CIRED 2015: Technical Programme as at 21/05/2015

Monday 15 June:

09.30 hrs- 15 hrs

Tutorial 1: Harmonics in distribution networks
Room: Saint-Clair 3A05

Tutorial 2: Advanced Distribution Management System Applications
Room: Rhône 3A

Tutorial 3: Protection of Distribution Networks
Room: Saint-Clair 3B

Tutorial 4: PowerLine Communications for Smart Metering
Room: Saint-Clair 4

Tutorial 5: Probabilistic Methods in Modern Electricity Distribution Systems
Room: Rhône 3B

Tutorial 6: Co-simulation of Power Systems and ICT: fundamentals and applications
Room: Rhône 4

15 hrs – 18 hrs

Opening forum – *Room Amphithéatre (L2)*

Chair: **Pierre Mallet**, Chairman of the French CIRED National Committee

15.00 hrs: Welcome by **Theodor Connor**, Chairman of CIRED

"Lyon, a European leader in the felds of local energy policies and smart cities", **Métropole de Lyon**

"Power distribution at the heart of the energy transition", **Philippe Monloubou**, CEO of ERDF

"How equipment manufacturers and solution providers prepare the future of power distribution", **Luc Rémont**, Chairman of Gimelec

"Power distribution and smart grids: the Japanese perspective", **Taro Nakazawa**, General Manager of Power System Engineering Center, Power Grid Company (Japan)

16.35 hrs: Coffee Break

“The digital revolution and its impact on the distribution sector”: ”: dialogue between **Yves Tyrode**, Chief Digital Officer of SNCF, and **Christian Buchel**, Chief Digital Officer of ERDF

Panel discussion and questions managed by **John Scott**, Independant Consultant

17.50 hrs: How CIRED 2015 will work, **Alain Belvaux**, Chairman of the CIRED 2015 Organising Committee

The Opening Forum will be followed by the welcome reception in the exhibition halls.

Tuesday 16 June:

Main session, Session 2: Power Quality & Electromagnetic Compatibility

> Room: Auditorium Pasteur (L1)

9.00 - 10.30 hrs: Block 1: Electric and magnetic fields, transients and earthing systems

1516 Comparison between simulations and measurements of harmonics in residual earth fault currents of a 20 kV-network
Uwe Schmidt, Dresden University of Technology, Dresden, Germany; Gernot Druml, Trench Austria GmbH, Linz, Austria; Yu Wei, Dresden University of Technology, Dresden, Germany; Peter Schegner, Trench Austria GmbH, Linz, Austria

0998 Choice of MV feeder BIL to maximize QOS and minimize equipment failure
Willem Dirkse van Schalkwyk, Eskom Holdings SOC, Bloemfontein, South Africa; John van Coller, University of Witwatersrand, Johannesburg, South Africa

0394 A New Design Tool for Distribution Substation Earthing Safety
Robert A Weller, ERA Technology (Earthing Solutions), South Wales, UK; Mark Davies, ERA Technology (Earthing Solutions), South Wales, UK; Stephen Tucker, UK Power Networks, London, UK; M Hakan Hocaoglu, Gebze Institute of Technology, Gebze, Turkey

1118 Proof of a Global Earthing System
Stefan Hoene, Siemens AG, Erlangen, Germany; Max Reinhard, Infraserv GmbH & Co. Höchst KG, Frankfurt, Germany

0922 Exposure to electromagnetic fields emitted by smart meters using power line communication technology
Celine Miry, EDF R&D, Moret sur Loing, France ; Sandra Graff, EDF R&D, Clamart, France ; Alban Jeandin, EDF R&D, Clamart, France ; Isabelle Magne, EDF R&D, Moret sur Loing, France ; Martine Souques, EDF SEM, Levallois Perret, France ; Richard Lejeune, ERDF, Puteaux, France

1060 Low-cost active shield for MV/LV substations
Michele Manca, Politecnico di Torino, Torino, Italy; Aldo Canova, Politecnico di Torino, Torino, Italy; Luca Giaccone, Politecnico di Torino, Torino, Italy; Juan Carlos del-Pino-López, Universidad de Sevilla, Sevilla, Spain

11.00 - 12.30 hrs: Block 2: Harmonics and interharmonics

0285 Ongoing work in CIGRE working groups on supraharmonics from power-electronic converters
Antonio Moreno-Munoz, University of Cordoba, Cordoba, Spain; Aurora Gil de Castro, Luleå University of Technology, Skellefteå, Sweden; Sarah Rönnberg, Luleå University of Technology, Skellefteå, Sweden; Math Bollen, Luleå University of Technology, Skellefteå, Sweden; Enrique Romero-Cadaval, University of Extramadura, Extramadura, Spain

1653 In-situ measurements on HFPQ
Jos Knockaert, Ghent University, Ghent, Belgium; Bram Vanseveren, Ghent University, Ghent, Belgium; Jan Desmet, Ghent University, Ghent, Belgium

0523 LED lamps under different EMC environnments
Aurora Gil-de-Castro, University of Cordoba, Cordoba, Spain; Anders Larsson, Lulea University of Technology, Skelleftea, Sweden; Sarah K. Ronnberg, Lulea University of Technology, Skelleftea, Sweden Math H.J. Bollen, Lulea University of Technology, Skelleftea, Sweden

1404 Impact of Electric Vehicle Charging on Unbalance and Harmonic Distortion - Field Study in a Urban Residential Area
Friedemann Moeller, Technische Universitaet Dresden, Dresden, Germany; Sascha Mueller, Technische Universitaet Dresden, Dresden, Germany; Jan Meyer, Technische Universitaet Dresden, Dresden, Germany;

Peter Schegner, Technische Universitaet Dresden, Dresden, Germany; Carsten Wald, ENSO NETZ GmbH, Dresden, Germany; Stephan Isensee, DREWAG NETZ GmbH, Dresden, Germany

0816 Harmonic Aggregation and Amplification in a Wind-Park
Kai Yang, Luleå University of Technology, Skellefteå, Sweden; Daphne Schwanz, Luleå University of Technology, Skellefteå, Sweden; Math Bollen, Luleå University of Technology, Skellefteå, Sweden

0920 Practical Issues with Transmission System Harmonic Allocation using IEC/TR 61000.3.6, EDITION 2, 2008
Tuan Vu, Duane Robinson, Sarath Perera, Victor Gosbell, University of Wollongong, New South Wales, Australia; Rizah Memisevic, Powerlink, Queensland, Australia

14.00 – 15.30 hrs: Block 3: Voltage variations and dips

0332 Control Algorithms for Voltage Regulated Distribution Transformers Maximum Grid-Integration of PV and Minimal Wear
Claas Matrose, RWTH Aachen University, Aachen, Germany; Michael Cremer, RWTH Aachen University, Aachen, Germany; Armin Schnettler, RWTH Aachen University, Aachen, Germany; Thomas Smolka, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany; Manuel Sojer, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany; Robert Frings, INFRAWEST GmbH, Aachen, Germany

1004 3-Phase Low Voltage Network Load Balancer: A Cost Effective Solution to Line Voltage Variations
Olivier CONSTANT, OmégaWatt, Aurel, France ; Pierre FRISTOT, OmégaWatt, Aurel, France ; Catherine MONCET, SDET, Albi, France

0578 Influence of the supply voltage on the performance of household appliances
Jan Descheemaeker, Universiteit Gent, Gent, Belgium; Michiel Van Lumig, Laborelec, Linkebeek, Belgium Jan Desmet, Universiteit Gent, Gent, Belgium

0060 How much photovoltaic capacity can handle distribution grids with regard to the long term flicker?
Andreas Spring, Munich University of Applied Sciences, Munich, Germany; Rolf Witzmann, Technische Universität München, Munich, Germany; Gerd Becker, Munich University of Applied Sciences, Munich, Germany

0409 A protocol to test the sensitivity of lighting equipment to voltage fluctuations
J. Julio Gutierrez, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain; Pierre Beeckman, EMC Center, Philips Innovation Services, Eindhoven, The Netherlands; Izaskun Azcarate, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain

1100 Interharmonics and light flicker
Pekka Koponen, VTT Technical research Centre of Finland, Espoo, Finland; Henrik Hansen, Danish Energy Association, Frederiksberg, Denmark; Math Bollen, Luleå University of Technology, Skellefteå, Sweden

16.00 – 17.30 hrs: Block 4: Power quality monitoring and supply reliability

0273 CIGRE/CIRED/IEEE working group C4.24 - New measurement techniques in the future grid
Francisc Zavoda, IREQ, Varennes, Quebec, Canada; Jan Meyer, Technische Universitaet Dresden, Dresden, Germany; Math Bollen, Luleå University of Technology, Luleå, Sweden; Sarah Rönnberg, Luleå University of Technology, Luleå, Sweden; Jan Desmet, Gent University, Gent, Belgium

1401 Efficient Power Quality Analysis of Big Data (Case Study for a Distribution Network Operator)
Etienne Gasch, Technische Universitaet Dresden, Dresden, Germany; Jan Meyer, Technische Universitaet Dresden, Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Dresden, Germany; Karsten Schmidt, ENSO NETZ GmbH, Dresden, Germany

0663 Analysis of the propagation of Power Quality phenomena using wide-area measurements
Vladimir Cuk, Eindhoven University of Technology, Eindhoven, The Netherlands; Helko van den Brom, VSL, Delft, The Netherlands; Sjef Cobben, Eindhoven University of Technology, Eindhoven, The Netherlands Gert Rietveld, VSL, Delft, The Netherlands

0152 Measurement Approach for Monitoring Voltage Dips in HV and MV Networks
Leake Enquay Weldemariam, Eindhoven University of Technology, Eindhoven, The Netherlands; Vladimir Cuk, Eindhoven University of Technology, Eindhoven, The Netherlands; Sjef Cobben, Eindhoven University of Technology, Eindhoven, The Netherlands; Wil L. Kling, Eindhoven University of Technology, Eindhoven, The Netherlands

0714 Customer interruption costs in quality of supply regulation: methods for cost estimation and data challenges
Gerd Kjølle, SINTEF Energy Research, Trondheim, Norway; Hanne Vefsnmo, SINTEF Energy Research, Trondheim, Norway

0182 Benchmarking of reliability: North American and European experience
John McDaniel, National Grid, -, USA; Werner Friedl, E-control, Vienna, Austria; Heide Caswell, Pacificorp, USA

Main session, Session 6: Challenges of Dso Regulation & Competitive Market

> Room: Auditorium Lumière (L -1)

9.00 - 10.30 hrs: Block 1: Involving the customer

1560 Effects of Home Energy Management Systems on Distribution Utilities and Feeders Under Various Market Structures
Mark Ruth, National Renewable Energy Laboratory, Golden, CO, USA; Annabelle Pratt, National Renewable Energy Laboratory, Golden, CO, USA; Monte Lunacek, National Renewable Energy Laboratory, Golden, CO, USA; Saurabh Mittal, National Renewable Energy Laboratory, Golden, CO, USA; Hongyu Wu, National Renewable Energy Laboratory, Golden, CO, USA; Wesley Jones, National Renewable Energy Laboratory, Golden, CO, USA

1119 Implementation possibilities of power-based distribution tariff by using smart metering technology
Kimmo Lummi, Tampere University of Technology, Tampere, Finland; Petri Trygg, Tampere University of Technology, Tampere, Finland; Antti Rautiainen, Tampere University of Technology, Tampere, Finland; Pertti Järventausta, Tampere University of Technology, Tampere, Finland

1156 A survey on the role of consumers in Smart Grid
Diogo Baldissin, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Fernanda Gabriela Borger, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Rogério Jorge, AES Eletropaulo, São Paulo, SP, Brazil; Vanessa Moreira, AES Eletropaulo, São Paulo, SP, Brazil; Ederson Souto, AES Eletropaulo, São Paulo, SP, Brazil; Marcelo Pelegrini, Sinapsis Inovação em Energia, São Paulo, SP, Brazil

1104 Smart Tariffs - In an Active Distribution Grid
Hanne Sæle, SINTEF Energy Research, Trondheim, Norway; Kjell Sand, SINTEF Energy Research, Trondheim, Norway; Ove S. Grande, SINTEF Energy Research, Trondheim, Norway

0639 The future relation and roles of local energy cooperatives and DSOs
Daphne Verreth, Enexis BV,'s-Hertogenbosch, The Netherlands; Else Veldman, Enexis BV,'s-Hertogenbosch, The Netherlands; Janine Paulusse, Enexis BV,'s-Hertogenbosch, The Netherlands

11.00 - 12.30 hrs: Block 2: Smart grid projects, Metering and data security

1278 TRANSFORM project experimentations: Energy-consumption diagnostic of a French CBD district in order to support the city's energy transition
Aurélie Ferrage, ERDF, Lyon, France ; Lysiane Chargé, ERDF, Lyon, France ; Béatrice Couturier, Grand Lyon, Lyon, France ; Flavia Barone, Grand Lyon, Lyon, France ; Maxence Bocquel, ERDF, Lyon, France

1658 Cost/benefit assessment for large-scale smart grids projects: the case of smart grid project of common interest "GREEN-ME"
Luca Lo Schiavo, Italian Regulatory Authority for Electricity Gas and Water, -, Italy; Samuele Larzeni, Italian Regulatory Authority for Electricity Gas and Water, -, Italy; Riccardo Vailati, Agency for the cooperation of energy regulators, -, Slovenia; Jon Stromsather, Enel distribuzione S.p.A., -, Italy; Raphael Rinaldi, Enel distribuzione S.p.A., -, Italy; Maurizio Delfanti, ISGAN - Politecnico di Milano, -, Italy; Ettore Elia, Terna S.p.A., -, Italy; Gabriele Sommantico, Terna S.p.A., -, Italy

0479 Overview of the solutions developed by the GRID+ project for supporting the European smart grids pilot projects in achieving the EEGI goals: main findings and lessons learnt
Ilaria Losa, Ricerca sul Sistema Energetico (RSE), Milan, Italy; Michele de Nigris, Ricerca sul Sistema Energetico (RSE), Milan, Italy; Gareth Bissel, ENEL distribuzione, Rome, Italy; Jesus Varela, Iberdrola, Madrid, Spain; Serge Galant, Technofi, NICE, France; Lukas Sigrist, Universidad Pontificia Comillas, Madrid, Spain

0754 Net-metering: Development of a regulatory and technical framework that ensures investment economic viability without adversely affecting Network and Market Operators' revenues
Nikolaos Drossos, Hellenic Electricity Distribution Network Operator, Athens, Attica, Greece; Panagiotis Anagnostopoulos, Hellenic Electricity Distribution Network Operator, Athens, Attica, Greece; Eleni Kapolou, Hellenic Electricity Distribution Network Operator, Athens, Attica, Greece

1003 Economic Potential of Load Control in Balancing Power Market
Petri Valtonen, Lappeenranta university of technology (LUT), Lappeenranta, Finland; Samuli Honkapuro, Lappeenranta university of technology (LUT), Lappeenranta, Finland; Jarmo Partanen, Lappeenranta university of technology (LUT), Lappeenranta, Finland

14.00 – 15.30 hrs: Block 3: Market & Regulation

1163 Summary of the Swedish Tariff Regulation and Impact of Changes on Investment Strategies
Sune Bergerland, Karlstads elnät AB, Karlstad, Sweden; Carl Johan Wallnerström, KTH Royal Institute of Technology, Stockholm, Sweden; Patrik Hilber, KTH Royal Institute of Technology, Stockholm, Sweden

1078 A partial relationship between costs and quality as a basis for setting regulation parameters of supply continuity
Petr Skala, EGU Brno, a.s., Brno, Czech Republic; Vaclav Detrich, EGU Brno, a.s., Brno, Czech Republic; Jan Sefranek, Energy Regulatory Office, Praha, Czech Republic

1159 Effects of supply-security-based distribution network renovation on customer interruption costs and allowed regulatory profit in Finland
Juha Haakana, Lappeenranta University of Technology, Lappeenranta, Finland, Jukka Lassila, Asset Vision Ltd, Lappeenranta, Finland; Tero Kaipia, Asset Vision Ltd, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland; Jukka Ahonen, PKS Sähkönsiirto Oy, Joensuu, Finland; Olli Mattila, Parikkalan Valo Oy, Parikkala, Finland; Jouni Perälä, Oulun Seudun Sähkö Verkkopalvelut Oy, Kempele, Finland

1270 Electricity storage: how to enable its deployment?
Quentin-Xavier Latour, Commission de régulation de l'énergie, Paris, France ; Gregory Jarry, Commission de régulation de l'énergie, Paris, France ; Didier Laffaille, Commission de régulation de l'énergie, Paris, France
Rodolphe de Beaufort, Alstom, Paris, France ; Nacera Frizi, Alstom, Paris, France ; Davy Theophile, Alstom, Paris, France

0684 Macroscopic analysis of interaction models for the provision of flexibility in distribution systems
Sébastien Mathieu, University of Liège, Liège, Belgium; Damien Ernst, University of Liège, Liège, Belgium; Bertrand Cornélusse, University of Liège, Liège, Belgium

16.00 – 17.30 hrs: Block 4: More challenging DSO business environment

1132 EvolvDSO: assessment of the future roles of DSOs, future market architectures and regulatory frameworks for network integration of DRES
Enrique Rivero, VITO, Mol, Belgium; Pierre Mallet, ERDF, Paris, France; Jon Stromsather, Enel Distribuzione, Rome, Italy; Daan Six, VITO, Mol, Belgium; Maria Sebastian-Viana, ERDF, Paris, France; Marco Baron, Enel Distribuzione, Rome, Italy

0334 Cash flow optimization based on an integrated Asset Management
Andreas Steffen, ENERVIE AssetNetWork, Lüdenscheid, Germany; Christian Wemhoff, ENERVIE AssetNetWork, Lüdenscheid, Germany; Heiko Spitzer, entellgenio, Munich, Germany; Sven Hübner, entellgenio, Munich, Germany

1218 The Role of Distribution Network Operator in Promoting Cost-Effective Distributed Generation: Lessons from the United States for Europe
Karim Anaya, University of Cambridge, Cambridge, UK; Michael Pollitt, University of Cambridge, Cambridge, UK; Thomas Greve, University of Cambridge, Cambridge, UK

1099 A continuous evolution of the flexibility mechanisms in the French electricity system
Christophe KIENY, Smartgrids France, Grenoble, France; Marie MIQUEL, ERDF, Paris, France; Maria SEBASTIAN-VIANA, ERDF, Paris, France; Michel BENA, RTE, Paris, France; Benoit DURETZ, Energy Pool, Chambery, France

1025 Conceptual Design for Asset Management System Under The Framework of ISO 55000
Sungin Cho, Clean Technology Centre, DNV GL, Singapore, Singapore; Khanh-Loc Nguyen, Clean Technology Centre, DNV GL, Singapore, Singapore; Jos M. Wetzer, DNV GL Energy Advisory, The Netherlands, The Netherlands

Round Tables Session

09.00 – 10.30 hrs: RT 1: Smart Distribution System Operation for Maximizing the Integration of Renewable Generation
> *Room: Rhône 3 (L1)*

09.00 – 10.30 hrs: RT 2: Telecommunication solutions for Smart Grids
> *Room: Rhône 6 (L1)*

11.00 – 12.30 hrs: RT 3: Middle earth: Bringing operation in planning, introducing planning into operation
> *Room: Rhône 3 (L1)*

11.00 – 12.30 hrs: RT 4: SF6 substitution: alternative gases
> *Room: Rhône 6 (L1)*

14.00 – 15.30 hrs: RT 5: Efficiency at component vs system level
> *Room: Rhône 3 (L1)*

14.00 – 15.30 hrs: RT 6: Smart secondary substations
> *Room: Rhône 6 (L1)*

16.00 – 17.30 hrs: RIF session, Session 5: Planning of Power Distribution Systems

> *Room: Rhône 3 (L1)*

0753 An Application of Cluster Reference Grids for an Optimized Grid Simulation
Gerhard Walker, Netze BW GmbH, Stuttgart, Germany; Haiko Nägele, Netze BW GmbH, Stuttgart, Germany; Fabian Kniehl, Netze BW GmbH, Stuttgart, Germany; Alexander Probst, Netze BW GmbH, Stuttgart, Germany; Marc Brunner, University of Stuttgart, Stuttgart, Germany; Stefan Tenbohlen, University of Stuttgart, Stuttgart, Germany

0976 Optimal Location of Measurement Devices in Distribution Grids via Boolean Convex Optimization
George Korres, National Technical University of Athens (NTUA), Athens, Attiki, Greece; Themistoklis Xygkis, National Technical University of Athens (NTUA), Athens, Attiki, Greece; Nikolaos Manousakis, National Technical University of Athens (NTUA), Athens, Attiki, Greece

0312 Optimal Multistage Planning of LV Networks with EV Load Control: Prospective ICT vs. Traditional Asset Reinforcement Investment
Alexandre Dias, INESC ID - INSTITUTO DE ENGENHARIA DE SISTEMAS EM LISBOA, LISBON, Portugal; Luis Silvestre, EDP DISTRIBUICAO ENERGIA SA, LISBON, Portugal; Pedro Almeida, TRACTEBEL ENGINEERING S.A., BRUSSELS, Belgium; Pedro Carvalho, INESC ID - INSTITUTO DE ENGENHARIA DE SISTEMAS EM LISBOA, LISBON, Portugal; Stephane Rapoport, TRACTEBEL ENGINEERING S.A., BRUSSELS, Belgium; Susete Albuquerque, EDP DISTRIBUICAO ENERGIA SA, LISBON, Portugal

0711 Energy consumption and demand estimation from cellular network data: A real world case study
Mario La Rosa, Vodafone Italy, Milan, Italy; Stefano Marzorati, Vodafone Italy, Milan, Italy; Davide Tosi, Università degli Studi dell'Insubria, Varese, Italy; Giovanna Dondossola, RSE Spa, Milan, Italy; Roberta Terruggia, RSE Spa, Milan, Italy; Fasciolo Enrico, A2A Reti Elettriche Spa, Milan, Italy; Fratti Stefano, A2A Reti Elettriche Spa, Milan, Italy

0237 Graph matching for reconciling SCADA and GIS of a distribution network
Bertrand Cornélusse, University of Liège, Liège, Belgium; Amandine Leroux, Tecteo RESA, Liège, Belgium; Mevludin Glavic, University of Liège, Liège, Belgium; Damien Ernst, University of Liège, Liège, Belgium

0680 Clustering of low voltage feeders form a network planning perspective
Michiel Nijhuis, Eindhoven University of Technology, Eindhoven, The Netherlands; Madeleine Gibescu, Eindhoven University of Technology, Eindhoven, The Netherlands; Sjef Cobben, Liander N.V., Arnhem, The Netherlands

16.00 – 17.30 hrs: RIF session, Session 1: Network Components

Data analytics for asset management

> Room: Rhône 6 (L1)

0476 Non-intrusive solution for Power Transformers real time monitoring using an hybrid Park's Vector and model-based approach
José Miguel Pinto, EDP Distribuição, Porto, Portugal; Pedro J. G. Carreira, EDP Distribuição, Porto, Portugal; Pedro Borges Vidal, EDP Distribuição, Porto, Portugal; João Vasco Ferreira, EDP Distribuição, Porto, Portugal; Sérgio M. A. Cruz, Instituto Telecomunicações - Universidade Coimbra, Coimbra, Portugal; Emanuel Marques, Instituto Telecomunicações - Universidade Coimbra, Coimbra, Portugal

0054 Integrated Transformer Fleet Management (Itfm) System
Audrius Ilgevicius, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany; Alexei Babizki, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany

0669 Classification of Distribution Substations by Operational and Environmental Stresses Leading to Failure of Equipment
Pascal Köhn, RWTH Aachen University - Institute for High Voltage Technology, Aachen, Germany; Armin Schnettler, RWTH Aachen University - Institute for High Voltage Technology, Aachen, Germany; Nico Schultze, SAG GmbH, Dortmund, Germany

1522 Essential Strategies for Remaining Lifetime Estimation of MV Cable Systems
Ivana Mladenovic, University of Erlangen-Nuremberg, Erlangen, Germany; Christian Weindl, University of Erlangen-Nuremberg, Erlangen, Germany; Thomas Scharrer, University of Erlangen-Nuremberg, Erlangen, Germany

0199 A Probabilistic Study of the Influencing Factors on Distribution Cable Failures Using Cox Proportional Hazard Model
Chunlin Wang, Suzhou Power Supply Company, Suzhou, China; Zeyang Tang, Wuhan University, Wuhan, China; Liang Zhang, Suzhou Power Supply Company, Suzhou, China; Yong Zheng, Suzhou Power Supply Company, Suzhou, China; Wenjun Zhou, Wuhan University, Wuhan, China; Chengke Zhou, Glasgow Caledonian University, Glasgow, UK

1074 Condition monitoring of electric equipment in railway substation by analyzing maintenance data collected from MICS (Maintenance Information collected System)
akira matsumoto, East Japan Railway Company, Saitama, Japan; shouji uematsu, East Japan Railway Company, Saitama, Japan; hiroshi yamamoto, East Japan Railway Company, Saitama, Japan; motohiko onuki, East Japan Railway Company, Saitama, Japan; shouta ukai, Yokogawa electric Corporation, Tokyo, Japan

9.00 – 17.30 hrs: Poster session, Session 3: Operation, Control & Protection

> Poster area (L-2)

(x) = ***interactive guided tour***

Block 1: Operation

Distribution Management

0070 Transformer Loss Reduction with Varying Substation Load-Generation Profiles (x)
Sarat Chandra Vegunta, S&C Electric Europe Ltd., Swansea, UK; David Hawkins, LIG Consultancy Services LLP, Stafford, UK; Stewart Reid, Southern Electric Power Distribution plc, Reading, UK; Frank Clifton, Southern Electric Power Distribution plc, Reading, UK; Alistair Steele, Southern Electric Power Distribution plc, Reading, UK

0088 The Challenge of Implementing a New Underground Line in a Crowded City
Roberto Silva Vieira, AES Eletropaulo, São Paulo / SP, Brazil; Julio Cesar Ramos Lopes, Inovatec Consultoria e Engenharia, São Paulo / SP, Brazil; Silvestre Gustavo, AES Eletropaulo, São Paulo / SP, Brazil; Altimar Costa Silva, Empreiteira Paulistana, São Paulo / SP, Brazil

0225 Models of CVR Evaluation for Distribution Networks
Amadou Oury BA, IREQ / Hydro-Quebec, Varennes / Quebec, Canada; Georges GABA, IREQ / Hydro-Quebec, Varennes / Quebec, Canada; Adile AJAJA, HQD / Hydro-Quebec Distribution, Montreal / Quebec, Canada; Christian PERREAULT, HQD / Hydro-Quebec Distribution, Montreal / Quebec, Canada

0232 Proactive handling of power failure complaints from consumers (x)
Suhas Dhapare, Tata Power Company, Mumbai, India; Christopher Selvin, Tata Power Company, Mumbai, India; Ramachandran Pillai, Tata Power Company, Mumbai, India

0309 Dynamic Dimensioning of Balancing Power with Flexible Feature Selection (x)
Anja Ohsenbruegge, University Oldenburg, Oldenburg, Germany; Sebastian Lehnhoff, University Oldenburg, Oldenburg, Germany

0354 Dispatch Web Application for Field Operation Support
Tiago Rojão, EDP Distribuição, Lisboa, Portugal; Cláudio Mesquita, EDP Distribuição, Lisboa, Portugal; Jorge Seiça, EDP Distribuição, Lisboa, Portugal; Fernando Oliveira, EDP Distribuição, Lisboa, Portugal; André Paulo, EDP Distribuição, Lisboa, Portugal

0357 Asset Management and Process Dematerialization in EDP, the contribution of the workforce mobility system (WFM) integrated with the geographic information system (GIS) mobile solution
Jorge Seiça, EDP Distribuição, Coimbra, Portugal

0413 Last Generation Reclosers for MV Overhead Lines at EDP Distribuição - Results and Conclusions (x)

João Rosa, EDP Distribuição, Lisbon, Portugal ; Carlos Cândido, EDP Distribuição, Lisbon, Portugal; Fernando; Ramalheira, EDP Distribuição, Lisbon, Portugal; Pedro Terras Marques, EDP Distribuição, Lisbon, Portugal; Rui Fiteiro, EDP Distribuição, Lisbon, Portugal; Miguel Morgado, DNV GL, Lisbon, Portugal; Pedro Gama, EDP Distribuição, Lisbon, Portugal; Albano Leandro, EDP Distribuição, Lisbon, Portugal; Nuno Pires, EDP Distribuição, Lisbon, Portugal; Rui Oliveira, EDP Distribuição, Lisbon, Portugal

