

"Industrial and Commercial Demand Response"

The Theme: Non-residential (industrial and commercial) customers have great potential in providing flexibility for power systems through diverse Demand Response (DR) programs. Intelligent energy management can be carried out with DR in industrial and commercial facilities, especially if on-site control, information and communication technologies are available, enabling also the inherent automation capabilities of heating, ventilation and air conditioning systems. Due to the dawn of the Smart Grid era, with increasing distributed generation and the conversion of traditionally passive consumers to newly active energy players in the market, DR is being effectively considered for outage management and network reinforcement deferral. The industrial and commercial potential of DR is not yet completely understood, especially regarding the emerging and advanced technologies associated to the Smart Grid. Advances in smart meter technology that allow monitoring and controlling responsive loads in near real-time will also be key enablers of DR potential. It can be more complex to implement DR for industrial loads if compared to residential loads mainly due to the reliability management that is more vital for industrial plants. An interruption of service may lead to stopping production or violating operational constraints of the plant. Industrial processes can be interdependent and correlated, being difficult to isolate and shed separately. Several manufacturing processes are critically dependent on time and must be scheduled with high precision. DR solutions can reduce costs related to energy consumption and increase renewable sources exploitation. This special section aims at providing a forum to discuss the most recent advances on Industrial and Commercial DR.

Topics include, but are not limited to:

- Advanced informatics for industrial/commercial DR
- Industrial/commercial DR schemes, programs and optimization models
- Information and communication infrastructure of industrial/commercial DR
- Sensors, metering and control technologies for industrial/commercial DR
- Industrial/commercial DR interactions with renewable/distributed generation
- Trading industrial/commercial DR in wholesale and retail markets
- Dynamic prices and tariffs in industrial/commercial DR
- Price prediction and/or load forecasting for industrial/commercial DR
- Strategic market behavior of industrial/commercial DR aggregation agents
- Industrial/commercial DR participation in ancillary services
- Electric vehicles and energy storage participation in industrial/commercial DR
- Integration of multi-energy systems with industrial/commercial DR
- Security and privacy issues related to industrial/commercial DR
- New and existing business models for industrial/commercial DR
- Cost/benefit evaluation, barriers and drivers of industrial/commercial DR
- Regulation, protocols and standards of industrial/commercial DR

Real industrial case studies are especially welcome, discussing new application areas and resulting new DR developments. All contributions must focus on industrial and/or commercial (non-residential) applications of DR.

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics <http://tii.ieee-ies.org/>
Please submit your manuscript in electronic form through Manuscript Central web site: <http://mc.manuscriptcentral.com/tii>. On the submitting page #1 in popup menu of manuscript type, select: **SS on Industrial and Commercial DR**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Before submitting manuscript check the review criteria (<http://tii.ieee-ies.org/o/RC.pdf>).

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable:	Deadline for manuscript submissions	August 31, 2017
	Expected publication date (tentative)	April 2018

Guest Editors:

Prof. João P. S. Catalão (Corresponding Guest Editor), FEUP and INESC TEC, Porto, Portugal, catalao@fe.up.pt

Prof. Pierluigi Siano, University of Salerno, Italy, psiano@unisa.it

Prof. Fangxing (Fran) Li, The University of Tennessee, USA, fli6@utk.edu

Prof. Mohammad A. S. Masoum, Curtin University, Australia, m.masoum@exchange.curtin.edu.au

Prof. Jamshid Aghaei, Shiraz University of Technology, Iran, aghaei@sutech.ac.ir