

# Radio frequency metering

By Ashok Sethi

India's adoption of smart grid technologies will help resolve the chronic demand-supply gap and reduce AT&C losses of discoms. The need of the hour is to venture into a more advanced electricity supply solution to cater to India's sustainable, low-carbon, high-economic growth development goals. With cities growing at rapid rates, Mumbai has witnessed unprecedented growth showcasing huge energy requirements. This scenario is a challenge as well as an opportunity for power producers to find ways to augment existing power capacity in Mumbai as also for distribution licensees to deliver efficient services to all consumers. Businesses are expected to not only increasingly contribute to the infrastructural advancement of the city but also introduce innovative technologies so as to enrich customer experience. Tata Power is one of the most prominent providers of electric power in Mumbai.

**Smart metering:** A pioneer in innovation in the power sector value chain that aims at advancements in technology to provide reliable and quality power to its consumers, the company last year had implemented one of the largest radio frequency based smart metering projects in Mumbai.

Smart meters with in-built low-power radio frequency modules transmit consumption data of consumers across distances. The project includes installation of meters with inbuilt RF communication module, data concentrator units (DCU), head end software and meter data acquisition system (MDAS). Meter data is collected every hour through RF mesh network communication and transmitted to a central server using GPRS network. Data received is used for automated generation of bills without human intervention.

**Smart metering benefits:** The company has successfully implemented this low power radio frequency (RF) based remote meter reading solution for over 5000 retail consumers in residential and commercial complexes in Mumbai. With smart meter data, power utilities can manage power distribution more efficiently and avoid overloading of the grid and the blackouts that follow. Smart meters provide consumers their hourly usage pattern which empowers consumers to use their domestic appliances judiciously and reduce monthly bills. The company has been able to achieve a success rate of more than 98 per cent for automated monthly billing using these meters. This technology has also pro-



*Pic for representation purpose only*

vided benefits in terms of lowering the carbon footprint involved in a typical meter reading exercise along with savings of man-hours and cost of manual meter reading and data punching. This is one of the largest end-to-end project based on RF communication in the country and will surely help build a strong, sustainable relationship with consumers.

**Continued innovation and commitment:** Having successfully implemented its 'Islanding System' in Mumbai to protect customers from blackouts and equipping them with reliable, uninterrupted power, the company has now extended smart grid technologies to Mumbai. Tata Power Distribution is constantly trying to provide the city with an improved experience in power distribution. The company has transformed the distribution landscape by offering a plethora of choices to consumers and has enabled Mumbaikars with the 'Right to choose' their preferred power supplier.

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