



Global Summit on
**Smart, Secure &
Sustainable Cities**
OPPORTUNITIES AND CHALLENGES IN INDIA

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Smart Grids, Smart Metering, Smart Energy: A Paradigm Shift

Meeting the constantly increasing energy needs of the country and supplying 24x7 reliable power to all citizens is a major challenge in India. With rising energy needs in both the domestic and commercial sectors, India is working on several futuristic fronts to find credible solutions to meet its energy needs. A key part of the solution is Smart Grids.

Smart Grids are seen as crucial to achieving some of the Indian Government's key projects: 100 Smart Cities, 175 GW of renewable energy by 2022, 40% renewable energy by 2030 and 24x7 power supplies. With all these ground breaking initiatives, India has already emerged as the prime destination for smart grids and smart cities. They are a key enabling infrastructure that enable smart solutions to resolve India's energy deficiencies and address significant problem areas such as massive transmission and distribution losses and power thefts. If all these programmes progress as planned, the initiatives will change current market predictions and put India in the forefront of smart grid market.

India is already in a strong position for an advanced smart grid infrastructure. Several factors are in the country's favor:

- Growing pressure to improve transmission efficiencies;
- Increased emphasis on power cost management and reliability;
- Increasing adoption of renewable energy, including captive micro-installations in industrial and residential spaces, which require options for feeding electricity back into the grid; and
- Rapid IT infrastructure growth across the country, including broadband access.

As a result, India plans to invest billions of dollars into smart grid development over the next ten years to get reliable, uninterrupted power supply and electricity theft under control. This would be fueled by the government's plan of setting up 100 Smart Cities and 500 smart towns. The importance of smart grids is growing because a smart grid is able to measure, communicate, monitor and manage electricity.

The 100 Smart Cities will also act as major driving forces for smart metering to reduce the ever increasing Transmission & Distribution losses suffered by the state distribution companies. The Indian smart metering market is essentially starting from zero. Whilst there are currently 200 million static electricity meters installed in India, smart meters account for less than 1% of all deployed meters. This means that the potential for the Indian smart metering market is enormous, but the solutions underpinning it must be designed to deal with the economic and environmental conditions in which they will be deployed.

In terms of investment and innovation there will be a lot of developments in the Indian smart grid space in the next few years. Along with improvements in grid infrastructure, smarter substations and adoption of smart homes and commercial buildings, the smart meter market has significant potential. Overall this will be a paradigm shift, underpinned by legislative and regulatory activities. The real challenge in the power sector in India lies in managing the up-grading of the transmission, distribution and metering sector efficiently and smart grids meet that need.