0613 A Dynamic Programming based approach to Day-ahead Operational Cost Reduction for DSOs (x)
Bhargav Prasanna Swaminathan, University of Grenoble-Alps, Saint Martin d'Hères, France; Vincent Debusschere, University of Grenoble-Alps, Saint Martin d'Hères, France; Raphaël Caire, University of Grenoble-Alps, Saint Martin d'Hères, France

0677 Reliability data management by means of the standardised FASIT system for data collection and reporting (x)
Gerd Kjølle, SINTEF Energy Research, Trondheim, Norway; Hanne Vefsnmo, SINTEF Energy Research, Trondheim, Norway; Jørn Heggset, Statnett, Oslo, Norway

0706 Evolution of defence plan for electrical system to towards the smart grids (x)
Christian D'Adamo, Enel distribuzione, Rome, Italy, Italy; Luigi D'Orazio, Enel distribuzione, Rome, Italy, Italy; Vito Bufano, Enel distribuzione, Rome, Italy, Italy

0791 EV aggregation models for different charging scenarios (x)
Marina González Vayá, ETH Zürich, Zürich, Switzerland; Luis Baringo, ETH Zürich, Zürich, Switzerland; Thilo Krause, ETH Zürich, Zürich, Switzerland; Göran Andersson, ETH Zürich, Zürich, Switzerland; Pedro Rocha Almeida, Tractebel Engineering, Brussels, Belgium; Stéphane Rapoport, Tractebel Engineering, Brussels, Belgium; Frederik Geth, Tractebel Engineering, Brussels, Belgium

0822 The increase in the power network observability as a data source to improve the efficiency of power network - results of the pilot Smart Grid project (x)
Slawomir Noske, ENERGA-OPERATOR SA, Gdansk, Poland; Dominik Falkowski, ENERGA-OPERATOR SA, Gdansk, Poland; Krzysztof Kolodziejczyk, Globema Sp. z o.o., Warsaw, Poland; Piotr Helt, Warsaw University of Technology, Warsaw, Poland

0911 Advanced standardization in distribution system management and associated information exchange (x)
Thierry Lefebvre, EDF R&D, Clamart, France; Heiko Englert, SIEMENS, Nurnberg, Germany; Eric Lambert, SIEMENS, Nurnberg, Germany

1087 Shape: The Load Prediction and Non-Technical Losses Modules
Diego Labate, Enel Distribuzione SpA, Rome, Italy; Paolo Giubbini, Enel Distribuzione SpA, Rome, Italy; Gianfranco Chicco, Politecnico di Torino, Turin, Italy; Federico Piglione, Politecnico di Torino, Turin, Italy

1233 Preliminary Study on the Hierarchical Demand-Side Integration in China Power Grids
Yi-wei ZHANG, Tsinghua University, Beijing, China; Yong MIN, Tsinghua University, Beijing, China; Ming-tian FAN, China Electric Power Research Institute, Beijing, China; Zu-ping ZHANG, China Electric Power Research Institute, Beijing, China; Chao-jie DING, Tsinghua University, Beijing, China

1329 Scenarios and requirements for the operation of the 2030+ electricity network (x)
Julia Merino, TECNALIA Research & Innovation, Derio, Spain; J. Emilio Rodriguez-Seco, TECNALIA Research & Innovation, Derio, Spain; Chris Caerts, VITO NV, Mol, Belgium; Klaas Visscher, TNO, Groningen, The Netherlands; Reinhilde D'hulst, VITO NV, Mol, Belgium; Evangelos Rikos, CENTRE FOR RENEWABLE ENERGY SOURCES AND SAVING-CRES, Athens, Greece; Armagan Temiz, TUBITAK MRC Energy Institute, Ankara, Turkey

1374 A Goal Programming Approach for Optimal Allocation of Automated Switching Devices in Reliable Smart Grids (x)
Gustavo D. Ferreira, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Daniel S. Gazzana, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Rochele A. Silva, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Arturo S. Bretas, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Arlan Luiz Bettiol, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Antônio Carniato, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Luiz F. do N. Passos, NEO DOMINO

RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Rafael Z. Homma, CELESC DISTRIBUIÇÃO, Florianópolis - Santa Catarina, Brazil; Fernando H. Molina, CELESC DISTRIBUIÇÃO, Florianópolis - Santa Catarina, Brazil

1439 Development of Advanced Distribution Automation functions on an analogical micro distribution network for training (x)
Selle Toure, Grenoble INP, Grenoble, France

1486 A Data Repository for Automated Evaluation of Smart Grid Solutions (x)
Nikos Hatziargyriou, NTUA, Athens, Greece; Aris Dimeas, NTUA, Athens, Greece; Nick Korres, NTUA, Athens, Greece; Filia Dova, NTUA, Athens, Greece; Adamantania Gkavogianni, NTUA, Athens, Greece; Yiannis Vlachos, NTUA, Athens, Greece; Despina Koukoula, NTUA, Athens, Greece; Achileas Tsimitselis, NTUA, Athens, Greece

Condition Assessment /Blackout

0265 Managing Blackout for a Large Industrial Distribution Network (x)
Muhammad Imran Khaliq, Engro Fertilizers Ltd., Daharki, Pakistan; Muhammad Usman Faisal, Engro PowerGen Ltd., Karachi, Pakistan

0282 Integrated Monitoring System for Distribution Substations (x)
Hugo Pereira, EDP Distribuição, Vila Nova de Gaia, Portugal; Magalhães Alves, EDP Distribuição, Coimbra, Portugal; Pedro Carreira, EDP Distribuição, Coimbra, Portugal; Luís Maricato, ISR Universidade Coimbra, Coimbra, Portugal; Ricardo Faria, ISR Universidade Coimbra, Coimbra, Portugal; João Faro, ISR Universidade Coimbra, Coimbra, Portugal; Jorge Baptista, ISR Universidade Coimbra, Coimbra, Portugal; Aníbal Almeida, ISR Universidade Coimbra, Coimbra, Portugal

0308 Simulator for training of outage crews (x)
Johan Morren, Enexis B.V.,'s-Hertogenbosch, The Netherlands; Berto Jansen, Phase to Phase, Arnhem, The Netherlands

0346 Organizational flexibility for extreme scenarios effectiveness (EDP Distribuição) (x)
Pedro Terras Marques, EDP Distribuição, Lisboa, Portugal

0603 An advanced model of distribution grids with renewable generation for transmission system security assessment (x)
Soenke Loitz, University of Kaiserslautern, Kaiserslautern, Germany; Hendrik Acker, University of Kaiserslautern, Kaiserslautern, Germany; Wolfram H. Wellssow, University of Kaiserslautern, Kaiserslautern, Germany; Thomas Kuhn, Netze BW GmbH, Stuttgart, Germany

0648 Preventive Maintenance Technologies for Power Transformers in Alexandria Electricity Distribution Company (x)
Amani Attia, Alexandria Electricity Distribution Company, Alexandria, Egypt; Samir Abd El Meneem, Alexandria Electricity Distribution Company, Alexandria, Egypt

0664 Practical Experience of a Partial Discharge Monitoring Application on an Experimentation MV Distribution Network (x)
Ian Gilbert, Ormazabal Corporate Technology, Amorebieta, Bizkaia, Spain; Patrick Mulroy, Ormazabal Corporate Technology, Amorebieta, Bizkaia, Spain; Aritz Hurtado, Ormazabal Corporate Technology, Amorebieta, Bizkaia, Spain; Nabil Akroud, Ormazabal Corporate Technology, Amorebieta, Bizkaia, Spain; Iñaki Orue, Ormazabal Corporate Technology, Amorebieta, Bizkaia, Spain

0815 Robust method to evaluate cost-benefit from preventive maintenance actions using historical data and an optimization algorithm (x)
Renan Bergonsi Muller, Daimon Engineering and Systems, São Paulo, SP, Brazil; Elcio Franklin de Arruda, Daimon Engineering and Systems, São Paulo, SP, Brazil; Fernando Locks Lange, Daimon Engineering and Systems, São Paulo, SP, Brazil; Carlos César Barioni de Oliveira, Daimon Engineering and Systems, São Paulo, SP, Brazil; Rafael Zimmermann Homma, Centrais Elétricas de Santa Catarina - Celesc, Florianópolis, SC, Brazil; Bruno Rafael Dreher, Centrais Elétricas de Santa Catarina - Celesc, Florianópolis, SC, Brazil; Ricardo Haus Guembarovski, Centrais Elétricas de Santa Catarina - Celesc, Florianópolis, SC, Brazil

1030 Asset Management Decision Intelligence based on the Condition (Risk) Importance Method with Dynamic Weighing Factors (x)
Joze Bizjak, IPS - Intelligent Process Solutions GmbH, Pullach(Munich)|Bavaria|, Germany; Zeljko Schreiner, IPS - Intelligent Process Solutions GmbH, Pullach(Munich)|Bavaria|, Germany; Ivan Petkoski, IPS - Intelligent Process Solutions GmbH, Pullach(Munich)|Bavaria|, Germany; Peter Osredkar, Elektro Ljubljana d.d., Ljubljana, Slovenia

1123 Demonstration of the Inter-Organizational Situation Awareness System to Major Disturbances (x)
Heidi Krohns-Välimäki, Tampere University of Technology, Tampere, Finland; Jussi Haapanen, Tampere University of Technology, Tampere, Finland; Hanna Aalto, Tampere University of Technology, Tampere, Finland; Janne Strandén, Tampere University of Technology, Tampere, Finland; Pekka Verho, Tampere University of Technology, Tampere, Finland

1276 Inspection of high voltage overhead power lines with UAV's (x)
Malcolm Malveiro, CME - Construção e Manutenção Electromecânica, SA, Oeiras, Lisboa, Portugal; Rui Martins, CME - Construção e Manutenção Electromecânica, SA, Oeiras, Lisboa, Portugal; Rui Carvalho, CME - Construção e Manutenção Electromecânica, SA, Oeiras, Lisboa, Portugal

1626 10kV XLPE cable ampacity improvement research in Guangzhou area (x)
Zhixin SUO, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China; Guopei Wu, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China; Jian Chen, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China; Le LUAN, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China

Block 2: Control 2

Medium-Voltage Automation

0029 Tap changer position determination using new algorithm and possibilities of intelligent electronic devices (x)
Sinisa Spremic, EPS-P.D. Elektrovojvodina, Novi Sad, Serbia; Mileta Sentin, EPS-P.D. Elektrovojvodina, Novi Sad, Serbia; Dusan Petrovic, EPS-P.D. Elektrovojvodina, Novi Sad, Serbia; Zoran Ristanovic, Energotehnika Juzna Backa, Novi Sad, Serbia

0184 The German large scale demonstration project inside GRID4EU: Challenges of an autonomous Medium Voltage control system (x)
Lars Jendernalik, Westnetz GmbH, Dortmund, Germany; Thomas Wiedemann, RWE Deutschland AG, Essen, Germany; Peter Noglik, ABB AG, Mannheim, Germany; Anton Shapovalov, TU Dortmund, Dortmund, Germany

0512 Uncontrolled Reactive Power Flow Due to Local Control of Distributed Generators (x)
Albana ILO, Vienna University of Technology, Vienna, Austria; Wolfgang GAWLIK, Vienna University of Technology, Vienna, Austria; Walter SCHAFFER, Salzburg Netz GmbH, Salzburg, Austria; Roland EICHLER, Siemens AG, Nürnberg, Germany

0560 Field test results of SVR operations based on measurement data for local voltage regulation on MV feeder with wind turbines (x)
Seong-Soo Cho, KEPCO Research Institute, Daejeon, Republic of Korea; Hyun-Koo Kang, KEPCO Research Institute, Daejeon, Republic of Korea; Won-Wook Jung, KEPCO Research Institute, Daejeon, Republic of Korea; Seon-Ju Ahn, Chonnam National Univ., Gwangju, Republic of Korea; Joon-Ho Choi, Chonnam National Univ., Gwangju, Republic of Korea

0712 Voltage Control Strategy in weak distribution networks with Hybrids Generation Systems (x)
Marcelo Cassin, EPE Santa Fe, Rosario, Santa Fe, Argentina

0924 Ensuring the Correct Operation of Distribution Automation Systems (x)
Alexander Apostolov, OMICRON electronics, Los Angeles, CA, USA

0936 Experience with Self-Healing Grids (x)
Serge Kabunda, S&C Electric Europe Ltd, Manchester, UK; Mike Meisinger, IEEE, Chicago, Illinois, United States Minor Outlying Islands; Chen Bo, S&C Electric, Suzhou, China

1071 Safe, simple and fast commissioning of smart devices for MV and LV networks using new support tools (x)
Filipe Campos, EFACEC, Porto, Portugal; António Leitão, EDP Distribuição, Lisboa, Portugal; Carlos Mota Pinto, EDP Distribuição, Lisboa, Portugal; Pedro Manuel Nunes, EDP Distribuição, Lisboa, Portugal; Paulo Viegas, EFACEC, Porto, Portugal

1323 Control and Automation Systems for Electricity Distribution Networks of the Future – An Update on the activities of Joint Working Group CIGRE C6.25/ B5 /CIRED
Giuseppe Mauri, RSE, Milan, Italy; Fabrizio Pilo, University of Cagliari, Cagliari, Italy; Federico Silvestro, University of Genova, Genova, Italy; Samuel Jupe, Nortech Management Ltd, Pershore, UK; Sinead Hanlon, UK Power Network, London, UK

1343 Substation-Based Self-Healing Solution with Advanced Features for Control and Monitoring of Distribution Systems (x)
Daniel Perez Duarte, Sinapsis Inovação em Energia, São Paulo, Brazil; João Carlos Guaraldo, Sinapsis Inovação em Energia, São Paulo, Brazil; Henrique Kagan, Sinapsis Inovação em Energia, São Paulo, Brazil; Bruno Nakata, Sinapsis Inovação em Energia, São Paulo, Brazil; Paulo Cesar Pranskevicius, AES Eletropaulo Metropolitana, São Paulo, Brazil; Argeu Suematsu, AES Eletropaulo Metropolitana, São Paulo, Brazil; Marcel Martinelli, AES Eletropaulo Metropolitana, São Paulo, Brazil; Mayra Sayumi Hoshina, AES Eletropaulo Metropolitana, São Paulo, Brazil

1411 DER and load allocation for an unbalanced distribution networks state estimator (x)
Gil Sampaio, INESC TEC, Porto, Portugal; Carolina Janeiro, INESC TEC, Porto, Portugal; Jorge Pereira, INESC TEC, Porto, Portugal; Luís Seca, INESC TEC, Porto, Portugal; Paulo Viegas, EFACEC, Porto, Portugal; Nuno Silva, EFACEC, Porto, Portugal; Alberto Rodrigues, EFACEC, Porto, Portugal

1509 Research on Coordinate Voltage Control Strategy of Active Distribution Network (x)
Fei Chen, Shanghai Jiao Tong University, Shanghai, China; Dong Liu, Shanghai Jiao Tong University, Shanghai, China; Qingsheng Li, China Southern Power Grid, Guizhou, China

1510 Application of Distribution System State Estimation on Engineering Instrumentation Zones of Low Carbon London (x)
Jelena Dragovic, Imperial College London, London, UK; Danny Pudjianto, Imperial College London, London, UK; Predrag Djapic, Imperial College London, London, UK; Mark J. Bilton, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK

1529 Fuzzy State Estimation Applied to Smart Distribution Network Automation Functions (x)
Rafael Pavão, PowerSysLab, Porto Alegre, Brazil; Tiago Santos, PowerSysLab, Porto Alegre, Brazil; Flavio Lemos, UFRGS, Porto Alegre, Brazil; Rafael Homma, CELESC, Florianópolis, Brazil; Rodrigo Chumbinho, CELESC, Florianópolis, Brazil; Igor Khairalla, CELESC, Florianópolis, Brazil

1565 Distribution Control Center Emulator for Advanced Distributed Automation Tests (x)
Miguel Hernandez, Universidad de los Andes, Bogota, Colombia ; Gustavo Ramos, Universidad de los Andes, Bogota, Colombia

Low-Voltage Automation

0053 Apparent power dependent voltage control in the LV grids with distributed generation using on-load tap-changer transformers
Haijun Feng, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany; Alexei Babizki, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany

0111 Influence of Virtual Impedance Design and Current Limitation on the Synchronization of Droop Controlled Inverters in Low Voltage Distribution System Islands with High R/X Ratio
Tilman Wippenbeck, RWTH Aachen University, Aachen, Germany; Reinhold Bertram, RWTH Aachen University, Aachen, Germany; Armin Schnettler, RWTH Aachen University, Aachen, Germany

0301 Impact of three-phase pseudo-measurement generation from Smart Meter Data on Distribution Grid State Estimation
Moritz Cramer, RWTH Aachen University, Aachen, Germany; Philipp Goergens, RWTH Aachen University, Aachen, Germany; Fabian Potratz, RWTH Aachen University, Aachen, Germany; Armin Schnettler, RWTH Aachen University, Aachen, Germany; Stefan Willing, RWE Deutschland AG, Essen, Germany

0694 Enel Smart infrastructure for the Remote Control and Automation of LV Grid (x)
Alessio Moscuzza, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Domenico Richhiuto, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Giovanni Rizzello, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Simone Tegas, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Gianpatrizio Bianco, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy

0755 Distributed Intelligence on LV Networks - Proof of Concept Project RTTR at Hook Norton (x)
Russell Clayman, Locamation, Enschede, The Netherlands; Tim Butler, EA Technology Ltd, Capenhurst, UK; Ben Godfrey, Western Power Distribution, Londond, UK

0823 FACTS Based Suppressing Techniques & Device of Three-phase Unbalanced Overvoltage for Distribution Networks
Luo Ttaotao, Changsha University of Science and Technology, Changsha city in Hunan Province, China; Zeng Xiangjun, Changsha University of Science and Technology, Changsha city in Hunan Province, China; Wang Wen, Changsha University of Science and Technology, Changsha city in Hunan Province, China; Deng Feng, Changsha University of Science and Technology, Changsha city in Hunan Province, China; Huang Mingwei, Changsha University of Science and Technology, Changsha city in Hunan Province, China; Yang Rui, Changsha University of Science and Technology, Changsha city in Hunan Province, China

0930 State Estimation in Low Voltage Grids based on Smart Meter Data and Photovoltaic-Feed-In-Forecast (x)
Dominik Waeresch, Technical University of Kaiserslautern, Kaiserslautern, Germany; Robert Brandalik, Technical University of Kaiserslautern, Kaiserslautern, Germany; Wolfram H. Wellssow, Technical University of Kaiserslautern, Kaiserslautern, Germany; Rolf Bischler, Stadtwerke Kaiserslautern Versorgungs-AG, Kaiserslautern, Germany; Nelia Schneider, Stadtwerke Kaiserslautern Versorgungs-AG, Kaiserslautern, Germany; Jörn Jordan, IDS GmbH, Ettlingen, Germany

1007 Flexible LV Network Interface for Dynamic Power Flow and Voltage Control (x)
Yin Sun, Technical University Eindhoven, Eindhoven, Noord Brabant, The Netherlands; Alexander Yanushkevich, DNV GL, Arnhem, Gelderland, The Netherlands; Erik de Jong, DNV GL, Arnhem, Gelderland, The Netherlands; Sjef Cobben, Technical University Eindhoven, Eindhoven, Noord Brabant, The Netherlands

1029 Requirements of State Estimation in Smart Distribution Grid (x)
Anggoro Primadianto, National Sun Yat-sen University, Kaohsiung, Taiwan; Wei Ting Lin, National Sun Yat-sen University, Kaohsiung, Taiwan; Ta Wei Huang, National Sun Yat-sen University, Kaohsiung, Taiwan; Chan Nan Lu, National Sun Yat-sen University, Kaohsiung, Taiwan

1045 LV4MV: a concept for Optimal Power Flow management in distribution grids, using DER flexibility (x)
Emmanuelle Vanet, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Gaspard Lebel, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Raphaël Caire, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Nouredine Hadjsaid, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Stéphane Bediou, Schneider Electric, F-38000 Grenoble, France; Alain Glatigny, Schneider Electric, F-38000 Grenoble, France

1070 GridBox - An open platform for monitoring and active control of distribution grids (x)
Marco Mangani, ewz, Zurich, Switzerland; Florian Kienzle, ewz, Zurich, Switzerland; Marc Eisenreich, BKW, Bern, Switzerland; Yamshid Farhat, BKW, Bern, Switzerland; Rainer Bacher, Bacher Energie, Baden, Switzerland; Alain Brenzikofer, SCS, Zurich, Switzerland

1259 No Smart Mv/Lv Station without a Smart Approach (x)
Elise Morskieft, Eaton Industries BV, Hengelo, The Netherlands; Gerrit Scharrenberg, Rendo, Meppel, The Netherlands; Felix Janssen, Reewoud Energietechniek BV, Apeldoorn, The Netherlands; Adriaan van der

Schaar, Eleq BV, Steenwijk, The Netherlands; Alex van de Schootbrugge, Eaton Industries BV, Hengelo, The Netherlands

1300 Guide to Estimate Benefits from Smart Grid Applications - FLISR and VVO
Clay tutaj, DNV GL, Raleigh, North Carolina, USA; Frederic Dubois, DNV GL, Raleigh, North Carolina, USA; Georges Simard, CEATI International, Montreal, Quebec, Canada; Robyn Pascal, CEATI International, Montreal, Quebec, Canada

1325 A Future proof architecture for Smart Grid and Smart Metering (x)
Larry Colton, OSGP Alliance, Amersfoort, The Netherlands; Mark Ossel, OSGP Alliance, Amersfoort, The Netherlands; Harry Crijns, OSGP Alliance, Amersfoort, The Netherlands

1328 A step beyond French demonstrators: first approach in terms of Smart Grid solutions industrial development. The example of voltage regulation solutions tested in Venteea demonstrator (x)
Laurent KARSENTI, ERDF, Paris, France ; Philippe DAGUZAN, ERDF, Paris, France ; Didier COLIN, ERDF, Paris, France ; Olivier CARRE, ERDF, Paris, France

1546 Inverter Integration to Grid: Voltage control strategies for grid integration of Distributed Energy Resources (x)
Dominique Roggo, HES-SO Valais, Sion, Switzerland ; Pierre-Olivier Moix, HES-SO Valais, Sion, Switzerland ; Dominique Gabioud, HES-SO Valais, Sion, Switzerland

Block 3: Control 1

SCADA / Communication

0004 Integration of Lightning Strike Information into SCADA and OMS to indicate or verify Faults on Overhead Lines (x)
Robert Schmaranz, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Martin Slamanig, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Leo Fiedler, NOÖ-Netz Oberösterreich GmbH, Linz, Austria; Reinhard Iskra, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Arvin Heidarian, Siemens AG Österreich, Wien, Austria; Dietmar Allhuter, Siemens AG Österreich, Wien, Austria

0150 Network technical losses precise evaluation using distribution management system and accurate network data (x)
Gianluca Sapienza, Enel Distribuzione SpA, Milano, Italy; Christian Noce, Enel Distribuzione SpA, Roma, Italy; Giovanni Valvo, Enel Distribuzione SpA, Milano, Italy

0224 Feedback on Installed Experience with Fully-Digital Substations (x)
Simon Richards, Alstom Grid, Stafford, UK; Andreas Procopiou, Alstom Grid, Montpellier, France; Abraham Varghese, Alstom Grid, Stafford, UK

0351 Adapting OMS System to deal with storms data in real time (x)
André Paulo, EDP Distribuição, Lisbon, Portugal; Cláudio Mesquita, EDP Distribuição, Lisbon, Portugal; Luís Santos, CGI, Lisbon, Portugal; Nuno Santos, CGI, Lisbon, Portugal; Tiago Rojão, EDP Distribuição, Lisbon, Portugal

0387 Getting real-time fault location information from multi-vendor legacy protection systems (x)
Miguel Louro, EDP Distribuição, Lisboa, Portugal; Carlos Fortunato, EDP Distribuição, Lisboa, Portugal; Bernardo Almeida, EDP Distribuição, Lisboa, Portugal; Miguel Veríssimo, EDP Distribuição, Lisboa, Portugal; Luís Pinto Pereira, QEnergia, Lisboa, Portugal; Fernando Pimenta, QEnergia, Lisboa, Portugal

0482 Integration of IT and OT systems: an efficient data sharing between SCADA_DMS, GIS and Enterprise Applications (x)
Daniel GEORGES, Atos Worldgrid, Grenoble, France; Arnoud BIFRARE, Romande Energie, Morges, Switzerland; David MARET, Romande Energie, Morges, Switzerland; Alexis COUTAREL, Atos Worldgrid, Grenoble, France; Thomas FILIPETTO, Romande Energie, Morges, Switzerland

0541 Management of SLA parameters in ICT networks for Smart Grids (x)
Peter Ceferin, Smart Com, Ljubljana, Slovenia; Zvonko Toros, Elektro Primorska, Nova Gorica, Slovenia; Rasto Djukic, Smart Com, Ljubljana, Slovenia; Igor Stih, Smart Com, Ljubljana, Slovenia; Alexander van Wonderen, AimValley, B.V., Hilversum, The Netherlands; Brane Zupan, Smart Com, Ljubljana, Slovenia

0556 Research of Smart Distribution Network Big Data Model (x)
Guangyi Liu, China Electric Power Research Institute, Beijing, China; Yang Yu, Stanford University, Stanford, California, USA; Feng Gao, Smart Grid Research Institute, North America, Santa Clara, California, USA; Wendong Zhu, Smart Grid Research Institute, North America, Santa Clara, California, USA

0557 Handling Cyber security updates for protection and control IEDs in substation during product's life cycle
Sukumara T, ABB GISL Ltd, Bangalore, India; Eashwar R Kumar, ABB GISL Ltd, Bangalore, India; Niko Lehtonen, ABB Oy, Vaasa, Finland; Janne Starck, ABB Oy, Vaasa, Finland; Fabrizio Commuzzi, ABB AG, Baden, India

0925 Standards Based Engineering of Distribution Protection, Automation and Control Systems (x)
Alexander Apostolov, OMICRON electronics, Los Angeles, CA, USA

1049 Towards Open Distributed Feeder Automation Systems (x)
Rogério Paulo, Efacec, Porto, Portugal ; Rui Jorge, Efacec, Lisboa, Portugal

1291 BPL pilot: measurements and analysis (x)
Wim Foubert, Laborelec, Linkebeek, Belgium; Dries Lemmens, Laborelec, Linkebeek, Belgium; Rafael Jahn, Laborelec, Linkebeek, Belgium; Pol-Kumar Cuvelier, Sibelga, Brussels, Belgium

1334 LV SCADA - How to effectively manage LV networks with limited topology and electrical characteristics data (x)
Nuno Silva, EFACEC, Porto, Portugal; Pedro Silva, EFACEC, Porto, Portugal; Luis Seca, INESC TEC, Porto, Portugal; André Madureira, INESC TEC, Porto, Portugal; Jorge Pereira, INESC TEC, Porto, Portugal; Francisco Melo, EDP Distribuição, Lisbon, Portugal

1431 Framework for Process Bus Reliability Analysis (x)
Carlos Dutra, Alstom Grid, Florianópolis, SC, Brazil; Lucas B. de Oliveira, Alstom Grid, Florianópolis, SC, Brazil; Sérgio Zimath, Alstom Grid, Florianópolis, SC, Brazil

1550 Control Center Transformation to Enable Virtual Power Plant in Sweden (x)
Annelie Jenaker, ABB, Vasteras, Sweden; Peter Sigenstam, E.ON Sverige AB, Malmö, Sweden; Rui Silva, ABB, Paço de Arcos, Portugal

1570 Fast alarm processing without connectivity information (x)
Adriano Lisboa, ENACOM Handcrafted Technologeis, Belo Horizonte/ MG, Brazil; Ezequiel Pereira, Cemig Distribution, Belo Horizonte/ MG, Brazil; Douglas Vieira, ENACOM Handcrafted Technologeis, Belo Horizonte/ MG, Brazil

HV-Voltage Automation / Islanding

0185 Online Closed-Loop Optimization of Distribution Networkswithout Verification of Dispatcher (x)
Vlado Kubic, CEZ Distribution, a. s., 405 02 Decin, Teplicka 8, Czech Republic; David Vrchovsky, CEZ Distribution, a. s., 405 02 Decin, Teplicka 8, Czech Republic; Vit Mach-Zizka, Elektrosystem, a. s., 60 200 Brno, Bratislavska 863, Czech Republic

