

The Smart Cities Mission was launched in 2015 to develop an urban ecosystem for making cities more liveable, smarter and sustainable. Under the mission, the government envisages the creation of 100 smart cities through funds from the central and state governments along with urban local bodies (ULBs). Following the launch of the mission, the government, in January 2016, announced the first batch of 20 cities to be developed under Phase I of the project. Of these, 17 have already formed special purpose vehicles (SPVs) for implementing these projects. Thirteen more cities were selected in May 2016 in the Fast Track Smart City Competition conducted by the Ministry of Urban Development to provide wider coverage to the mission and increase the number of participating states. These were the cities that improved their smart city plans by identifying infrastructural gaps and alternative sources of resource mobilisation.

Several state governments and ULBs have already awarded contracts and signed MoUs for implementing the mission in the selected cities. A look at the progress achieved so far....

Gujarat: The government has awarded a contract to Sterlite Technologies for developing Gandhinagar as a smart city. As per the contract, Sterlite will set up 400-500 Wi-Fi access points across the city and launch applications such as smart parking and smart lighting. The project is expected to entail an investment of Rs 300 million-Rs 400 million.

Maharashtra: The government has recently awarded the Nagpur smart city project to the smart world and communications business unit of Larsen & Toubro [L&T] Construction. Under the contract, L&T will lay 1,200 km of optic fibre network, deploy 136 Wi-Fi hotspots at key locations, establish 100 digital interactive kiosks and develop city surveillance systems with 3,800 IP-based cameras. Further, L&T will develop a stretch of around 6 km from the Japanese Garden Square to the Orange City Hospital Square as a “Smart Strip” with the deployment of information and communication technology and internet-of-things solutions such as smart lighting, smart transport, smart parking and smart bins. L&T will also provide cutting-edge technology solutions including high-end analytics, mobile surveillance and high-tech tools like drones for the development of the smart city. The company has already completed detailed surveys for the proposed junctions, the Smart Strip and zonal rings. It has also obtained the requisite approvals for conducting the light detection and ranging survey for surveillance and Wi-Fi deployment.

Meanwhile, the Maharashtra government, in partnership with Cisco, will roll out smart city solutions in Nagpur, including digital learning for students and an e-commerce hub in Dharavi, Mumbai, for skill development of local entrepreneurs. Cisco will also enable citywide network connectivity by deploying smart and secure Wi-Fi hotspots, and smart safety and surveillance

solutions in the region. Various citizen services enabled by smart cities architecture like smart transport, solid waste management, smart lighting, environmental sensors and smart parking will be integrated on Cisco's City Digital Platform.

Meanwhile, the Pune Smart City Development Corporation, the SPV for Pune smart city, will focus on the improvement of public transport and water supply. To this end, it plans to undertake 15 projects under the Smart Cities Mission, of which eight will be for local area development of the Aundh-Baner-Balewadi region and seven at the city level. On the public transport front, the SPV will undertake the installation of GPS and real-time tracking solutions on Pune Mahanagar Parivahan Mahamandal Limited (PMPML) buses through mobile applications, vehicle health monitoring systems, intelligent road asset management, traffic maps using mobile GPS and e-challan to penalise those violating traffic rules. The SPV has also decided to provide 100 per cent smart commercial metering in the city, along with grievance redressal and smart customer services through mobile and web-based applications.

Odisha: The SPV for Bhubaneswar has already floated tenders for selecting consultants for managing area development project reports and IT solutions for a period of four years. It is also planning to float a tender for the citywide traffic signalisation project and the railway station redevelopment project. Bhubaneswar is likely to have a long-term collaboration with the German environment ministry for the smart city project. Germany-based KfW Development Bank is likely to provide financial assistance to the city in the form of soft loans of Euro 150 million-Euro 200 million. Apart from financial assistance, the state government will tie up with Germany for technical collaboration.

Further, the Bhubaneswar Municipal Corporation (BMC) has signed an MoU with Piramal Sarvajal for setting up water ATMs in the city. It is the first smart city to introduce the system. The private agency will provide technical assistance to BMC for installing the ATMs and maintain them for five years. Under the partnership, around 40 ATMs will be installed in areas where drinking water is not accessible. BMC has also signed an MoU with the Confederation of Indian Industry for the provision of technological solutions.

Uttar Pradesh: The Varanasi Municipal Corporation has signed MoUs with Schneider Electric (France), NetApp (USA), Netmagic (Japan), Commvault (USA) and Gaia (India) to extend technical support and expertise to develop Varanasi as a smart city. The corporation has also signed MoUs with Banaras Hindu University, Sampurnanand Sanskrit University and Mahatma Gandhi Kashi Vidyapith for the exchange of knowledge and technical expertise.

Issues and challenges

Although the state governments, ULBs and other international and domestic organisations are working towards faster development of smart cities, a lot still needs to be done as there are several challenges impeding the progress of the Smart Cities Mission.

Financing is a major issue. Considering an average population of 1 million citizens in each of the proposed 100 smart cities, the total investments required over the next 20 years is estimated at Rs 7 trillion. This will translate into an annual requirement of Rs 350 billion.

However, the limited fiscal capacity of the government and problems associated with the public-private partnership model are a cause for concern.

Meanwhile, there are challenges regarding the ULBs' technical know-how and paucity of funds. Most ULBs have limited technical capacity to ensure timely and cost-effective implementation. Subsequent operations and maintenance, and the inability of the ULBs to attract the best talent at market-competitive rates add to the challenges. Further, there have been delays in securing clearances, which has impacted project timelines. For timely completion of projects, all clearances need to be obtained online and be cleared in a time-bound manner.

Another major challenge in the Indian smart city space is the software infrastructure, which comprises components supplied by different vendors. The ability to handle complex combinations of smart city solutions developed by multiple technology vendors becomes a major issue.

Going forward

The Smart Cities Mission requires concerted efforts by the government to transform India into a digitised economy and improve the quality of infrastructure in the country. Under the mission, the government aims to achieve urban transformation, drive economic growth and improve the quality of life of people by undertaking local area development and deploying smart solutions. The Smart Cities Mission is no doubt a step in the right direction. However, a clear understanding of its end goals and a holistic approach are needed for its implementation. Technology will also be a crucial factor to bridge the gaps in the system and enhance efficiency and governance.

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