Real proven solutions to enable active demand and distributed generation flexible integration, through a fully controllable LOW Voltage and medium voltage distribution grid

*Project Motivation*

UGRID project focuses on addressing the constraints and needs arisen from poor observability of LV grid, local accumulation of distributed generation, risks and difficulties in managing the distribution network, aging infrastructure and social and environmental restrictions that inhibit the grid development. To be successful, UGRID proposes an open, standardised and integral improvement of the LV grid.

**Expected Outcomes and Impacts**

- Functional specification of LV dispatching
- Achieve sound LV network representation
- Deployment of mobility tools to support LV field crews
- Integration and processing of meter events in the Outage Management System (OMS)
- Deployment of equipment in secondary substation (SS) and MV feeders to achieve a supplier independent solution for further deployment
- LV grid remote control operation over PRIME infrastructure
- Multiservice PRIME subnetwork
- Combined use of AMI and Home Energy Management Systems for Active Demand Management
- Improvement of consumer capacity building web-based systems
- New steps towards an open market for services (providing information to other agents through IT) DSO as an “enabler”
- Assessment of optimal business models for market participants
- KPI framework definition to evaluate impacts

*Project Information*

**Topic**
LCE-07-2014: Distribution grid and retail market

**Call**
H2020-LCE-2014-3

**Funding scheme**
IA – Innovation Action

**Duration**
01/01/2015 – 31/12/2017 (36 months)

**Budget**
15,7 M€ (11,9 M€ EU grant)

**Project Coordinator**
Iberdrola Distribución Eléctrica

**Partners**
19 from 7 European countries (ES, PT, SE, PL, UK, FR, NO)

**Demonstration sites**
4 Demonstration sites (ES, PT, SE, PL)

*WP1* Scope and boundaries of project demonstrations

*WP2* Innovative distribution grid applications and functions

*WP3* Demonstration in real user environment (Spain)

*WP4* Demonstration in real user environment (Portugal)

*WP5* Demonstration in real user environment (Sweden)

*WP6* Demonstration in real user environment (Poland)

*WP7* User engagement, societal research and dissemination of project results

*WP8* Monitoring & impact assessment of project demonstrations

*WP9* User engagement, societal research and dissemination of project results

*WP10* Market & business framework

*Partners*

- Imperial College London
- Waterfall
- Energa
- Schneider
- Energinet
- InesTec
- Tecologia
- ENEL
- ENEDIS
- ATENDE
- NOS
- Powi
- Schneider
- Energinet
- InesTec
- Tecologia
- ENEL
- ENEDIS
- ATENDE
- NOS
- Powi

*Website*
upgrid.eu
Technical objectives

- LV state estimation, voltage control: Parameter load DR
- Execution of new technical features using field data
- Improve and automate active and reactive power flows
- Events and alarm integration and processing
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Social objectives

- Increase awareness of LV network
- Enable data manager role
- Technical objectives

- LV state estimation, voltage control: Parameter load DR
- Execution of new technical features using field data
- Improvement and extension of the PFLP (MV/LV) monitoring business case
- Increase non-technical losses and improve observability
- Increase observability and decision support
- Interoperability
- Increase MV and LV network observability
- Increase DER observability

Social objectives

- Increase DER observability
- Increase technological awareness
- Increase DER observability

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Expected results and impacts

- Load & generation forecasting, Demand side mgmt., perception and control through a web tool solution
- Empowering consumers by providing information, communications:

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