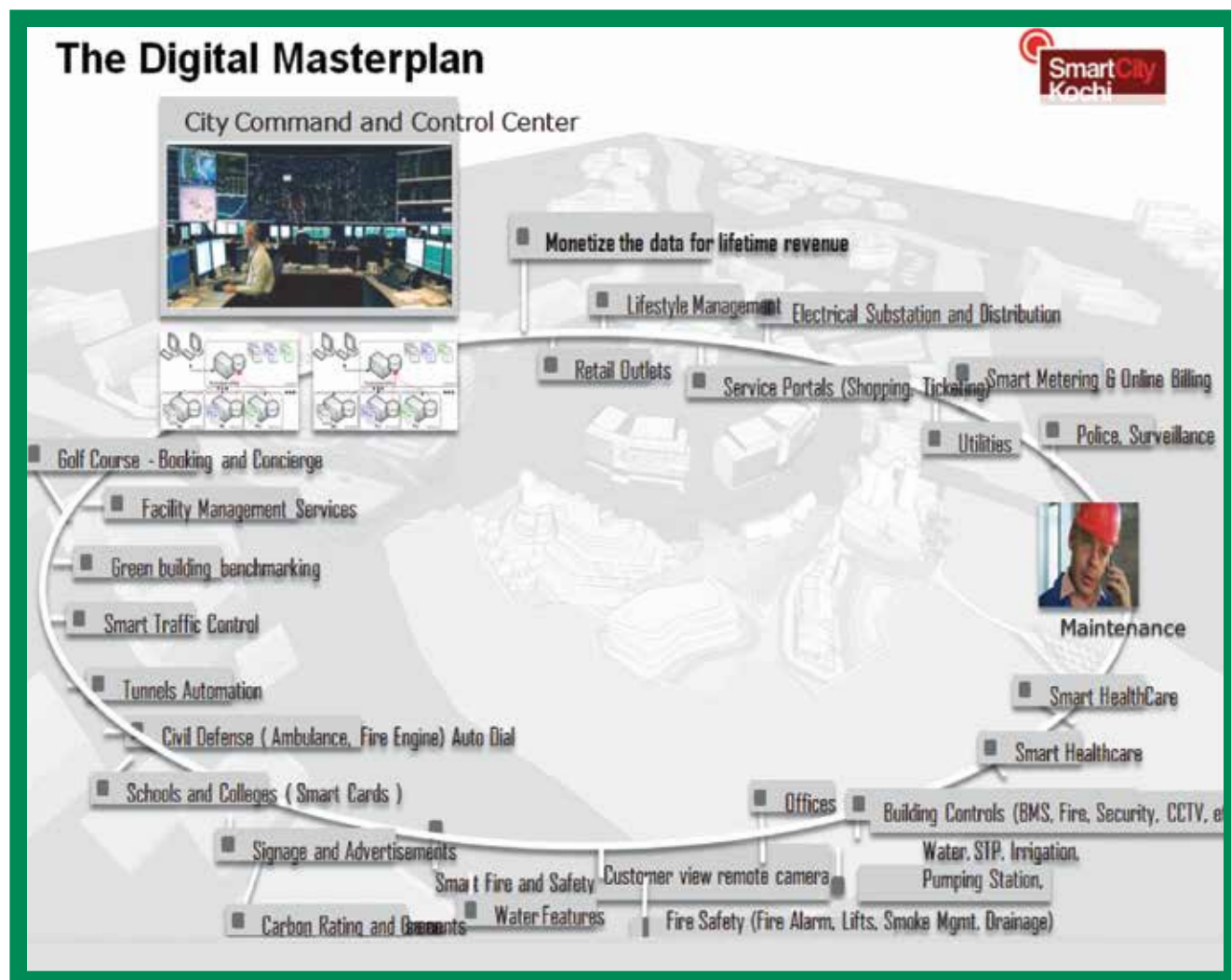
modal transport, cyber infrastructure, connectivity in terms of roads, airports, railways, housing and disaster management. Social infrastructure signifies education, healthcare, entertainment and inclusive planning. The institutional infrastructure means speedy service delivery, enforcement, security, taxation, skill development, environmental sustainability and ICT based service delivery.

