



Industrial microgrids cape town

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By Warrick Gibbens, Power Generation Leader, Cummins Southern Africa

CUMMINS" sophisticated technologies are designed to support integrated microgrid solutions around the world, from off-grid and remote locations to urban and life-saving applications. Our solutions fully integrate all components of a microgrid, including diesel and natural gas gensets, hydrogen technologies, renewable energy sources, battery storage systems, system level controls, transfer switches, and remote monitoring capabilities.

Microgrids are locally controlled power sources that can integrate multiple energy resources such as diesel, gas, wind, or solar power. Microgrids provide independent power so that when the traditional power grid experiences loadshedding, for example, a microgrid can immediately switch to backup generators and batteries.

The microgrid control allows the components to function as a seamlessly integrated power source so that weather, utility prices, and performance data can be monitored to enable well-informed decisions to assist in keeping costs low and Powering a World That's Always On(TM).

Cummins" range of diesel and natural gas generators are suited for all microgrid power generation requirements, ranging from 17 to 3 750 kVA. Advanced Microgrid Controls support multiple configurations and design implementation solutions to adapt to evolving microgrid requirements. With a single interface, this control supports a truly integrated microgrid power system.

PowerCommand Cloud(TM) is a cloud-based system for to check system status, identify faults, or access critical notifications remotely. Trend data can be accumulated over time to optimise resources, balance loads, and inform decision making to optimise operations.

Cummins works with third-party providers as needed to incorporate battery storage and solar photovoltaic equipment. In addition, it continues to invest in future technologies and products to meet emission requirements around the world, supporting the push for decarbonisation.

SCHNEIDER Electric, the global leader in digital transformation of energy management and automation, has launched a Battery Energy Storage System (BESS) designed and engineered to be part of a flexible and scalable, architecture. BESS is the foundation for a fully integrated microgrid solution that is driven by Schneider Electric"s controls, optimisation, electrical distribution, and renowned digital and field services.

The climate crisis and geopolitical tension mean energy security is not guaranteed today. Resilience can be improved by ensuring access and storage of various on-site energy sources quickly, efficiently, and safely.

As an integral part of a microgrid system, BESS captures energy from different sources, accumulates this energy, and stores it in rechargeable batteries for later use. Battery Energy Storage is the only Distributed Energy Resource (DER) that enables the widest range of customer energy-use cases, including resiliency, demand-charge reduction, services, renewable self-consumption, decarbonisation of electrical energy, and variable generation smoothing.

"Reliable energy supply cannot be taken for granted. With over two decades of expertise in power conversion and batteries, storage is at the core of Schneider Electric's proposition. Now, we are proud to introduce a solution that has been thoroughly designed and tested," said Bala Vinayagam, Schneider Electric's senior vice president of microgrids. "Our aim is to deliver this cornerstone technology to the market that enables multiple use cases for resilience, sustainability, and energy cost savings. We are providing greater demand-side flexibility at scale to the microgrid sector by enabling our local expert partners to deliver a safe and compatible system."

Comprised of battery modules, battery racks, a battery management system, power conversion unit, and controller, BESS has been tested and validated to work as an integral component with Schneider Electric's microgrid systems. It is also fully integrated into the software suite, which includes EcoStruxure Microgrid Operation, and EcoStruxure Microgrid Advisor. With defined commercial references and options, selections include configuration and advanced safety controls, BESS minimises energy costs and delivers the following features:

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