



**2015 International Symposium on  
Smart Electric Distribution Systems and Technologies (EDST)  
CIGRE SC C6 Colloquium**

*Vienna, Austria – September 8-11, 2015*

**Special Session on**

**Advanced Modelling, Monitoring and Control of Low Voltage Networks**

**organized and co-chaired by:**

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**Call for Papers**

Technical Outline of the Session and Topics:

The future widespread use of residential-scale low carbon technologies such as photovoltaic systems, electric vehicles or electric heat pumps is prompting distribution network operators to investigate their impacts and the potential solutions. In particular, low voltage networks, typically unobserved and uncontrolled, are believed to become one of major the bottlenecks.

It is difficult to estimate how much distributed generation (DG) capacity will be connected to distribution systems in the coming years; however, it is certain that increasing penetration levels require robust tools for network monitoring and state estimation that help assess the capabilities and requirements of the networks in order to produce the best planning and operation strategies. The content of this special session is focused on the numerous approaches and methods, especially meter and sensor data-driven analytics, that have been developed in recent years to address DG integration and planning in low voltage distribution systems.

Topics of interest include, but are not limited to:

- Meter and sensor based monitoring and state estimation techniques of low voltage networks
- Advanced and coordinated controls of low voltage networks, including on load tap changers, reactive and active power controlled inverters
- Data driven methods for network planning and operation (e.g. observability, characterization)
- Demand response strategies and integration (including electric vehicles, heat pumps, etc.)
- Data driven load modeling, forecasting and asset management
- Network topology recognition and optimization
- Low/Medium voltage interaction, e.g. load aggregation, forecasting, reactive power flows
- Network model validation, meter and sensor based power system simulations
- Interaction and analysis of cyber-physical systems: power system and metering ICT
- Meter placement methods
- Economical Comparison between innovative grid control strategies and conventional grid reinforcement

**Submission of Special Session papers: for details see [www.edst2015.org/timelines.html](http://www.edst2015.org/timelines.html)**

All the instructions for paper submission are included in the conference website: [www.edst2015.org](http://www.edst2015.org)