NRDA is planning to develop this new capital city with a view to decongesting the existing city and providing new growth avenues. Naya Raipur is being developed with following goals:

- A servicing hub not only in manufacturing of goods but also in Information Technology and Bio Technology sectors.
- A financial centre of the region
- Hub of trade and hospitality sectors in Naya Raipur
- Hub of cultural services which would supplement local economy
- Hub of affordable and high quality medical services.
- Hub of quality educational facilities to develop as a knowledge base.

To realize these goals Naya Raipur Development Authority (NRDA) has prepared the development plan with the help of a number of competent city planners, professional consulting organizations, special interest groups as well as elected representatives of people.

Naya Raipur Development Authority has been successful in meeting the key schedule of its development plan and has so far developed major section of its physical & social infrastructure.

NRDA has constructed 75 KM of 4 lane / 6 lane city level road network and additional 60 KM of roadwork is under construction. There are no wires visible hanging on the city as city level underground electrical infrastructure with 10 of 33 KVA Sub-station (Indoor) is in place and it is SCADA compliant. The sewerage network and construction of four decentralized STPs is under construction . Two Residential sectors of Naya Raipur having 2600 and 7500 Housing units have been completed

and habitation has started. Two more sectors of Naya Raipur -- one with the Government housing and the other with the private housing -- are under construction.

It has managed to impress and attract many from India and abroad. Amitabh once said " Naya Raipur's Planning is a benchmark for other cities and their development. New initiatives taken for Inclusive development, planning and construction in Naya Raipur will help in the development of Andhra's new Capital city."

north block of capital complex at Naya Raipur. For example if there is a leakage in a pipeline or some street light is non-functional, the command and control centre will be able to monitor it in real time and the administration will be able to take corrective action accordingly.

Bachchan during his recent visit said that it is constructed with ample space not just for the present but for the advent of the colonies that would arise along these pathways. And he was impressed. Not only Amitab Bachchan, various state government representatives have also visited the city. Chief Minister of Andhra Pradesh Chandra Babu Naidu has also taken inspiration from Naya Raipur. While praising the city's planning, Naidu

Chhattisgarh government is using software, sensors and high speed networks for monitoring utilities, traffic and service delivery in the new capital city. All equipment deployed at utilities are SCADA (software for managing large industrial set up) compliant and there are also embedded sensors in pipelines, electricity and other city infrastructure. All these are being connected to command and control centre setup at

Adopting Best Practices from Kochi Smart City

A walk to work, Smart City Kochi is a joint venture between Dubai Government and Kerala Government and 84% is owned by the Dubai holding and 16% by government of Kerala. It was started four years ago in 2011 and first two years were spent in the early stage of studies and planning. Gigo Joseph, CEO, Kochi Smart City, said, "In 2013

What's in it for the Citizens?

There are Five Driving Factors behind any Smart Service to be implemented successfully and adopted by various users. It should address pressing needs and it should be financially feasible for users and providers...

01 Educated Desicions

Adaptive day scheduling

Flexible resources when needed

Road and path planning

Personalized alerts

Smart metering

02 Better Quality of Life

Automated systems

Cleaner water

Personalized access control

Traffic management

Visitor management

Healthcare consultancy

Critical Information availability

03 Less Resources Used

Green buildings

Occupancy sensors

Clean energy sources

Efficient systems

Adaptive sourcing

Rain water harvesting

Automated lighting and AC

04 Easier & Winder Access

Education

Health

Government services

Expert consultation

Mobile office

Access from any where any time

05 Zero Waste

Water reuse

Waste treatment

Recycle used items

Waste to energy

Time management

Construction waste reuse

Two-way electricity

I joined and we started the project. Last two years it has been running TECOM, a subsidiary of Dubai holding which has developed Dubai internet city, Dubai media city, science park or educational city." People always put IT parks, they put IT buildings and forget about rest of the place, they forget about where do people live, where do they go? And how do they live? In the case of a developing country, if you go and set up economic development, the only way it can be sustainably smart city is that it should not hamper the existing cities. So the concept is to develop walk to work township with institutions, residential school colleges and all kind of facilities.

