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## Siemens and Lempäälän Energia to build microgrid in Finland

Lempäälän Energia has awarded Siemens to implement a self-sufficient smart grid system in the industrial area of Marjamäki, Finland. Siemens' scope of supply encompasses design and engineering of a smart medium-voltage microgrid, the corresponding grid automation system and an electrical storage system. The purpose of the project LEMENE is to provide a cost-effective and environmentally friendly energy system that also guarantees secure electricity supply. After implementation of the microgrid, industrial businesses in the area can connect to the distributed energy system, and can flexibly participate in different energy markets. If necessary, the energy system is also capable of independent off-grid operations by disconnecting from the national grid.

“Our goal is to create an energy community with decentralized generation of renewable energy,” says Toni Laakso, CEO of Lempäälän Energia Oy. “This involves ensuring the security of supply of the energy community and ensuring its functionality at all times. Automation plays an important role in the energy community, since it ensures the system’s performance.”

The project objective is to create an energy self-sufficient business district. It is located in Marjamäki industry area in the municipality of Lempäälä, near Tampere in Finland. The energy is going to be produced by two solar panel fields, with an annual electricity output of 3,600 MWh and will feature more than 15,000 panels, six gas motors and fuel cells. Furthermore the energy community production facilities use combined heat and power production to maximize efficiency. In case more energy is produced than consumed, the surplus can be offered to the national electricity transmission grid operator Fingrid.

“The project uses the latest micro grid technology solutions to balance and secure energy production in the area,” says Thomas Zimmermann, CEO Digital Grids at Siemens Energy Management. “The combination of advanced control, distributed grid architecture and assets in form of microgrids will ensure the grid is operated as reliably, resiliently, and efficiently as possible.”

Siemens will implement state-of-the-art technology including SICAM Microgrid Controller, which ensure reliable monitoring and controlling as well as blackout protection. It offers flexible communication, seamless continuity, maximum security, and unlimited migration, thus securing the optimal use of the generation systems. It will also include EnergyIP DEMS, which allows aggregation of decentralized energy system to provide ancillary service for utilities or trade energy in intraday market.

The LEMENE project has been chosen as one of eleven key projects concerning renewable energy and new technology in 2017. As a key project, it has been granted an investment aid from The Ministry of Economic Affairs and Employment (MEAE). The key projects focus on future energy solutions so that Finland can achieve its national targets and those laid down at EU level for 2030.

This press release and further material is available at

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