

GRID CONNECTED ENERGY STORAGE SYSTEM (2.5 MWH)

## **BESS for Swiss Energy Demonstration Project** Aigle, Switzerland





Battery Energy Storage System for the integration of renewables and EV fast charging stations.

### The Challenges



## The Solution





Leclanché sa (Headquarters)

Avenue des Sports 42 CH - 1400 Yverdon-les-Bains Switzerland

#### www.leclanche.com

info@leclanche.com

#### WE ARE ENABLING THE ENERGY TRANSITION

In 2017 the Swiss people overwhelmingly voted to support an overhaul of the country's energy system. The initiative, known as Energy Strategy 2050, is aimed at reducing carbon emissions and improving sustainability. Among the key pillars of Energy Strategy 2050 are dramatically increasing Switzerland's utilization of renewable energy, phasing out the country's fleet of nuclear power plants, and promoting efforts to improve energy efficiency. This ambitious plan is not without its challenges, however. Among these is dealing with intermittency. As known, the intermittent nature of renewable energy resources, such as wind and solar, can force electrical grids to operate in unfeasible conditions. In order to evaluate the best possible way to overcome this challenge and develop innovative grid solutions, the country founded the Swiss Competence Center of Electrical Infrastructure (SCCER-FURIES). Leclanche is working with the SCCER on one of their research projects known as REeL. The REeL project features a Leclanche battery energy storage system (BESS), which SCCER researchers are using to explore and evaluate different applications, including using a BESS as a voltage and load buffer for EV fast-charging stations.

**Leclanche** undertook the design, engineering, installation, and commissioning of a 1.5 MW/2.5 MWh BESS for the REeL project, which is located in Aigle, Switzerland. The battery modules are enclosed in a customized 40' enclosure. Both the inverter and transformer are placed in a 20 ft container next to the battery enclosure. The system is connected to a medium voltage substation (provided by Romande Energie), to which the EV fast-charging stations are also connected. The Leclanché power plant controller controls the auxiliary system in the battery container while the overall energy management system was developed by the Distributed Electrical Systems Laboratory of the Ecole Polytechnique Federal de Lausanne (EPFL) specifically for the REeL demonstration project.

# EPFL

## UN PROJET COLLABORATIF



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#### Leclanché GmbH

Industriestrasse 1 D - 77731 Willstätt Germany





Leclanché

North America, Inc.

2685 Enterprise Dr