0294 Islanding operation technology integurated with multiple power supplies (x)
Jun Yoshinaga, Waseda University, Tokyo, Japan; Wataru Hirohashi, Waseda University, Tokyo, Japan; Yasuhiro Hayashi, Waseda University, Tokyo, Japan; Yasuhito Isoe, NEC Corporation, Kawasaki, Japan Jiro Miyake, Tokyo Gas Co., Ltd., Tokyo, Japan; Shizuo Tsuchiya, Denso Co., Ltd, Kariya, Japan

0480 Advanced Vector Shift Algorithm for Islanding Detection (x)
Murali Kandakatla, ABB Global Industries Services Limited, Banagalore,Karnataka, India; Hannu Laaksonen, ABB Oy, Vaasa, Finland; Sudheer Bonela, ABB Global Industries Services Limited, Banagalore,Karnataka, India

0576 Benefits of phasor measurement units for distribution grid state estimation: practical results from an urban demonstrator (x)
Stijn Uytterhoeven, Laborelec, Linkebeek, Brussels, Belgium; Koen Hoornaert, Laborelec, Linkebeek, Brussels, Belgium; Dirk Willems, Sibelga, Brussels, Belgium

0699 Risk of uncontrolled islanding on active distribution networks: short-term countermeasures taken by Enel Distribuzione (x)
Vito Bufano, Enel Distribuzione, Rome, Italy; Nicola Cammalleri, Enel Distribuzione, Rome, Italy; Alberto Cerretti, Enel Distribuzione, Rome, Italy; Christian D'Adamo, Enel Distribuzione, Rome, Italy; Luigi D'Orazio, Enel Distribuzione, Rome, Italy; Cristiano Pezzato, Enel Distribuzione, Rome, Italy; Ettore De Berardinis, CESI, Milan, Italy

0705 Impact of new European Grid codes requirements on anti-islanding protections: a case study (x)
Julien Bruschi, G2ELab, St Martin d'Hères, France ; Florent Cadoux, G2ELab, St Martin d'Hères, France ; Bertrand Raison, G2ELab, St Martin d'Hères, France ; Yvon Bésanger, G2ELab, St Martin d'Hères, France ; Sébastien Grenard, ERDF, Paris, France

0773 Adaptive Weighted Least Squares-Based Algorithm to Estimate Synchronized Measurements over Wide Frequency Range (x)
Rishabh Bhandia, G2Elab Laboratory, Grenoble, Rhone-Alpes, France; Rodrigo Albuquerque, G2Elab Laboratory, Grenoble, Rhone-Alpes, France; Raphael Caire, G2Elab Laboratory, Grenoble, Rhone-Alpes, France; Nouredine HadjSaïd, G2Elab Laboratory, Grenoble, Rhone-Alpes, France; Damien Picault, G2Elab Laboratory, Grenoble, Rhone-Alpes, France

0812 Implementation of Phasor Measurement Units in Distribution Systems (x)
Robert Schmaranz, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Siegfried Gebhard, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Stephan Brandl, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Herwig Renner, Graz University of Technology, Graz, Austria

0972 Islanding of Distribution Networks - Case Study (x)
Dorel Stanescu, FDEE ELECTRICA Distributie Transilvania Sud S.A., Brasov, Romania ; Neculai Stanciu, FDEE ELECTRICA Distributie Transilvania Sud S.A., Brasov, Romania ; Mihaela Albu, Universitatea Politehnica, Bucuresti, Romania ; Ion Dobre, FDEE ELECTRICA Distributie Transilvania Sud S.A., Brasov, Romania

1011 Prevention of islanding in distribution network with distributed sources
Mario Zadro, HEP-Distribution System Operator, Osijek, Croatia; Nino Vrandečić, HEP-Distribution System Operator, Osijek, Croatia

1046 Application of PMUs for monitoring a 50 kV distribution grid
Gert Rietveld, VSL, Delft, The Netherlands; Arjen Jongepier, DELTA Network Group, Goes, The Netherlands; Joeri Van Seters, DELTA Network Group, Goes, The Netherlands; Marco Visser, DELTA Network Group, Goes, The Netherlands; Pei Liu, VSL, Delft, The Netherlands; Milos Acanski, VSL, Delft, The Netherlands; Dennis Hoogenboom, VSL, Delft, The Netherlands; Helko Van den Brom, VSL, Delft, The Netherlands

Block 4: Protection

Application / Fault Ride Through

0009 DG Transfer Connection Scheme in Active Distribution Networks (x)
Abdelrahman Akila, South Delta for Electricity Distribution, Tanta, Al-gharbiyah, Egypt; Ahmed Helal, Arab Academy for Scince and Technology and Maritime Transport, Abu-Qir, Alexandria, Egypt; Hussien Eldesouki, Arab Academy for Scince and Technology and Maritime Transport, Abu-Qir, Alexandria, Egypt

0214 Grid Code Compatible Protection Scheme for Smart Grids (x)
Hannu Laaksonen, ABB Oy, Vaasa, Finland

0245 Development of single-phase recloser for medium voltage protection
CARLOS GABRIEL BIANCHIN, INSTITUTOS LACTEC, CURITIBA, Brazil; ELIANE SILVA CUSTÓDIO, INSTITUTOS LACTEC, CURITIBA, Brazil; FABIANO FERRONATO, INSTITUTOS LACTEC, CURITIBA, Brazil; TIAGO FRANCESCONI, INSTITUTOS LACTEC, CURITIBA, Brazil; PAULO CESAR ARPINI, ELFSM, COLATINA, Brazil

0291 Protective Devices Optimal Placement in Distribution Networks Considering DGs
Khaled Abdel Aty, Ain Shams University, Cairo, Egypt; Said Fouad, Ain Shams University, Cairo, Egypt; Hossam Talaat, Ain Shams University, Cairo, Egypt; Ahmed Abuzaid, North Cairo Electrical Distribution Company, Cairo, Egypt

0316 Protection Performance Assessment of a Municipal Medium-Voltage Distribution System (x)
André Nitschke, Stadtwerke Münster, Münster, Germany; Christian Blug, SIEMENS AG, Erlangen, Germany; Thomas Bopp, SIEMENS AG, Erlangen, Germany

0389 The Portuguese Grid under-frequency load shedding (UFLS) plan - The DSO role (x)
Ricardo Azevedo, EDP Distribuição, Porto, Portugal; Ana Carina Morais, EDP Distribuição, Porto, Portugal; Miguel Louro, EDP Distribuição, Porto, Portugal; Alberto Pinto, EDP Distribuição, Porto, Portugal; Carlos Cura, EDP Distribuição, Porto, Portugal

0708 Implementation and first operation results of the MV loop scheme (x)
Luigi D'Orazio, Enel Distribuzione, Rome, Italy, Italy; Roberto Calone, Enel Distribuzione, Rome, Italy, Italy; Elio Giannone, Enel Distribuzione, Rome, Italy, Italy; Pietro Paulon, Enel Distribuzione, Rome, Italy, Italy

0723 Personal protection against electric arc flash in distribution systems, by selecting the right high breaking capacity fuse (x)
Juan C. GOMEZ, National University of Rio Cuarto, Rio Cuarto/Cordoba, Argentina; Juan C. AMATTI, National University of Rio Cuarto, Rio Cuarto/Cordoba, Argentina; Medhat M. MORCOS, Kansas State University, Manhattan, Kansas, USA; German ZAMANILLO, National University of Rio Cuarto, Rio Cuarto/Cordoba, Argentina; Daniel TOURN, National University of Rio Cuarto, Rio Cuarto/Cordoba, Argentina

0906 A communication based protection system for solving DG related protection challenges (x)
Ontrei Raipala, Tampere Universitiy of technology, Tampere, Finland

1391 Relevance of High-Voltage-Ride-Through Capability and Testing (x)
Julian Langstädtler, FGH GmbH, Aachen, Germany; Martin Schellschmidt, ENERCON GmbH, Aurich, Germany; Jan Scheffer, FGH e.V., Mannheim, Germany; Christoph Kahlen, FGH e.V., Mannheim, Germany; Bernhard Schowe-von der Brelie, FGH GmbH, Aachen, Germany; Simon Schrobsdorff, ENERCON GmbH, Aurich, Germany

1494 Protection Functions Implemented in Configurable Hardware: A Paradigm Shift (x)
Raphael Silva, Alstom Grid, Florianopolis, SC, Brazil; Lucas B. de Oliveira, Alstom Grid, Florianopolis, SC, Brazil; Carlos Dutra, Alstom Grid, Florianopolis, SC, Brazil; Sergio Zimath, Alstom Grid, Florianopolis, SC, Brazil

1523 Experimental issues of overvoltage coordination (x)
Balint Nemeth, Budapest University of Technology and Economics, Budapest, Hungary; Istvan Berta, Budapest University of Technology and Economics, Budapest, Hungary; Gabor Gocsei, Budapest University of Technology and Economics, Budapest, Hungary; Richard Cselko, Budapest University of Technology and Economics, Budapest, Hungary

1133 Influence of LVRT Test Equipment Characteristics on the Dynamic Performance of a Power Generation Unit (x)
Norbert Essl, Graz University of Technology, Graz, Austria; Herwig Renner, Graz University of Technology, Graz, Austria

Protection, Fault Location / Simulation

0044 Assessment of Logic Algorithms for Faulted Phase Earthing Protection Relays on 10kV Networks (x)
Anthony Chabrol, ESB International, Dublin, Ireland; Stephen Hunt, ESB International, Dublin, Ireland

0448 A method for the correct protection response during power system faults subjected to the Bauch's paradox phenomenon (x)
Cezary Dzienis, Siemens AG, Berlin, Germany; Matthias Kereit, Siemens AG, Berlin, Germany; Joerg Blumschein, Siemens AG, Berlin, Germany; Gustav Steynberg, Siemens AG, Nurnberg, Germany; Michael Claus, Siemens AG, Nurnberg, Germany

0649 Fault Test in MV network operated in "Loop Mode". Comparison between Simulated Results (obtained by RTDS) and several Real Field Results.
Giovanni Valvo, Enel Distribuzione, Milan, Italy

0676 Design & Analysis of an Improved Fault Localization Scheme for Secondary Substation Automation (x)
Daniel Schacht, FGH e.V., Mannheim, Germany; Gonca Gürses, FGH e.V., Mannheim, Germany; Hendrik Vennegeerts, FGH e.V., Mannheim, Germany; Björn Keune, TU Dortmund University, Dortmund, Germany; Manuel Greulich, ABB AG, Mannheim, Germany; Robert Frings, INFRAWEST GmbH, Aachen, Germany

0688 Adaptive Line Differential Protection Enhanced by Phase Angle Information (x)
Youyi Li, ABB Corporate Research, Vasteras, Vastmanland, Sweden; Jianping Wang, ABB Corporate Research, Vasteras, Vastmanland, Sweden; Kai Liu, ABB Corporate Research, Beijing, China; Ivo Brncic, ABB Substation Automation Products, Vasteras, Vastmanland, Sweden; Zhanpeng Shi, ABB Substation Automation Products, Vasteras, Vastmanland, Sweden

0785 Detection of High Impedance Fault in Distribution Systems: Adaptive Approach Considering Noising Environment in a Real Application (x)
Renato Ferraz, UFRGS, Porto Alegre, Rio Grande do Sul, Brazil; Leonardo Iurinic, UFRGS, Porto Alegre, Rio Grande do Sul, Brazil; Arturo Suman Bretas, UFRGS, Porto Alegre, Rio Grande do Sul, Brazil; Arlan Luiz Bettiol, NEO DOMINO, Florianópolis, Santa Catarina, Brazil; Antônio Carniato, NEO DOMINO, Florianópolis, Santa Catarina, Brazil; Luis Fernando do Nascimento Passos, NEO DOMINO, Florianópolis, Santa Catarina, Brazil; Igor Kursancew Khairalla, CELESC, Florianópolis, Santa Catarina, Brazil; Rafael Zimmermann Homma, CELESC, Florianópolis, Santa Catarina, Brazil; Fernando Hidalgo Molina, CELESC, Florianópolis, Santa Catarina, Brazil

0963 Wattmetric Earth Fault Protection – Innovation for Compensated Distribution Networks (x)
Frederic PITOT, ALSTOM Grid, Montpellier, France; Krishnakumar VENKATARAMAN, Alstom Grid, UK; Chee Pinp TEOH, Alstom Grid, UK

1042 Post-fault oscillation phenomenon in compensated MV-networks challenges earth-fault protection (x)
Ari Wahlroos, ABB Oy, Vaasa, Finland; Janne Altonen, ABB Oy, Vaasa, Finland; Hanna-Mari Pekkala, Elenia Oy, Tampere, Finland

1290 New fault location method for up-to-date and upcoming distribution networks (x)
Marta Abad, Universidad de Zaragoza, Zaragoza, Spain; Samuel Borroy, CIRCE, Zaragoza, Spain; Diego López, 4FORES, Zaragoza, Spain; Nabil El Halabi, Saudi Aramco, Dhahran, Saudi Arabia; Miguel García-Gracia, CIRCE, Zaragoza, Spain

1305 Performance of directional relays using SVM classification with Double-Line-to-Ground faults (x)
Trung Dung Le, Supélec, Gif-sur-Yvette, France ; Marc Petit, Supélec, Gif-sur-Yvette, France

1409 Distribution protection relay software models in interaction with power system simulators (x)
Ivan Goran Kulis, Koncar-KET, Zagreb, Croatia; Minea Skok, EIHP, Zagreb, Croatia

1450 Advantages of the new Combination: Petersen-Coil and Faulty-Phase-Earthing (x)
Gernot Druml, Trench Austria GmbH, Linz, Austria; Michael Schlömmer, Trench Austria GmbH, Linz, Austria; Lothar Fickert, Graz University of Technology, Graz, Austria; Peter Schegner, Dresden University of Technology, Dresden, Germany

9.00 – 17:30 hrs: Poster session, Session 4: Distributed Energy Resources & Active Demand Integration

> Poster area (L-2)

(x) = *interactive guided tour*

Block 1: Active Demand

0099 Optimal use of demand response potentials in medium-sized industry using dynamic electricity tariffs (x)
Jan Meese, Wuppertal University, Wuppertal, Germany; Nils Neusel-Lange, Wuppertal University, Wuppertal, Germany; Markus Zdrallek, Wuppertal University, Wuppertal, Germany; Andy Völschow, WSW Energie & Wasser AG, Wuppertal, Germany; Ulrich Neuhaus, NetSystem GmbH, Wuppertal, Germany

0174 The 3rd Generation Smart Meter Development Strategy in KEPCO
Seung-Ho Yang, KEPCO, SEOUL, Republic of Korea; Tae-Hee Jo, KEPCO, SEOUL, Republic of Korea; Jae-Hyoung Cho, KEPCO, SEOUL, Republic of Korea; Dong-Sub Kim, KEPCO, SEOUL, Republic of Korea; Dae-Han Kim, KEPCO, SEOUL, Republic of Korea; Il-Rae Roh, KEPCO, SEOUL, Republic of Korea

0400 Flexibility Roadmap for a near 100% Renewable Energy System (x)
Georgios Papaefthymiou, Ecofys, Berlin, Germany; Roman Targosz, Polish Copper Promotion Centre, Wroclaw, Poland; Hans de Keulenaer, European Copper Institute, Brussels, Belgium; Katharina Grave, Ecofys, Berlin, Germany; Ken Dragoon, Ecofys, Corvallis, Oregon, USA; Fernando Nuno, European Copper Institute, Madrid, Spain

0405 Optimal integration of renewable energy sources by limiting peak generation (x)
Matthias Hable, ENSO NETZ GmbH, Dresden, Germany

0620 Residential demand management and distribution grid impact assessment (x)
Arnaud Latiers, UCL - CORE, Louvain-la-Neuve, Belgium ; Emmanuel De Jaeger, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Cedric Leonard, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Louise Meurs, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Jonathan Rochet, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Cedric Saussez, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium

0635 Direct Control of EV Charging on Feeders with EV Clusters (x)
Ellin Saunders, EA Technology Ltd, Capenhurst, Chester, UK; Tim Butler, EA Technology Ltd, Capenhurst, Chester, UK; Jairo Quiros-Tortos, University of Manchester, Manchester, Greater Manchester, UK; Luis F. Ochoa, University of Manchester, Manchester, Greater Manchester, UK; Richard Hartshorn, Scottish and Southern Energy Power Distribution, Reading, Berkshire, UK

0928 Practical implementation of demand response in Finland (x)
Samuli Honkapuro, Lappeenranta University of Technology, Lappeenranta, Finland; Jussi Tuunanen, Lappeenranta University of Technology, Lappeenranta, Finland; Petri Valtonen, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland; Pertti Järventausta, Tampere University of Technology, Tampere, Finland; Juhani Heljo, Tampere University of Technology, Tampere, Finland; Pirkko Harsia, Tampere University of Applied Sciences, Tampere, Finland

0971 EXPO 2015 Smart City: an innovative system offering energy efficiency services and enabling active demand (x)
Marina Lombardi, Enel Distribuzione, Rome, Italy; Luca Di Stefano, Enel Distribuzione, Rome, Italy; Sergio Brambilla, Enel Distribuzione, Rome, Italy; Fulvio Spelta, Enel Distribuzione, Rome, Italy; Silvia De Francisci, Enel Distribuzione, Rome, Italy; Maurizio Bigoloni, Siemens, Milan, Italy

0979 Smart info as a key enabler for widespread active demand: Enel Info+ from pilot to large scale (x)
Marina Lombardi, Enel Distribuzione, Rome, Italy; Silvia De Francisci, Enel Distribuzione, Rome, Italy; Stella Di Carlo, Enel Distribuzione, Rome, Italy; Luca Di Stefano, Enel Distribuzione, Rome, Italy; Lorenzo Pizzoferro, Enel Distribuzione, Rome, Italy

1031 Experimental validation of residential consumer responsiveness to dynamic time-of-use pricing (x)
James Schofield, Imperial College London, London, UK; Richard Carmichael, Imperial College London, London, UK; Simon Tindemans, Imperial College London, London, UK; Mark Bilton, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK

1037 Distributed and Coordinated Demand Response for the supply of Frequency Containment Reserve (FCR) (x)
Gaspard Lebel, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Karel Kuypers, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Raphaël Caire, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Nouredine Hadjsaid, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Stéphane Bediou, Schneider Electric, F-38000 Grenoble, France; Alain Glatigny, Schneider Electric, F-38000 Grenoble, France

1043 The conclusions of the ADVANCED project on the impact of active demand on the electrical system and its actors (x)
Marina Lombardi, Enel Distribuzione, Rome, Italy; Oliver Franz, RWE Deutschland AG, Essen, Germany; Pablo Frias, Universidad Pontifica Comillas, Madrid, Spain, Maria Viana, Electricité Reseau Distribution France, Paris, France, Stella Di Carlo, Enel Distribuzione, Rome, Italy; Silvia De Francisci, Enel Distribuzione, Rome, Italy, Sergio Brambilla, Enel Distribuzione, Rome, Italy; Mercedes Valles, Universidad Pontifica Comillas, Madrid, Spain

1088 Characteristic demand profiles of residential and commercial EV users and opportunities for smart charging (x)
Marko Aunedi, Imperial College London, London, UK; Matthew Woolf, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK; Oloruntobi Babalola, UK Power Networks, London, UK; Michael Clark, UK Power Networks, London, UK

1105 Baselines comparison process for demand response (x)
Paul Morel-Bury, ERDF, Lyon, France; Jean Wild, Schneider Electric, Grenoble, France; Guillaume Roupioz, ERDF, Lyon, France; Laura Tortosa, Schneider Electric, Grenoble, France; Sebastien Mathiou, Schneider Electric, Grenoble, France

1148 Scheduling of DER flexibility in a market environment: lessons learnt from the Reflexe demonstration project (x)
Nils Siebert, Alstom Grid, Massy, France ; Sami Ammari, Alstom Grid, Massy, France ; Xiaokang Cao, Alstom Grid, Massy, France ; Omar Gaci, VEOLIA Environnement Recherche et Innovation, Limay, France ; Jeremy Lagorse, VEOLIA Environnement Recherche et Innovation, Limay, France ; Yves Bertone, VEOLIA Environnement Recherche et Innovation, Limay, France

1177 Intelligent systems for energy prosumer buildings at district level (x)
Valerio Angelucci, RSE s.p.a., Milan, Lombardy, Italy; Renato Urban, RSE s.p.a., Milan, Lombardy, Italy; Giuseppe Mauri, RSE s.p.a., Milan, Lombardy, Italy; Claudio Borean, Telecom Italia, Turin, Piedmont, Italy; Alessandro Quadrelli, ENEL Ingegneria e Ricerca, Pisa, Tuscany, Italy; Gianluca Gigliucci, ENEL Ingegneria e Ricerca, Pisa, Tuscany, Italy

1258 Simultaneous imbalance reduction and peak shaving using a field operational Virtual Power Plant with heat pumps (x)
Olaf van Pruissen, TNO, Delft, The Netherlands; Aldo Eisma, IBM, Amsterdam, The Netherlands; Koen Kok, TNO, Delft, The Netherlands

1265 Energy Management of Private Households with Electric Vehicles as Active Consumers in the German Research Project "Well2Wheel"
Peter Franz, Technische Universität Darmstadt, Darmstadt, Germany; Bernd Michael Buchholz, NTB Technoservice, Pyrbaum, Germany; Volker Bühner, EUS GmbH, Holzwickede, Germany; Bernhard Fenn,

HSE AG, Darmstadt, Germany; Lutz-Wolfgang Tiede, Continental, Regensburg, Germany; Jutta Hanson, Technische Universität Darmstadt, Darmstadt, Germany

1303 Voltage Support in Distribution Grids Using Heat Pumps
Marc Brunner, University of Stuttgart, Stuttgart, Germany; Krzysztof Rudion, University of Stuttgart, Stuttgart, Germany; Stefan Tenbohlen, University of Stuttgart, Stuttgart, Germany

1306 Flexibility Market Facilitation through DSO Aggregator Portal (x)
Guillaume Roupioz, ERDF, Lyon, France; Matthieu Terenti, ERDF, Lyon, France; Stéphane Bediou, Schneider Electric, Grenoble, France

1504 Active Load Management Strategy Considering Fluctuation Characteristics of Intermittent Energy (x)
Fei Chen, Shanghai Jiao Tong University, Shanghai, China; Dong Liu, Shanghai Jiao Tong University, Shanghai, China; Qingsheng Li, China Southern Power Grid, Guizhou, China

1514 Analysis of Customers' Performance in Industrial and Commercial Demand Side Response Trials (x)
Tatiana Ustinova, Imperial College London, London, UK; Matthew Woolf, Imperial College London, London, UK; Jose Enrique Ortega Calderon, Imperial College London, London, UK; Mark Bilton, Imperial College London, London, UK; Harriet O'Brien, Imperial College London, London, UK; Simon Tindemans, Imperial College London, London, UK; Pregrag Djapic, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK

1622 Value of Demand Side Participation in Frequency Regulation (x)
F Teng, Imperial College London, London, UK; M Aunedi, Imperial College London, London, UK; G Strbac, Imperial College London, London, UK

1638 Flanders' LINEAR pilot project - implementing residential demand-response algorithms (x)
Rafael Jahn, Laborelec, Linkebeek, Belgium; Koen Vanthournout, VITO, Mol, Belgium; Catherine Stuckens, Laborelec, Linkebeek, Belgium; Wim Foubert, Laborelec, Linkebeek, Belgium; Laurent De Vroey, Laborelec, Linkebeek, Belgium; Wim Cardinaels, VITO, Mol, Belgium

Block 2: Studies

0019 Impact of PV on distribution network losses (x)
Maarten Berende, Enexis,'s-Hertogenbosch, The Netherlands; Johan Morren, Enexis,'s-Hertogenbosch, The Netherlands

0137 Too much "ENERGIEWENDE"? How to handle massive growing decentralized energy production
Friedemann Vetter, E.DIS AG, Fürstenwalde, Germany

0145 Open loop operational strategies of a virtual power plant and their impacts on the distribution grid
Marco Wagler, Technische Universität München, München, Germany; Rolf Witzmann, Technische Universität München, München, Germany

0289 Technical and Economic Assessment of Integrating DG Resources into a Realistic Egyptian Distribution Network
Mohamed Aboelsaad, Shoubra Faculty of Engineering, Cairo, Egypt; Fahmy Bendary, Shoubra Faculty of Engineering, Cairo, Egypt; Ahmed Younes, PEGSCO company, cairo, Egypt; Ahmed Sami, Egyptian Electricity Holding Company, cairo, Egypt

0355 Technical Implications of Microgeneration Integration in Low Voltage Distribution Grids
Osvaldo Sousa, EDP DISTRIBUIÇÃO, BRAGA, Portugal; Paulo Torrão, EDP DISTRIBUIÇÃO, BRAGA, Portugal

0393 Voltage profiles on LV residential feeders with PVEG using a practical, probabilistic approach (x)
Ron Herman, Univ. of Cape Town, Cape Town, South Africa

0598 Fault Analysis of an Islanded Micro-grid with Doubly Fed Induction Generator Based Wind Turbine (x)
Yunqi Wang, University of New South Wales Australia, Sydney, Australia; Jayashri Ravishankar, University of New South Wales Australia, Sydney, Australia; B.T. Phung, University of New South Wales Australia, Sydney, Australia

0601 Use Cases for Efficient Integration of Smart Homes Pv (x)
Richard Tokle Schytte, NTNU, Trondheim, Norway; Kjell Sand, NTNU, Trondheim, Norway; Rolf Erlend Grundt, Agder Energi AS, Kristiansand, Norway

0654 The transparent hosting-capacity approach – overview, applications and developments (x)
Nicholas Etherden, STRI AB, Västerås, Sweden; Math Bollen, STRI AB, Gothenburg, Sweden; Susanne Ackeby, STRI AB, Gothenburg, Sweden; Oscar Lennerhag, STRI AB, Gothenburg, Sweden

0675 Smart Grid Inverters to Support Photovoltaics in Distribution Systems (x)
Wes Sunderman, EPRI, Knoxville, Tennessee, USA

0721 Study of Possible Provision of Control Power with Renewable Energy Facilities, with Respect to Restrictions in Distribution Systems (x)
André Fuchs, Mitteldeutsche Netzgesellschaft Strom mbH, Halle, Germany; Daniel Engelbrecht, Mitteldeutsche Netzgesellschaft Strom mbH, Halle, Germany

0724 Renewable integration and protection studies on a 750-node distribution grid using a real-time simulator and a delay-free parallel solver (x)
Christian Dufour, Opal-RT-Technologies, Montréal, Canada; Salvatore Alma, ENEL Distribuzione, Milan, Italy; Simone Cuni, ENEL Distribuzione, Milan, Italy; Gianluca Sapienza, ENEL Distribuzione, Milan, Italy; Giorgio Scrosati, ENEL Distribuzione, Milan, Italy; Giovanni Valvo, ENEL Distribuzione, Milan, Italy

0763 Price-based control strategies for electric energy storage system in distribution networks
Quintín Corrionero, EDP Energía, Oviedo, Spain; Pablo Nicolás, Universidad de Oviedo, Oviedo, Spain; Carlos Sánchez, Isastur SAU, Oviedo, Spain; María Rivas, Isastur SAU, Oviedo, Spain; Luis Santos, EDP Energía, Oviedo, Spain; José Coto, Universidad de Oviedo, Oviedo, Spain

0780 Generators and loads models to investigate uncontrolled islanding on active distribution networks (x)
Paolo Mattavelli, University of Padova, Padova, Italy; Roberto Turri, University of Padova, Padova, Italy Ettore De Berardinis, CESI, Milano, Italy; Gianluca Sapienza, ENEL Distribuzione, Roma, Italy; Giovanni Valvo, ENEL Distribuzione, Roma, Italy; Cristiano Pezzato, ENEL Distribuzione, Roma, Italy; Alberto Cerretti, ENEL Distribuzione, Roma, Italy; Riccardo Sgarbossa, University of Padova, Padova, Italy

0827 Methodology for Analysis of Angle Stability in Distribution System with Distributed Generation (x)
Ederson Pereira Madruga, Federal University of Santa Maria, Santa Maria, RS, Brazil; Daniel Pinheiro Bernardon, Federal University of Santa Maria, Santa Maria, RS, Brazil; Ana Paula Carboni de Mello, Federal University of Pampa, Alegrete, RS, Brazil; Douglas de Castro Karnikowski, Federal University of Santa Maria, Santa Maria, RS, Brazil; Maurício Sperandio, Federal University of Santa Maria, Santa Maria, RS, Brazil

0941 Setting and Algorithm Simulation of PV Anti-Islanding Protection in Case of Increased Frequency Threshold (x)
Budi Santoso, PT PLN (Persero), Jakarta, Indonesia; Bertrand Raison, G2E Laboratory, Grenoble, Franc; Ngapuli Sinisuka, ITB, Bandung, Indonesia

