Feature | IT Integral to Smart, Safe Cities

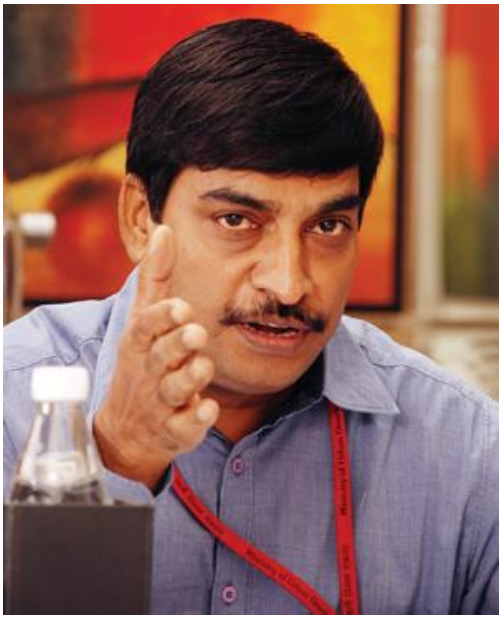
IT Integral to Smart, Safe Cities

Smart cities are urban centres that are sustainable, have a smart economy, provide smart mobility, are environment-friendly and ensure smart governance, discovers Team Inclusion in this report on how India is using IT to tackle this emerging challenge

India today faces a new challenge: more and more people are moving out of its villages into towns and cities, both existing and new. This shift in demographic trends assumes added importance, given the current focus on growth rates and development. It is a fact that politicians, policy-makers and decision-takers are beginning to acknowledge; it is a challenging reality to see almost 50 per cent of the country's population shift to an urban landscape changing in the process the profile of what we know India as it is. It is also a fact that when a city becomes smart investment follows; and growth is the logical corollary of increased investment.

What does urbanisation mean to a common citizen? The answer to this question almost all urban planners will tell you lies in equitable and safe sharing of all social, environmental, economic and financial facets that such a landscape offers. It is about making citizens' talk about the quality of life they live, the safety of the cities and towns they live in, and the services they are entitled to in an environment that they have come to accept and are economically contributing to. And in today's world, it means that the common man too is looking to live in 'smart cities or smart towns', which is what many of us have come to accept as our right. Today, the demand for an end to incidents of physical violence, improved security, better health and sanitation facilities, more deliverable services, among others, is a clear indicator that 'we too are adding to the public demand for smart and safe urban centres.' But what are smart cities?

Says



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"The government must launch a national infrastructure protection plan to set up a robust centralised security system"
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Business Development Director, Oracle India

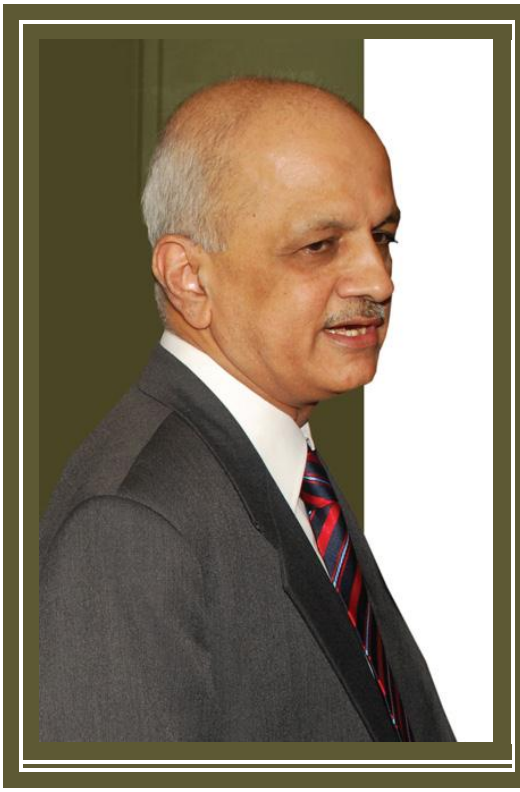
Tarun Singhal, Business Development Director, Oracle India, the simplest definition of a smart city is a city that is safe and livable. "For this to happen, you needed cohesiveness of purpose and action between the different authorities. And, this was where ICT (information and communication technology) can help bridge the gap between safety and security." Here, the government must launch a national infrastructure protection plan to set up a robust centralised security system, stressing on the importance of public private-partnership so as to follow a comprehensive approach to curb threats and establish centres of excellence for training and spreading awareness on technology. Cities must deliver effective and efficient services, while seeking to reduce cost of service delivery over a robust and flexible platform. From a citizen's viewpoint, it involves getting the right data to the right people at the right time, says Singhal.

