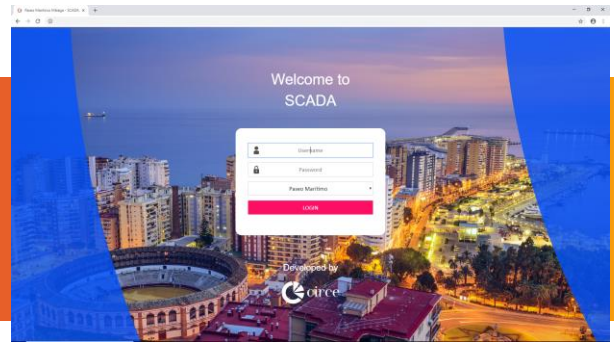


Web real-time SCADA: Control and Monitoring of Smart Grid networks



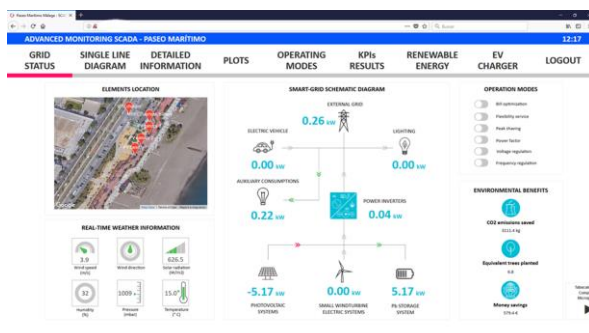
This solution provides a web SCADA with the latest technologies for microgrids, DER scenarios or industrial facilities. It features advanced configuration, supervision and control capabilities and easy integration with field devices and upper-level algorithms. These characteristics are combined to enable predefined operating modes that manage the system behavior, configured from the SCADA. It can be run either locally or in a remote server.

Offer of Services

- ✓ Comprehensive real-time monitoring and management system for microgrids and Smart Grid installation.
- ✓ DER Integration (Distributed Energy Resources):
 - ✓ Photovoltaic
 - ✓ Wind
 - ✓ Storage systems
 - ✓ Electric vehicle chargers
- ✓ Integration with power electronics (third-party or CIRCE's).
- ✓ Information graphic display and download.
- ✓ State-of-the-art Web Technology:
 - ✓ HTML5, WebSocket, SVG, JavaScript
- ✓ Customization to existing facilities
- ✓ Local optimization algorithms
- ✓ Integration with CIRCE remote optimization algorithms
- ✓ Integration with algorithms and services in third-party cloud platforms.
- ✓ Integration in the CIRCE Smart Grid control architecture for the implementation of flexibility services.

Benefits

- 1 Web technology: no need for software installation or maintenance. Complete graphic flexibility based on images in SVG format.
- 2 Advanced display screens and operation modes.
- 3 Solution customized to each particular scenario
- 4 Analysis and download of customized data.
- 5 Integration with heterogeneous technologies.
- 6 True real-time: Ada language



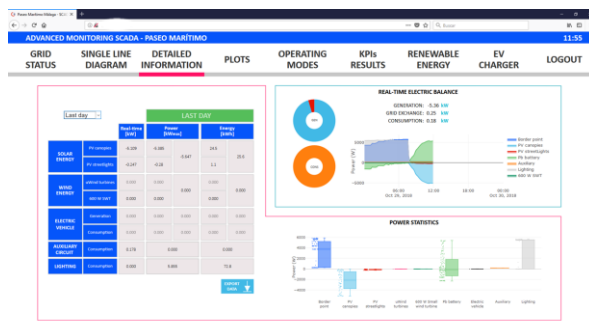
Focused on

System operators, integrators, renewable generations plants, manufacturers of generation systems, engineering, electric companies, etc.

H2020 Flexiciency

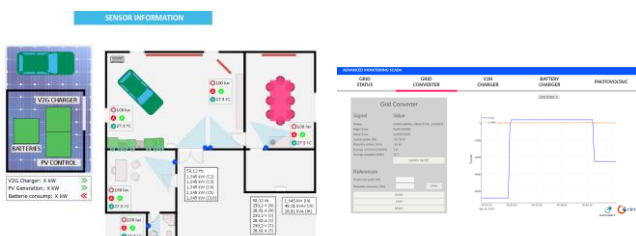
CIRCE's reference SCADA is currently based on the one developed for the H2020 FLEXICIENCY project facilities, in particular in the micro-grid of the Endesa-Enel Smart City Living Lab:

- ✓ Development of a SCADA with real-time control of the field devices
- ✓ Integration into the optimization and flexibility infrastructure of the project, sending the received field parameters from the devices and sensors and applying the optimization plans produced by a central algorithm
- ✓ Monitoring of the network state, complete single-line diagram, detailed statistics, graphs of all the collected variables, configuration of the local and remote operation modes, KPIs and their temporal evolution, specific graphs of renewable generation and statistics of electric vehicle use and load profiles.



Other SCADA developed by CIRCE for Flexiciency project:

- ✓ Monitoring and control of an automated home with power consumption simulation and optimization.
- ✓ Monitoring and control of a V2G charger also developed by CIRCE



Other R&D projects

CIRCE has been actively participating in different European and national projects including the development of SCADA monitoring systems

- ✓ ZEEUS: European H2020 project with a control center for the chargers of urban bus stops in Barcelona
- ✓ SIRVE: Spanish public-funded project with a SCADA for the management of electric vehicle chargers
- ✓ OPTIMANAGER: Spanish public-funded project including a SCADA for microgrid control
- ✓ SUNBATT: private project aimed at the development of a micro-grid with second-life batteries and EV chargers, with a real-time SCADA from CIRCE



References



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