The importance of data in smart cities

During the London 2012 Olympics the Transport for London (TfL) network needed to manage 18 million local journeys made by spectators. One can only imagine the volume of data generated during this time; the data and analytics, mostly from the games, was utilized by TfL to predict the number of people who were likely to use public transport during that time, in order to ensure that the system was running effectively.

With the evolution of technology changing the way we live and work, it is only a matter of time before governments around the world upgrade their infrastructure to offer citizens efficient services through smart cities, where enormous amounts of data moves within complex information supply chains.

Yet, smart cities are not about constantly introducing new technologies. Data sources are everywhere around us, ranging from smart phones and computers, to Global Positioning System (GPS) and social media sites. Effective analysis and utilization of this data is going to be a key factor for success in the smart cities initiative, by making the data available in one place through a framework that is clean, well labelled and allows better processing and consumption.

This global trend of rapid urbanization that makes a strong case for smart cities, is also reflected in India. The government's Make in India initiative states that investments of approximately $1.2 trillion will be required over the next 20 years across transportation, energy, and public security to build smart infrastructure. Besides the government and industry, participation of start-ups and citizens is cardinal in closing the last mile and feedback loop in this process, morphing the 3Ps of Public Private Partnership into the 4Ps (Participative PPP). This necessitates the involvement of citizens, enabling smart decisions on deploying solutions, implementing reforms, and designing post-project structures that make smart city developments sustainable.

One way to increase data collection and citizen participation at the grass-root level is to have an artificial intelligence (AI) system that is flexible and adaptive. In a country where we are short of nearly 500,000 doctors, based on the World Health Organization (WHO) norm of 1:1000 population, AI-based healthcare systems can study past patient data and medical records, process data quickly, and even help doctors detect dormant signs of diseases that may manifest later.

The Indian government is already increasingly collecting data in machine-readable forms, and as technologies reach a level where they can rival any human in a real-time and cost-effective way, AI can help in grievance redressal, law and order, and health and education. From that point of view, there are opportunities for AI to be more deeply ingrained across the Make in India, Skill India, and Digital India programmes.

Even so, there are two concerns here, the first being the need for effective utilization of the existing data. According to Gartner, the lack of a holistic, framework-based approach and a viable revenue model are stalling large-scale smart city projects in India. The framework-based approach takes into consideration the current state of the physical and IT infrastructure of the city, the city's challenges, the citizens' needs, and the existing capabilities of the city machinery to deliver critical services. This helps identify the gaps in various hardware, software, network, connectivity, security and information management infrastructure that must be bridged to implement a scalable, future-proof and cost-effective smart city service delivery infrastructure.

The second key consideration that needs to be taken into account is the fact that for the smart cities initiative to take off successfully, massive amounts of data will need to be monitored. Not

only will this data be in the public domain, it will also be in the personal domain. This, naturally, brings up the question of security and privacy—indicating a need for stringent regulations to ensure data security.

It is true that there is no set template that can address all the questions being raised; the need of the hour is to effectively analyse the current state of the infrastructure and identify need gaps, encourage citizens to become more active participants in the smart city design, and build a culture of innovation and collaboration that will help realize the vision of a smart city.

Prakash Mallya is managing director of the sales and marketing group at Intel Technology India Pvt Ltd.

END