Planning of smart cities is critical as it will change from location to location. For example, Malta which is a very small country, there what we planned for the city is 5000 jobs and it is a tourist destination. So the design is such that it has large gathering area which can accommodate 10,000-20,000 people and it has become the destination of people of Malta. Kochi has also chosen the components while planning smart cities that are economic sustainability, social sustainability and environment sustainability with technology coming as an enabler to these sustainable things. ∎

5G to be a GAME CHANGER for smart cities

5G to revolutionize Smart Cities and Smart homes in India

Connectivity is a major challenge when we talk about smart cities in India and high-speed networks can a game changer for big projects like Smart Cities and Digital India. India has been witnessing revolution with 2G, 3G, and now 4G. But when 5G comes, it would create an industrial revolution . 2G, 3G networks are for individual consumers for interacting with each other and 4G is 3G's enhanced version, however, 5G will be for industrial applications. It will have consumer applications too. With the high-speed, video downloads will be possible, which is challenging in present networks. Today, more and more consumers are switching to mobiles and laptops to watch TV and then Netflix is all set to be rolled out in India, which is a bandwidth hungry on-demand video streaming service. Therefore, there is an extra speed requirement for watching live TV and video downloads from the consumers side.

5G is the next generation of wireless currently taking shape and will offer significantly faster data speeds (100 times) and is expected to have download speed of around 10-50 gbps. Since it will have Ultra-low latency, time taken to share data on devices will reduce significantly. For that reason, it offers promise of great application in bigger and industrial applications -- for example, driverless cars and heavy machinery from a remote location. Imagine downloading the entire film in just one second.

The main driver of 5G will be the industrial application such as Internet of Things, connected devices, and smart cities . Smart city is one that can take every benefit possible from connectivity. Smart cities will be connected will components such as smart grids. All these need high-speed solutions. 5G will address those kinds of applications where -for example, remote surgery

-- we don't have doctors everywhere in rural area and sensitive operations like this need highquality solutions. 5G plays an important role here. The kind of ICT infrastructure Smart cities are going to have for Internet of Things will be a major beneficiaryr from 5G as it will need a network that can connect various devices together and 5G has the capacity to do that.

5G Across the world

Many countries have plans in place for 5G services rollout. Chinese telecommunications equipment maker Huawei and Russian mobile operator MegaFon have signed agreements aimed at making 5G mobile internet available at the 2018 FIFA World Cup host cities.

it has signed a partnership with Ericsson at the Mobile World Congress in Barcelona to implement the same. It has already tested speeds of upto 115GBPS as part of its 5G strategy, Etisalat added.

However, South Korea's Ministry of Education, Science and Technology (MEST) had announced to invest dollar 1.5 billion to develop 5G technology that will