Smart cities are centres that are sustainable. A smart city comprises of six characteristics: the economy, people, governance, mobility, environment and good living. As A K Mehta, Joint Secretary, Ministry of Urban Development, points out, sustainability of any urban township is only possible when there is commonality of ideas and purpose between the resident

community and the governing mechanism. “It is a fundamental issue of governance, but community involvement has to improve. Unless the urban citizen learns how to demand services, things are not going to change.” For citizens to demand services, it is important that there exists a sustainable citizen-governance interface that ensures an efficient use of the capital that the former contribute to the exchequer.

Today, such sustainable interface is possible because of the changes that technology has brought into the system. It is technology that can help citizens, the government and the service providers get the right value from their individual perspectives, with a cost-benefit ratio that satisfies all. Points out Rajender Kumar Kataria, Deputy Commissioner, Gurgaon, technology, through smart methods, can make life simpler for the urban community as a whole, reducing the interfaces involved in transactions between the common man and the local government.

And, while technology can push the linkages between the citizens and the government to a level not publicly seen, it can also be used to make life more secure for the urban citizens. A clear example of this is the recently concluded Commonwealth Games where modern technology enabled the citizens of New Delhi to enjoy an incident-free event, notwithstanding the plethora of complaints on the issues of corruption and mismanagement. As Savitur Prasad, Secretary, Government of NCT of Delhi, explains “technology enabled the government of New Delhi to map the complete city—from the sewers to its electricity lines to its water lines—enabling it to prepare an action plan that, in turn, enabled all concerned agencies to collectively respond in case of any accident.”



Making Disaster Management Key to Urban Growth

“We live in both interesting and difficult times, and it is only but natural that technology should be both the medium as well as the target for people and forces inimical to our way of existence”
—R Chandrashekar, Secretary, Telecommunications

Mumbai 26/11 was a disaster, both in terms of the tragedy that unfolded and the lack of preparedness, coordination, and civic and official response that followed. The incident also highlighted the key elements of what were till then missing in India’s

disaster management structure: a central command and control authority, ill-coordinated emergency response and poor intelligence sharing and lack of coordinated logistical planning

Mumbai tragedy also gave a wake-up call to all stakeholders, the government, the local administration, the security forces and even the common citizens that they all have a role to play in case any disaster, man-made or natural. As a result, information technology is being given a greater role. Already, the government, through the India Disaster Resource Network, is putting in place a nation-wide electronic inventory of resources that enlists equipments and human resources, collated from district, national and state government departments and agencies.

Says N Vinod Chandra Menon, Former Member, National Disaster Management Authority, "in terms of disaster vulnerability, there is a possibility of a low probability event happening sometime, somewhere soon and this is a big challenge. A low probability event could be a chemical disaster or a biological disaster. That is where we need to look at our systems of preparedness and mitigation."
The NDMA's efforts have also resulted in coordinated action being taken by other ministries and departments in tackling disasters caused by natural factors but exacerbated by the growing urban population. Says M Ramachandran, Former Secretary, Ministry of Urban Development, "following the Bhuj earthquake in Gujarat, the role of urban planners in mitigating disaster assumed greater importance as it led authorities to develop capacities of professionals who are directly or indirectly related to the construction of buildings."

Already, in terms of capacity building, the National Institute of Disaster Management is proactively working with national, state and district-level administrations and is regularly conducting courses on various aspects of disaster management, bringing in some regularity to what was earlier being done on an ad-hoc basis. Micro-zonation studies and use of GIS applications have an important role to play in the identification of potential risk zones and also in managing disasters. Detailed GIS and remote sensing based micro-zonation and hazard maps need to be prepared for disaster prevention, preparedness, mitigation and overall disaster management, and information utilised for revising and updating the vulnerability atlas.
Today, solutions are also being sought to tackle new challenges such as mapping telecommunication infrastructure for effective communication contingencies, resilience of the financial sector for minimal disruptions, data communication route maps for contingency planning, and the cascading effects of data outages. The role of technology in all this cannot be overstated.

