

The art of setting up a DER smart grid

Distributed Energy Optimization (DEOP)
at Expo Milan

[Siemens.com/DEOP](https://www.siemens.com/DEOP)

The challenge

In 2015, the Expo took place in Milan, Italy. The local energy provider, Enel, set up a smart grid to power the world fair. A conventional power grid would have primarily focused on supplying the world's fair with electricity safely and reliably. The smart grid, however, offered more than that: Siemens developed a new energy management system based on IoT cloud technology.

This was the beginning of Distributed Energy Optimization (DEOP)

The solution

The task was to connect more than 10,000 devices, enabling Enel's energy managers to monitor and benchmark them.

Moreover, this approach enabled Enel's energy managers to optimize the supply of energy across the Expo grounds and in all buildings – from

their control center and via Smartphone. The operators of the various national pavilions were also able to control the energy consumption, lighting and air conditioning systems for their specific buildings via smartphone.

In most of the pavilions, Desigo – a Siemens system for automated building management – ensured a comfortable indoor climate while minimizing the buildings' operational and energy costs.

For the energy managers it was of high importance to have all relevant data in one place and make sure that there is a real-time awareness of the current consumption to be able to react in real time to any irregularities.



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Enel is Italy's largest power company. The utility produces 229 TWh of energy. It is based in Rome and has subsidiaries in 32 countries worldwide.