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# **Studienkomitee C6**

## **Distribution Systems and Dispersed Generation**

DI Dr. Wolfgang Hribernik

Austrian Institute of Technology (AIT)

Energy Department

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- Vorsitz: Britta Buchholz (Chairman) und Christine Schwaegerl
  - Vertreter des österreichischen Nationalkomitees: W. Hribernik (AIT)  
– regular member
  - Scope:  
To assess the technical impacts and requirements which a more widespread adoption of DG and which a larger proportion of undispachable power generation could impose on the structure and operation of transmission and distribution systems. In parallel the SC also assesses the degree to which such solutions are likely to be adopted in the short, medium and long term and, consequently, the practical importance and timing of the technical impacts and requirements mentioned above. Rural electrification, demand side management methodologies and application of storage are within the scope of this SC.

# C6 Session 28. 8. 2014

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- Preferential Subjects 1: Planning of distribution networks with high penetration of DER and new loads 9 Papers, 20 Beiträge
- Preferential Subject 2: Operation and control of active distribution: 18 Papers, 23 Beiträge
- Preferential Subject 3: New roles and services of distribution systems for transmission system operation: 2 Papers

# österreichischer Beitrag zu C6

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## ■ Session papers:

- ♦ F. Andren, F. Lehfuss, P. Jonke, T. Strasser, E Rikos, P. Kotsampopoulos, P Moutis, F Belloni, C Sandroni, C. Tornelli, A Villa, A Krusteva, R Stanev:  
*"DERri Common Reference Model for Distributed Energy Resources - Modelling Scheme, Reference Implementations and Validation of Results"* Benoit Bletterie:  
Mitglied in WG C6.24
- ♦ W. Hribernik, S. Übermasser, M. Stifter, F. Leimgruber:  
*"Maximizing Local Renewable Energy Consumption by shifting Flexible Electrical Loads in Time and Space"*

# Aktuelle Entscheidungen und Trends

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- Aussage auf CIGRE TC Ebene:
  - ◆ distribution networks are in scope of CIGRE
- Gemeinsame Arbeitsgruppe mit CIREN (oft sehr starke personelle Überschneidungen)

# Aktuelle (laufende) WGs

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- C3-05/C6-14: „Umweltaspekte“, Smolka (Deutschland)
- C1/ C2/ C6-18: „Umgang mit Grenzen für sehr hohe Anteile von erneuerbaren Energieanlagen“, O’Sullivan (Irland)
- C21: „Smart Metering – Stand der Technik, Regulierung, Standards und zukünftige Anforderungen“, Navarro (Spanien)
- C22: „Microgrids Evolution Roadmap“, Marnay (USA)
- C6.25/B5/CIRED: „Steuerungs- und Automatisierungssysteme für elektrische Verteilungsnetze der Zukunft“, Mauri“ (Italien)
- B5/ C6.26/ CIRED: „Schutz von Verteilungsnetzen mit verteilter Erzeugung“, Bak-Jensen (Dänemark)
- C6.27/ CIRED: „Asset management für Verteilungsnetze mit hohem Anteil an verteilter Erzeugung“, Buchholz (Deutschland)
- C6.28: „Hybridsysteme für die Offgrid-Versorgung“, Seethapathy (Kanada)
- C4/C6.29: “Power quality and PV”, Smith (USA)
- C4/C6.35/CIRED: “Modelling and dynamic performance of inverter based generation in power system transmission and distribution studies”, Yamashita (Japan)
- C6.30: „The Impact of Battery Energy Storage Systems on Distribution Networks“, Hatziargyriou (Griechenland)

## neue WGs

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- **C6.xx “Power electronics for voltage regulation” Applications of Static Compensation technology to Medium & low voltage distribution networks (ASH Ken, Australia).**
- **C6.xx Smart Meter Data (Yasuro MATSUURA, Japan)**
- **C6.xx MVDC Grid Feasibility Study**
- **C6.xx Problems and Contribution of DER connected at Distribution Networks to the Transmission System Operation (HATZIARGYRIOU, Nikos)**
  
- Aktive Beteiligung österreichischer Teilnehmer an den WGs erwünscht. Kontakt über W. Hribernik.

## CALL FOR PAPERS

2015 International Symposium on Smart Electric Distribution Systems and Technologies (EDST 2015)

[www.edst2015.org](http://www.edst2015.org)

CIGRE SC C6 Colloquium Vienna



### From pilot projects to roll out of Smart Grid solutions

Energy efficiency and low-carbon technologies are key enablers to manage the still increasing emission of green-house gases resulting in a global warming trend. Renewable sources, storage systems and flexible loads provide enhanced possibilities but power system operators have to cope with their fluctuating natures, limited storage capabilities and the typically higher complexity of the whole infrastructure with a large amount of components.

Due to changing framework conditions and technology developments like the liberalization of the energy markets, changing regulatory rules as well as new grid components, the design and operation of the future electric energy system have to be restructured, too. Sophisticated component design methods, information and communication architectures, automation concepts, and control approaches are necessary in order to manage the higher complexity of such Smart Grids. In addition, advanced validation and test concepts have to be developed to support the upcoming large scale installation of new technologies and approaches.

The main objective of this symposium is to bring the research and industry community together to discuss recent developments and approaches to support the roll out of Smart Grid solutions with a strong focus on replicability, scalability and system validation.

#### Important Dates

Paper submission (full paper)	March 1 <sup>st</sup> , 2015
Notification of acceptance	May 1 <sup>st</sup> , 2015
Final paper submission	June 1 <sup>st</sup> , 2015

September 8<sup>th</sup>-11<sup>th</sup>, 2015  
Techgate, Vienna, Austria

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AIT Austrian Institute of Technology

Technically Co-Sponsored by  
CIGRE SC C6 Distribution Systems and  
Dispersed Generation  
(CIGRE SC C6)

IEEE Industrial Electronics Society (IES)  
IEEE Austria Section

September 11<sup>th</sup>  
Industry Day with exhibition at  
AIT Austrian Institute of Technology



# EDST 2015: 8.9. – 11.9

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- [www.edst2015.org](http://www.edst2015.org)
- 2015 CIGRE SC C6 meeting: 8.9.2015
- AIT Energy Industry day: 11.9.2015
- OVE ComForEn: 8.9.2015
  
- Zielteilnehmerzahl: 200 – 250
- TechGate Wien

# Call for Papers Session 2016

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- **PS 1: Integrated planning and operation for upgrading distribution networks**
  - Novel methods for integrating planning and operation including asset management, control and protection
  - Enabling technologies for increasing penetration of renewables, including energy storage and demand side integration.
  - Distribution systems perspective in interaction with TSO, aggregators, further market participants, contribution of DER to system stability, Interconnection requirements and communication requirements.
  
- **PS 2: Energy infrastructure for urban networks**
  - Smart Cities
  - Multi-energy systems (Electricity, heat, cooling, gas, water, transport)
  - Impact of significant developments in energy technology, IT and further trends on the distribution system (application of smart meters, big data, energy storage, DC, young members perspectives on new trends, ...)
  
- **PS 3: Microgrids and offgrid hybrid systems**
  - Technological challenges
  - Real world installations
  - Business cases and road maps