Improving today the **smart grids** of the future

MEAN4SG : Metrology Excellence Academic Network for Smart Grids

MEAN4SG

The main goal of MEAN4SG is to shape a critical **mass of new expertise** with fundamental skills required to power the scientific and technological challenges of Smart Grids Metrology.

MEAN4SG network aims to educate **11 young researchers in the smart grids metrology field** by constructing a sustainable training network gathering the whole innovation value chain.

11 LINES OF RESEARCH

ESR 1
Flicker measurements for newer lighting techniques
CIRCE

ESR 2
Power Quality measurements and propagation in distribution grids
TU/e

ESR 3
Development of tools for accurate and reliable measurements of Smart Grid Power Quality
LNE

ESR 4
Development of an integrated model of electric systems
ENEL

ESR 5
Metrology for Energy forecasting on domestic installations with Renewable Energy Systems
CIRCE

ESR 6
Distributed Generation Management through Virtual Power Plant concept
ENEL

ESR 7
Implementing world class PMU algorithms on economic acquisition for ubiquitous deployment
UNIVERSITY OF STRATHCLYDE

ESR 8
PMU applications in distribution grids
TU/e

ESR 9
Smart Network Diagnostics: Online Partial Discharge Monitoring of Electrical Networks
ORMAZABAL

ESR 10
Smart cable oversheath diagnosis in MV and HV grids
F²I²

ESR 11
Smart DC power lines: Predictive maintenance and fault location through partial discharge analysis
HAEFELY

CHALLENGES

Power quality analysis

Determination and further analysis of those Power Quality (PQ) parameters affecting active customers

Smart grids modelling and management

Metrology for smart grids modelling and monitoring, to perform an accurate energy forecasting at low voltage levels

Advanced monitoring through PMU applications

Cost-effective use of PMUs for advanced monitoring under the IEEE C37.118.1a-2014 standard to cut down costs

Smart cable diagnosis

Development of smart diagnosis tools for providing information about the state of the distribution grid infrastructure and its components

BENEFICIARIES

circe RESEARCH CENTRE FOR ENERGY RESOURCES AND CONSUMPTION · TU/e Technische Universiteit Eindhoven University of Technology · LNE Le progrès, une passion à partager · enel · University of Strathclyde Glasgow · ORMAZABAL velatia · F²I² FUNDACIÓN PARA EL FOMENTO DE LA INNOVACIÓN INDUSTRIAL · HAEFELY HIPOTRONICS

PARTNER ORGANIZATIONS

NPL National Physical Laboratory · AUBURN UNIVERSITY · Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra · Dutch Metrology Institute VSL · DIAEL · alliander · UNIVERSITÀ DEGLI STUDI DI GENOVA · CNS www.cnspoway.com · utbm université de technologie Belfort-Montbéliard · EDF · UNION FENOSA distribución · mirubee

HR EXCELLENCE IN RESEARCH

The project beneficiaries and partner organizations are fully committed with the principles of EQUALITY, TRANSPARENCY, QUALITY, EFFICIENCY AND EFFECTIVENESS.
The main ethical codes related to research, education, training and people management will be a beacon of light for MEAN4SG network, as it is expected from the "HR EXCELLENCE IN RESEARCH" strategy.

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