

## Muscat industrial microgrids

Sultan Qaboos University will massively improve its power supply reliability and be able to lower costs by combining electricity from solar, wind and battery storage. This will be possible with Siemens providing equipment and software for a microgrid at the university, which is the first deployment of the technology for Siemens in the Middle East.

Siemens will revamp the existing microgrid setup in the Smart Grid and Protection Lab at the department of Electrical and Computer Engineering by adding smart grid features to it. "This means that the grid - connecting renewable energy sources with battery capacity - will have intelligent control algorithms optimising power production, storage and consumption in real-time," stated

Siemens. The project is the third phase of developing the Smart Grid and Protection Lab and is financed by Siemens and The Research Council. With smart grid features, students will be able to simulate different situations and monitor the grid behaviour through a control panel.

"This project demonstrates Siemens' commitment to Omani society by advancing knowledge of nationals in the sultanate's top university while exemplifying integration of renewables in the energy mix and grid modernisation," said Claudia Vergueiro Massei, CEO, Siemens in Oman. "We are proud to serve society and contribute to clean energy and an energy-efficient future in Oman."

Microgrids are transforming traditional electric supply systems. Renewable energy sources like solar and wind, coupled with more stable and intuitive grid automation and control solutions, are giving rise to localised grids that can operate autonomously. This allows campuses, industries, or remote areas to operate their own grids, and can also accelerate the emergence of prosumers - or consumers who generate a surplus of energy and sell it in the macrogrid or to the main grid, if it is connected.

Microgrids are expected to expand in Oman and across the Middle East. Some rural areas in Oman, for example, use small diesel generators to power communities. More renewable power capacity, along with stable, reliable, and efficient microgrids can help these rural areas phase out some diesel power plants. Campuses, military bases, islands and industrial zones can also benefit from microgrids, which provide reliable, stable and sustainable power supply.

Siemens signed a Cooperation Agreement with SQU's College of Engineering earlier this year. The agreement formalises an existing relationship with SQU and includes seminars with Siemens experts, summer internships, knowledge exchange activities, and the contribution of the microgrid lab.

Launched on October 10, 2009, Muscat Daily is now the largest selling broadsheet newspaper in the Sultanate of Oman with 33,500 daily copies and 28,000 subscribers.. Muscat Daily provides unrivalled national news

coverage from Oman, the region and internationally.

Hitachi Energy understands that developing and deploying their technology and solutions, combined with their expertise, contributes to long-term customer value creation and a real and positive human impact.

In 2019, Hitachi Energy provided an 85 Mvar SVC Light to MISCO with great success. During the two years since commissioning, MISCO has been able to operate state of the art electric arc furnace and ladle furnace with great power quality from the inception of the project, MISCO steel's team worked together with the Hitachi Energy team in ensuring the requirements for the project were accurate for the successful execution and completion.

Moon Iron & Steel Company SAOC (MISCO) is a front runner in Oman's Iron & Steel landscape with an annual production capacity of 1.2 million tons of high-grade Reinforcement bars (Re-bars). The steel plant is based out of Sohar, the industrial hub and port city of northern Oman, strategically located between Muscat and Dubai.

"The installed SVC Light technology has helped to support our weak grids and to improve the performance under varying grid conditions. The Hitachi Energy technology solution has also enabled strong flicker reduction from the steel plant", says Praveen Kumar GK, Electrical Engineer, MISCO Steel.

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