0964 Flexible reactive power exchange between medium and high networks: Case study (x)
Ignacio Talavera, Technische Universität Darmstadt, Darmstadt, Hessen, Germany; Sebastian Stepanescu, Netze BW GmbH, Stuttgart, Baden-Württemberg, Germany; Sebastian Weck, Technische Universität Darmstadt, Darmstadt, Hessen, Germany; Peter Franz, Technische Universität Darmstadt, Darmstadt, Hessen, Germany; Richard Huber, Netze BW GmbH, Stuttgart, Baden-Württemberg, Germany; Jutta Hanson, Technische Universität Darmstadt, Darmstadt, Hessen, Germany; Hans Abele, Transnet BW GmbH, Stuttgart, Baden-Württemberg, Germany

1080 A Monte Carlo Assessment of Customer Voltage Constraints in the Context of CVR Schemes (x)
Andrea Ballanti, The University of Manchester, Manchester, UK; Luis (Nando) Ochoa, The University of Manchester, Manchester, UK; Victoria Turnham, Electricity North West, Manchester, UK

1082 On the effectiveness of voltage control with photovoltaic inverters in unbalanced low voltage networks (x)
Benoît Bletterie, AIT Austrian Institute of Technology, Vienna, Austria; Serdar Kadam, AIT Austrian Institute of Technology, Vienna, Austria; Zoran Miletic, AIT Austrian Institute of Technology, Vienna, Austria

1169 An Integrated Planning Approach for Maximizing Renewable Energy Harvest in Active Distribution Systems (x)
Bo Zeng, State Key Laboratory for Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University, Beijing, China; Xiong Zheng, State Key Laboratory for Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University, Beijing, China; Wenxia Liu, State Key Laboratory for Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University, Beijing, China; Yuying Zhang, State Key Laboratory for Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University, Beijing, China; Jianhua Zhang, State Key Laboratory for Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University, Beijing, China

1217 Coordinated Control of Dispersed Battery Energy Storage Systems for Services to Network Operators (x)
Guillaume Foggia, Alstom Grid, Massy, France ; Andrea Michiorri, MINES ParisTech, PSL - Research University, PERSEE - Centre procédés, énergies renouvelables et systèmes énergétiques, CS 10207 rue Claude Daunesse 06904 Sophia Antipolis Cedex, France, Sophia Antipolis, France ; Alexis Bocquet, MINES ParisTech, PSL - Research University, PERSEE - Centre procédés, énergies renouvelables et systèmes énergétiques, CS 10207 rue Claude Daunesse 06904 Sophia Antipolis Cedex, France, Sophia Antipolis, France ; Alexandre Neto, Alstom Grid, Massy, France

1314 Technical and Economic Impact of integrating EV in an insular distribution grid (x)
Pilar Meneses, Universidad Castilla-La Mancha, Ciudad Real, Spain; Javier Contreras, Universidad Castilla-La Mancha, Ciudad Real, Spain

1332 Decentralized and Centralized Approach in the Active Management of Distribution Networks: a comparison through business cases (x)
Susanna Mocci, University of Cagliari, Cagliari, Italy

1345 The Open Energy System as an Autonomous DC Microgrid (x)
Nobuyuki Kitamura, The University of Tokyo, Tokyo, Japan; Annette Werth, The University of Tokyo, Tokyo, Japan; Kenji Tanaka, The University of Tokyo, Tokyo, Japan

1365 Hybrid Formulation for Technical and Non-Technical Losses Estimation and Identification in Distribution Networks: Application in a Brazilian Power System (x)
Aquiles Rossoni, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Rodrigo D. Trevizan, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Arturo S. Bretas, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Daniel S. Gazzana, UFRGS, Porto Alegre - Rio Grande do Sul, Brazil; Arlan L. Bettiol, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Antônio Carniato, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Luiz F. do N. Passos, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Rodolfo Podestá Martin, CHESP, Ceres - Goiás, Brazil

1414 Evaluation of the level of prediction errors and sub-hourly variability of PV andwind generation in a future with a large amount of renewables (x)
Robin Girard, MINES ParisTech - PSL Research University - Centre PERSEE, Sophia Antipolis, France; Arthur Bossavy, MINES ParisTech - PSL Research University - Centre PERSEE, Sophia Antipolis, France; Loic Le Gars, MINES ParisTech - PSL Research University - Centre PERSEE, Sophia Antipolis, France; Georges Kariniotakis, MINES ParisTech - PSL Research University - Centre PERSEE, Sophia Antipolis, France

1568 Distribution Network Hosting Capacity Maximization using Demand Response (x)
alireza soroudi, University College Dublin, Dublin, Ireland; Abbas Rabiee, Zanjan University, Zanjan, Iran; Andrew Keane, University College Dublin, Dublin, Ireland

Block 3: Technology

0204 Realization of DC- bus sensor-less MPPT technique for a single-stage PV grid-connected inverter
Hamdy Ashour, Arab Academy for Science and Technology, Alexandria, Egypt; Mohamed Elsaharty, Arab Academy for Science and Technology, Alexandria, Egypt

0250 Advanced System Architecture and Algorithms for Smart Distribution Grids: The Sustainable Approach (x)
Ricardo Bessa, INESC Porto, Porto, Portugal; André Madureira, INESC Porto, Porto, Portugal; Luis Seca, INESC Porto, Porto, Portugal; Jorge Pereira, INESC Porto, Porto, Portugal; António Messias, EDP Distribuição, Lisboa, Portugal; Diogo Lopes, EDP Distribuição, Lisboa, Portugal; Pedro Matos, EDP Distribuição, Lisboa, Portugal

0251 The Impact of Solar Power Forecast Errors on Voltage Control in Smart Distribution Grids
André Madureira, INESC Porto, Porto, Portugal; Ricardo Bessa, INESC Porto, Porto, Portugal; José Meirinhos, INESC Porto, Porto, Portugal; Dewan Fayzur, INESC Porto, Porto, Portugal; António Messias, EDP Distribuição, Lisboa, Portugal; Diogo Lopes, EDP Distribuição, Lisboa, Portugal; Pedro Matos, EDP Distribuição, Lisboa, Portugal

0298 Mitigation of grid overloads and voltage deviations using storage (x)
Santiago Peñate Vera, DNV GL, Arnhem, The Netherlands; Jos van der Burgt, DNV GL, Arnhem, The Netherlands

0318 A holistic approach to power system testing & validation (x)
Erik de Jong, DNV GL, Arnhem, The Netherlands; Yin Sun, DNV GL, Arnhem, The Netherlands; Daniel Liang, DNV GL, Singapore, Singapore

0383 Quantifying Benefit of Angle Constraint active manaement on 33 kV distribution network (x)
David Wang, Alstom Grid UK, Edinburgh, UK; Douglas Wilson, Alstom Grid UK, Edinburgh, UK; Christos Takoudis, Alstom Grid UK, Edinburgh, UK; Geoff Murphy, ScottishPower Energy Networks, Warrington, UK

0485 The DREAM innovative software architecture for high DG-RES distribution grids (x)
Rene Kamphuis, TNO, Groningen/Delft, The Netherlands; Jan Pieter Wijbenga, TNO, Groningen/Delft, The Netherlands; Pamela Macdougall, TNO, Groningen/Delft, The Netherlands; Jan Sipke van der Veen, TNO, Groningen/Delft, The Netherlands; Matthias Fäth, TNO, Groningen/Delft, The Netherlands

0525 The importance of distributed storage and conversion technologies in distributed networks on an example of "Symbiose"
Sabina Begluk, Vienna University of Technology, Vienna, Austria; Christoph Maier, Vienna University of Technology, Vienna, Austria; Markus Heimberger, Vienna University of Technology, Vienna, Austria; Wolfgang Gawlik, Vienna University of Technology, Vienna, Austria

0532 Perspective functions of LV microgrids: simulations and tests on the RSE's test facility (x)
Diana Moneta, RSE Ricerca sul Sistema Energetico SpA, Milano, Italy; Matteo Rossini, Università degli Studi di Milano, Milano, Italy; Maurizio Verga, RSE Ricerca sul Sistema Energetico SpA, Milano, Italy

0588 A dynamic RMS-model of the local voltage control system Q(V) applied in photovoltaic inverters
Marco Lindner, Technical University of Munich, Munich, Bavaria, Germany; Rolf Witzmann, Technical University of Munich, Munich, Bavaria, Germany

0681 Case Study: Economic Efficiency of Smart Charging in LUT Green Campus
Henri Makkonen, Lappeenranta University of Technology, Lappeenranta, Finland; Ville Tikka, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland; Pertti Silventoinen, Lappeenranta University of Technology, Lappeenranta, Finland; Juha Haakana, Lappeenranta University of Technology, Lappeenranta, Finland

0782 Beyond AMI: LV network supervision over existing AMI deployments (x)
Laura Marron, ZIV, Zamudio, Bizkaia, Spain; Aitor Arzuaga, ZIV, Zamudio, Bizkaia, Spain; Txetxu Arzuaga, ZIV, Zamudio, Bizkaia, Spain; Sergio Santos, ZIV, Zamudio, Bizkaia, Spain

0792 Distributed Energy Storage potentiating the participation of PV sources in electricity markets (x)
Ismael Miranda, EFACEC, Porto, Portugal; Nuno Silva, EFACEC, Porto, Portugal; Helder Leite, UP/FE, Porto, Portugal; António Carrapatoso, EFACEC, Porto, Portugal

0932 Meeting the Renewable Energy Target by the Integration of Solar PV and Plug-In Electric Vehicle Storage in Distribution Network (x)
Xiaoqing Wei, University of Wollongong, Wollongong, NSW, Australia; Jan Alam, University of Wollongong, Wollongong, NSW, Australia; Darmawan Sutanto, University of Wollongong, Wollongong, NSW, Australia; Kashem Muttaqi, University of Wollongong, Wollongong, NSW, Australia; Mehrdad Hagh, University of Tabriz, Tabriz, Iran

0983 Participation of storage devices for steady-state voltage management in LV grid with PV integration
Stéphane Allard, Grenoble INP, G2Elab, Grenoble, France; Delphine Riu, Grenoble INP, G2Elab, Grenoble, France; Anne-Fleur Kerouedan, Grenoble INP, G2Elab, Grenoble, France; Christophe Kieny, Grenoble INP, G2Elab, Grenoble, France

1028 Effective Distributed Resources Management System for Local Voltage Support (x)
Guillaume Foggia, Alstom Grid, Massy, France; Emmanuel Chanzy, Alstom Grid, Massy, France; Jean-Christophe Passelergue, Alstom Grid, Massy, France

1125 Agent-based distribution grid operation based on a traffic light concept (x)
Elisabeth Drayer, Universität Kassel, Kassel, Germany; Jan Hegemann, Universität Kassel, Kassel, Germany; Marc Lazarus, Électricité de Strasbourg, Strasbourg, France; Raphaël Caire, Grenoble INP, Grenoble, France; Martin Braun, Universität Kassel, Kassel, Germany

1136 Use of consumer grade 3D visualisation technologies in asset management (x)
Ross Batten, Fugro Roames, Brisbane, QLD, Australia; James Bangay, Fugro Roames, Brisbane, QLD, Australia; Matthew Coleman, Fugro Roames, Brisbane, QLD, Australia

1137 Implementing Active Customer Interface for Smart Grid Functionalities to an LVDC Distribution System (x)
Antti Pinomaa, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Andrey Lana, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Pasi Nuutinen, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Tero Kaipia, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Janne Karppanen, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Aleksi Mattsson, Lappeenranta University of Technology (LUT), Lappeenranta, Finland; Pertti Silventoinen, Lappeenranta University of Technology (LUT), Lappeenranta, Finland

1145 New approach to regulate low voltage distribution network (x)
Yves CHOLLOT, Schneider Electric, Grenoble, France; Arthur JOURDAN, Schneider Electric, Grenoble, France; Philippe DESCHAMPS, Schneider Electric, Grenoble, France; Sandeep MISHRA, ENSE3 INPG, Grenoble, France

1267 Analysis of load shedding applied to the operation of the intentional Islanding of distributed synchronous generators
Guilherme P. Borges, University of São Paulo, São Carlos, São Paulo, Brazil; Rogério L. Lima, University of São Paulo, São Carlos, São Paulo, Brazil; José Carlos M. Vieira Junior, University of São Paulo, São Carlos, São Paulo, Brazil; João Bosco A. London Junior, University of São Paulo, São Carlos, São Paulo, Brazil; Alden U. Antunes, Daimon Engineering and Systems, São Paulo, São Paulo, Brazil; Andre Meffe, Daimon Engineering and Systems, São Paulo, São Paulo, Brazil; Leonardo Ferreira Moura, Energy Company of Pernambuco, Recife, Pernambuco, Brazil

1421 The Role of Synchrophasors in the Integration of Distributed Energy Resources (x)
Alexander Apostolov, OMICRON electronics, Los Angeles, CA, USA

1495 Proof-of-Concept for Market Based Grid Quality Assurance (x)
Tobias Gawron-Deutsch, Siemens AG Austra, Vienna, Austria; Alfred Einfalt, Siemens AG Austra, Vienna, Austria; Daniel Lechner, Siemens AG Austra, Vienna, Austria

1519 Analysis of Low Voltage Networks with High Distributed Power Generation
Matthias Luther, University of Erlangen-Nuremberg, Erlangen, Germany; Ivana Mladenovic, University of Erlangen-Nuremberg, Erlangen, Germany; Rainer Schmidt, Bavarian Center for Applied Energy Research, Erlangen, Germany; Christian Weindl, University of Erlangen-Nuremberg, Erlangen, Germany

1609 Cooperative centralised and decentralised energy management systems for active networks (x)
Massimiliano Coppo, University of Padova, Padova, Italy; Fabrizio Pilo, University of Cagliari, Cagliari, Italy Giuditta Pisano, University of Cagliari, Cagliari, Italy; Gian Giuseppe Soma, University of Cagliari, Cagliari, Italy; Roberto Turri, University of Padova, Padova, Italy

Block 4: Trials

0021 Commissioning and trial operation of photovoltaic power plant Kanfanar (999 kW) (x)
Ivan Burul, HEP ODS d.o.o., Pula, Croatia; Milan Damianic, HEP ODS d.o.o., Pula, Croatia Mate Lasic, KONCAR - Electrical Engineering Institute Inc., Zagreb, Croatia; Goran Licul, HEP ODS d.o.o., Pula, Croatia

0106 OSCP - An open protocol for smart charging of Electric Vehicles (x)
Carlos Montes Portela, Enexis BV, Den Bosch, The Netherlands; Paul Klapwijk, Enexis BV, Den Bosch, The Netherlands; Lennart Verheijen, Enexis BV, Den Bosch, The Netherlands; Hans de Boer, Greenflux, Amsterdam, The Netherlands; Marko van Eekelen, Open Universiteit Nederland, Heerlen, The Netherlands; Han Slootweg, Enexis BV, Den Bosch, The Netherlands

0244 EDP Distribuição's Inovgrid First Electrical Energy Storage Project (x)
Ricardo André, EDP Distribuição, Lisboa, Portugal; Pedro Carreira, EDP Distribuição, Lisboa, Portugal; Carlos Fortunato, EDP Distribuição, Lisboa, Portugal; André Neves, EDP Distribuição, Lisboa, Portugal; João Santana, Instituto Superior Técnico, Lisboa, Portugal; Sónia Pinto, Instituto Superior Técnico, Lisboa, Portugal; Paulo Gambôa, Instituto Superior de Engenharia de Lisboa, Lisboa, Portugal; Miguel Chaves, Instituto Superior de Engenharia de Lisboa, Lisboa, Portugal; Hélio Jesus, Siemens, S.A., Lisboa, Portugal

0333 Development of a Vanadium Redox Flow Battery for Renewable Generation Constraint Mitigation (x)
James Cross, EA Technology, Chester, UK; Gary Simmonds, REDT, Wokingham, UK; Graham Ford, REDT, Wokingham, UK; John Samuel, REDT, Wokingham, UK

0505 Using communities of summer houses as a winter time demand-response resource
Bernt A. Bremdal, Norwegian Center of Expertise Smart Energy Markets, Halden, Norway; Jo Morten Sletner, eSmart Systems, Halden, Norway; Hanne Sæle, SINTEF Energy, Trondheim, Norway; Vidar Kristoffersen, Fredrikstad Energi (FEAS), Fredrikstad, Norway; Jan Andor Foosnæs, NTE, Steinkjer, Norway

0704 Russky Island Microgrid: active demand emergency control problems
Olga Gorte, Novosibirsk state university, Novosibirsk, Russia; Andrey Grobovoy, Novosibirsk state university, Novosibirsk, Russia; Mikhail Khmelik, Skolkovo Institute of Science and Technology, Moscow, Russia; Anna Arestova, Novosibirsk state university, Novosibirsk, Russia; Natalia Kiryanova, Novosibirsk state university, Novosibirsk, Russia; Vladimir Markin, Far East Federal University, Vladivostok, Russia

0722 Active Network Management facilitating the connection of distributed generation and enhancing security of supply in dense urban distribution networks (x)
David Olmos Mata, Smarter Grid Solutions, London, UK; Ali R. Ahmadi, Smarter Grid Solutions, London, UK; Graham Ault, Smarter Grid Solutions, London, UK; Adriana Laguna, UK Power Networks, London, UK; Michael Clark, UK Power Networks, London, UK

0735 Testing of a Deployed Active Network Management Scheme (x)
Finlay McNicol, Smarter Grid Solutions, London, UK; Dhurian Vitoldas, Smarter Grid Solutions, London, UK Graham Ault, Smarter Grid Solutions, London, UK; Tim Manandhar, UK Power Networks, London, UK;

Emmanuel Cerqueira, EDF Energy R&D UK Centre, London, UK; Sotiris Georgiopoulos, UK Power Networks, London, UK

0738 The VENTEEA 2 MW / 1.3 MWh battery system: an industrial pilot to demonstrate multi-service operation of storage in distribution grids (x)
Didier COLIN, ERDF, Champagne Ardenne, France ; Jesus Lugaro, SAFT, Paris, France ; Jean Claude Pinna, Schneider Electric, Grenoble, France ; Gauthier Dellile, EDF R&D, Paris, France ; Bruno François, Centrale Lille L2EP, Lille, France ; Christophe Caton, RTE, Nancy, France ; Giannino Martin, Boralex Energie Verte, Lyon, France

0750 Developing a redox flow battery with Spanish technology. Project Redox2015 (x)
Luis Santos, EDP, Oviedo, Asturias, Spain; Raquel Ferret, ZIGOR, Vitoria, Basque Country, Spain; Alberto; Izpizua, TEKNIKER, Eibar, Basque Country, Spain; Maria Rivas, ISASTUR, Llanera, Asturias, Spain; Carlos Sanchez, ISASTUR, Llanera, Asturias, Spain; Maddi Sanchez, TEKNIKER, Eibar, Basque Country, Spain

0806 Monitor BT pilot project: Combined voltage regulation approach for LV grids with PV penetration (x)
Alberto Bernardo, Efacec Energia, Matosinhos, Portugal; Nuno Silva, Efacec Energia, Matosinhos, Portugal; António Carrapatoso, Efacec Energia, Matosinhos, Portugal; Francisco Melo, EDP Distribuição, Lisbon, Portugal; Carlos Pinto, EDP Distribuição, Lisbon, Portugal; Mário Nunes, INOV - INESC Inovação, Lisbon, Portugal; Tiago Silva, INOV - INESC Inovação, Lisbon, Portugal; Augusto Casaca, INOV - INESC Inovação, Lisbon, Portugal; Paulo Rodrigues, Efacec Energia, Matosinhos, Portugal

0824 Scheduling power and energy resources in the Smarter Network Storage project (x)
David Greenwood, Newcastle University, Newcastle upon Tyne, UK; Neal Wade, Newcastle University, Newcastle upon Tyne, UK; Paresh Mehta, UK Power Networks, London, UK; Nick Heyward, UK Power Networks, London, UK; Phil Taylor, Newcastle University, Newcastle upon Tyne, UK; Panagiotis Papadopoulos, UK Power Networks, London, UK

0834 Application and analysis of PMU-based online impedance measurement methods (x)
Deborah Ritzmann, University of Reading, Reading, UK; Paul Wright, National Physical Laboratory, Middlesex, UK; William Holderbaum, University of Reading, Reading, UK; Ben Potter, University of Reading, Reading, UK

1111 Smart Operator, the project for the efficient control and monitoring of the low-voltage grid (x)
Ulrich Dirkmann, RWE Deutschland AG, Essen, Germany; Stefan Willing, RWE Deutschland AG, Essen, Germany; Philipp Goergens, RWTH Aachen University, Aachen, Germany; Nilges Joachim, RWE Deutschland AG, Essen, Germany; Andreas Stolte, PSI AG, Aschaffenburg, Germany

1124 Demand response pilot results on an industrial site in the Netherlands
Michiel van Lumig, Laborelec, Maastricht-Airport, The Netherlands; Marcel Didden, Laborelec, Maastricht-Airport, The Netherlands; Frits Wattjes, Cofely, Wormerveer, The Netherlands; Else Veldman, Enexis, Zwolle, The Netherlands

1157 Providing Ancillary Services in Distribution Networks with Vanadium Redox Flow Batteries: AlpStore Project
Leopold Herman, Faculty of Electrical Engineering, UL, Ljubljana, Slovenia; Boštjan Blažič, Faculty of Electrical Engineering, UL, Ljubljana, Slovenia; Igor Papič, Faculty of Electrical Engineering, UL, Ljubljana, Slovenia

1170 Integration of distributed PV generation: the NICE GRID project
Thomas DRIZARD, ERDF, Marseille, France ; Christophe LEBOSSE, ERDF, Marseille, France ; Benoit CHAZOTTES, ERDF, Marseille, France

1289 Assessing the impact of distributed energy resources on LV grids using practical measurements (x)
Elke Klaassen, Eindhoven University of Technology, Eindhoven, The Netherlands; Jasper Frunt, DNV GL, Arnhem, the Netherlands; Han Slootweg, Enexis B.V., Den Bosch, The Netherlands

1327 Impact of solar PV and heat pump installations on residential distribution networks (x)
Mark Bilton, Imperial College, London, UK; Jelena Dragovic, Imperial College, London, UK; Nnamdi Ibeanu, Imperial College, London, UK; Predrag Djapic, Imperial College, London, UK; Goran Strbac, Imperial College, London, UK

1362 E-mobility in the particular context of the French island territories (x)
Christian Dumbs, EDF IES, Paris La Défense, France ; Laure Lambrot, EDF IES, Ajaccio, Corsica, France; Guillaume Hoarau, EDF IES, St Denis, Reunion Island, France ; Joseph Maire, EDF IES, Paris La Défense, France

1375 Real-time thermal rating reliability enhancement using a graceful degradation methodology (x)
Ali Kazerooni, Parsons Brinckerhoff, London, UK; Watson Peat, Scottish Power Energy Networks, Glasgow, UK; Geoff Murphy, Scottish Power Energy Networks, Glasgow, UK; Samuel Jupe, Parsons Brinckerhoff, London, UK

1497 Transfer trip of Loss of Mains protections and logic selectivity by IEC 61850 protocol: an analysis based on experimental data (x)
Maurizio Delfanti, Politecnico di Milano, Milano, Italy; Davide Falabretti, Politecnico di Milano, Milano, Italy; Massimo Fiori, A.S.SE.M. SpA, San Severino Marche (MC), Italy; Marco Merlo, Politecnico di Milano, Milano, Italy

1524 Preventing blackouts in Corsican village thanks to local Biomass generator (x)
Laure Lambrot, EDF Corse, Ajaccio, Corse, France ; Joseph Maire, EDF, Courbevoie, Ile de France, France ; Boris Deneuville, EDF Lab, Clamart, Ile de France, France ; Az-Eddine Khalfi, EDF Lab, Clamart, Ile de France, France

1528 Demonstrating active distribution grids and active demand (x)
Thor Gunnar Steinsli, NTE Holding, Steinkjer, Norway; Eilert Bjerkan, ENFO Technology, Oslo, Norway; Geir Mathisen, SINTEF IKT, Trondheim, Norway; Therese Troset Engan, NTE Holding, Steinkjer, Norway; Jørn Engberg, NTE Holding, Steinkjer, Norway; Luigi Glielmo, University del Sannio, Benevento, Italy

1634 ADDRESS - Main lessons learnt and recommendations for the deployment of Active Demand (x)
Regine Belhomme, EDF, Clamart, France; Marina Lombardi, Enel Distribuzione, Rome, Italy; Stella Di Carlo, Enel Distribuzione, Rome, Italy; Giovanni Valtorta, Enel Distribuzione, Rome, Italy; Sarah Mander, University of Manchester, Manchester, UK; Arturo Losi, Università di Cassino, Cassino, Italy

Other

0991 Future vision of Transmission and distribution 2030
Kyoichi Uehara, Toshiba Corp., Kawasaki, Japan; Claus Kern, Siemens, Berlin, Germany; Joseph L. Koepfinger, National Grid, Warwick, UK; Mark Waldron, J.L. Koepfinger Consulting, Pennsylvania, USA Guangfan Li, China EPRI, Beijing, China; Jong-Woong Choe, Encored Technologies, Anyangi-si, USA

1215 Standardization in the field of Current and Voltage measurements
Pascal TANTIN, RTE, Paris, France

Wednesday 17 June:

Main session, Session 1: Network Components

> Room: Auditorium Pasteur (L1)

9.00 – 10.30 hrs: Block 1: Diagnosis and maintenance of network components – Part 1: Cables and lines

0471 Insulation condition of dry-cured XLPE cables measured over a period of 13 years
Jens Zoëga Hansen, Danish Energy Association, Frederiksberg, Denmark; Hans Jørgen Jørgensen, Danish Energy Association, Frederiksberg, Denmark

0486 Condition Assessment of XLPE MV Cable Joints by Using an Insulation Tester
Henrik Enoksen, SINTEF Energy Research, Trondheim, Norway; Espen Eberg, SINTEF Energy Research, Trondheim, Norway; Sverre Hvidsten, SINTEF Energy Research, Trondheim, Norway; Ole Johan Hatlen, BKK, Bergen, Norway; Eva A. Rognsvaag, BKK, Bergen, Norway

1188 Influence of pulling forces on premature ageing of LV and MV cables
Quentin De Clerck, Laborelec, Linkebeek, Belgium ; Nicolas Quiévy, Laborelec, Linkebeek, Belgium ; Philippe Colin, Ores, Louvain-La-Neuve, Belgium ; Jonas Verhaeghe, Eandis, Melle, Belgium ; Jean-Philippe Van Craen, Sibelga, Bruxelle, Belgium ; Marcel van den Berg, Sibelga, Bruxelle, Belgium

0508 New cable accessory with embedded sensor to check partial discharge activity
Lorenzo Peretto, Altea SA, Mendrisio, Switzerland; Luigi Foddai, ENEL, Roma, Italy; Simone Orrù, ENEL, Roma, Italy; Luigi Puddu, REPL, Tortolì, Italy

1376 Managing Ageing Bare Overhead Line Assets in TNB Distribution Network
Mohd Faris Ariffin, Tenaga Nasional Berhad (TNB), Petaling Jaya, Selangor, Malaysia

0311 Emergency Kits for MV Distribution Network
Tomás Abreu, EDP Distribuição, Porto, Portugal; Alcides Couto, EDP Distribuição, Porto, Portugal; Daniel Ribeiro, EDP Distribuição, Porto, Portugal; Miguel Marques, EDP Distribuição, Porto, Portugal; Rui Cunha, Metalogalva, Trofa, Portugal; Francisco Contreiras, João Jacinto Tomé, SA, Lisboa, Portugal

11.00 – 12.30 hrs: Block 2: Diagnosis and maintenance of network components – Part 2: Substations

0472 Condition assessment of distribution grids using uncertainty theory
Nico Schultze, SAG GmbH, Dortmund, Germany; Dominik Beerboom, Bergische Universität Wuppertal, Wuppertal, Germany; Christopher Johae, Bergische Universität Wuppertal, Wuppertal, Germany; Markus; Zdrallek, Bergische Universität Wuppertal, Wuppertal, Germany; Reiner Timmreck, Stadtwerke Iserlohn GmbH, Iserlohn, Germany

0695 Methanol as New Ageing Marker of Oil-Filled Transformer Insulation
Christophe PERRIER, ALSTOM GRID (ARC), Villeurbanne, France; Mamadou-Lamine COULIBALY, ALSTOM GRID (TICC), Massy, France; Marielle MARUGAN, ALSTOM GRID (TICC), Massy, France