5G IS STILL IN ITS EARLY STAGES IN TERMS OF EXAMINING USE CASES, REQUIREMENTS AND COMPONENT TECHNOLOGIES. 5G WORLD NORTH AMERICA WILL LOOK TO HELP BUILD UPON THE INITIAL GROUNDWORK FOR ALL OF THIS, AND STRESS THAT THE TIME FOR COLLABORATION AND COOPERATION IS NOW." CHRIS PEARSON, PRESIDENT, 4G AMERICAS SAID AT ONE OF THE CONFERENCES.
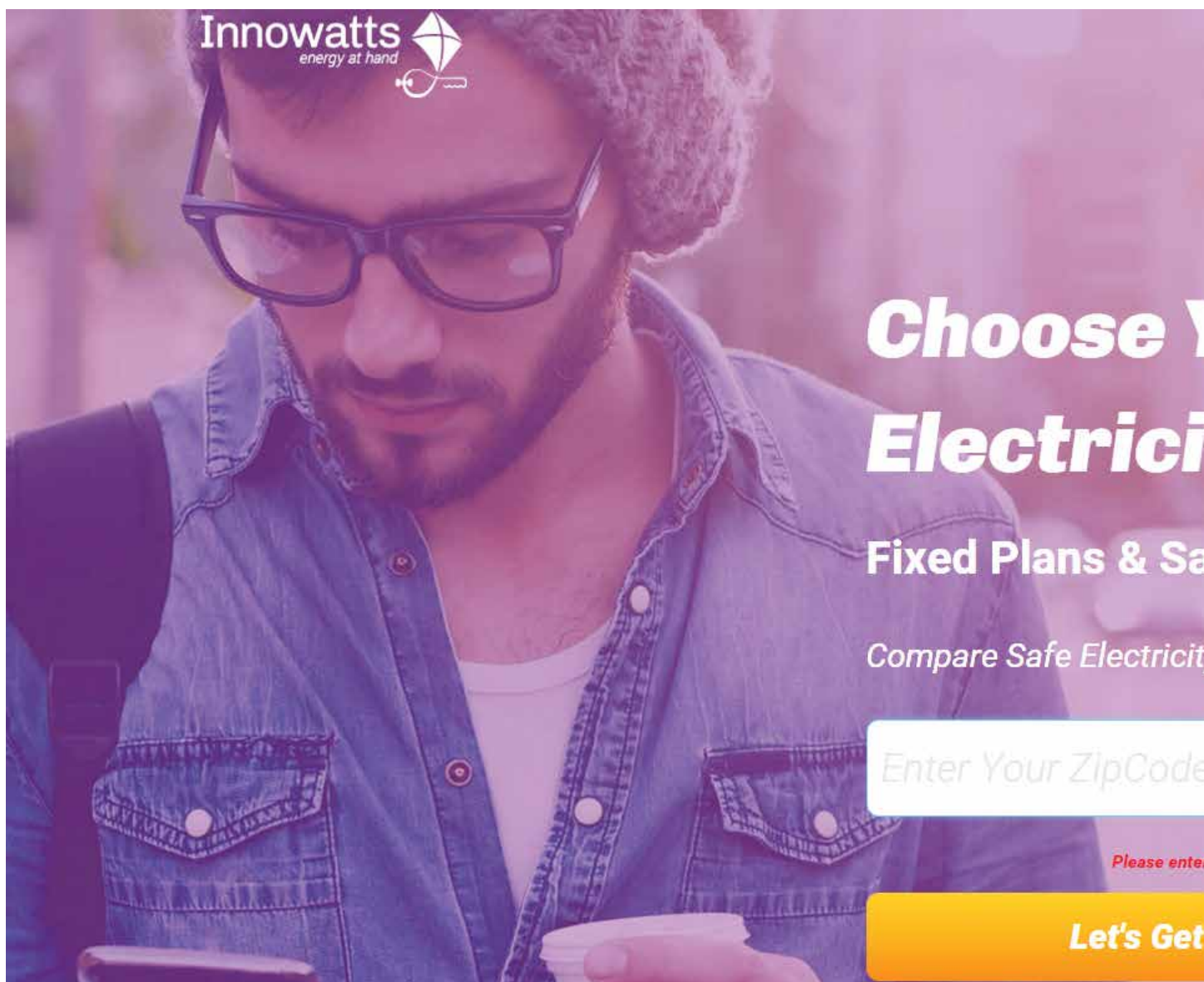
"5G is still in its early stages in terms of examining use cases, requirements and component technologies. 5G World North America will look to help build upon the initial groundwork for all of this, and stress that the time for collaboration and cooperation is now." Chris Pearson, President, 4G Americas said at one of the conferences.

According to media reports, United Arab Emirates will also have 5G services roadmap. The country's leading telecom operator, Etisalat, said

be 1,000 times faster than 4G LTE and quick enough to allow users to download full-length films (usually an 800-megabyte file) in one second. MEST plans to roll out a trial 5G services by 2017 and have a commercial service available by 2020. In addition to developing the 5G network itself, MEST will prioritize developing new, key features for 5G, including Ultra-HD streaming, hologram transmission and upgraded social networking services. ■

INNOWATTS TO BRING HITECH INNOVATIONS TO INDIA

Innowatts presents Global Digital Utility for a sustainable tomorrow. By automating energy management for customers, it gives everyone everywhere the power to make accurate energy choices effortlessly.

Consumer energy management is a hot topic in utility circles as shaving peak load becomes increasingly important, and some of the lowest-hanging fruit in the commercial and industrial sector has been tapped for demand response.

All too often, energy management occurs in the rear-view mirror. Only after bills arrive do most people consider how energy use and spending can be better managed. Even then, bills contain very little information about how energy was used – what equipment or processes

Innowatts, a global leader in energy technology and customer engagement solutions, today announced that it will be expanding into India to build the first ever Energy Innovation Center.

drove consumption? What time of day saw the most use? Was consumption as expected, or are facilities running inefficiently?

