

# CALL FOR PAPERS

## Special Session on Advanced Control of Low Voltage Distribution Networks

to be held in the frame of  
IECON 2013 - The 39<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society  
10<sup>th</sup> - 13<sup>th</sup> of November 2013, Austria Center, Vienna, Austria



### TOPIC OF THE SPECIAL SESSION

High penetrations of (renewable) distributed generation and future loads (such as electric vehicles) can negatively impact the operation of distribution networks. Optimised volt/var control by means of reactive and active power management of network elements and participants is an effective way to increase the networks' ability to hosting low carbon technologies without violation of thermal or voltage limits. Furthermore optimised control can also be implemented to cater for other objectives, such as reduction of energy losses. To date some level of 'smartness' have been applied to medium voltage (10 to 110kV) distribution networks. However, more is needed in low voltage (LV) networks (e.g., 400V). Different control paradigms have been proposed, such as coordinated, distributed, local or agent-based. In addition, LV networks present particular challenges due to their unbalance nature and passive transformers. The expected uptake of photovoltaic systems (already seen in many countries) and electric vehicles, combined with the advent of communication and monitoring infrastructure (e.g., Smart Metering) will increase the complexity of LV networks and the way they will be operated in the future.

### SPECIAL SESSION ORGANISATION

M. Stifter  
matthias.stifter@ait.ac.at

L. Ochoa  
luis\_ochoa@ieee.org

Benoit Bletterie  
benoit.bletterie@ait.ac.at

The organizers look forward to welcoming you to Vienna, Austria from 10<sup>th</sup> to 13<sup>th</sup> November 2013.

### Important Dates

Regular Paper submission:	April 01, 2013
Notification of acceptance:	June 15, 2013
Final submission:	August 01, 2013



- Volt/Var control for low voltage networks
- Integration of renewable and distributed generation, electric vehicles and electric storage
- Optimisation of network operation, electric vehicle infrastructure
- Advanced control (coordinated control predictive control, model-predictive control, event-based control, cooperative systems, agent based optimisation)
- Modelling and simulation of Smart Controls
- Smart Meters and Advanced Metering Systems (diagnosis, monitoring, fault detection, network analysis)
- Demand response and demand side management (algorithms, price-based, direct control, aggregation)
- Communication issues for Smart Control (co-simulation of ICT and electric energy networks)
- Demonstrations and field experimentation (practice and methodologies)

### **SUBMISSION OF PAPERS**

The working language of the conference is English. Submit the full paper as PDF following the IEEE layout requirements by using the templates given at the conference web page. Accepted and presented papers will be published in an IEEE Proceedings volume and will be sent to IEEE Xplore. In addition, selected authors are encouraged to submit their papers for publication in the IEEE Transactions on Industrial Electronics or in the IEEE Transactions on Industrial Informatics.

### **THE CONFERENCE**

IECON 2013 is the 39th Annual Conference of the IEEE Industrial Electronics Society, focusing on industrial and manufacturing theory and applications of electronics, controls, communications, instrumentation and computational intelligence. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship.

Papers with new research results are encouraged for submission. IECON 2013

will be held concurrently with the 7th IEEE International Conference on E-Learning in Industrial Electronics (ICE-LIE 2013). Participation in any of these events just requires a single conference registration fee. The world's industry, research, and academia are cordially invited to participate in the wealth of presentations, tutorials, special sessions and social activities, and furthermore, enjoy beautiful Vienna.