0987 Dynamic rating to support safe loading of distribution transformers
Sander Meijer, DNV GL, Arnhem, The Netherlands; Frank de Wild, DNV GL, Arnhem, The Netherlands; Watson Peat, Scottish Power, Glasgow, UK; Martin Wright, Scottish Power, Glasgow, UK; Kevin Smith, Scottish Power, Glasgow, UK; Wim Boone, DNV GL, Arnhem, The Netherlands

0968 Medium-voltage equipment monitoring and diagnostics: Technological maturity makes concepts compatible with expectations
Simone Turrin, ABB AG, Corporate Research Center, Ladenburg, Germany; Marco Egman, ABB S.p.A., Dalmine, Italy; Luca Cavalli, ABB S.p.A., Dalmine, Italy; Bernhard Deck, ABB Sécheron S.A., Baden, Switzerland

0144 Improving the Inner Climate of Mv Substations
Albert Pondes, Enexis, Den Bosch, The Netherlands; Nico Taal, Enexis, Den Bosch, The Netherlands; Theo Rijn, van, Alliander, Arnhem, The Netherlands; Marco Leusink, Alfen, Almere, The Netherlands

0552 Optimisation of replacement of ageing MV switchgear due to lack of spare parts
Dirk van Houwelingen, Stedin BV, Rotterdam, The Netherlands; Peter Zonneveld, Stedin BV, Rotterdam, The Netherlands

14.00 – 15.30 hrs: Block 3: Innovation in Network Components – Part 1: Cables and Lines

1333 Quantification of MV Cables environmental impact using Life Cycle Assessment
Sophie Barbeau, Nexans, Lyon, France; Caroline Catalan, Nexans, Lyon, France; Richard Lejeune, ERDF, Paris, France; Bernard Remy, Draka Paricable, Aubevoye, France; Stefano Luciano, Prysmian, Milano, Italy; Rolf Koepfer, Prysmian, Sens, France

1101 Sensors in the French distribution network for smart grid applications
Mouhamad Malick, EDF R&D, Moret sur Loing, France; Dominique Croteau, EDF R&D, Moret sur Loing, France ; Guillaume Christian, EDF R&D, Moret sur Loing, France ; Tambrun Roger, ERDF, La Défense, France

0678 AmpaCity Project - Update on world's first superconducting cable and fault current limiter installation in a German city center
Mark Stemmle, Nexans Deutschland GmbH, Hannover, Germany; Frank Merschel, RWE Deutschland AG, Essen, Germany; Mathias Noe, Karlsruhe Institute of Technology, Karlsruhe, Germany

1256 Fault current limitation: Results of the grid field-testing and 3-phase fault event on the first Italian Superconducting Fault Current Limiter
Luciano Martini, Ricerca sul Sistema Energetico – RSE S.p.A., Milan, Italy; Giuliano Angeli, Ricerca sul Sistema Energetico – RSE S.p.A., Milan, Italy; Massimo Ascade, Ricerca sul Sistema Energetico – RSE S.p.A., Milan, Italy; Marco Bocchi, Ricerca sul Sistema Energetico – RSE S.p.A., Milan, Italy; Valerio Rossi, Ricerca sul Sistema Energetico – RSE S.p.A., Milan, Italy; Angelo Valzasina, Ricerca sul Sistema Energetico – RSE S.p.A., Milan, Italy; Cesare Ravetta, A2A Reti Elettriche S.p.A., Milan, Italy

1230 Line Voltage Regulator for voltage adjustment in MV-grids
Martin Carlen, ABB, Zurich, Switzerland; Frank Cornelius, ABB, Brilon, Germany; Irma Buschmann, ABB, Brilon, Germany; Jens Tepper, ABB, Brilon, Germany; Michael Schneider, Westnetz, Trier, Germany; Rainer Jakobs, Westnetz, Trier, Germany; Harald Wiesler, ABB, Zurich, Switzerland; Adam Slupinski, ABB, Brilon, Germany

0912 Secondary Substation Monitoring and Communication - a Pilot Project in Stockholm
Joar Johansson, Fortum Distribution AB, Stockholm, Sweden; Henrik Sporre, Fortum Distribution AB, Stockholm, Sweden; Lars Selberg, Fortum Distribution AB, Stockholm, Sweden; Örjan Eriksson, Netcontrol AB, Västerås, Sweden; Lars Hjort, HM Power AB, Västerås, Sweden

16.00 – 17.30 hrs: Block 4: Innovation in Network Components – Part 2: Substations

1027 Towards a new generation of secondary substations on French distribution networks to accommodate smart grids requirements
Christian GUILLAUME, EDF R&D, MORET SUR LOING, France ; Michel CORDONNIER, ERDF, PARIS LA DEFENSE, France ; Fabienne MONTEL-RAGU, EDF R&D, MORET SUR LOING, France ; Franck GAILLARD, EDF R&D, MORET SUR LOING, France ; Malick MOUHAMAD, EDF R&D, MORET SUR LOING, France ; Florent LEMENAGER, EDF R&D, CLAMART, France ; Mustapha HABJA, EDF R&D, CLAMART, France

0424 IEC TC 14 Activities for the Distribution Area with IEC ACTAD
Yukiyasu SHIRASAKA, Hitachi Ltd., Hitachi-city, Japan

0057 New generation of switchgears with cable testing facilities
Jose Manuel Inchausti, ORMAZABAL, Igorre, Bizkaia, Spain; Sergio Sebastián, ORMAZABAL, Igorre, Bizkaia, Spain

0778 Switching technology evolution: The solid state contribution to the capacitive switching control

Andrea Bianco, ABB s.p.a, Dalmine, Italy; Pierino Bertolotto, ABB s.p.a, Dalmine, Italy; Marco Riva, ABB s.p.a, Dalmine, Italy; Magnus Backman, ABB Sweden, Vasteras, Sweden

0739 Internal arcs: Pressure rise versus cooling methods in air insulated MV switchgear
Yvette Peterman-Gunther, Eaton Industries (Netherlands) B.V., Hengelo, The Netherlands; Gerard Schoonenberg, Eaton Industries (Netherlands) B.V., Hengelo, The Netherlands; Johan De Jong, Eaton Industries (Netherlands) B.V., Hengelo, The Netherlands

0775 Primary frequency control by using a 1 MW battery: study at grid scale on the Concept Grid EDF platform
Fabien LUCET, EDF R&D, Ecuelles, France; Benoit PULUHEN, EDF R&D, Ecuelles, France; Etienne RADVANYI, EDF R&D, Ecuelles, France

Main session, Session 5: Planning of Power Distribution Systems

> Room: Auditorium Lumière (L -1)

9.00 – 10.30 hrs:

Block 1: Risk Assessment and Asset Management and Block 2: Network Development

1383 Application of Monte Carlo Simulation to Support Risk-based Decision Making in MV Distribution Networks
Shiromani Goerdin, Delft University of Technology, Delft, The Netherlands; Ravish Mehairjan, Delft University of Technology, Delft, The Netherlands; Johan Smit, Delft University of Technology, Delft, The Netherlands; Anca Hanea, Delft University of Technology, Delft, The Netherlands; Arjan van Voorden, Stedin Netbeheer B.V., Rotterdam, The Netherlands

1620 Modeling of simultaneous fault to Reliability enhancement in distribution system
Nemat Dehghani, Tampere University of Technology, Tampere, Finland; Antti Supponen, Tampere University of Technology, Tampere, Finland; Sami Repo, Tampere University of Technology, Tampere, Finland

0980 Knowledge preparations for extending lives of 10 kV PILC cables
Qikai Zhuang, Alliander, Arnhem, The Netherlands, Nico Steentjes, Alliander, Arnhem, The Netherlands

0760 Derivation of Recommendations for the Future Reactive Power Exchange at the Interface between Distribution and Transmission Grid
Philipp Schäfer, FGH e.V., Aachen, NRW, Germany; Hendrik Vennegeerts, FGH e.V., Aachen, NRW, Germany; Simon Krahl, FGH e.V., Aachen, NRW, Germany; Albert Moser, FGH e.V., Aachen, NRW, Germany

1174 Selection of Voltage Level in Low Voltage DC Utility Distribution System
Janne Karppanen, Lappeenranta University of Technology, Lappeenranta, Finland; Tero Kaipia, Lappeenranta University of Technology, Lappeenranta, Finland; Aleksi Mattsson, Lappeenranta University of Technology, Lappeenranta, Finland; Andrey Lana, Lappeenranta University of Technology, Lappeenranta, Finland; Pasi Nuutinen, Lappeenranta University of Technology, Lappeenranta, Finland; Antti Pinomaa, Lappeenranta University of Technology, Lappeenranta, Finland; Pasi Peltoniemi, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland; Jintae Cho, Korea Electric Power Research Institute, Daejeon, Republic of Korea; Jaehan Kim, Korea Electric Power Research Institute, Daejeon, Republic of Korea; Juyong Kim, Korea Electric Power Research Institute, Daejeon, Republic of Korea

11.00 – 12.30 hrs: Block 3: Distribution Planning

0544 MV planning approach using time series, billing data of medium voltage consumers and substation feeders metering
André Meffe, Daimon, Sao Paulo, SP, Brazil; Carlos C. B. Oliveira, Daimon Engineering & Systems, São Paulo, SP, Brazil; Anderson H. Uyekita, Daimon Engineering & Systems, São Paulo, SP, Brazil; Alden U.

Antunes, Daimon Engineering & Systems, São Paulo, SP, Brazil; Dário Takahata, Daimon Engineering & Systems, São Paulo, SP, Brazil; Francisco J. S. Pimentel, Centrum Engineering, Florianópolis, SC, Brazil; José C. M. Córdova, Centrum Engineering, Florianópolis, SC, Brazil; Lucio T. Prazeres, Centrum Engineering, Florianópolis, SC, Brazil; Luiz A. Miranda, Centrum Engineering, Florianópolis, SC, Brazil; Jean E. Costanzi, Centrais Elétricas de Santa Catarina, Joinville, SC, Brazil; Márcio L. V. Godoy, Centrais Elétricas de Santa Catarina, Joinville, SC, Brazil; Amilton F. Cardoso Junior, Centrais Elétricas de Santa Catarina, Joinville, SC, Brazil

1103 An innovative method to assess solutions for integrating renewable generation into distribution networks over multi-year horizons
Héloïse Dutrieux, EDF R&D, Clamart, France ; Gauthier Delille, EDF R&D, Clamart, France ; Bruno Francois, L2EP, Villeneuve d'Ascq, France ; Gilles Malarange, EDF R&D, Clamart, France

1320 On the DER Hosting Capacity of Distribution Feeders
Nikos Hatziargyriou, NTUA, Zografou, Athens, Greece; Evangelos Karfopoulos, NTUA, Zografou, Athens, Greece; Achilleas Tsitsimelis, NTUA, Zografou, Athens, Greece; Despina Koukoula, NTUA, Zografou, Athens, Greece; Marco Rossi, RSE, Milano, Italy; Vigano Giacomo, RSE, Milano, Italy

0076 SMART SIZING - A Tool for Long-term Planning of Distribution Systems
Stijn COLE, Tractebel Engineering, Brussels, Belgium; Alexandre HAMMER, Tractebel Engineering, Brussels, Belgium; Marc STUBBE, Tractebel Engineering, Brussels, Belgium

0709 Network Planning Approach with respect to an Effective Integration of Super Conducting Cable Lines in Distribution Grids
Christian Romeis, FAU University, Erlangen, Germany; Johann Jaeger, FAU University, Erlangen, Germany; Edmond Petrossian, FAU University, Erlangen, Germany

0746 New Options for Connecting Generation on Distribution Networks and Required Network Control Preparation
Marie-Anne Lafittau, ERDF, Paris la Défense, France ; Guillaume Pelton, ERDF, Paris la Défense, France ; Frédéric Gorgette, ERDF, Paris la Défense, France ; Olivier Carré, ERDF, Paris la Défense, France

1198 Software for the Optimal Allocation of EV Chargers into the Power Distribution Grid
Amparo Mocholí, Instituto Tecnológico de la Energía (ITE), Valencia, Spain ; Carlos Blasco, Instituto Tecnológico de la Energía (ITE), Valencia, Spain ; Irene Aguado, Instituto Tecnológico de la Energía (ITE), Valencia, Spain ; Vicente Fuster, Instituto Tecnológico de la Energía (ITE), Valencia, Spain

14.00 – 15.30 hrs: Block 3: Distribution Planning

0233 Techno-Economic Assessment of Smart Grid Solutions in the Russian Distribution Network of Bashkirenergo
Holger Mueller, Siemens AG, Erlangen, Germany; Andreas Ettinger, Siemens AG, Erlangen, Germany; Elena Nikitina, OOO Siemens, Moscow, Russia; Yurii Radygin, BashkirEnergo, Ufa, Russia

0564 Strategic Investment Model for Future Distribution Network Planning
Danny Pudjianto, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK; Sotiris Georgiopoulos, UK Power Networks, London, UK; Panagiotis Papadopoulos, UK Power Networks, London, UK

0666 Smart Grid Deployment Planning: Case Study Covering a Brazilian Feeder in Automation Process
Celio Albuquerque, Universidade Federal Fluminense, Niteroi, RJ, Brazil; Guilherme Rolim, Universidade Federal Fluminense, Niteroi, RJ, Brazil; Cledson Souza, Universidade Federal Fluminense, Niteroi, RJ, Brazil; Ricardo Carrano, Universidade Federal Fluminense, Niteroi, RJ, Brazil; Igor Moraes, Universidade Federal Fluminense, Niteroi, RJ, Brazil; Arlan Bettiol, Neo Domino, Florianopolis, SC, Brazil; Antonio Carniato, Neo Domino, Florianopolis, SC, Brazil; Luis Passos, Neo Domino, Florianopolis, SC, Brazil; Rafael Homma, Celesc, Florianopolis, SC, Brazil; Rodrigo Andrade, Celesc, Florianopolis, SC, Brazil; Fernando Molina, Celesc, Florianopolis, SC, Brazil

0795 Choice of ICT infrastructures and technologies in smart grid planning

Stefan Böcker, TU Dortmund, Dortmund, Germany; Christian Wietfeld, TU Dortmund, Dortmund, Germany; Frederik Geth, Tractebel Engineering, Brussels, Belgium; Pedro Rocha Almeida, Tractebel Engineering, Brussels, Belgium; Stéphane Rapoport, Tractebel Engineering, Brussels, Belgium

0953 Assessing the Contribution of Demand Side Response to Network Security
Manuel Castro, EA Technology Ltd, Chester, UK; Richard Potter, EA Technology Ltd, Chester, UK; Daniel Hollingworth, EA Technology Ltd, Chester, UK; Mark Sprawson, EA Technology Ltd, Chester, UK; Dave Roberts, EA Technology Ltd, Chester, UK; David Boyer, UK Power Networks, London, UK

1026 A comparison of different curtailment strategies for distributed generation
Alberto Pagnetti, EDF R&D, Clamart, France ; Josselin Fournel, EDF R&D, Clamart, France ; Christophe Santander, EDF R&D, Clamart, France ; Antoine Minaud, ERDF, Paris, France

1377 Time-series Simulations and Assessment of Smart Grid Planning Options of Distribution Grids
Stephan Koch, Adaptricity GmbH, Zurich, Switzerland; Francesco Ferrucci, Adaptricity GmbH, Zurich, Switzerland; Andreas Ulbig, Adaptricity GmbH, Zurich, Switzerland; Michael Koller, EKZ, Zurich, Switzerland

16.00 – 17.30 hrs: Block 4: Methods and Tools

1261 Data Analysis of LV Networks: Determination of key parameters from one year of monitoring over hundreds of UK LV feeders
Alejandro Navarro-Espinosa, The University of Manchester, Manchester, UK; Tuba Gozel, Gebze Institute of Technology, Gebze, Turkey; Luis F. Ochoa, The University of Manchester, Manchester, UK; Rita Shaw, Electricity North West, Manchester, UK; Dan Randles, Electricity North West, Manchester, UK

0110 Development and Cross-Validation of Short-Circuit Calculation Methods for Distribution Grids with High Penetration of Inverter-Interfaced Distributed Generation
Tilman Wippenbeck, RWTH Aachen University, Aachen, Germany; Armin Schnettler, RWTH Aachen University, Aachen, Germany; Manuel Jäkel, FGH e.V., Aachen, Germany; Hendrik Vennegeerts, FGH e.V., Aachen, Germany; Thomas Schmidt, RWE Deutschland AG, Essen, Germany; Thomas Theisen, RWE Deutschland AG, Essen, Germany; Vitali Sakschewski, SMA, Kassel, Germany

1296 Investigating the Benefits of Meshing Real UK LV Networks
Muhammed sait Aydin, The university of manchester, Manchester, UK; Alejandro Navarro Espinosa, The university of manchester, Manchester, UK; Luis F. Ochoa, The university of manchester, Manchester, UK

0634 Influence of average power factor management on active distribution networks
Luciano Cocchi, Enel Distribuzione, Rome, Italy; Alberto Cerretti, Enel Distribuzione, Rome, Italy; Ettore Deberardinis, Cesi, Milan, Italy; Fabio Bignucolo, University of Padova, Padova, Italy; Andrea Savio, University of Padova, Padova, Italy; Riccardo Sgarbossa, University of Padova, Padova, Italy

1191 Optimal Power Distribution Systems Configuration and Switching Sequence Procedure Determinations
Leonardo Ferreira Neto, Daimon, Sao Paulo, SP, Brazil; Alden Antunes, Daimon, Sao Paulo, SP, Brazil; Carlos Cesar Barioni de Oliveira, Daimon, Sao Paulo, SP, Brazil; André Meffe, Daimon, Sao Paulo, SP, Brazil; Alvaro Garcez, Sulgipe, Estancia, SE, Brazil

Round Tables Session

09.00 – 10.30 hrs: RT 7: Implementation and Roll-out of Innovative DER Grid Integration Solutions
> Room: Rhône 3 (L1)

09.00 – 10.30 hrs: RT 8: Responsibility of distribution grid operators for system services
> Room: Rhône 6 (L1)

11.00 – 12.30 hrs: RT 9: Testing methods and considerations for smarter network equipment – ICT, control, operation

> *Room: Rhône 3 (L1)*

11.00 – 12.30 hrs: RT 10: Protection systems in network with low level of short-circuit power
> *Room: Rhône 6 (L1)*

14.00 – 15.30 hrs: RT 11: The use of Energy Storage to alleviate distribution network constraints
> *Room: Rhône 3 (L1)*

14.00 – 15.30 hrs: RIF session, Session 3: Operation, Control & Protection

> *Room: Rhône 6 (L1)*

0613 A Dynamic Programming based approach to Day-ahead Operational Cost Reduction for DSOs
Bhargav Prasanna Swaminathan, University of Grenoble-Alps, Saint Martin d'Hères, France; Vincent Debusschere, University of Grenoble-Alps, Saint Martin d'Hères, France; Raphaël Caire, University of Grenoble-Alps, Saint Martin d'Hères, France

1210 Adoption of Capacitors in Lv Networks with PV Systems
Chao Long, University of Manchester, Manchester, UK; Luis Ochoa, University of Manchester, Manchester, UK; Geraldine Bryson, Electricity North West Ltd, Manchester, UK; Dan Randles, Electricity North West Ltd, Manchester, UK

1102 Using LV Real-Time Data for Pseudo-Measurements Generation in MV Distribution Networks
Henrique Teixeira, INESC TEC, Porto, Portugal; Pedro N. Pereira Barbeiro, INESC TEC, Porto, Portugal; Jorge Pereira, INESC TEC, Porto, Portugal; António A. Messias, EDP Distribuição, Lisboa, Portugal; Diogo A. Lopes, EDP Distribuição, Lisboa, Portugal; Pedro G. Matos, EDP Distribuição, Lisboa, Portugal

0507 Potential risk for power system stability of massive use of escalating frequency shift islanding detection method
Vincent Gabrion, EDF, Clamart, France ; Laurent Capely, EDF, Clamart, France ; Frédéric Colas, L2EP, Lille, France ; Sébastien Grenard, ERDF, Paris, France

0705 Impact of new European Grid codes requirements on anti-islanding protections: a case study
Julien Bruschi, G2ELab, St Martin d'Hères, France ; Florent Cadoux, G2ELab, St Martin d'Hères, France ; Bertrand Raison, G2ELab, St Martin d'Hères, France ; Yvon Bésanger, G2ELab, St Martin d'Hères, France ; Sébastien Grenard, ERDF, Paris, France

1391 Relevance of High-Voltage-Ride-Through Capability and Testing
Julian Langstädtler, FGH GmbH, Aachen, Germany; Martin Schellschmidt, ENERCON GmbH, Aurich, Germany; Jan Scheffer, FGH e.V., Mannheim, Germany; Christoph Kahlen, FGH e.V., Mannheim, Germany; Bernhard Schowe-von der Brelie, FGH GmbH, Aachen, Germany; Simon Schrobsdorff, ENERCON GmbH, Aurich, Germany

1133 Influence of LVRT Test Equipment Characteristics on the Dynamic Performance of a Power Generation Unit
Norbert Essl, Graz University of Technology, Graz, Austria; Herwig Renner, Graz University of Technology, Graz, Austria

0973 Verification of the Earth Fault Location Method Based on Evaluation of Voltage Sag in Real Distribution Network
David Topolanek, Brno University of Technology, Brno, Czech Republic; Petr Toman, Brno University of Technology, Brno, Czech Republic

0307 Application of Variance-Based Sensitivity Analysis to Issues of Stability and Protection in Distribution Grids - Two Case Studies
Philipp Erlinghagen, RWTH Aachen University, Aachen, Germany; Tilman Wippenbeck, RWTH Aachen University, Aachen, Germany; Felix Glinka, RWTH Aachen University, Aachen, Germany; Armin Schnettler, RWTH Aachen University, Aachen, Germany

16.00 – 17.30 hrs: RIF session, Session 4: Distributed Energy Resources & Active Demand Integration

> Room: Rhône 3 (L1)

Block 1: Active Demand

1139 Probabilistic Impact Assessment of Electric Vehicle Charging on Residential UK LV Networks
Jairo Quiros-Tortos, The University of Manchester, Manchester, UK; Luis F. Ochoa, The University of Manchester, Manchester, UK; Alejandro Navarro, The University of Manchester, Manchester, UK; Mary Gillie, EA Technology Limited, Chester, UK; Richard Hartshorn, Scottish and Southern Energy, Reading, UK

1177 Intelligent systems for energy prosumer buildings at district level
Valerio Angelucci, RSE s.p.a., Milan, Lombardy, Italy; Renato Urban, RSE s.p.a., Milan, Lombardy, Italy; Giuseppe Mauri, RSE s.p.a., Milan, Lombardy, Italy; Claudio Borean, Telecom Italia, Turin, Piedmont, Italy; Alessandro Quadrelli, ENEL Ingegneria e Ricerca, Pisa, Tuscany, Italy; Gianluca Gigliucci, ENEL Ingegneria e Ricerca, Pisa, Tuscany, Italy

1504 Active Load Management Strategy Considering Fluctuation Characteristics of Intermittent Energy
Fei Chen, Shanghai Jiao Tong University, Shanghai, China; Dong Liu, Shanghai Jiao Tong University, Shanghai, China; Qingsheng Li, China Southern Power Grid, Guizhou, China

Block 2: Studies

0375 Very short variations in voltage (timescale less than 10 minutes) due to variations in wind and solar power
Oscar Lennerhag, STRI AB, Gothenburg, Sweden; Math Bollen, STRI AB, Gothenburg, Sweden; Sarah Rönnberg, Luleå University of Technology, Skellefteå, Sweden; Susanne Ackeby, STRI AB, Gothenburg, Sweden

0965 Impact of Distributed Generation on Distribution Networks
Dumitru Federenciuc, ELECTRICA S.A., Bucharest, Romania; Ioan Silvas, ELECTRICA S.A., Bucharest, Romania; Nicolae Golovanov, Universitatea Politehnica Bucuresti, Bucharest, Romania; Dorel Stanescu, FDEE ELECTRICA Distributie Transilvania Sud S.A., Brasov, Romania

1475 Prospects of development of LVDC electricity distribution system energy efficiency
Andrey Lana, Lappeenranta University of Technology, Lappeenranta, Finland; Aleksi Mattsson, Lappeenranta University of Technology, Lappeenranta, Finland; Janne Karppanen, Lappeenranta University of Technology, Lappeenranta, Finland; Tero Kaipia, Lappeenranta University of Technology, Lappeenranta, Finland; Pasi Nuutinen, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland; Pasi Peltoniemi, Lappeenranta University of Technology, Lappeenranta, Finland

Block 3: Technology

0251 The Impact of Solar Power Forecast Errors on Voltage Control in Smart Distribution Grids
André Madureira, INESC Porto, Porto, Portugal; Ricardo Bessa, INESC Porto, Porto, Portugal; José Meirinhos, INESC Porto, Porto, Portugal; Dewan Fayzur, INESC Porto, Porto, Portugal; António Messias, EDP Distribuição, Lisboa, Portugal; Diogo Lopes, EDP Distribuição, Lisboa, Portugal; Pedro Matos, EDP Distribuição, Lisboa, Portugal

0298 Mitigation of grid overloads and voltage deviations using storage
Santiago Peñate Vera, DNV GL, Arnhem, The Netherlands; Jos van der Burgt, DNV GL, Arnhem, The Netherlands

0532 Perspective functions of LV microgrids: simulations and tests on the RSE's test facility
Diana Moneta, RSE Ricerca sul Sistema Energetico SpA, Milano, Italy; Matteo Rossini, Università degli Studi di Milano, Milano, Italy; Maurizio Verga, RSE Ricerca sul Sistema Energetico SpA, Milano, Ita
Block 4: Trials

0722 Active Network Management facilitating the connection of distributed generation and enhancing security of supply in dense urban distribution networks
David Olmos Mata, Smarter Grid Solutions, London, UK; Ali R. Ahmadi, Smarter Grid Solutions, London, UK; Graham Ault, Smarter Grid Solutions, London, UK; Adriana Laguna, UK Power Networks, London, UK; Michael Clark, UK Power Networks, London, UK

0738 The VENTEEA 2 MW / 1.3 MWh battery system: an industrial pilot to demonstrate multi-service operation of storage in distribution grids
Didier COLIN, ERDF, Champagne Ardenne, France ; Jesus Lugaro, SAFT, Paris, France ; Jean Claude Pinna, Schneider Electric, Grenoble, France ; Gauthier Dellile, EDF R&D, Paris, France ; Bruno François, Centrale Lille L2EP, Lille, France ; Christophe Caton, RTE, Nancy, France ; Giannino Martin, Boralex Energie Verte, Lyon, France

1613 The Smart Grids Model Region Salzburg - key findings, conclusions and claims of a DSO after several years of project work
Christoph Groiss, Salzburg Netz Gmbh, Salzburg, Austria; Walter Schaffer, Salzburg Netz Gmbh, Salzburg, Austria; Ingrid Lips, Salzburg Netz Gmbh, Salzburg, Austria; Herwig Struber, Salzburg Netz Gmbh, Salzburg, Austria; Georg Baumgartner, Salzburg AG, Salzburg, Austria

9.00 – 17.30 hrs: Poster session, Session 2: Power Quality & Electromagnetic Compatibility

> Poster area (L-2)

(x) = *interactive guided tour*

Block 1: Electric and magnetic fields, transients and earthing systems

0205 Use of Magnetic Field calculation tools to design MV / LV substations (x)
Carlos Alberto Wall, IITREE-LAT-FI-UNLP, La Plata, Argentina; Patricia Liliana Arnera, IITREE-LAT-FI-UNLP, La Plata, Argentina; Maria Beatriz Barbieri, IITREE-LAT-FI-UNLP, La Plata, Argentina

0362 Magnetic Field Simulation & Measurement of Underground Cable System inside duct bank
Zairul Aida Abu Zarim, TNB Reasearch, Selangor, Malaysia; Tashia Marie Anthony, TNB Reasearch, Selangor, Malaysia

0385 Risk management in a low voltage network on safety issues from asset management perspective (x)
Sharmistha Bhattacharyya, Endinet, Eindhoven, The Netherlands; Thijs van Dael, Endinet, Eindhoven, The Netherlands

0394 A New Design Tool for Distribution Substation Earthing Safety
Robert A Weller, ERA Technology (Earthing Solutions), South Wales, UK; Mark Davies, ERA Technology (Earthing Solutions), South Wales, UK; Stephen Tucker, UK Power Networks, London, UK; M Hakan Hocaoglu, Gebze Institute of Technology, Gebze, Turkey

0426 ELF Electric and Magnetic Fields Emission due to Rooftop Photovoltaic System (x)
Hanaa Karawia, Alexandria Electricity Distribution Company, Alexandria, Egypt; Maha Ali, Alexandria Electricity Distribution Company, Alexandria, Egypt

