Industrial microgrids new delhi

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The increasing focus on renewable energy sources, such as solar and wind energy, is boosting the microgrid segment in India. A combination of factors including the surge in adoption of ruggedized computers and a rise in smart cities in India are driving the market growth in the region. Furthermore, several government initiatives and policies in India that support clean energy and grid modernization, especially for rural areas, drive the adoption of microgrid solutions.

A micro-power grid is a localized, small-scale energy production system that can operate independently or in conjunction with the main power grid. It integrates various distributed energy resources, such as solar panels, wind turbines, batteries, and diesel generators, to generate and distribute electricity.

Microgrids in India enhance reliability and sustainability by providing decentralized power for village communities, businesses, or educational campuses. They offer flexibility and can operate autonomously during grid outages, ensuring energy security and efficiency.

Microgrid integration is a complex process that requires careful planning, design, and implementation to achieve a resilient and efficient energy infrastructure. It involves coordination between various components to create a reliable and efficient energy system.

According to a report published by Allied Market Research, the global microgrid market was estimated at $15.88 billion in 2020 and is anticipated to reach $59.74 billion by 2030, growing at a CAGR of 14.9%. Specifically, the Asia-Pacific region is expected to grow the fastest during the forecasted period. India is moving forward to become the third-largest solar power market after China and the US. However, India"s electricity sector has some unique regulatory challenges for microgrids.

Since microgrids in India offer an array of benefits such as improved energy efficiency, reduced carbon footprint, and enhanced energy security, numerous microgrids have been established in India over the last few decades. Microgrids find diverse applications in various sectors including residential, commercial, industrial, military, healthcare, educational, remote, and emergency settings. As renewable energy sources become more integrated, microgrids play an important role in balancing intermittent power generation.

For instance, IElectrix, a consortium of energy specialists from Europe and India, has launched its Shakti microgrid in New Delhi, which is likely to enhance the resilience and quality of the electricity supply in the city using solar energy. The company has received funding from the European Union"s Horizon 2020 research and innovation program.

Microgrids in India provide a level of independence from centralized grids, reducing the impact of system-wide failures, so the need for energy security, especially in regions prone to power disruptions, is a

significant driver.

At the same time, continuous advancements in control systems, energy storage, and smart grid technologies play a pivotal role in the growth of the global microgrid market. Improved efficiency and cost effectiveness make microgrids more attractive. In a nutshell, the global microgrid industry is driven by various environmental, technological, and socio-economic factors.

Author Bio - Suchita Gupta is an explorer, musician and content writer. While pursuing MBA, she found that nothing satisfies her more than writing on miscellaneous domains.

Japan"s NEDO (New Energy and Industrial Technology Organization), Hitachi, Hitachi Systems and Itochu, in conjunction with the Delhi-Mumbai Industrial Corridor Development Corporation, are launching an industrial microgrid demonstration project in India.

Built to reliably supply power for a Mikuni India manufacturing facility in the Neemrana Industrial Park in northwestern Rajasthan, the hybrid solar-diesel microgrid is the first of its kind for the consortium partners, not only in India, but worldwide, a NEDO spokesperson told Microgrid Knowledge.

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