CASE STUDY

INTELLIGENT SOFTWARE PLATFORM FOR OPTIMAL POWER GRID MANAGEMENT

Problem – Challenge

The continuous integration of renewable energies, battery storage systems and electric mobility in the existing grid infrastructure is creating non-negligible challenges to power utilities that are still managing their grids with limited situational awareness.

In particular the demand for increasing grid observability, flexibility and resiliency requires the introduction of active network management schemes that are able to instantaneously balance the demand and the supply, while guaranteeing the highest power quality standards.

Solution

To help grid operators optimally manage their grid infrastructure, Zaphiro Technologies SA, founded in 2017, has developed a software platform relying on patented algorithms originally developed at the Distributed Electrical Systems Laboratory (DESL) of Professor Mario Paolone at EPFL. Such a solution leverages high-speed and time-synchronized measurements provided by so-called Phasor Measurement Units (PMUs) to extract unique insights on the status of the power grid. The system seamlessly integrates with existing control room solutions of the utility where the operators can visualize grid state and alarms in real-time to detect and locate faults.