0651 How to contain Electromagnetic Fields in Medium Voltage Substations: experience in design and operations (x)
Attilio Cipollone, Acea Distribuzione S.p.A., Rome, Italy; Emilio Zendri, Acea Distribuzione S.p.A., Rome, Italy; Chiara Consani, Acea Distribuzione S.p.A., Rome, Italy

0747 Research on Response of Rogowski Coil Electronic Current Transformer to Transient Signal (x)
JIANFEI JI, Jiangsu Provincial Power Company Electric Power Research Institute, Nanjing,Jiangsu, China; QIANGSHENG BU, Jiangsu Provincial Power Company Electric Power Research Institute, Nanjing,Jiangsu, China; YUBO YUAN, Jiangsu Provincial Power Company Electric Power Research Institute, Nanjing,Jiangsu, China

0787 An integrated methodology for design of grounding systems (x)
Carlos Cardoso, EDP Labelec, Sacavém, Portugal; Nuno Filipe, EDP Labelec, Sacavém, Portugal; Andreia Leiria, EDP Labelec, Sacavém, Portugal; Pedro Teixeira, EDP Distribuição, Lisbon, Portugal

0998 Choice of MV feeder BIL to maximize QOS and minimize equipment failure
Willem Dirkse van Schalkwyk, Eskom Holdings SOC, Bloemfontein, South Africa; John van Coller, University of Witwatersrand, Johannesburg, South Africa

1054 EMC analysis of the EDP Distribuição Smart Grid (x)
António Ferreira, EDP Labelec, Lisbon, Portugal ; Pedro Daniel, EDP Distribuição, Lisbon, Portugal

1058 Impact of Global Earthing Systems on the Inductive Influence of Buried Isolated Metallic Pipelines (x)
Christian Wahl, Graz University of Technology, Institute of Electrical Power Systems, Graz, Austria; Ernst Schmautzer, Graz University of Technology, Institute of Electrical Power Systems, Graz, Austria

1069 Local Distributor Zero Emission Substation (x)
Davide Bavastro, Politecnico di Torino, Torino, Italy; Aldo Canova, Politecnico di Torino, Torino, Italy; Luca Giaccone, Politecnico di Torino, Torino, Italy; Michele Manca, Politecnico di Torino, Torino, Italy

1118 Proof of a Global Earthing System (x)
Stefan Hoene, Siemens AG, Erlangen, Germany; Max Reinhard, Infraserv GmbH & Co. Höchst KG, Frankfurt, Germany

1176 QOS challenges of operating MV overhead line at LV in a high lightning density area
Mandri van der Mescht, Eskom Holdings SOC, Bloemfontein, South Africa; Willem Dirkse van Schalkwyk, Eskom Holdings SOC, Bloemfontein, South Africa

1189 Energising Inrush Current Transients in Parallel-Connected Transformers (x)
Hana Abdull Halim, University of New South Wales, Sydney, Australia; Toan Phung, University of New South Wales, Sydney, Australia; John Fletcher, University of New South Wales, Sydney, Australia

1478 New Directive 2013/35/EU on Occupational Exposure to Magnetic Fields and Electrical Workers Use of Active Implanted Medical Devices (AIMDs)
Leena Korpinen, Tampere University of Technology, Tampere, Finland; Rauno Pääkkönen, Finnish Institute of Occupational Health, Tampere, Finland; Vesa Virtanen, The Heart Center, Tampere University Hospital, Tampere, Finland

1484 Emission of smart meter electromagnetic field (50-100 kHz) in Finland
Rauno Pääkkönen, Finnish Institute of Occupational Health, Tampere, Finland; Leena Korpinen, Tampere University of Technology, Tampere, Finland

1516 Comparison between simulations and measurements of harmonics in residual earth fault currents of a 20 kV-network (x)
Uwe Schmidt, Dresden University of Technology, Dresden, Germany; Gernot Druml, Trench Austria GmbH, Linz, Austria; Yu Wei, Dresden University of Technology, Dresden, Germany; Peter Schegner, Trench Austria GmbH, Linz, Austria

1540 Measurement and Calculation of Non-Ionizing Radiation Levels in the Vicinity of 35 kV Overhead Power Lines (x)
Maja Grbic, Electrical Engineering Institute Nikola Tesla, Belgrade, Serbia; Aleksandar Pavlovic, Electrical Engineering Institute Nikola Tesla, Belgrade, Serbia

1541 Practical Application of Technique for Reducing Levels of Magnetic Field Emitted by 10/0.4 kV Substation (x)
Maja Grbic, Electrical Engineering Institute Nikola Tesla, Belgrade, Serbia; Aleksandar Pavlovic, Electrical Engineering Institute Nikola Tesla, Belgrade, Serbia

Block 2: Harmonics and interharmonics

0056 Single Tuned Harmonic Filter Design As Total Harmonic Distortion (THD) Compensator (x)
Muhammad Rusli, PLN, PALEMBANG, SOUTH SUMATERA, Indonesia; Muhammad Ihsan, PLN, PALEMBANG, SOUTH SUMATERA, Indonesia; Danang Setiawan, PLN, PALEMBANG, SOUTH SUMATERA, Indonesia

0062 Thermal modelling and ageing of transformer under harmonic currents Ahmed
Abbas, General Organization for Export and Import Control, Cairo, Egypt; Essam Abou el-zahab, Cairo University, Giza, Egypt; Ahmed El-bendary, Helwan University, Cairo, Egypt

0135 Resonances in LV Industrial Networks When Using Shunt Capacitors for Power Factor Correction (x)
Toomas Vinnal, Tallinn University of Technology, Tallinn, Estonia; Tiiu Sakkos, Tallinn University of Technology, Tallinn, Estonia; Kuno Janson, Tallinn University of Technology, Tallinn, Estonia; Marek Jarkovoi, Tallinn University of Technology, Tallinn, Estonia

0207 Optimal Harmonic Meter Placement for Estimation Of Harmonic Sources Using Artificial Intelligence Techniques (x)
Madiha El-nagar, Arab Contractors, Cairo, Egypt; Mahmoud Sayed, Cairo University, Giza, Egypt; Hosam Yousef, Cairo University, Giza, Egypt; Fahmy Bendary, Benha University, Cairo, Egypt

0267 Disturbance load modelling with equivalent voltage source method in grid harmonic assessment (x)
Xavier YANG, EDF R&D, Clamart, France; Xingyan NIU, EDF R&D, Beijing, China; Bruno PASZKIER, EDF R&D, Clamart, France

0325 Active Filters Application for Metro A.C Substations
Ashraf Rezkalla, Egyptian Electricity transmission company, Ain Shams University, Cairo, Egypt

0344 The analysis of magnification of Neutral Current in the Presence of Power Quality problems
Nelly Ahmed, Middle Egypt Electricity Distribution Company, EL-Menia, Egypt; Khalaf Rushdy, Middle Egypt Electricity Distribution Company, EL-Menia, Egypt; Ahmed Fatehy, Middle Egypt Electricity Distribution Company, EL-Menia, Egypt; Alla Eldin Abd Elaziz, Middle Egypt Electricity Distribution Company, EL-Menia, Egypt

0381 Performance Analysis for Non-Linear Load Modelling with Frequency Coupling Admittance Matrices (x)
Anke Fröbel, Otto von Guericke University Magdeburg, Magdeburg, Germany; Ralf Vick, Otto von Guericke University Magdeburg, Magdeburg, Germany

0403 Problems of harmonic voltage in the LV distribution grid
Martin Kaspirek, E.ON Czech Republic, Ceske Budejovice, Czech Republic; David Mezera, E.ON Czech Republic, Ceske Budejovice, Czech Republic; Karel Prochazka, EGC Energoconsult, Ceske Budejovice, Czech Republic

0427 The Effect of Photovoltaic Rooftop systems on Grid Power Quality (x)
Hanaa Karawia, Alexandria Electricity Distribution Company, Alexandria, Egypt; Maha ALi, Alexandria Electricity Distribution Company, Alexandria, Egypt

0657 Results of harmonic interactions of EV chargers and PV systems (x)
Bernhard Grasel, Dewetron GmbH, Grambach, Austria; Andreas E. Neuhold, Dewetron GmbH, Grambach, Austria; Michael Oberhofer, Dewetron GmbH, Grambach, Austria

0816 Harmonic Aggregation and Amplification in a Wind-Park (x)
Kai Yang, Luleå University of Technology, Skellefteå, Sweden; Daphne Schwanz, Luleå University of Technology, Skellefteå, Sweden; Math Bollen, Luleå University of Technology, Skellefteå, Sweden

0873 Power Quality Impact of Electric and Plug-In Hybrid Vehicles
Wilsun Xu, University of Alberta, Edmonton, Alberta, Canada; Georges Simard, CEATI International, Montreal, Quebec, Canada; Jerry Lepka, CEATI International, Montreal, Quebec, Canada

0920 Practical Issues with Transmission System Harmonic Allocation using IEC/TR 61000.3.6, EDITION 2, 2008 (x)
Tuan Vu, Duane Robinson, Sarath Perera, Victor Gosbell, University of Wollongong, New South Wales, Australia; Rizah Memisevic, Powerlink, Queensland, Australia

0950 Stabilization of Harmonic Instability in AC Distribution Power System with Active Damping
Changwoo Yoon, Aalborg University, Aalborg East, Denmark; Xiongfei Wang, Aalborg University, Aalborg East, Denmark; Claus Leth Bak, Aalborg University, Aalborg East, Denmark; Frede Blaabjerg, Aalborg University, Aalborg East, Denmark

0954 Modelling Solar Parks for Harmonic Studies
Muhammad Ali, TNEI Services Ltd, Manchester, UK; Gordon McFadzean, TNEI Services Ltd, Manchester, UK; Mustafa Kayikci, TNEI Services Ltd, Manchester, UK

1017 Mapping of harmonic levels in the low-voltage network (x)
Yvonne Ruwaida, Vattenfall, Sundbyberg, Sweden; David Holmberg, Vattenfall, Sundbyberg, Sweden; Math Bollen, Luleå University of Technology, Skellefteå, Sweden

1066 Impact of non intentional disturbances on Distribution Line Communication
Luca Bettinsoli, Enel Distribuzione, Roma, Italy; Romano Napolitano, Enel Distribuzione, Roma, Italy; Claudia Imposimato, RSE, Milano, Italy; Paolo Giubbini, Enel Distribuzione, Roma, Italy

1068 Field and laboratory measurements of interference with light equipment due to waveform distortion originating from a large rectifier (x)
Anders Larsson, Luleå Universtiy of Technology, Skellefteå, Sweden; Aurora Gil-de-Castro, University of Cordoba, Cordoba, Spain; Mats Wahlberg, Luleå Universtiy of Technology, Skellefteå, Sweden; Math Bollen, Luleå Universtiy of Technology, Skellefteå, Sweden

1214 ERDF Endorses Power Quality for E-Mobility (x)
Bruno DOBROWOLSKI, ERDF, Paris la Défense, France ; Matthieu RUBION, ERDF, Paris la Défense, France ; Mélaine ROUSSELLE, EDF R&D, Clamart, France ; Géraud RIAS, EDF R&D, Clamart, France ; Alban JEANDIN, EDF R&D, Clamart, France ; Cédric LAVENU, EDF R&D, Clamart, France

1348 Conducted Disturbances in the Frequency Range 2-150 kHz: Influence of the LV Distribution Grids (x)
Caroline Leroi, Université catholique de Louvain, Louvain-la-Neuve, Belgium ; Emmanuel De Jaeger, Université catholique de Louvain, Louvain-la-Neuve, Belgium

1352 Impact of LV connected low carbon technologies on harmonic power quality (x)
Nathaniel Bottrell, Imperial College, London, UK; Jose Enrique Ortega Calderon, Imperial College, London, UK; Mark Bilton, Imperial College, London, UK; Tim Green, Imperial College, London, UK; Goran Strbac, Imperial College, London, UK

1404 Impact of Electric Vehicle Charging on Unbalance and Harmonic Distortion - Field Study in a Urban Residential Area (x)
Friedemann Moeller, Technische Universitaet Dresden, Dresden, Germany; Sascha Mueller, Technische Universitaet Dresden, Dresden, Germany; Jan Meyer, Technische Universitaet Dresden, Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Dresden, Germany; Carsten Wald, ENSO NETZ GmbH, Dresden, Germany; Stephan Isensee, DREWAG NETZ GmbH, Dresden, Germany

1621 Measurements of primary and secondary emission in the supraharmonic frequency range, 2-150 kHz (x)
Sarah Rönnberg, Luleå University of Technology, Skellefteå, Sweden; Math Bollen, Luleå University of Technology, Skellefteå, Sweden

Block 3: Voltage variations and dips

0108 HV Connection options when introducing regenerative braking on HS trains (x)
Vukan Polimac, Polimac Ltd, Godalming, Surrey, UK; Jelica Polimac, Polimac Ltd, Godalming, Surrey, UK

0183 Volt-var control and power quality (CIGRE/CIRED C4.24) (x)
Math Bollen, Luleå University of Technology, Skellefteå, Sweden; Shay Bahramirad, ComEd, Chicago, USA; Amin Khodaei, University of Denver, Denver, USA; Jan Meyer, Technical University Dresden, Dresden, Germany; Roberto Langella, Second University of Naples, Naples, Italy; Jean-Philippe Hasler, ABB, Västerås, Sweden; Francisc Zavoda, IREQ, Montreal, Canada; Juncheng Liu, Xian Boyu Electrical Co, Xian, China

0231 Impact of small producers on power quality in distribution grids based on Elektrilevi OÜ grid (x)
Rasmus Armas, Tallinn University of Technology, Tallinn, Estonia

0253 Overview of IEEE Std 1564-2014 Guide for Voltage Sag Indices (x)
Daniel Sabin, Electrotek Concepts, Beverly, Massachusetts, USA; Math Bollen, Luleå University of Technology, Luleå, Sweden

0332 Control Algorithms for Voltage Regulated Distribution Transformers Maximum Grid-Integration of PV and Minimal Wear
Claas Matrose, RWTH Aachen University, Aachen, Germany; Michael Cremer, RWTH Aachen University, Aachen, Germany; Armin Schnettler, RWTH Aachen University, Aachen, Germany; Thomas Smolka, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany; Manuel Sojer, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany; Robert Frings, INFRAWEST GmbH, Aachen, Germany

0452 A Universal Compensator for Power Quality Improvement in LV Distribution Grids (x)
Federico Belloni, Ricerca sul Sistema Energetico - RSE, Milano, Italy; Riccardo Chiumeo, Ricerca sul Sistema Energetico - RSE, Milano, Italy; Chiara Gandolfi, Ricerca sul Sistema Energetico - RSE, Milano, Italy; Salvatore Pugliese, A2A Reti Elettriche s.p.a., Milano, Italy; Davide Della Giustina, A2A Reti Elettriche s.p.a., Milano, Italy; Giovanni Accetta, A2A Reti Elettriche s.p.a., Milano, Italy

0496 Characterization of sequence of events potentially responsible for the reboot of ultra-broadband telecommunication devices (x)
Liliana Tenti, RSE Ricerca sul sistema energetico, Milano, Italy; Riccardo Chiumeo, RSE Ricerca sul sistema energetico, Milano, Italy; Flavio Cucchietti, Telecom Italia, Torino, Italy; Gianluca Griffa, Telecom Italia, Torino, Italy; Claudio Bianco, Telecom Italia, Torino, Italy

0683 Power Quality improvement in rural areas with static UPS technology (x)
Tjeerd Oenema, Cogas, Almelo, Overijssel, The Netherlands; Frits Besseling, Eaton Industries B.V., Hengelo, Overijssel, The Netherlands; Freddie Kuipers, Eaton Industries B.V., Hengelo, Overijssel, The Netherlands; Juha Ulvinen, Eaton Power Quality Finland, Espoo,, Finland; Janne Paananen, Eaton Power Quality Finland, Espoo, Finland

0817 Series Compensation on Medium Voltage Radial Systems (x)
Carlos Eduardo Cauduro Figueiredo, AES Sul Distribuidora Gaúcha de Energia S.A., São Leopoldo, Rio Grande do Sul, Brazil; Mauro Sergio Silveira, AES Sul Distribuidora Gaúcha de Energia S.A., São Leopoldo, Rio Grande do Sul, Brazil; Gilnei José Gama dos Santos, AES Sul Distribuidora Gaúcha de Energia S.A., São Leopoldo, Rio Grande do Sul, Brazil; Luciano Quadros, AES Sul Distribuidora Gaúcha de Energia S.A., São Leopoldo, Rio Grande do Sul, Brazil; Nelson Clodoaldo de Jesus, AES Sul Distribuidora Gaúcha de Energia S.A., São Leopoldo, Rio Grande do Sul, Brazil

1004 3-Phase Low Voltage Network Load Balancer: A Cost Effective Solution to Line Voltage Variations (x)
Olivier CONSTANT, OmégaWatt, Aurel, France ; Pierre FRISTOT, OmégaWatt, Aurel, France ; Catherine MONCET, SDET, Albi, France

1059 Provision of Differentiated Voltage Sag Performance Using FACTS Devices (x)
Huilian Liao, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Sami Abdelrahman, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Jovica V. Milanovic, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK

1064 Comparative Analysis of Different Voltage Sag Characterisation Indices (x)
Huilian Liao, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Jovica V. Milanovic, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK

1067 Provision of Differentiated Power Quality Using Network Based Mitigating Solutions (x)
Huilian Liao, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Jahangir Saif, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Jovica V. Milanovic, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK

1077 Detailed analysis of class F1 / F3 flicker meter implementation according to the recent IEC standards (x)
Pavel Štěpán, TU in Liberec, Liberec, Czech Republic; Leoš Kukačka, TU in Liberec, Liberec, Czech Republic
Jan Kraus, TU in Liberec, Liberec, Czech Republic

1121 Effect of reduced rotating inertia on expansion of voltage dips caused by three-phase faults in the German Power Transmission Network (x)
Sascha Altschäffl, Technische Universität München, München, Germany; Rolf Witzmann, Technische Universität München, München, Germany

1172 Research on Voltage Sag Protection system based on DC Support Technology (x)
Wenbo Chen, Golden Cooperate CO.,LTD, Nanjing, China; Mingtian Fan, CEPRI, Beijing, China Zhonghua Mei, Golden Cooperate CO.,LTD, Nanjing, China; Bao Zhang, Golden Cooperate CO.,LTD, Nanjing, China

1229 A Guide to Successful Accommodation of Mass Penetration of High Inrush Current Devices on Distribution Networks (x)
Jens Schoene, EnerNex LLC, Knoxville, Tennessee, USA; Vadim Zheglov, EnerNex LLC, Knoxville, Tennessee, USA; Georges Simard, CEATI International, Montreal, Quebec, Canada; Jerry Lepka, CEATI International, Montreal, Quebec, Canada

1308 Hybrid Forecasting Techniques Applied to Distribution Systems for Proactive Voltage Control
ENOQUE GARCIA, UFSM, SANTA MARIA, RS, Brazil; PAULO PEREIRA, UFSM, SANTA MARIA, RS, Brazil; LUCIANE CANHA, UFSM, SANTA MARIA, RS, Brazil

1441 Considerations on Photovoltaic Power Plant Power Quality Requirements (x)
Carmen Stanescu, Transelectrica, Bucuresti, Romania; Doina Ilisiu, Transelectrica, Bucuresti, Romania; Dorel Stanescu, FDEE ELECTRICA Distributie Transilvania Sud S.A., Brasov, Romania; Petru Postolache, Universitatea Politehnica, Bucuresti, Romania

1444 Modeling the effectiveness of power electronics based voltage regulators on distribution voltage disturbances (x)
James Simonelli, Gridco Systems, Woburn, MA, USA; Olivia Leitermann, Gridco Systems, Woburn, MA, USA Jing Huang, Gridco Systems, Woburn, MA, USA

1485 A novel Smart Grid architecture for the monitoring of voltage dips according to Italian Resolution ARG/elt 198/11 (x)
Maurizio Delfanti, Politecnico di Milano, Milano, Italy; Davide Falabretti, Politecnico di Milano, Milano, Italy; Massimo Fiori, A.S.SE.M. SpA, San Severino Marche (MC), Italy

1508 Discrimination and Assessment of Voltage Sag in Distribution Networks (x)
Emad eldeen A. Alashaal, North Cairo Electricity Distribution Company, Cairo,Cairo, Egypt; Sabah I. Mohammed, North Cairo Electricity Distribution Company, Cairo,Cairo, Egypt; Khaled Abdel Aty, Ain Shams university, Cairo,Cairo, Egypt; Hossam eldeen A. Talaat, Ain Shams university, Cairo,Cairo, Egypt

1636 Network housekeeping with stretched Low Voltage limits (x)
Michiel Van Lumig, Laborelec, Linkebeek, Belgium; Rafaël Jahn, Laborelec, Linkebeek, Belgium; Maarten van Blijderveen, Alliander, Arnhem, The Netherlands; Kevin Daems, Eandis, Melle, Belgium Frédéric Lefèvre, Ores, Louvain-La-Neuve, Belgium; Jan Desmet, UGent, Kortrijk, Belgium

1656 Power Disturbance Identification based on Transient Behaviors Using Morphological Max-lifting Scheme and Nonlinear Principal Component Analysis
Yin Zhang, South China University of Technology, Guangzhou, China; Tianyao Ji, South China University of Technology, Guangzhou, China; Mengshi Li, South China University of Technology, Guangzhou, China; Qinghua Wu, South China University of Technology, Guangzhou, China

Block 4: Power quality monitoring and supply reliability

0046 Evaluation of long-term voltage dip monitoring in HV, MV and LV networks
Miloslava Tesarova, University of West Bohemia, Plzen, Czech Republic; Martin Kaspirek, E.ON Czech Republic, Ceske Budejovice, Czech Republic

0148 Voltage dip monitoring and analysis in Enel Distribuzione network (x)
Christian Noce, Enel Distribuzione SpA, Roma, Italy ; Pietro Varilone, Università di Cassino e del Lazio Meridionale, Cassino, Italy ; Paola Verde, Università di Cassino e del Lazio Meridionale, Cassino, Italy

0181 CIGRE/CIRED working group C4.24 – power quality and EMC issues associated with future electricity networks – status report (x)
Math Bollen, Luleå University of Technology, Skellefteå, Sweden; Sarah Rönnberg, Luleå University of Technology, Skellefteå, Sweden; Francisc Zavoda, IREQ, Montreal, Canada; Jin Zhong, University of Hong Kong, Hong Kong, China; Sasa Djokic, University of Edinburgh, Edinburgh, UK; Ratan Das, ABB, -, USA; Mark Halpin, Auburn University, Auburn, USA

0234 Power Quality Monitoring with Smart Meters (x)
Nitin Lothe, Tata Power Company, MUMBAI, India; Suhas Dhapare, Tata Power Company, MUMBAI, India Ramchndran Pillai, Tata Power Company, MUMBAI, India

0236 Power-Quality recording and evaluation in an industrial area (chemical park) (x)
Markus Kraft, SIEMENS AG, Nuernberg, Germany

0258 Revision of IEEE Std 1159.3 PQDIF (x)
Daniel Sabin, Electrotek Concepts, Beverly, Massachusetts, USA; William Dabbs, Electrotek Concepts, Beverly, Massachusetts, USA

0273 CIGRE/CIRED/IEEE working group C4.24 - New measurement techniques in the future grid (x)
Francisc Zavoda, IREQ, Varennes, Quebec, Canada; Jan Meyer, Technische Universitaet Dresden, Dresden, Germany; Math Bollen, Luleå University of Technology, Luleå, Sweden; Sarah Rönnberg, Luleå University of Technology, Luleå, Sweden; Jan Desmet, Gent University, Gent, Belgium

0317 Evaluation of Power Quality in Regional Distribution Networks (x)
Pavel Santarius, VSB-Technical University of Ostrava, Ostrava, Czech Republic; Petr Krejci, VSB-Technical University of Ostrava, Ostrava, Czech Republic; Zdenek Brunclik, CEZ Distribucni sluzby s.r.o., Ostrava, Czech Republic; Karel Prochazka, EGC-EnerGoConsult CB s.r.o., Ceske Budejovice, Czech Republic; Frantisek Kysnar, EGC-EnerGoConsult CB s.r.o., Ceske Budejovice, Czech Republic

0372 Power Quality: new tendencies in standardization and challenges of energiewende (x)
Michael Schwenke, Siemens AG, Berlin, Germany; Manfred Unterweger, Siemens AG, Nuremberg, Germany
0382 Implementing a systematic approach towards solving power quality complaints - from a network operator's perspective
Sharmistha Bhattacharyya, Endinet, Eindhoven, The Netherlands; Luc van den Nieuwenhof, Endinet, Eindhoven, The Netherlands

0384 New Challenges in the Development of Edp Distribuição's Pq Monitoring Platform (x)
Pedro Veloso, EDP Distribuição, Coimbra, Portugal; Fernando Bastião, EDP Distribuição, Coimbra, Portugal; António Lebre, EDP Distribuição, Coimbra, Portugal; Fabrice Gonçalves, EDP Distribuição, Coimbra, Portugal; Nuno Melo, EDP Distribuição, Coimbra, Portugal; Andreia Leiria, Labelec, Sacavém, Portugal

0391 Benefits of using DMS-system for distribution network to optimize DER (x)
Niklas Sigfridsson, Vattenfall Operations Nordic, Luleå, Sweden; Elisabeth Man, Vattenfall Operations Nordic, Luleå, Sweden

0398 Combining existing and modern equipment to a new generation of Self Healing Network (x)
Niklas Sigfridsson, Vattenfall Operations Nordic, Luleå, Sweden; Elisabeth Man, Vattenfall Operations Nordic, Luleå, Sweden; Florin Stelea, Vattenfall Operations Nordic, Luleå, Sweden

0697 The private cloud based smart data management system for power quality monitoring (x)
Ling Luo, State Grid Shanghai Electrical Power Research Institute, Shanghai, China; Jian Ping, Shanghai Jiao Tong University, Shanghai, China; Zhiyong Chen, Shanghai Jiao Tong University, Shanghai, China; Xiaofeng Liang, Powervision Technology Limited Company, Beijing, China

0726 Power Quality Management Methodology (x)
Vanya IGNATOVA, Schneider Electric, Grenoble, France; Marc LAFORT, Schneider Electric, Grenoble, France; Ivan Bilic, ADABEL d.o.o., Split, Croatia

0860 Characterisation of Power Quality Performance at Network Buses Using Unified Power Quality Index (x)
Sami Abdelrahman, University of Manchester, Manchester, UK; Huilian Liao, University of Manchester, Manchester, UK; Jovica Milanovic, University of Manchester, Manchester, UK

0876 Economic Valuation of The Power Outages in Argentina
Marcelo Durán, EDESUR, Buenos Aires, Argentina; Raúl Stival, EPESF, Rosario, Argentina

0894 Power Quality Analysis and Harmonic Tracing in City Grid based on Big Monitoring Data (x)
Aiqiang Pan, State Grid Shanghai Electric Power Research Institude, Shanghai, China; Jian Zhou, State Grid Shanghai Electric Power Research Institude, Shanghai, China

1161 Benefits of voltage measurements with smart meters (x)
Helge Seljeseth, SINTEF Energy Research, Trondheim, Norway; Henrik Kirkeby, SINTEF Energy Research, Trondheim, Norway; Henning Taxt, SINTEF Energy Research, Trondheim, Norway

1166 Mismatch in electromagnetic compatibility standards and regulations (x)
Henrik Kirkeby, SINTEF Energy Research, Trondheim, Norway; Helge Seljeseth, SINTEF Energy Research, Trondheim, Norway

1173 Assessing the Service Quality Provided By Electricity Distribution Utilities (x)
AILSON BARBBOSA, BRAZILIAN ELECTRICITY REGULATORY AGENCY, BRASILIA, Brazil; RAFAEL SHAYANI, UNIVERSITY OF BRASILIA, BRASILIA, Brazil; MARCO OLIVEIRA, UNIVERSITY OF BRASILIA, BRASILIA, Brazil

1298 Clustering of Smart Meter Data for Data Compression and Fast Power Flow Computation
Christoph Kattmann, University of Stuttgart, Stuttgart, Baden Württemberg, Germany; Krzysztof Rudion, University of Stuttgart, Stuttgart, Baden Württemberg, Germany; Stefan Tenbohlen, University of Stuttgart, Stuttgart, Baden Württemberg, Germany

1401 Efficient Power Quality Analysis of Big Data (Case Study for a Distribution Network Operator) (x)
Etienne Gasch, Technische Universitaet Dresden, Dresden, Germany; Jan Meyer, Technische Universitaet Dresden, Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Dresden, Germany; Karsten Schmidt, ENSO NETZ GmbH, Dresden, Germany

