



## SMARTER EUROPE

Smart Energy Research at the crossroads of  
Engineering, Economics and Computer Science  
18.2.2016

[www.smarter-europe.net](http://www.smarter-europe.net)



**E-world**  
energy & water

16.-18.2.2016

ESSEN / GERMANY

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The transformation process of European energy supply faces a number of severe challenges. Beside technical and economic issues, societal and political demands as well as organizational and juridical aspects have to be addressed. Many proposals on specific topics exist, but comprehensive smart solutions for a sustainable future energy system are still missing. Especially, the complex and manifold interdependencies between involved technologies, multiple and cross-national varying regulations and convincing business cases require particular attention. And both long-term visions and concepts with perceptible benefits in the short- to medium-term are needed.

New solutions have to contribute to maintaining or even increasing the reliability and the security of energy supply in more decentralized systems. Additionally, newly designed energy markets should enable an efficient and transparent matching of supply and demand for energy and ancillary services in large-scale networks. This requires the analysis and handling of much more data and advanced algorithms for forecasting, operation and matching. The resulting overall system is thus going to be significantly more complex and interlinked. Decentralized and autonomous agents may enable here robust high-performance system operation. Yet the interactions between the market level and the technical system operation have to be considered carefully.

Although significant efforts and investments have already been put into the development of Smart Grids and Smart Markets, significant research questions need to be answered before Smart Grids will become reality. This, especially, also includes hybrid energy infrastructures where not only electricity is considered but also other grid-based energy carriers like natural gas and heat. Additional flexibility but also additional

*Special Event - Project Exchange*

### **Meet your academic or industry partner!**

Looking for a project partner for a national or international project? You have an academic product that needs to be validated? You are looking for academia that can solve your special problem? - Then take part at the SMARTER-EUROPE 2016!

During the conference, a special session will be held, in which participants can present their ideas, their proposals or their partner requests within a 10 minute presentation.

Interested? Then please send your proposal by using the SMARTER-EUROPE submission system. Further information are provided at the conference website at <http://www.smarter-europe.net>

complexity is gained when these networks interact in order to meet the demands of a decentralized, diversified, secure and stable future energy supply.

Regardless of whether and how the energy supply will be designed and operated in the future, it is obvious that a key enabler for a successful transformation of the energy supply will be a purposefully designed and used ICT infrastructure. New solutions will consolidate and represent the combined knowledge and experience of different disciplines as engineering, business management and economics and computer science and, thus, contribute significantly to an efficient energy supply and to the success of involved companies. The IT backbone for such solutions are likely to be distributed, collaborative, autonomous and intelligent software packages for simulation, monitoring, control and optimization as well as appropriate data and business models, reporting systems and maybe also mobile solutions.

## Topics

The SMARTER-EUROPE Conference aims at providing an interdisciplinary forum for presenting and discussing recent advances and experiences in building and using new IT-based solutions for Smart Grids and Smart Markets. For this, the conference provides a forum for different scientific disciplines. Furthermore, it will enable an industrially relevant exchange of knowledge and experience. In particular, it includes (but is not limited to) the following areas and topics of interest:

### Smart Grid, Smart Home and Network Automation

- Decentralized control systems
- Stability in Energy Grids
- Distributed Optimization in Energy Networks
- Multi-Agent Systems and Simulations
- Self-aware, self-configuring or self-healing energy systems
- Simulation of Smart Grids
- Approaches for Hybrid Energy Networks (Interactions and exchange between networks for electricity, gas, heat and other)
- Assistance Systems for Smart Energy control

### Smart Data Handling

- Data Storing and Proceeding Technologies
- Big Data
- Software Tools for Smart Energy Networks
- Data Security
- Data Structures and required Standards
- Mobile Solutions

### Smart Markets, Trading and Business models

- Forecasts / Predictions
- Demand Side Management of hybrid systems
- Distributed planning processes for energy networks
- Products and User Interfaces
- Business Models
- Competition analyses
- Process Management
- Electric Mobility
- Solar Home Storage Systems

## Important Dates

Abstract Submission Deadline	01.11.2015
Author Notification	01.12.2015
Final Submission for Full Paper & Submission Deadline for Project Proposals	15.01.2015
Program Schedule Notification	18.01.2015
Presentation Upload	see E-world site
SMARTER EUROPE - Conference	18.02.2016

## Location

- Congress Centre at "Messe Essen", Essen, Germany
- The conference will be held during the [E-world energy & water](#) that took first place in 2001. With over 600 exhibitors, 20,000 visitors and an exhibition area of 50,000 square metres, it is Europe's leading energy industry fair.

## Websites

<http://www.smarter-europe.net>

<http://www.e-world-essen.com/en/home/>

## Program Chairs

Christian Derksen, University of Duisburg-Essen

Christoph Weber, EWL, University of Duisburg-Essen

## Conference Contact

Christian Derksen, University of Duisburg-Essen

[christian.derksen@icb.uni-due.de](mailto:christian.derksen@icb.uni-due.de)

Zohreh Akbari, University of Duisburg-Essen

[zohreh.akbari@icb.uni-due.de](mailto:zohreh.akbari@icb.uni-due.de)

## E-world Contact

Kristina Wald, con|energy agentur gmbh,

[wald@conenergy.com](mailto:wald@conenergy.com)