As R Chandrashekar, Secretary, Telecommunications, states, "we live in both interesting and difficult times, and it is only but natural that technology should be both the medium as well as the target for people and forces inimical to our way of existence."

Such use of technology is especially important, says Raghu Raman, Secretary & CEO, National Intelligence Grid, Ministry of Home Affairs, since existing cities and townships in the country are touching unsustainable levels: in terms of population density, living space and employment opportunities. “This is where we are seeing the need to increase the use of technology to ensure that our cities become safe, smart and secure.” But it is simply not technology that experts realise will drive the change in making our urban landscape safe and secure. According to them, the key driver in this technological shift will be information technology (IT). Pointing to the government’s move to create a National Intelligence Grid, he said that such a grid will enable law enforcement agencies to function in a better manner with access to information in a faster and a more timely fashion.

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Adds Mehta, “the biggest problem that urban India is today facing is delivery of services and delivery and this is where IT can make the difference. However, it must be remembered that technology can only be an enabler; it can never be the driver of such change.” Agreeing that technology can only be an enabler, Ravi Saxena, Additional Chief Secretary, Government of Gujarat, pointed to the fact that every safe city had an environment that is sustainable; a

sustainable city is one where there are synergies between the people and the government and between services and delivery. “It is good infrastructure that leads to good governance. Also, if opportunities are created and growth is inclusive, our cities will automatically become safer. So safety is not to be left to technology alone. It needs more government involvement in inclusive growth.”

Enlarging the canvas for policy-makers and planners, Gautam Paul, Senior Manager, Canon India, feels that continuity and planning were critical aspects of governance, and this was one issue that was yet to come on the centre-stage. “Urban safety is linked to the lack of opportunities, non-inclusive growth and poor delivery of services. Urban safety means equitable access to facilities like shelter, services, health, income generation and environmental protection. Only then will you have what we call smart cities that are also safe cities.” Says Xerxes P Adrianwalla, Chief of Group Security, Mahindra & Mahindra Group, it is the inequitable distribution of resources to the average public that is responsible for determining public perception on how safe or smart a particular city is. “This inequitable distribution of resources is clearly evident in the urban planning process that we are following in the country. Thus, while water supply takes on a different level of importance when it comes to meeting public need, sewage and sanitation are put on the back-burner, even though the linkages between these two public services are undeniable.”

But it is not only the linkages between such public services that are being ignored. What is also being ignored in the process is the role that local governments and the private sector can play in bridging the gap between good and bad governance. More importantly, it involves the devolution of powers to local bodies governing such urban centres. Says R K Khullar, Municipal Commissioner, Gurgaon, “unless governing authorities in a city are given the powers to take decisions at the local level, no proper interface between citizens and the government or between services and delivery will take place.” More importantly, Khullar notes, there is an urgent need to draft local governance laws that suit local conditions and circumstances, pointing out that “today, most rules governing different urban local bodies are replicas of each other. Thus, you have the Mumbai Corporation Act or the Delhi Corporation Act or the Gurgaon Corporation Act, and all their operations have been copied from the French Corporation Act and the British Corporation Act, and it is this archaic legal structure that is preventing greater citizen involvement in local governance.”

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Smart Plans Needed for Safe Cities

Today, there is growing realisation that urban India is not one cohesive entity. First there are highly urbanised states like Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh and Karnataka. Then there are states like North East, J&K, Uttarakhand and Bihar where urbanisation has a time lag of 15-20 years or so. In between are states like Madhya Pradesh, Orissa, Punjab and Uttar Pradesh, which are fast catching up because of programmes like the Jawaharlal Nehru National Urban Renewal Mission and 13th Finance Commission's recommendations.

The differences in the country's urban landscape are quite reflective not just in the democratic but also in the executive and governmental make-up. However, despite this, the basic requirements of any city remain the same. So what does a smart city have?

