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urban infrastructure<<

travel response, and parking management. In order to maximise resource recovery from waste, an automated waste collection, transportation, and segregation system will be deployed. The system will facilitate monitoring of electronic, biomedical, and hazardous waste. GIFT will also have a smart object cooling system (COS) to reduce energy and maintenance costs and improve air quality. A DCS control centre will be put in place to monitor the plant, analyse interface with distribution usage for both supply and residual elements, and evaluation of extensive economic scenarios.

A key highlight of the project is the integrated building management system (IBMS). The buildings will have a modular structure and provide flexibility in design to cater to the evolving needs of tenants. The system will be implemented as an integrated open solution, which will enable the central command and control centre's connectivity through standard cloud or web interfaces. The IBMS will include the building management system, fire detection and alarm system, public address system, security surveillance system, and access control system.

Moreover, GIFT will make use of real-time geographic information system (GIS) applications in analytical modelling and simulations, design optimisation, resource consumption, conflict determination, project progress monitoring, compliance monitoring, infrastructure management, environmental monitoring, and emergency response.

The Lavasa model

Lavasa is a mid-sized city built to take the private off-shore megaprojects around congested economic corridors. It is located along the Wainganga lake close to the Mumbai-Pune corridor. The city will have several townships, including Datta, Magdon, and Dhananahale. The townships will address development across residential spaces, commercial offices, educational institutions, recreational facilities, etc. Currently, the Datta Town Centre is operational and most of the infrastructure in Magdon is also nearing completion.

The smart city model has been planned in two phases. Phase I is currently under implementation and work on Phase II is expected to commence by 2015-16. The business model has four components, which are designed to be scaled up in terms of area covered and density and to create and manage economic drivers and extensions in the form of linkages to other regions. The city has been planned over an area of 25,000 acres across multiple townships with a density of about 150 million square feet and a population of only 300,000 people. The city is expected to cater to an employment base of 87,000 people.

In order to develop a self-sustaining city, Lavasa has been equipped with infrastructural facilities such as access roads, internal roads, sewage and water treatment plants, dams, telecom towers, and a server room.

The city development has been divided into real estate, city management services, and the SPV segments. The real estate segment involves development of villas and apartments, assisted housing, institutional plots, and parking places. The city management services cover property management, public safety and security, enterprise utilities, administration, finance, common areas maintenance, city management, and enabling support to the SPVs. The SPVs in turn will develop infrastructure in the areas of tourism, hospitality, leisure, education, sewage, e-governance, etc.

The model also includes deployment of various technologies such as smart meters, home automation devices, consolidated parking management technology, GIS mapping and global positioning system, radio frequency identification tags, in buses, an integrated security command centre, automating messaging, power quality monitoring, consolidated billing, integrated environmental measurements, and IBMS supported by centralised fleet management system data reporting and standards. The business plan also envisages provision of e-governance facilities to citizens to facilitate payment of bills online.

Lavasa's My City initiative has been implemented in association with CISCO and Wipro. Under the initiative, information and communication technology (ICT) has acted as an enabler for effective city governance by way of centrally monitored electronic security and surveillance. Other value-added services include plug-in-play services in television, Wi-Fi connectivity to all citizens, and telemedicine and telepresence in a hospital. The Lavasa smart card enables convenient and cashless transactions for residents as well as tourists. Further, a centralised data centre will manage IT operations and services.

A key feature of Lavasa is the 24-hour citizen call centre for resolution of citizens' requests and complaints. The services provided by the call centre include non-emergency and emergency services, single-window redressal of citizens' queries, proactive information distribution, data collection and management services. The call centre will also conduct periodic surveys to keep a check on the quality of services being provided. Further, plans are under way to collaborate with key IT and telecom companies to plan, implement, and manage the city's information and communication systems.

Going forward, the aim is to make life in smart cities easier for residents and businesses by master planning for land use and application of the concepts of new urbanism. All components of a city life will be located within walking distance. Infrastructure needs to be built upfront and managed through the right performance outcomes. In addition, economic drivers must be identified in advance. For instance, the promotion of public-private partnerships can help leverage the economic benefits accrued from the development of these smart cities. The greater integration of ICT tools can also facilitate faster and efficient development of these cities. ■

Based on presentations by Satish Kamat, Deputy City Manager, Lavasa City, and Prashant Gaur, Vice-President, GIFT

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