Microgrids: Smart Solutions For Smart Cities

The term "MICROGRID" reflects a new way of thinking about, designing and building smart grids, that focuses on creating a design and plan for local energy generation and delivery. At the local level, smart microgrids efficiently and economically integrate consumers and buildings with energy distribution, generation, storage, and demand management.

Historically, we have depended on an antiquated, centralized system of energy production and distribution that wastes power and occasionally fails to meet everyone's needs. Microgrids allow consumers to produce and procure power in real-time at significantly lower costs, while using centralized generation to hedge peak power costs. In other words, buildings, communities and/or municipalities that have a method of producing energy (eg. Solar) can generate and distribute it within their microgrid without depending on the regional power system.

This disruptive technology will provide affordable, reliable and locally generated electricity to all communities, including those where traditional utilities are not able to reach.

The global microgrid market is rapidly gaining prominence as supportive government policies in various countries encourage the development of renewable energy sources. In Europe, microgrids are viewed as a suitable option for renewable energy integration. Emerging economies in the Asia-Pacific region, present the largest market potential as they look to counter power shortages and low grid connectivity.

Microgrid opportunities are divided into following areas:

I. Software platforms that will integrate distribution, generation, storage and demand response solutions and technologies – This what will be developed under MasS Initiative. (Microgrid as a Service)

II. Asset Management Funds that will acquire and manage microgrid assets against long-term energy supply agreements – These are going to be Utilities of the Future.

III. Engineering procurement and construction that will manage construction of microgrids.

Microgrid revenues will be generated by providing energy to consumers at lower rates than traditional utilities due to following reasons:

- Cost of generation is expected to be lower (due to high percentage of renewable mix)
- Cost of transmission is expected to be lower (being local and lower transmission losses)

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