With energy demand trending to new heights, a greater need for operational efficiency, increasingly deregulated supply markets, and impending regulation of greenhouse gases, suddenly energy management has been thrust to the forefront of long-term planning. Leading businesses are now looking at energy management as just as essential to their operations as accounting, supply management, or human resources.

Innowatts, a global leader in energy technology and customer engagement solutions, recently announced that it will be expanding into India to build the first ever Energy Innovation Center. The company's machine learning models process AMI enabled meters at 15 minute interval loads providing utilities with the means to better manage their business. With Demand Response, the next big stabilizer for India's stressed grid, the global smart grid technology of Innowatts plans to address India's energy problems.

Innowatts is determined to bring efficiencies and profitability to the Indian utilities. With improved utility performance, electricity users in India will benefit from consistent electricity supply and lower rates. The future Energy Innovation Center will develop

advanced options and impacts based on local area weather, individual usage and demographic profiles.

This will help the utilities of India with:

- More accurate load forecasting for better managing their capacity utilization and improved operational efficiencies
- Tighter forecasts –lower error margins through more effective and dynamic modeling of customer and environmental factors.
- Customer identification for TOU (time of use) products.
- Developing complete customer profiles that enable utilities to develop customized products, and resolution strategies.
- Improved collection ROI via customized communications and alerts.
- More effective strategies based on the understanding of each customer's contribution and risk to the business.

"We are very excited to bring our technology into a new market," said Siddhartha Sachdeva, Innowatts Founder and CEO. "As leaders in the utility industry, our track record speaks for itself in the value and innovations that we can bring to companies and spread across the globe. We are pioneering forward in leveraging predictive data science to address major issues facing the industry in India and spur additional growth for the communities."

Innowatts is an energy technology company based out of Houston. It was founded in 2013 with the vision of building an analytics-driven digital utility that drives COGS optimization, predictive engagement and enhanced customer lifetime value. Innowatts' platform is currently deployed across residential, commercial and industrial consumers to process over 5 million smart meters on a daily basis to build real-time load profiles, personalized products and engagement strategies. Innowatts was voted one of the "Top Nine Most Innovative Start-Up Companies" by TIE.org in 2015. ∎

SMART PRODUCTS FOR SMART PEOPLE

ASUS ZenFone Zoom

Asus has launched ZenFone Zoom with PC – Grade 64-bit Z3590 Intel Super Quad-core CPU 2.5Ghz and 4GB RAM and has storage capacity up to 128 GB. The smartphone has 5.5-inch scree with Full HD resolution and 403ppi pixel density IPS display and scratch-resistant Corning Gorilla Glass 4 with anti-fingerprint coating. The phone works on Android 5.0 (Lollipop) and has 13 MP rear camera with 3X optical zoom/12X total zoom, with 4 stop optical image stabilization (OIS), laser auto-focus and dual-color Real Tone flash and 5MP front camera with wide-angle 88-degree lens with Pano Selfie. It weights 185gms and available in Colors such as Pure Black, Ceramic White colour. The phone is priced at Rs 37,999.

LeEco Launches Le1s Smartphones

LeEco (formerly known as Letv), an international internet technology giant, released 2 smartphones Le Max & Le1s.Le1s has 5.5 inch full HD display, 13MP rear camera with 5MP front camera and a super-fast 64-bit Helio X10 Turbo, the flagship processor of the year, and 3 GB RAM. The Le1s has dual SIM card slots, 4G connectivity and 32 GB internal storage. Powered by a 3000 mAh battery, the phone has an exclusive technology of charging for 5 minutes for a 3.5 hours talk time. It has mirror-surface fingerprint sensor and priced at Rs 10,999.

DataWind's new mobile phones

Datawind has launched new smartphones Pocket Surfer smartphones PS 2G4X and PS 3G4Z focusing on low cost smartphone markets in Tier-II and Tier-III cities. The new phones are priced at Rs 2,499 and Rs 3,999, respectively. The new range of smartphones comes bundled with free unlimited internet browsing for one year on Reliance and Telenor connection on prepaid sim cards which does not include audio/video streaming or local-downloads. The PocketSurfer 2G4X is a 3.5 inch, Dual SIM, Dual camera, EDGE network compatible and the PocketSurfer 3G4Z is a 4 inch, Dual SIM, Dual camera, 3G network compatible smartphone.

