Press release

# Successful preliminary trials for the installation of a resilient microgrid in the Lérins Islands

Benfeld, 13 March 2019

***Socomec has successfully completed its preliminary tests for the installation of a microgrid on the Lérins Islands. Trials conducted on EDF's Concept Grid platform confirm the reliability of one of the key projects of the Nice Smart Valley consortium. It is another step towards an energy transition that supports the efficiency of the electricity grid at the local level.***

Under the coordination of Enedis, several stakeholders, including Socomec, are working together within the Nice Smart Valley (1) consortium to design and test projects to promote the energy transition in the Provence-Alpes-Côte d'Azur region. The project to develop the microgrid (2) of the Lérins Islands is about to be completed.

## From theory to practice

The aim of this project is to provide power to the Lérins Islands in back-up mode in the event of an anomaly on the single undersea cable without the use of generators.

An initial modelling carried out by Socomec with the University of Padua led to the definition of the performance of the products to be used for the experiment.

The second modelling that has just been carried out with EDF on its Concept Grid test platform in Les Renardières (near Fontainebleau), has confirmed the feasibility of the on-site project that will soon be implemented.

## A successful experiment at Concept Grid (3)

The trials resulted in a programmed islanding without interruption of service for customers while ensuring the quality of the energy supplied. They confirm the possibility of balancing electricity supply and demand by using renewable energy in islanding mode.

Socomec's contribution is based on its expert solutions for electrical energy storage (control command and energy converter)

**This first decisive step, where the systems were pushed to the extreme, allowed the robustness of the solution to be validated and to improve its performance before the actual commissioning. In this way, the storage system, operated by Enedis, becomes the key to providing quality energy to the isolated microgrid.**

*EDF's Concept Grid Network reproduced the installation of the Lérins Islands on a ¼ scale*

*Concept Grid network reproduced the installation of the Lérins Islands to ¼ scale.*
*The trials confirmed the restart of the MV microgrid in isolated mode after a blackstart and the ability of the storage system to magnetise the transformers of MV/LV substations.*
*In addition, the storage system complies with Enedis' rigorous protection plan.*
*By detecting electrical faults at high and low voltage, the storage system ensures that there is no danger to property and persons.*

**Next steps in the project …**

In March, new tests will be carried out: synchronisation when reconnecting to the main MV power grid, wireless communication between energy storage systems and, most importantly, a first full-scale trial.

To be continued…

(1) Socomec is a stakeholder in Nice Smart Valley

The Nice Smart Valley project is funded by the European Commission for 70% of its total budget of 5M€ for the French contribution to the European INTERFLEX project within the framework of the EU Horizon 2020 Research and Innovation programme.
Starting in January 2017 and lasting for 3 years, the French InterFlex pilot project has brought together several key players with complementary fields of expertise involved in the transition toward sustainable energy. The Nice Côte d'Azur metropolitan area is associated with the steering committee alongside leading energy companies Enedis, Engie, GRDF, GE, Socomec and EDF.
Socomec has been selected for its know-how in the field of public distribution, photovoltaics and its expertise for more than 50 years in the field of power conversion.

(2) The resilient Microgrid: a challenge for the future

In Europe, microgrids are defined by the European Commission as part of the "Microgrids" projects. They represent a subgroup of electrical distribution systems equipped with local energy sources and storage systems with the ability to generate voltage and frequency (Grid Form units) under the control of the grid operator. Microgrids are connected to the distribution network in normal operating mode and can also operate in back-up mode in the event of a fault in the main network, thereby ensuring power resilience (back-up mode). Photovoltaic panels are one of the power production sources frequently used for this type of grid. As part of the Nice Smart Valley project, the aim is to provide power to the Lérins Islands in a back-up mode in the event of an anomaly on the single undersea cable without the use of generators.

(3) Concept Grid, a full-scale EDF test platform

Located on the Renardières Research and Development site (near Fontainebleau), the Concept Grid is a platform entirely devoted to working on intelligent networks or "Smart Grids". The Concept Grid is an intelligent distribution network designed to anticipate and support the evolution of electrical systems towards smart grids.
Designed in a closed circuit but representative of real distribution networks, the Concept Grid enables various network optimisation scenarios to be carried out in complete safety (automatic reconfiguration in the event of failure, integration of renewable energies, optimisation of peak periods, etc.).
Among its many advantages, this test method allows in particular to carry out complex stress tests under unstable conditions that would be impossible to carry out in the field, with real customers.

## SOCOMEC: When energy matters

Founded in 1922, SOCOMEC is an independent, industrial group with a workforce of 3600 people spread over 28 subsidiaries in the world. Our core business – the availability, control and safety of low voltage electrical networks with increased focus on our customers' power performance. In 2018, SOCOMEC posted a turnover of 537M€*.

POWER SWITCHING | POWER MONITORING | POWER CONVERSION | ENERGY STORAGE | EXPERT SERVICES

*Estimated 2018

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