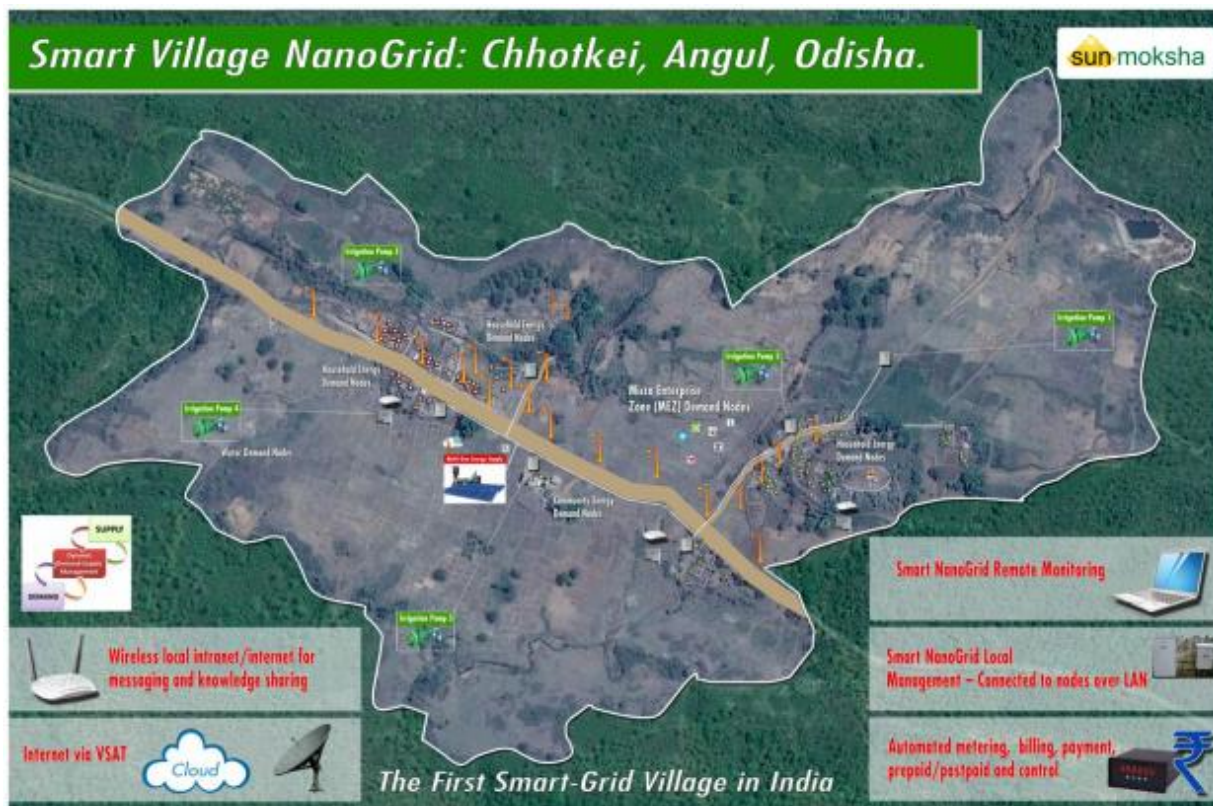Enter Search Term - Hit Enter

How Odisha's 'Smart Nanogrid' village is becoming energy efficient

Wed, 2016-05-18 14:54 -- SCC India Staff

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Situated at Chhotkei village in Angul district of Odisha, SunMoksha's Smart Nanogrid is India's first 'smart grid' village. The company has invested years of effort to develop a holistic solution with a 'systems' approach to address the challenges of energy access.

Dr Ashok Das of SunMoksha says, "Our technical intervention, Smart Nanogrid™, addresses the gaps and requirements (in energy access). The word "Nano" signifies small, modular, and affordable for the masses. Uninterrupted access to energy and digital connectivity is paramount in our solution."

The Smart Nanogrid™ Village consists of a hybrid power generation unit from locally available renewable sources (solar, wind, biomass, biogas, pico-hydro, etc.) or grid power. It's a distribution grid to make power available to homes, streets, and most importantly, to farms and micro-enterprises. It also supports a complete automation system for managing the microgrid operations. This brings energy-sufficiency to the village, and eliminates dependency on the grid.

Das adds, "Our solutions are applicable to both electrified and un-electrified villages. The key technical intervention is the IoT (Internet of Things)/IT-enabled Smart Nanogrid™ which ensures reliable and predictable power supply through demand and supply management and citizen-centric power services."

Citizens not only get quality, reliable power, but can also schedule their power requirement to their convenience, view their electricity consumption and bills in real time and pay their bills and register their complaints through a mobile app that is language-independent. An Energy Card with a QR Code is provided to each villager, which helps them log in to the mobile app by scanning the code.

In addition to electricity management, the system monitors and controls other resources such as water, waste, agriculture and environmental parameters. The system also manages consumer relations, technical support, training, local value-added services to consumers, and supports e-governance. Reliable power and digital connectivity also enables tele-education, tele-medicine and tele-panchayat facilities for the villagers, thereby achieving the goals of digitally connected smart villages.

The Smart Nanogrid not only ensures operational efficiency, but also scalability, by remotely monitoring and technically supporting village projects in a cost-efficient and timely manner. It makes data available to experts in real time for timely interventions in case of failures or malfunctions, thus ushering in long-term sustainability and scalability.

The cloud data is available to all remote stakeholders such as sponsors, government agencies, implementers, O&M providers, and domain experts to help them remotely monitor the performance of the project and intervene, if needed.

A special portal has been created at **www.smartnanogrid.net** to network all such nanogrids for not only real time monitoring of the projects, but also for information exchange and cross-learning.

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