1407 NEQUAL - Web-based Voltage Quality Monitoring in Switzerland (x)
Jan Meyer, Technische Universitaet Dresden, Dresden, Germany; Stefan Egger, St. Gallisch-Appenzellische Kraftwerke AG (SAK), St. Gallen, Switzerland; Hansjoerg Holenstein, Association of Swiss Electricity Companies (VSE), Aarau, Switzerland; Etienne Gasch, Technische Universitaet Dresden, Dresden, Germany; Max Domagk, Technische Universitaet Dresden, Dresden, Germany

1422 Dynamic Intelligent Compression for Power Quality Analysers (x)
Tomáš Bedrník, Technical University of Liberec, Liberec, Czech Republic; Leoš Kukačka, Technical University of Liberec, Liberec, Czech Republic; Pavel Štěpán, Technical University of Liberec, Liberec, Czech Republic ;Jan Kraus, Technical University of Liberec, Liberec, Czech Republic

1582 Power Quality Analysis for DG in Smart City Buzios (x)
Marcio Fortes, Fluminense Federal universisty, Niteroi, Rio de Janeiro, Brazil; Vitor Ferreira, Fluminense Federal universisty, Niteroi, Rio de Janeiro, Brazil; Leonardo Arariba, Fluminense Federal universisty, Niteroi, Rio de Janeiro, Brazil; Weules Correia, Ampla S.A., Niteroi, Rio de Janeiro, Brazil; Renato Rosa, Synapsis, Niteroi, Rio de Janeiro, Brazil

1625 Case study: Assessment of Power Quality in practice (x)
Jan Rasmussen, Danish Energy Association, Frederiksberg, Denmark

1654 Why network coherent data is smart (x)
Johan Rens, North-West University, Potchefstroom, South Africa; Jan Desmet, Ghent University, Ghent, Belgium

1657 Coastal Distribution Network Power Quality Measurement
Velimir Strugar, Montenegrin Electric Enterprise Niksic, -Podgorica, Montenegro; Vladimir Katic, University of Novi Sad, Faculty of Technical Sciences, -Novi Sad, Serbia

9.00 - 17.30 hrs: Poster session, Session 6: Challenges of Dso Regulation & Competitive Market

> Poster area (L-2)

(x) = *interactive guided tour*

Block 1: Involving the customer

0101 Demand Response Energy Consumption Scheduling program Using Genetic Algorithm
Carolein Nagy, Ain Shams University, Cairo, Egypt; Rania Swief, Ain Shams University, Cairo, Egypt; Al Moataz Youssef, Ain Shams University, Cairo, Egypt

0122 Attitudes, Expectations and Experiences with Smart Metering. Key Findings from the Norwegian Market 2006 - 2014 (x)
Eva Fosby Livgard, TNS Gallup, Oslo, Norway

0450 Innovative methodology to define stakeholders' requirements for smart systems (x)
Juan Jacobo Peralta, CEMOSA, Málaga, Spain; Noemi Jiménez, CEMOSA, Málaga, Spain; Augusto Casaca, INESC-ID/INOV, Portugal, Portugal; Francisco Melo, EDP Distribuição, Lisbon, Portugal; Krzysztof Piotrowski, IHP, Frankfurt Oder, Germany

0631 Opening up for a more competitive energy market with new energy services by making "real time" metering data accessible to market players (x)
Jon Stromsather, Enel Distribuzione, Rome, Italy; Laura Marretta, Enel Distribuzione, Rome, Italy; Peter Soderstrom, Vattenfall Distribution Operations Nordic, Stockholm, Sweden

0742 A comparison of the power-to-gas concept and battery electric vehicles to integrate wind energy into electricity networks (x)
Nicolas Peron, Imperial College London, London, UK; Koen H. van Dam, Imperial College London, London, UK

0970 Cost Benefit Analysis of households energy boxes deployment in Europe: impact of the spot prices (x)
Gaspard Lebel, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Raphaël Caire, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Nouredine Hadjsaid, Univ. Grenoble Alpes, G2Elab, F-38000 Grenoble, France; Stéphane Bediou, Schneider Electric, F-38000 Grenoble, France; Alain Glatigny, Schneider Electric, F-38000 Grenoble, France

1057 Evaluating the financial incentives of smart charging-schemes for electric vehicles drivers and aggregators (x)
Elisabeth Mallet, Imperial College London, London, UK; Salvador Acha, Imperial College London, London, UK; Gonzalo Bustos Turu, Imperial College London, London, UK; Koen van Dam, Imperial College London, London, UK

1062 Suitable network tariff design for the grid integration of decentralized generation and storage (x)
Dona Mountouri, ewz, Zurich, Zurich, Switzerland; Florian Kienzle, ewz, Zurich, Zurich, Switzerland Vasileios Poulios, ewz, Zurich, Zurich, Switzerland; Christine Döbeli, ewz, Zurich, Zurich, Switzerland Hansruedi Luternauer, ewz, Zurich, Zurich, Switzerland

1085 Subscribed power - testing new power based network tariffs stimulating for demand response
Hanne Sæle, SINTEF Energy Research, Trondheim, Norway; Bernt A. Bremdal, Narvik University College, Narvik, Norway; Therese Troset Engan, NTE Nett, Steinkjer, Norway; Vidar Kristoffersen, Fredrikstad Energi AS, Fredrikstad, Norway; Jan A. Foosnæs, NTE Nett, Steinkjer, Norway; Tor Erling Nordal, NTE Nett, Steinkjer, Norway; Jo Morten Sletner, NCE Smart Energy Markets, Halden, Norway

1104 Smart Tariffs - In an Active Distribution Grid
Hanne Sæle, SINTEF Energy Research, Trondheim, Norway; Kjell Sand, SINTEF Energy Research, Trondheim, Norway; Ove S. Grande, SINTEF Energy Research, Trondheim, Norway

1130 Analysis of Demand-Response Participation Strategies for Congestion Management in an Island Distribution Network (x)
Gaëlle Ryckebusch, KTH (Royal Institute of Technology), Stockholm, Sweden; Erica Lidström, Vattenfall, Stockholm, Sweden; Daniel A. Brodén, KTH (Royal Institute of Technology), Stockholm, Sweden; Lars Nordström, KTH (Royal Institute of Technology), Stockholm, Sweden

1156 A survey on the role of consumers in Smart Grid (x)
Diogo Baldissin, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Fernanda Gabriela Borger, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Rogério Jorge, AES Eletropaulo, São Paulo, SP, Brazil; Vanessa Moreira, AES Eletropaulo, São Paulo, SP, Brazil; Ederson Souto, AES Eletropaulo, São Paulo, SP, Brazil; Marcelo Pelegrini, Sinapsis Inovação em Energia, São Paulo, SP, Brazil

1248 Empowering Customer Engagement by Informative Billing - a European Approach (x)
Stoyan Danov, CIMNE, Barcelona, Spain; Jordi Cipriano, CIMNE, Barcelona, Spain; Lieven Vandevelde, Ghent University, Belgium; An Meganck, Ghent University, Belgium

1425 Application of evolutionary algorithm for construction of TOU tariffs for low-voltage consumers (x)
Carlos César Barioni de Oliveira, Daimon Engenharia e Sistemas, São Paulo, SP, Brazil; Cristiano da Silva Silveira, Daimon Engenharia e Sistemas, São Paulo, SP, Brazil; Ricardo Wada, Daimon Engenharia e Sistemas, São Paulo, SP, Brazil; Mauro Manoel Machado, Daimon Engenharia e Sistemas, São Paulo, SP, Brazil; Renata Massaro, Elektro Eletricidade e Serviços S/A, Campinas, SP, Brazil; Saulo de Tarso Castilho Jr., Elektro Eletricidade e Serviços S/A, Campinas, SP, Brazil

1555 Tariff assessment: helping the energy consumer to get the best tariff (x)
Carlos Barioni, Daimon Consultoria, São Paulo, Brazil; Cristiano Silveira, Daimon Consultoria, São Paulo, Brazil; Lorena Santos, CPFL, Campinas, Brazil; Manoel Negrisoli, Consultant, Campinas, Brazil; Mauro Machado, Daimon Consultoria, São Paulo, Brazil

1560 Effects of Home Energy Management Systems on Distribution Utilities and Feeders under Various Market Structures (x)
Mark Ruth, National Renewable Energy Laboratory, Golden, CO, USA; Annabelle Pratt, National Renewable Energy Laboratory, Golden, CO, USA; Monte Lunacek, National Renewable Energy Laboratory, Golden, CO, USA; Saurabh Mittal, National Renewable Energy Laboratory, Golden, CO, USA; Hongyu Wu, National Renewable Energy Laboratory, Golden, CO, USA; Wesley Jones, National Renewable Energy Laboratory, Golden, CO, USA

Block 2: Smart grid projects, Metering and data security

0109 Possibilities of demand side management with Smart Meters (x)
Yasir Arafat, Chalmers University of Technology, Gothenburg, Sweden; Lina Bertling Tjernberg, KTH, Royal Institute of Technology, Stockholm, Sweden; Per-Anders Gustafsson, Gothenburg Energy AB, Gothenburg, Sweden

0167 Impact of Digital Genius Meters in Building Confidence with Consumers (x)
Experience of (SDED) South Delta Electricity Distribution Co., Egypt; Tariq Mujahid Eed, South Delta Electricity Distribution Co, Tanta, Egypt

0243 Consumption patterns in clients without consumption diagram (x)
Tiago Simão, EDP Distribuição, Lisbon, Portugal; Sérgio Gonçalves, EDP Distribuição, Lisbon, Portugal; Isabel Clementino, EDP Distribuição, Lisbon, Portugal; Joana Teixeira, EDP Distribuição, Lisbon, Portugal; Anderson Soares, EDP Distribuição, Lisbon, Portugal; Miriam Santos, Qmetrics, Lisbon, Portugal; Telma Correia, Qmetrics, Lisbon, Portugal; David Cunha, Qmetrics, Lisbon, Portugal; Luís Nunes, Universidade Nova de Lisboa, Lisbon, Portugal

0257 Estimation of Energy Consumption for DSOs Revenue Recovery due to Consumers with Proven Irregular Procedure (x)
Carlos Oliveira, Daimon Engineering & Systems, São Paulo/SP, Brazil; Denis Antonelli, Daimon Engineering & Systems, São Paulo/SP, Brazil; Ricardo Wada, Daimon Engineering & Systems, São Paulo/SP, Brazil; Manoel Junior, Energisa, João Pessoa/PB, Brazil; Juliana Loureiro, Energisa, João Pessoa/PB, Brazil; Hemílio Coêlho, Universidade Federal da Paraíba, João Pessoa/PB, Brazil

0260 The principle of Information security protection on DATA CENTER (DISASTER RECOVERY CENTER) of State Grid Shanghai Municipal Electric Power Company (x)
HU Junyi, State Grid Shanghai Municipal Electirc Power Company, Shanghai, China; LU Rong, State Grid Shanghai Municipal Electirc Power Company, Shanghai, China

0646 The PKI-based Device Authentication System for AMI (x)
Taehun Kim, KEPCO KDN, Daejeon, Republic of Korea; Muyong Hyun, KEPCO KDN, Daejeon, Republic of Korea; Jaehee Kim, KEPCO KDN, Daejeon, Republic of Korea; Jincheol Kim, KEPCO KDN, Daejeon, Republic of Korea; Jonghwa Kim, KEPCO KDN, Daejeon, Republic of Korea; Donghoon Lee, KOREA UNIVERSITY, Seoul, Republic of Korea

0718 Future applications based on the data provided by next generation of Smart meters (x)
Sergio Santos, ZIV, Zamudio, Spain; Cristina Martinez, ZIV, Zamudio, Spain; Txetxu Arzuaga, ZIV, Zamudio, Spain; Laura Marron, ZIV, Zamudio, Spain

0831 Net Metering Scheme in Brazil: regulation and perspectives
Daniel Vieira, ANEEL - Agência Nacional de Energia Elétrica, Brasilia - DF, Brazil; Carlos Mattar, ANEEL - Agência Nacional de Energia Elétrica, Brasilia - DF, Brazil; Hugo Lamin, ANEEL - Agência Nacional de Energia Elétrica, Brasilia - DF, Brazil; João Marcelo Albuquerque, ANEEL - Agência Nacional de Energia Elétrica, Brasilia - DF, Brazil; Juliano Carneiro, ANEEL - Agência Nacional de Energia Elétrica, Brasilia - DF, Brazil

1179 Impact of node density on the performance of G3-PLC networks (x)
Gaston BAYOT KATUMBA, Université de Mons (UMONS), Mons, Belgium ; François VAN TRIMPONT, Université de Mons (UMONS), Mons, Belgium ; Véronique MOEYAERT, Université de Mons (UMONS), Mons, Belgium ; Sébastien BETTE, Université de Mons (UMONS), Mons, Belgium

Block 3: Market & Regulation

0533 The French scheme for RES connection. Coordination between stakeholders at regional level
Jacques Merley, ERDF, PARIS LA DEFENSE, France ; Yves Zonta, ERDF, PARIS LA DEFENSE, France

0627 New tools for new challenges: what works best to change electric systems' rules in the age of RES (x)

Riccardo Lama, Enel Distribuzione spa, Rome, Italy; Alberto Cerretti, Enel Distribuzione spa, Rome, Italy; Roberto Turri, University of Padova, Padova, Italy; Fabrizio Pilo, University of Cagliari, Cagliari, Italy

1081 Assessment of a Virtual Power and Storage Plant for provision of market-driven and regulated activities (x)
Ismael Miranda, EFACEC, Porto, Portugal; Nuno Silva, EFACEC, Porto, Portugal; Helder Leite, INESC TEC UP/FE, Porto, Portugal

1197 Technical Losses Calculation using Simplified Models for Regulatory Purposes (x)
André Meffe, Daimon, São Paulo, SP, Brazil ; Carlos Oliveira, Daimon, São Paulo, SP, Brazil ; Alden Antunes, Daimon, São Paulo, SP, Brazil ; Paulo Baumann, Daimon, São Paulo, SP, Brazil ; Fernando Lange, Daimon, São Paulo, SP, Brazil ; Anderson Uyekita, Daimon, São Paulo, SP, Brazil ; Denis Antonelli, Daimon, São Paulo, SP, Brazil ; Fabio Hage, ABRADEE, Brasília, DF, Brazil ; Marco Delgado, ABRADEE, Brasília, DF, Brazil ; Alexandre Ferreira, Energisa, Rio de Janeiro, RJ, Brazil

1406 Quality of service targets based on balance regarding social demands and utility actions
Ivo Ordonha Cyrillo, Universidade de São Paulo, São Paulo, São Paulo, Brazil; Nelson Kagan, Universidade de São Paulo, São Paulo, São Paulo, Brazil; Fabio Hage, Abradee, Brasília, DF, Brazil; Carlos Frederico Meschini Almeida, Universidade de São Paulo, São Paulo, São Paulo, Brazil; Marcos Roberto Gouvea, Universidade de São Paulo, São Paulo, São Paulo, Brazil; Francisco Anuatti, Universidade de São Paulo, São Paulo, São Paulo, Brazil

1517 New requirements for DG plants in Italy to improve system security (x)
Maurizio Delfanti, Politecnico di Milano, Milan, Italy; Andrea Galliani, Autorità per l'energia elettrica il gas e il sistema idrico, Milan, Italy; Luca Lo Schiavo, Autorità per l'energia elettrica il gas e il sistema idrico, Milan, Italy; Valeria Olivieri, Politecnico di Milano, Milan, Italy

Block 4: More challenging DSO business environment

0229 Evaluating the costs of load shedding services for electricity networks
Oussama ACCOUCHE, Univ. Grenoble Alpes-G2Elab, Grenoble, RHONE ALPES, France; Damien PICAULT, Univ. Grenoble Alpes-G2Elab, Grenoble, RHONE ALPES, France; thai phuong DO, Univ. Grenoble Alpes-G2Elab, Grenoble, RHONE ALPES, France; Nouredine HADJSAID, Univ. Grenoble Alpes-G2Elab, Grenoble, RHONE ALPES, France; Oana IONESCU, Univ. Grenoble Alpes-G2Elab, Grenoble, RHONE ALPES, France

0334 Cash flow optimization based on an integrated Asset Management (x)
Andreas Steffen, ENERVIE AssetNetWork, Lüdenscheid, Germany; Christian Wemhoff, ENERVIE AssetNetWork, Lüdenscheid, Germany; Heiko Spitzer, entellgenio, Munich, Germany; Sven Hübner, entellgenio, Munich, Germany

0399 Parameterised risk sharing in smart distribution system investments (x)
Ellen Diskin, ESB Networks, Dublin, Ireland; Andrew Keane, University College Dublin, Dublin, Ireland

0539 Energy Loss Minimization by Load Allocation in Distribution Systems (x)
Victor Sánchez, Pontifical Catholic University of Rio de Janeiro - PUC-Rio, Rio de Janeiro, RJ, Brazil; Delberis Lima, Pontifical Catholic University of Rio de Janeiro - PUC-Rio, Rio de Janeiro, RJ, Brazil

0673 Material Purchasing Management in Distribution Network Business (x)
Turkka Kalliorinne, Tampere University of Technology, Tampere, Finland

0917 The evolvDSO project: Key services for the evolution of DSOs' roles (x)
Enrique Rivero, VITO, Mol, Antwerp, Belgium; Maria Sebastian-Viana, ERDF, Paris, France; Arnaud Ulian, ERDF, Paris, France; Jon Stromsather, Enel, Rome, Italy

1020 Feasibility of Microgrids for Industrial & Commercial Sites in the Netherlands (x)
Frits Wattjes, Cofely Energy & Infra, Wormerveer, The Netherlands; Albert Kramp, Cofely Energy & Infra, Wormerveer, The Netherlands

1025 Conceptual Design for Asset Management System under The Framework of ISO 55000 (x)
Sungin Cho, Clean Technology Centre, DNV GL, Singapore, Singapore; Khanh-Loc Nguyen, Clean Technology Centre, DNV GL, Singapore, Singapore; Jos M. Wetzer, DNV GL Energy Advisory, The Netherlands, The Netherlands

1099 A continuous evolution of the flexibility mechanisms in the French electricity system
Christophe KIENY, Smartgrids France, Grenoble, France; Marie MIQUEL, ERDF, Paris, France; Maria SEBASTIAN-VIANA, ERDF, Paris, France; Michel BENA, RTE, Paris, France; Benoit DURETZ, Energy Pool, Chambery, France

1132 evolvDSO: assessment of the future roles of DSOs, future market architectures and regulatory frameworks for network integration of DRES (x)
Enrique Rivero, VITO, Mol, Belgium; Pierre Mallet, ERDF, Paris, France; Jon Stromsather, Enel Distribuzione, Rome, Italy; Daan Six, VITO, Mol, Belgium; Maria Sebastian-Viana, ERDF, Paris, France; Marco Baron, Enel Distribuzione, Rome, Italy

1222 Distributed Generation: Opportunities for Distribution Network Operators, Generators and Wider Society (x)
Karim Anaya, University of Cambridge, Cambridge, UK; Michael Pollitt, University of Cambridge, Cambridge, UK

1269 A Bilevel and Comprehensive Decision-making Method of Smart Distribution Network Planning under Electricity Market Environment
Bo Zeng, North China Electric Power University, Beijing, China; Jinyue Shi, North China Electric Power University, Beijing, China; Yuying Zhang, North China Electric Power University, Beijing, China; Wenxia Liu, North China Electric Power University, Beijing, China; Jianhua Zhang, North China Electric Power University, Beijing, China

1271 A Scorecard Approach to Track Reliability Performance of Distribution System Operators (x)
Jan Henning Jürgensen, KTH Royal Institute of Technology, Stockholm, Sweden; Patrik Hilber, KTH Royal Institute of Technology, Stockholm, Sweden; Lars Nordström, KTH Royal Institute of Technology, Stockholm, Sweden

1520 Short term forecasting the electricity load for the Croatian supplier under public service obligation (x)
Minea Skok, Energy Institute Hrvoje Pozar, Zagreb, Croatia; Dino MiletaTomislav Baricevic, Energy Institute Hrvoje Pozar, Zagreb, Croatia

1543 Distribution System Operations Transformation for the Next Generation Electric Utility Business (x)
Avanesh Jayantilal, Alstom Grid, Redmond, WA, USA

Thursday 18 June:

Main session, Session 3: Operation, Control & Protection

> Room: Auditorium Lumière (L -1)

09.00 - 10.30 hrs: Block 1: operation

0923 A big disturbance in Slovenia in February 2014 caused by severe icing
Matjaz Kersnik, Elektro Ljubljana, Ljubljana, Slovenia; Kresimir Bakic, ELES, Ljubljana, Slovenia

0308 Simulator for training of outage crews
Johan Morren, Enexis B.V.,'s-Hertogenbosch, The Netherlands; Berto Jansen, Phase to Phase, Arnhem, The Netherlands

1626 10kV XLPE cable ampacity improvement research in Guangzhou area
Zhixin SUO, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China; Guopei Wu, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China; Jian Chen, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China; Le LUAN, Guangzhou power supply bereau of CSG, Guangzhou,Guangdong, China

0254 Closed-Ring Operation of Medium Voltage Distribution Grids - Theory meets Practice
Robert de Groot, Eindhoven University of Technology, Eindhoven, The Netherlands; Johan Morren, Eindhoven University of Technology, Eindhoven, The Netherlands; Han Slootweg, Eindhoven University of Technology, Eindhoven, The Netherlands

1357 ELECTRA IRP approach to Voltage and Frequency control for future power systems with high DER penetration
Luciano Martini, Ricerca sul Sistema Energetico - RSE Spa, Milan, Italy; Luca Radaelli, Ricerca sul Sistema Energetico - RSE Spa, Milan, Italy; Helfried Brunner, Austrian Institute of Technology - AIT, Vienna, Austria; Chris Caerts, Flemish Institute for Technological Research – VITO, Mol, Belgium; Andrei Morch, SINTEF Energi AS, Trondheim, Norway; Seppo Hanninen, Technical Research Centre of Finland - VTT, Espoo, Finland; Carlo Tornelli, Ricerca sul Sistema Energetico - RSE Spa, Milan, Italy

1467 High Current Earth Faults in Resonant Grounded Networks under Aspects of a Global Earthing System
Lothar Fickert, Institute of Electrical Power Systems, Graz, Styria, Austria; Thomas Mallits, Institute of Electrical Power Systems, Graz, Styria, Austria; Ernst Schmautzer, Institute of Electrical Power Systems, Graz, Styria, Austria

11.00 - 12.30 hrs: Block 2: Control 1

0600 Field Tests of a New Smart Islanding Detector (Smartid)
Anna Rita Di Fazio, University of Cassino and Southern Lazio, Cassino (FR), Italy; Mario Russo, University of Cassino and Southern Lazio, Cassino (FR), Italy; Sara Valeri, University of Cassino and Southern Lazio, Cassino (FR), Italy; Christian Noce, ENEL Distribuzione S.p.a., Roma, Italy; Stefano Riva, Ambra Energy Systems S.r.l., Pomezia (Rm), Italy; Giuseppe Amura, University of Cassino and Southern Lazio, Cassino (FR), Italy

0480 Advanced Vector Shift Algorithm for Islanding Detection
Murali Kandakatla, ABB Global Industries Services Limited, Banagalore,Karnataka, India; Hannu Laaksonen, ABB Oy, Vaasa, Finland; Sudheer Bonela, ABB Global Industries Services Limited, Banagalore,Karnataka, India

0294 Islanding operation technology integurated with multiple power supplies
Jun Yoshinaga, Waseda University, Tokyo, Japan; Wataru Hirohashi, Waseda University, Tokyo, Japan; Yasuhiro Hayashi, Waseda University, Tokyo, Japan; Yasuhito Isoe, NEC Corporation, Kawasaki, Japan Jiro Miyake, Tokyo Gas Co., Ltd., Tokyo, Japan; Shizuo Tsuchiya, Denso Co., Ltd, Kariya, Japan

1291 BPL pilot: measurements and analysis
Wim Foubert, Laborelec, Linkebeek, Belgium; Dries Lemmens, Laborelec, Linkebeek, Belgium; Rafael Jahn, Laborelec, Linkebeek, Belgium; Pol-Kumar Cuvelier, Sibelga, Brussels, Belgium

0406 2D and 3D Visualization Strategies for Distribution Management
Sonja Sander, Siemens AG, Nuremberg, Germany; Roland Eichler, Siemens AG, Nuremberg, Germany

1046 Application of PMUs for monitoring a 50 kV distribution grid
Gert Rietveld, VSL, Delft, The Netherlands; Arjen Jongepier, DELTA Network Group, Goes, The Netherlands; Joeri Van Seters, DELTA Network Group, Goes, The Netherlands; Marco Visser, DELTA Network Group, Goes, The Netherlands; Pei Liu, VSL, Delft, The Netherlands; Milos Acanski, VSL, Delft, The Netherlands; Dennis Hoogenboom, VSL, Delft, The Netherlands; Helko Van den Brom, VSL, Delft, The Netherlands

14.00 - 15.30 hrs: Block 3: Control 2

0184 The German large scale demonstration project inside GRID4EU: Challenges of an autonomous Medium Voltage control system
Lars Jendernalik, Westnetz GmbH, Dortmund, Germany; Thomas Wiedemann, RWE Deutschland AG, Essen, Germany; Peter Noglik, ABB AG, Mannheim, Germany; Anton Shapovalov, TU Dortmund, Dortmund, Germany

0560 Field test results of SVR operations based on measurement data for local voltage regulation on MV feeder with wind turbines
Seong-Soo Cho, KEPCO Research Institute, Daejeon, Republic of Korea; Hyun-Koo Kang, KEPCO Research Institute, Daejeon, Republic of Korea; Won-Wook Jung, KEPCO Research Institute, Daejeon, Republic of Korea; Seon-Ju Ahn, Chonnam National Univ., Gwangju, Republic of Korea; Joon-Ho Choi, Chonnam National Univ., Gwangju, Republic of Korea

1126 State identification methods for MV-grid automation with special regard to LV-interconnections
Felix Dorsemagen, University of Wuppertal, Wuppertal, Germany; Christian Oerter, University of Wuppertal, Wuppertal, Germany; Markus Zdrallek, University of Wuppertal, Wuppertal, Germany; Julia Antoni, Mainova AG, Frankfurt am Main, Germany; Peter Birkner, Mainova AG, Frankfurt am Main, Germany; Martin Stiegler, SAG GmbH, Langen, Germany

1070 GridBox - An open platform for monitoring and active control of distribution grids
Marco Mangani, ewz, Zurich, Switzerland; Florian Kienzle, ewz, Zurich, Switzerland; Marc Eisenreich, BKW, Bern, Switzerland; Yamshid Farhat, BKW, Bern, Switzerland; Rainer Bacher, Bacher Energie, Baden, Switzerland; Alain Brenzikofer, SCS, Zurich, Switzerland

1319 Volt VAr control at the LV distribution level in the GreenLys project
Jean Wild, Schneider Electric, Grenoble, France; Guillaume Roupioz, Schneider Electric, Grenoble, France; Yves Chollot, Schneider Electric, Grenoble, France

0694 Enel Smart infrastructure for the Remote Control and Automation of LV Grid
Alessio Moscuzza, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Domenico Richhiuto, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Giovanni Rizzello, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Simone Tegas, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy; Gianpatrizio Bianco, Enel Distribuzione S.p.A., Bari, Italy/Puglia, Italy

16.00 - 17.30 hrs: Block 4: Protection

1290 New fault location method for up-to-date and upcoming distribution networks
Marta Abad, Universidad de Zaragoza, Zaragoza, Spain; Samuel Borroy, CIRCE, Zaragoza, Spain; Diego López, 4FORES, Zaragoza, Spain; Nabil El Halabi, Saudi Aramco, Dhahran, Saudi Arabia; Miguel García-Gracia, CIRCE, Zaragoza, Spain

0415 New Digital Method for the Directional Detection of Transient Ground Faults
Stefan Werben, Siemens AG, Nuremberg, Germany; Ignaz Hübl, KNG-Kärnten Netz GmbH, Klagenfurt, Austria; Klaus Böhme, Siemens AG, Berlin, Germany

1450 Advantages of the new Combination: Petersen-Coil and Faulty-Phase-Earthing
Gernot Druml, Trench Austria GmbH, Linz, Austria; Michael Schlömmer, Trench Austria GmbH, Linz, Austria; Lothar Fickert, Graz University of Technology, Graz, Austria; Peter Schegner, Dresden University of Technology, Dresden, Germany

