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Nice Grid, the first smart solar district demonstration project in Europe

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Abstract

The Nice Grid project takes place in the city of Carros, in an urban area of Nice, in the far South-East of France. The Nice area is known as an electric peninsula, connected to the bulk power grid through a transmission corridor. The area can hence be vulnerable, under load peak conditions. However, it also has an abundant supply of renewable energy, especially solar. Several hundred residential and business customers are participating in the test project. Equipped with solutions enabling voluntary load shedding, these new prosumers can achieve proactive savings during periods of peak demand by following the operator's recommendations. In addition, in case of an incident, an "islanding" zone—with its own photovoltaic generation capacity and storage facilities—can be disconnected from the main grid during a time-limited period. This microgrid can independently ensure continuity of service while maintaining the required voltage and frequency along power lines.

Alstom provides a smart energy management solution which controls and optimises the full range of local energy resources available to solar districts in real time. This presentation will offer an overview of the project, the challenges and objectives as well as Alstom's Distributed Energy Resource Management software used during the demonstration project by system operators.