Lava P7 smartphone

Lava's new snamrthphone sports a 5-inch FWVGA display with a 480 x 854 pixel resolution. Powered by a 1.2GHz quad-core MediaTek processor paired with 1GB RAM, the smartphone runs Android 5.1 Lollipop and will upgrade to Android 6.0 Marshmallow. The Lava P7 includes an internal storage of 8GB which can be further expanded up to 32GB using a microSD card . The smartphone has a 5MP rear camera along with a 2MP front facing camera and includes 3G, GPRS/ EDGE, Bluetooth, Wi-Fi, GPS and microUSB along with 2000mAh battery completes the package and also features a Power Saver mode. The device will be available in white, blue and gold colour at Rs 5,499.

Netflix India

Netflix, which is the popular on-demand video streaming service across the world, is expected be available in India soon. The company will also offer two other plans priced at Rs 500, Rs 650 and Rs 800. The first month is free for all users and they can pay using PayPal and credit card only.Users can access their favorite shows and content on Netflix through an app on a smart TV, a videogame console, a streaming player, a smartphone or a tablet.

ECOSMOB TECHNOLOGIES ANNOUNCES MOBILE DIALER APP DEVELOPMENT SERVICES FOR IT INDUSTRY

Ecosmob Technologies has announced to offer customised SIP dialer application development services for the IT industry.
The app development will be completely white label with the customised features.

Ecosmob Technologies is a well-known mobile application development company from India. It has been offering mobile app development service in Android and iOS platform for more than 5 years. The company has developed hundreds of customised mobile applications for different industries. As per the announcement made by the spokesperson of the company, they have started offering the different app development services for specific industries. As part of that announcement, the spokesperson of the company proclaimed the development of mobile dialer app for the IT industry.

"The IT industry is one of the industries with the huge demand of communication. In fact, the real time communication and of course collaboration between the teams. The mobile dialer app can be an integral part of this dynamic work environment. In fact, it can enhance the communication of the different entities of the company with its advanced characteristics. Moreover, the dialer application uses the session initiation protocol for conducting the calls, which decreases the call costs significantly. This benefits the management, too."

The spokesperson of the Ecosmob Technologies announced the key features of the dialer application, which are listed below:

o   Audio calling
o   Video calling
o   Instant Messaging
o   Sharing different files
o   Sharing screens
o   Complete history of the calls
o   Complete call statics
o   Address book
o   Synchronization with the phone book
o   Last call redial
o   Secure communication
o   And more

On the admin level the mobile dialer app will offer

o   Quality of service
o   Support for multiple SIP accounts
o   Support for different codecs for audio and video
o   And more

The IT company can select the features to be implemented in their mobile dialer application based on their communication requirements. The developed app can also have added features, if required. The Ecosmob Technologies will offer the logo and theme integration of the company to ensure the branding benefits for the company, which will offer this app to their staff, client, prospects or network.

"The IT is an industry with the huge demand for communication - in fact, real-time communication and collaboration between the teams. The mobile dialer app can be an integral part of this dynamic work environment. It can enhance the communication of the different entities of the company with its advanced characteristics. Moreover, the dialer application uses the session initiation protocol for conducting calls, which decreases the call costs significantly. This benefits the management, too.", remarked the spokesperson of Ecosmob Technologies.

Presently, the company offers the mobile dialer app development in the Android and iOS platforms only. The IT companies can conduct different types of meetings using this mobile dialer application such as Remote team meeting, Client support, Product demo, etc. This app works as a softphone and can impart advanced calling benefits.

The Ecosmob Technologies has a team of mobile application developers with hands-on skills in developing such mobile dialer app. They have successfully integrated theme of the client companies and developed the customised dialer apps based on their specific requirements. The spokesperson of the company has also announced to offer the free demo of the mobile dialer app to give a fair idea of the features and benefits of this app. ∎

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- Snooker Table
- Swimming Pool along with Kids Pool
- T T Table
- Tennis Court
- Terrace Garden for Small Parties
- 24X7 Power Backup
- 3-Tier Security System
- Rain Water Harvesting
- Solar Lights for Common Area
- Facility Management (Free for initial two years)