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INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORES DO PORTO
LABORATÓRIO ASSOCIADO

Redes Eléctricas Inteligentes com Veículos Eléctricos

Smart Grids with Electric Vehicles

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REIVE

Funded by
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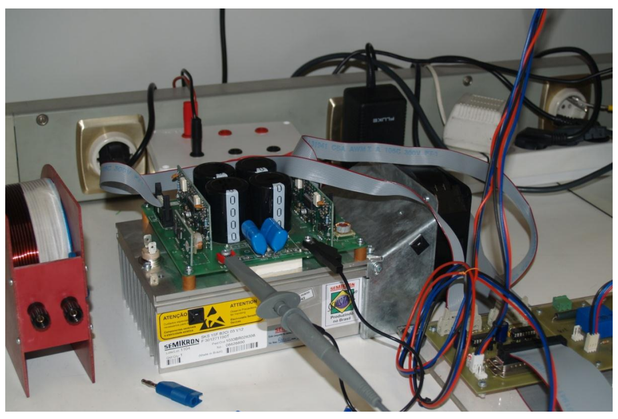
Fundo de Apoio à Inovação
Energias Renováveis



Downsizing of EV Charger

View of the SCADA

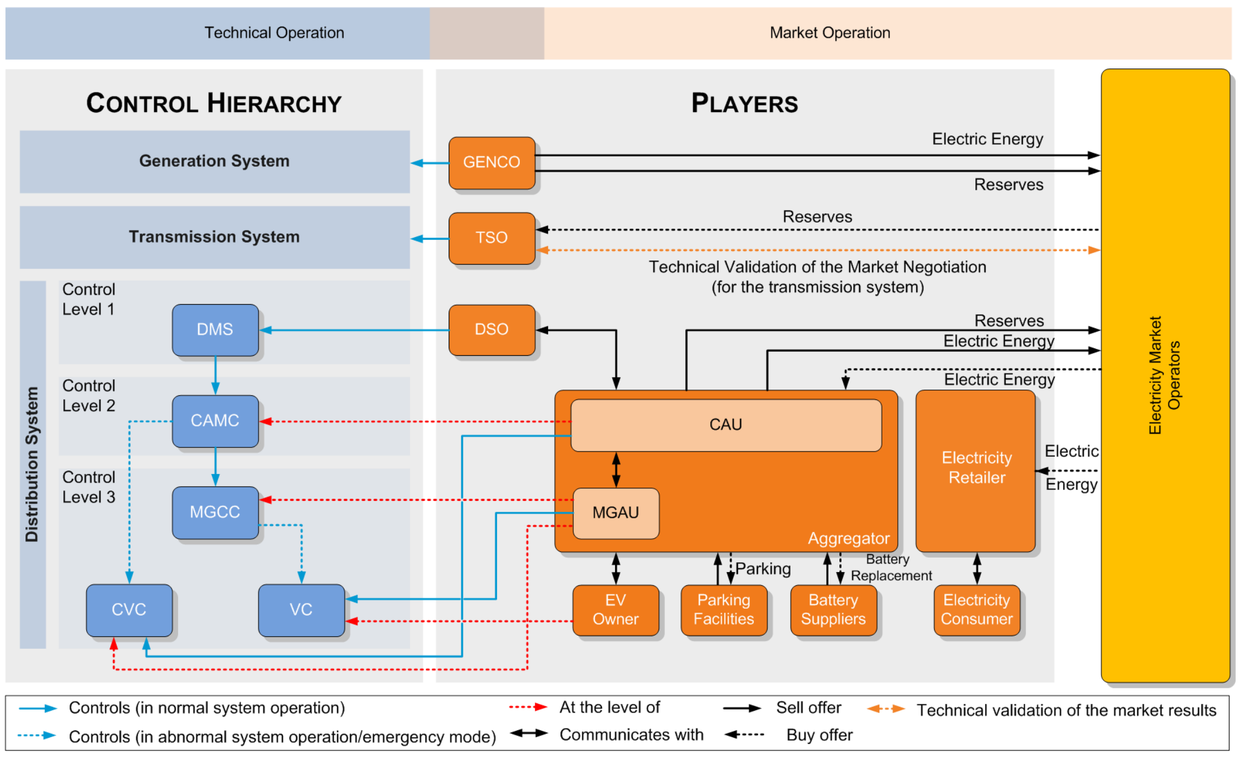
Laboratory Infrastructures

Partners

Scientific Partners: LNEG, CEEETA-ECO. **Utilities**: EDP, REN, GALP Energia. **Manufactures**: EFACEC, CONTAR, LOGICA.

The Concept

Concerning the Portuguese reality, the REIVE Project will exploit the **µG Technical Operation** paradigm based on **Hierarchical Control Structures and Communications**, in order to optimize **EV integration**. New concepts related to **Market Operation** will be introduced.



Objectives

Industrial Objectives

- ❑ Identification of EV Deployment Scenarios for development of Impacts Studies on the Portuguese Grid Operation
- ❑ Control Strategies including EV charging/discharging management
- ❑ Development of Business and Remuneration Models including V2G concept
- ❑ Specification of the Communication Infrastructure between Local Controllers and Higher Hierarchical Control Entities
- ❑ Description of the expected changes in DSO tasks
- ❑ Prototype development of High level centralized controllers and Controlled converters for EV and Microgeneration

Instrumental Objectives

- ❑ Assembly of **Laboratory Facilities** designed for validation of conceptual principles, simulation results and **Prototype Testing**
- ❑ **Battery Characterization** based on several laboratorial testing procedures

Expected Results