Truly speaking, a smart and safe city will have excellent amenities for its citizens, quality education for children, sufficient and comfortable housing and infrastructure, supply of proper healthcare and other facilities, and of course, a system that provides growth and

security. As Swadheen Kshatriya, Former Commissioner, Municipal Corporation of Greater Mumbai said, “a smart city is one that has ample opportunities and is one that not only reaps the benefits of but also contributes to liberalisation and economic growth.”

A smart city is also a safe city; safety is not only with regard to natural disasters, floods, earthquakes, fire and epidemics, but even to man-made disasters like terrorist attacks or bombings. A smart city also has in place provisions to deal with the problem of urban decay. Says Nitin Gokarn, Director, Ministry of Urban Development, the fundamental amenities in existing urban areas are poor and have been ignored for long. “Systems are old, degraded and they are inefficiently run. The existing systems have developed inertia. A sustainable business process re-engineering exercise is the only answer.”

For this to change, the local governing bodies have to be made more accountable. Here, experts favour a re-look at the 74th Constitutional Amendment and also the Twelfth Schedule which provides what kind of activities could be taken by urban local bodies. So far, this has been left to the concerned state government and this is something that needs to be reviewed by the nation as a whole.

With improved municipal accounting and improved urban governance, the goal is achievable. “We are in the fifth year of JNNURM. It is probably the most ambitious programme to have been launched in the urban space,” informs Gokarn, adding that our cities now need to leverage alternative technologies to become safer and smarter. The tracks are being laid down to push India into a new phase of growth and bring its cities into the ranks of the leading centres of the world.

Calling for a relook at the concept of ‘city governance’, Mehta says such concept is today not a reality. “There is nothing called a city governance. We have municipal governance, but the services different municipalities offer vary in different states and regions. There is a huge hiatus between a city government and a municipal government. In case of cities agency functions and governance have to converge, with all functions that affect life in a city coming under the city government and not under a municipal set-up.” As Khullar notes, urban planners are yet to lay greater emphasis on devolving powers to city governments. “Today, a city government, with democratically elected representatives, does not have to right to change the sanitation fee structure or the sewage fee structure or the house tax structure without taking the consent of the concerned state government.”

Such change in government practices are essential if the country is to tackle the problem of increasing migrations. Pointing to a recent study that points out that during the next 20 years the country will see 30 people leaving the rural areas every minute, Singhal says this will mean that we would have to create over 500 new cities to be able to accommodate such population influx. This is even as we continue to keep our cities competitive in terms of creating more

opportunities. Adds Mehta, “there is no denying that Mumbai is going to compete with New York, whether it likes or not. The world is going to shrink much further and it is time we recognise that unless we make our cities competitive, we are going to lose out in the race. While jobs will continue to move away from some regions, if we are not competitive, they would stay away from India too. Such competitiveness lies in ensuring a sustainable environment with improved service delivery.”

As a recent industry report reveals, “cities, as hubs of the global economy, will be the focal points for the transformation that ‘brick and mortar economies are undergoing. Today, the world is at an unprecedented level of urbanisation and cities contain an increasingly large share of the world’s highly skilled, educated, creative and entrepreneurial population, giving rise to highly concentrated and diverse pools of knowledge and knowledge-creation networks. To compete in this new economic environment, cities will need to better apply advanced IT analytics and systems thinking to develop a more citizen-centric approach to services.”

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Such competitiveness, says K K Pandey, Professor, Indian Institute of Public Administration, will have to be more widespread than it has been so far. Quoting an NCAER study, he said today 60 per cent of all urban income is concentrated among the top 20 cities, while the rest 40 per cent is distributed among the country's 5,140 cities and towns. "Capacity-building has to assume a pan-Indian character, removing the frailties of the existing mega cities and increasing the pull factor with more accessible services in the lesser-developed cities."

Such capacity-building will see technology, telecom, utility and infrastructure companies joining

hands with the local governments to create smart cities. Already, mega cities like Bengaluru have begun adopting a new urban planning model based on technology to create a better quality of life for its citizens. And this is a model that seeks to take public-private partnership onto a new level. Here, Chetan Vaidya, Director, National Institute of Urban Affairs, pointed out that it was a misconception that people were not willing to pay for urban services, especially if these were being delivered by the private sector. “The issue is simply of pricing it right, delivering it on time, and technology is a key enabler in this regard.”