1523 Experimental issues of overvoltage coordination
Balint Nemeth, Budapest University of Technology and Economics, Budapest, Hungary; Istvan Berta, Budapest University of Technology and Economics, Budapest, Hungary; Gabor Gocsei, Budapest University of Technology and Economics, Budapest, Hungary; Richard Cselko, Budapest University of Technology and Economics, Budapest, Hungary

0389 The Portuguese Grid under-frequency load shedding (UFLS) plan - The DSO role
Ricardo Azevedo, EDP Distribuição, Porto, Portugal; Ana Carina Morais, EDP Distribuição, Porto, Portugal; Miguel Louro, EDP Distribuição, Porto, Portugal; Alberto Pinto, EDP Distribuição, Porto, Portugal; Carlos Cura, EDP Distribuição, Porto, Portugal

0214 Grid Code Compatible Protection Scheme for Smart Grids
Hannu Laaksonen, ABB Oy, Vaasa, Finland

Main session, Session 4: Distributed Energy Resources & Active Demand Integration

> Room: Auditorium Pasteur (L1)

9.00 - 10.30 hrs: Block 1: Active Demand (Ricardo Prata)

Introduction by the Session Chairman and Rapporteurs

0405 Optimal integration of renewable energy sources by limiting peak generation
Matthias Hable, ENSO NETZ GmbH, Dresden, Germany

0620 Residential demand management and distribution grid impact assessment
Arnaud Latiers, UCL - CORE, Louvain-la-Neuve, Belgium ; Emmanuel De Jaeger, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Cedric Leonard, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Louise Meurs, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Jonathan Rochet, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium ; Cedric Saussez, UCL - iMMC/CEREM, Louvain-la-Neuve, Belgium

0808 Price-based control of flexible loads for distribution network management
Dimitrios Papadaskalopoulos, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK

1031 Experimental validation of residential consumer responsiveness to dynamic time-of-use pricing
James Schofield, Imperial College London, London, UK; Richard Carmichael, Imperial College London, London, UK; Simon Tindemans, Imperial College London, London, UK; Mark Bilton, Imperial College London, London, UK; Goran Strbac, Imperial College London, London, UK

1258 Simultaneous imbalance reduction and peak shaving using a field operational Virtual Power Plant with heat pumps
Olaf van Pruissen, TNO, Delft, The Netherlands; Aldo Eisma, IBM, Amsterdam, The Netherlands; Koen Kok, TNO, Delft, The Netherlands

11.00 - 12.30 hrs: Block 2: Studies (Graham Ault)

0355 Technical Implications of Microgeneration Integration in Low Voltage Distribution Grids
Osvaldo Sousa, EDP DISTRIBUIÇÃO, BRAGA, Portugal; Paulo Torrão, EDP DISTRIBUIÇÃO, BRAGA, Portugal

0390 Improving Scalability and Replicability of Smart Grid Projects

Kristof May, Universidad Pontificia Comillas, Madrid, Spain; Lukas Sigrist, KU Leuven, Leuven, Belgium; Pieter Vingerhoets, KU Leuven, Leuven, Belgium; Andrei Morch, SINTEF Energy Research, Trondheim, Norway; Peter Verboven, VITO, Mol, Belgium; Luis Rouco, Universidad Pontificia Comillas, Madrid, Spain

0763 Price-based control strategies for electric energy storage system in distribution networks
Quintín Corrionero, EDP Energía, Oviedo, Spain; Pablo Nicolás, Universidad de Oviedo, Oviedo, Spain; Carlos Sánchez, Isastur SAU, Oviedo, Spain; María Rivas, Isastur SAU, Oviedo, Spain; Luis Santos, EDP Energía, Oviedo, Spain; José Coto, Universidad de Oviedo, Oviedo, Spain

1217 Coordinated Control of Dispersed Battery Energy Storage Systems for Services to Network Operators
Guillaume Foggia, Alstom Grid, Massy, France ; Andrea Michiorri, MINES ParisTech, PSL - Research University, PERSEE - Centre procédés, énergies renouvelables et systèmes énergétiques, CS 10207 rue Claude Daunesse 06904 Sophia Antipolis Cedex, France, Sophia Antipolis, France ; Alexis Bocquet, MINES ParisTech, PSL - Research University, PERSEE - Centre procédés, énergies renouvelables et systèmes énergétiques, CS 10207 rue Claude Daunesse 06904 Sophia Antipolis Cedex, France, Sophia Antipolis, France ; Alexandre Neto, Alstom Grid, Massy, France

1340 Simulation Framework for Vertical Provision of Ancillary Services
Jan Kays, TU Dortmund University, Dortmund, Germany; Marco Greve, TU Dortmund University, Dortmund, Germany; Theresa Noll, TU Dortmund University, Dortmund, Germany; Ulf Häger, TU Dortmund University, Dortmund, Germany; Christian Rehtanz, TU Dortmund University, Dortmund, Germany

14.00 - 15.30 hrs: Block 3: Technology (Goran Strbac)

0940 Distribution Grid State Estimation using Load Pseudomeasurements and Topology Identification Techniques
Themistoklis Xygkis, National Technical University of Athens (NTUA), Athens, Attiki, Greece; Nikolaos Manousakis, National Technical University of Athens (NTUA), Athens, Attiki, Greece; George Korres, National Technical University of Athens (NTUA), Athens, Attiki, Greece; Nikos Hatziargyriou, National Technical University of Athens (NTUA), Athens, Attiki, Greece

0081 Combined Operation of a Battery Storage System on Distribution Grid Level - Impact on the Grid and Economic Benefit
Alexander Zeh, Institute of Power Transmission Systems, Technische Universität München, Munich, Bavaria, Germany; Rolf Witzmann, Institute of Power Transmission Systems, Technische Universität München, Munich, Bavaria, Germany; Marina Rau, Institute of Power Transmission Systems, Technische Universität München, Munich, Bavaria, Germany

0983 Participation of storage devices for steady-state voltage management in LV grid with PV integration
Stéphane Allard, Grenoble INP, G2Elab, Grenoble, France; Delphine Riu, Grenoble INP, G2Elab, Grenoble, France; Anne-Fleur Kerouedan, Grenoble INP, G2Elab, Grenoble, France; Christophe Kieny, Grenoble INP, G2Elab, Grenoble, France

1490 Energy Storage Systems on distribution networks to provide multi-service regulation
Maurizio Delfanti, Politecnico di Milano, Milano, Italy; Davide Falabretti, Politecnico di Milano, Milano, Italy; Marco Merlo, Politecnico di Milano, Milano, Italy

1559 Streamlined Method for Determining Distribution System Hosting Capacity
Matthew Rylander, Electric Power Research Institute, Knoxville, Tennessee, USA; Jeff Smith, Electric Power Research Institute, Knoxville, Tennessee, USA; Wes Sunderman, Electric Power Research Institute, Knoxville, Tennessee, USA

16.00 - 17.30 hrs: Block 4: Trials (Roger Hey)

0447 Development and Field Evaluation of Smart Distribution Management System (Smart DMS) for efficient distribution network operation
Seong-Chul Kwon, KEPCO, Daejon, Republic of Korea; Sang-Yun Yun, KEPCO, Daejon, Republic of Korea; Jeong-Heon Kim, KEPCO, Daejon, Republic of Korea; Won-Wook Jeong, KEPCO, Daejon, Republic of Korea; Cheol-Min Choo, KEPCO, Daejon, Republic of Korea

0824 Scheduling power and energy resources in the Smarter Network Storage project
David Greenwood, Newcastle University, Newcastle upon Tyne, UK; Neal Wade, Newcastle University, Newcastle upon Tyne, UK; Paresh Mehta, UK Power Networks, London, UK; Nick Heyward, UK Power Networks, London, UK; Phil Taylor, Newcastle University, Newcastle upon Tyne, UK; Panagiotis Papadopoulos, UK Power Networks, London, UK

1014 DG-Demonet Smart LV Grid - robust control architecture to increase DG hosting capacity
Roman Schwalbe, AIT Austrian Institute of Technology, Vienna, Austria; Alfred Einfalt, Siemens AG Österreich, Vienna, Austria; Martin Heidl, Fronius International, Wels, Austria; Andreas Abart, Netz Oberösterreich GmbH, Linz, Austria; Markus Radauer, Salzburg Netz GmbH, Salzburg, Austria; Helfried Brunner, AIT Austrian Institute of Technology, Vienna, Austria

1170 Integration of distributed PV generation: the NICE GRID project
Thomas DRIZARD, ERDF, Marseille, France ; Christophe LEBOSSE, ERDF, Marseille, France ; Benoit CHAZOTTES, ERDF, Marseille, France

1634 ADDRESS - Main lessons learnt and recommendations for the deployment of Active Demand
Regine Belhomme, EDF, Clamart, France; Marina Lombardi, Enel Distribuzione, Rome, Italy; Stella Di Carlo, Enel Distribuzione, Rome, Italy; Giovanni Valtorta, Enel Distribuzione, Rome, Italy; Sarah Mander, University of Manchester, Manchester, UK; Arturo Losi, Università di Cassino, Cassino, Italy

Round Tables Session

09.00 – 10.30 hrs: RT 12: Future regulation for necessary and effective investment
> *Room: Rhône 3 (L1)*

09.00 – 10.30 hrs: RT 13: Power quality and EMC in the future grid
> *Room: Rhône 6 (L1)*

11.00 – 12.30 hrs: RT 14: Information and data management to support active customer and energy transformation
> *Room: Rhône 3 (L1)*

11.00 – 12.30 hrs: RT 15: Reliability Benchmarking and Continuity of Supply
> *Room: Rhône 6 (L1)*

14.00 – 15.30 hrs: RT 16: National and International smart grids roadmaps – where are we now?
> *Room: Rhône 3 (L1)*

14.00 – 15.30 hrs: RIF session, Session 2: Power Quality & Electromagnetic Compatibility

> *Room: Rhône 6 (L1)*

0207 Optimal Harmonic Meter Placement for Estimation Of Harmonic Sources Using Artificial Intelligence Techniques
Madiha El-nagar, Arab Contractors, Cairo, Egypt; Mahmoud Sayed, Cairo University, Giza, Egypt; Hosam Yousef, Cairo University, Giza, Egypt; Fahmy Bendary, Benha University, Cairo, Egypt

0919 Validation of a Harmonic State Estimation Method Based on Fifth Harmonic Current Characteristic of Utility Customer using Transient Simulation
Naotaka Okada, CRIEPI, 2-11-1, Iwado Kita, Komae, Tokyo, Japan; Kenji Yukihira, CRIEPI, 2-11-1, Iwado Kita, Komae, Tokyo, Japan

0860 Characterisation of Power Quality Performance at Network Buses Using Unified Power Quality Index
Sami Abdelrahman, University of Manchester, Manchester, UK; Huilian Liao, University of Manchester, Manchester, UK; Jovica Milanovic, University of Manchester, Manchester, UK

0836 Tests and Analysis of a novel Segmentation method using Measurement Data
Isabel Moreno-Garcia, University of Cordoba, Cordoba, Spain; Aurora Gil-de-Castro, University of Cordoba, Cordoba, Spain; Irene Y.H Gu, Chalmers University of Technology, Gothemburg, Sweden; Math H.J. Bollen, Luleå University of Technology, Skelleftea, Sweden

1298 Clustering of Smart Meter Data for Data Compression and Fast Power Flow Computation
Christoph Kattmann, University of Stuttgart, Stuttgart, Baden Württemberg, Germany; Krzysztof Rudion, University of Stuttgart, Stuttgart, Baden Württemberg, Germany; Stefan Tenbohlen, University of Stuttgart, Stuttgart, Baden Württemberg, Germany

1059 Provision of Differentiated Voltage Sag Performance Using FACTS Devices
Huilian Liao, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Sami Abdelrahman, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK; Jovica V. Milanovic, School of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK

9.00 – 17.30 hrs: Poster session, Session 1: Network Components

> Poster area (L-2)

(x) = *interactive guided tour*

Block 1: Diagnosis and maintenance of network components – Part 1: Cables and lines

0026 Copper in comparison to Aluminium as common material in conductors of LV and MV cables (x)
Wim Boone, DNV GL, Arnhem, The Netherlands; Christiaan Sonderen, DNV GL, Arnhem, The Netherlands

0027 Upgrading of 10kV cable connections to 20kV in the Netherlands (x)
Wim Boone, DNV GL, Arnhem, The Netherlands; Ger Sebregts, Alliander, Arnhem, The Netherlands

0104 Advanced solution for on-site diagnosis of medium voltage power cables network
Osama GOUDA, Cairo University, Cairo, Egypt; Adel ELFARASKOURY, Cairo University, Cairo, Egypt; Abd Rabu ELSINNARY, Cairo University, Cairo, Egypt; Adel Farag, Cairo University, Cairo, Egypt

0166 Alternatives for the use of power cable systems in medium and high polluted areas (x)
Guilherme Silva, Institutos LACTEC, Curitiba, Paraná, Brazil; Marilda Munaro, Institutos LACTEC, Curitiba, Paraná, Brazil; Sebastião Ribeiro Júnior, Institutos LACTEC, Curitiba, Paraná, Brazil; Diego Araujo, Institutos LACTEC, Curitiba, Paraná, Brazil; Alessandro Dadam, CELESC, Florianópolis, Santa Catarina, Brazil; Felipe D'Aquino, CELESC, Florianópolis, Santa Catarina, Brazil; Marcelo Oka, CELESC, Florianópolis, Santa Catarina, Brazil

0241 ECO-Network - Innovative solutions to mitigate storks' activities in the vicinity of the electric distribution network (x)
Pedro Carreira, EDP Distribuição, Coimbra, Portugal ; Aníbal T. de Almeida, Instituto de Sistemas e Robótica, Universidade de Coimbra, Coimbra, Portugal ; Luís Maricato, Instituto de Sistemas e Robótica, Universidade de Coimbra, Coimbra, Portugal ; Vítor Madeira, Departamento de Ciências da Vida, Universidade de Coimbra, Coimbra, Portugal

0246 Innovative solution of safety corridor design for overhead lines: increasing resilience to extreme weather events while providing environmental benefits (x)
Ricardo Prata, EDP - Distribuição, Lisbon, Portugal; Silvestre Pereira, EDP - Distribuição, Lisbon, Portugal; Miguel Vieira, FloraSul, Lisbon, Portugal; Maria Inês Verdelho, EDP - Distribuição, Lisbon, Portugal

0252 Using new technology and assessment methods to a reliable maintenance strategy of MV cables (x)

Miguel Marques, EDP Distribuição, Lisboa, Portugal; Jorge Silva, EDP Distribuição, Lisboa, Portugal; Paulo Gomes, EDP Distribuição, Lisboa, Portugal

0401 New generation of micro-alloyed copper conductors to face DSOs challenges (x)
Gustau Castellana, La Farga, Les Masies de Voltregà, Spain; Fernando Nuno, European Copper Institute, Madrid, Spain; Roman Targosz, Polish Copper Promotion Centre, Wroclaw, Poland

0471 Insulation condition of dry-cured XLPE cables measured over a period of 13 years (x)
Jens Zoëga Hansen, Danish Energy Association, Frederiksberg, Denmark; Hans Jørgen Jørgensen, Danish Energy Association, Frederiksberg, Denmark

0510 Characterisation of Intermittent Faults in Low-Voltage Underground Cable Systems (x)
Bart Kruizinga, Eindhoven University of Technology, Eindhoven, The Netherlands; Peter Wouters, Eindhoven University of Technology, Eindhoven, The Netherlands; Fred Steennis, DNV GL Energy, Arnhem, The Netherlands; Tjeerd Broersma, Enexis, 's Hertogenbosch, The Netherlands

0547 Ageing of the lead sheath of MV PILC cables (x)
Nicolas Quiévy, Laborelec, -, Belgium; Quentin De Clerck, Laborelec, -, Belgium; Henri Grandjean, Ores, -, Belgium; Marcel van den Berg, Sibelga, -, Belgium; Jonas Verhaeghe, Eandis, -, Belgium

0665 Real Time Automated Diagnosis of Insulating Systems Employing Ultrasound Inspection
Stefano Stefenon, University of Blumenau, Blumenau, Santa Catarine, Brazil; Luiz Meyer, University of Blumenau, Blumenau, Santa Catarine, Brazil; Fernando Molina, CELESC - Centrais Eletricas de Santa Catarina, Florianopolis, Santa Catarina, Brazil

0729 Investigations on The Long-Term Behavior Of Current-Carrying Fittings For High Temperature Low Sag Conductors (x)
Christian Hildmann, TU Dresden, Dresden, Saxony, Germany; Stephan Schlegel, TU Dresden, Dresden, Saxony, Germany; Steffen Großmann, TU Dresden, Dresden, Saxony, Germany; Thomas Dockhorn, 50Hertz Transmission GmbH, Berlin, Germany

0788 On line diagnostic in ERDF HV/MV substations: Method and results of network experimentations (x)
Hervé DIGARD, EDF Lab les Renardières, Moret sur loing, France ; Roger TAMBRUN, ERDF, Paris, France

0896 Degradation characteristics of the Polypropylene-insulated Cables and Joints at Emergency Overload
Yeon-Ha Jung, KEPCO Research Institute, Daejeon, Republic of Korea
Byung-Sung Lee, KEPCO Research Institute, Daejeon, Republic of Korea; Jong-Man Joung, KEPCO Research Institute, Daejeon, Republic of Korea; Sung-Min Kim, KEPCO, Seoul, Republic of Korea

0899 Insulation coordination of medium voltage powerlines: South African experiences (x)
Andreas Beutel, Eskom Holdings SOC Limited, Gauteng, South Africa; Hendri Geldenhuys, Eskom Holdings SOC Limited, Gauteng, South Africa; John Van Coller, University of the Witwatersrand, Gauteng, South Africa; Bruce McLaren, Eskom Holdings SOC Limited, Gauteng, South Africa

0999 MV Cable Off line diagnosticat ERDF: Feed back over 5 years global deployment experience (x)
Thierry ESPILIT, EDF R&D, Ecuelles, France ; Luc PILOT, EDF R&D, Ecuelles, France ; Roger TAMBRUN, ERDF, Paris La Defense, France ; Gauthier BEAUZEMONT, ERDF, Paris La Defense, France

1001 Armour loss measurements in three core medium voltages cables: comparison with IEC standards and FEM Calculations (x)
Wilfried Frelin, EDF R&D, Moret sur Loing, France ; Christophe Moreau, EDF R&D, Moret sur Loing, France ; Gabriel De Robien, EDF CIST, Saint Denis, France ; Pascal Sauvage, EDF CIST, Saint Denis, France ; Nathalie Boudinet, RTE CNER, La Défense, France

1010 High Voltage Insulator Contamination Level Monitoring with X-band Microwave Radiometer (x)
Yan Jiang, Glasgow Caledonian University, Glasgow, UK; Scott McMeekin, Glasgow Caledonian University, Glasgow, UK; Alistair Reid, Glasgow Caledonian University, Glasgow, UK; Azam Nekahi, Glasgow Caledonian University, Glasgow, UK; Martin Judd, University of Strathclyde, Glasgow, UK; Alan Wilson, Doble PowerTest Ltd, Surry, UK

1044 Smart Cable Guard – a tool for on-line monitoring and location of PD's and faults in MV cables – its application and business case (x)
Fred Steennis, DNV GL, Arnhem, The Netherlands

1076 Analysis of different dynamic line rating configurations in a distribution line
Jon G. Olazarri, University of the Basque Country UPV/EHU, Bilbao, Spain; A. Javier Mazon, University of the Basque Country UPV/EHU, Bilbao, Spain; Elvira Fernandez, University of the Basque Country UPV/EHU, Bilbao, Spain; Igor Albizu, University of the Basque Country UPV/EHU, Bilbao, Spain; Miren T. Bedialauneta, University of the Basque Country UPV/EHU, Bilbao, Spain

1150 Fitting of High Voltage Cables in Existing Duct Banks under New Regulations: Theoretical Modelling and Pilot Project (x)
Britta Heimbach, ewz, Zurich, Switzerland; Raffael La Fauci, ewz, Zurich, Switzerland; Juerg Bader, ewz, Zurich, Switzerland; Hansruedi Luternauer, ewz, Zurich, Switzerland

1188 Influence of pulling forces on premature ageing of LV and MV cables (x)
Quentin De Clerck, Laborelec, Linkebeek, Belgium ; Nicolas Quiévy, Laborelec, Linkebeek, Belgium ; Philippe Colin, Ores, Louvain-La-Neuve, Belgium ; Jonas Verhaeghe, Eandis, Melle, Belgium ; Jean-Philippe Van Craen, Sibelga, Bruxelle, Belgium ; Marcel van den Berg, Sibelga, Bruxelle, Belgium

1200 Novel sensor solutions for on-line PD monitoring (x)
Bashir Ahmed Siddiqui, Tampere University of Technology, Tampere, Finland; Pertti Pakonen, Tampere University of Technology, Tampere, Finland; Pekka Verho, Tampere University of Technology, Tampere, Finland

1288 Bird protection on medium voltage power lines (x)
Gabor Gocsei, Budapest University of Technology and Economics, Budapest, Hungary; Balint Nemeth,; Budapest University of Technology and Economics, Budapest, Hungary; Richard Cselko, Budapest University of Technology and Economics, Budapest, Hungary; Istvan Berta, Budapest University of Technology and Economics, Budapest, Hungary

1353 Design Challenges for Distribution Overhead Lines Subject to High Impact Low Probability Events (x)
Fernando Molina, CELESC D, Florianopolis, SC, Brazil; Alessandro Dadam, CELESC D, Florianopolis, SC, Brazil; Walter Pinheiro, TAG Inovação, São Paulo, SP, Brazil; Wilson Hirakawa, TAG Inovação, São Paulo, SP, Brazil
Sergio Cabral, Matrix Engenharia, São Paulo, SP, Brazil

1522 Essential Strategies for Remaining Lifetime Estimation of MV Cable Systems
Ivana Mladenovic, University of Erlangen-Nuremberg, Erlangen, Germany; Christian Weindl, University of Erlangen-Nuremberg, Erlangen, Germany; Thomas Scharrer, University of Erlangen-Nuremberg, Erlangen, Germany

Block 2: Diagnosis and maintenance of network components – Part 2: Substations

0024 Condition Assessment of Power Transformers: A Practical Methodology Approach (x)
José Luis Martínez, Edenor, Buenos Aires, Argentina

0144 Improving the Inner Climate Of Mv Substations (x)
Albert Pondes, Enexis, Den Bosch, The Netherlands; Nico Taal, Enexis, Den Bosch, The Netherlands; Theo Rijn, van, Alliander, Arnhem, The Netherlands; Marco Leusink, Alfen, Almere, The Netherlands

0217 System-Approach for Realistic Condition Assessment of High-Voltage Gas-Insulated Substations
Erik Pawlowski, Bergische Universität Wuppertal, Wuppertal, Germany; Markus Zdrallek, Bergische Universität Wuppertal, Wuppertal, Germany; Thorsten Tabke, Westnetz GmbH, Dortmund, Germany; Stefan Küppers, Westnetz GmbH, Dortmund, Germany; Thomas Marx, Westnetz GmbH, Dortmund, Germany

0328 EDP Distribuição's asset management tool supported by real time monitoring (x)
Hugo Ferreira, EDP Distribuição, Lisbon, Portugal; Pedro Carreira, EDP Distribuição, Lisbon, Portugal; Rui Bernardo, EDP Distribuição, Lisbon, Portugal; Jorge Gomes, EDP Distribuição, Lisbon, Portugal

0342 Dynamic Ventilation of Secondary Substation: Increase or Decrease the Openings?
Telmo Santiago, EDP Distribuição, Leiria, Portugal; Francisco Barroso, ISEC, Coimbra, Portugal; José Geria, EDP Distribuição, Leiria, Portugal; Rui Lourenço, EME2, Coimbra, Portugal; Adelino Pereira, ISEC, Coimbra, Portugal; Rita Monteiro, ISEC, Coimbra, Portugal

0358 Data model for overheat prediction of medium-voltage switchgear
Xin Zhang, ABB(China)Limited, Xiamen, Fujian, China; Ole Granhaug, ABB AS, Skien, Norway; Gunnar Hall, ABB AB, Ludvika, Darlarnas, Sweden

0374 Transformer's moisture assessment with online monitoring (x)
Senja Leivo, Vaisala Oyj, Helsinki, Finland; Jukka Leppänen, Vaisala Oyj, Helsinki, Finland

0419 Soft Sensor for Distribution Transformers: Thermal and Electrical Models (x)
Sami NAJAR, ITRON, Chasseneuil du Poitou, France ; jean françois TISSIER, ITRON, Chasseneuil du Poitou, France ; Erik ETIEN, LIAS (Poitiers University), Poitiers, France ; Sébastien CAUET, LIAS (Poitiers University), Poitiers, France

0466 Using smart sensors in the remote condition monitoring of secondary distribution substations (x)
António Leitão, EDP Distribuição (EDP D), Porto, Portugal; Pedro Carreira, EDP Distribuição (EDP D), Coimbra, Portugal; Magalhães Alves, EDP Distribuição (EDP D), Coimbra, Portugal; Francisco Cardoso, Universidade de Coimbra, Coimbra, Portugal; Fernando Gomes, EFACEC, Maia, Portugal; Marcos Cordeiro, Eneida Wireless & Sensors, S.A., Coimbra, Portugal

0472 Condition assessment of distribution grids using uncertainty theory
Nico Schultze, SAG GmbH, Dortmund, Germany; Dominik Beerboom, Bergische Universität Wuppertal, Wuppertal, Germany; Christopher Johae, Bergische Universität Wuppertal, Wuppertal, Germany; Markus; Zdrallek, Bergische Universität Wuppertal, Wuppertal, Germany; Reiner Timmreck, Stadtwerke Iserlohn GmbH, Iserlohn, Germany

0476 Non-intrusive solution for Power Transformers real time monitoring using an hybrid Park's Vector and model-based approach (x)
José Miguel Pinto, EDP Distribuição, Porto, Portugal; Pedro J. G. Carreira, EDP Distribuição, Porto, Portugal; Pedro Borges Vidal, EDP Distribuição, Porto, Portugal; João Vasco Ferreira, EDP Distribuição, Porto, Portugal; Sérgio M. A. Cruz, Instituto Telecomunicações - Universidade Coimbra, Coimbra, Portugal; Emanuel Marques, Instituto Telecomunicações - Universidade Coimbra, Coimbra, Portugal

0552 Optimisation of replacement of ageing MV switchgear due to lack of spare parts (x)
Dirk van Houwelingen, Stedin BV, Rotterdam, The Netherlands; Peter Zonneveld, Stedin BV, Rotterdam, The Netherlands

0612 Fuller´S Earth as the Cause of Oil Corrosiveness after the Oil Reclaiming Process (x)
Maria Augusta Martins, Labelec EDP, SACAVÉM, Portugal ; Anabela Peixoto, Labelec EDP, SACAVÉM, Portugal ; Rui Martins, Labelec EDP, SACAVÉM, Portugal

0669 Classification of Distribution Substations by Operational and Environmental Stresses Leading to Failure of Equipment
Pascal Köhn, RWTH Aachen University - Institute for High Voltage Technology, Aachen, Germany; Armin Schnettler, RWTH Aachen University - Institute for High Voltage Technology, Aachen, Germany; Nico Schultze, SAG GmbH, Dortmund, Germany

0695 Methanol as New Ageing Marker of Oil-Filled Transformer Insulation
Christophe PERRIER, ALSTOM GRID (ARC), Villeurbanne, France; Mamadou-Lamine COULIBALY, ALSTOM GRID (TICC), Massy, France; Marielle MARUGAN, ALSTOM GRID (TICC), Massy, France

0749 Accelerated ageing test of distribution transformers
COUYADE Jean Michel, EDF R&D, Moret sur Loing, France; BUCCAFURRI Emanuela, EDF R&D, Moret sur Loing, France; CORDONNIER Michel, ERDF, La Défense, France; LAUZEVIS Patrick, ERDF, La Défense, France

0968 Medium-voltage equipment monitoring and diagnostics: Technological maturity makes concepts compatible with expectations (x)
Simone Turrin, ABB AG, Corporate Research Center, Ladenburg, Germany; Marco Egman, ABB S.p.A., Dalmine, Italy; Luca Cavalli, ABB S.p.A., Dalmine, Italy; Bernhard Deck, ABB Sécheron S.A., Baden, Switzerland

1283 A case of increasing the capability of overload transformer
Mohamed Zouiti, EDF, Clamart, France, France; léa Dupuy, EDF, Clamart, France, France; Patrick Raison, ERDF, Paris, France, France; André Erdmann, Alstom, Monchengladbach, Germany

1420 Innovative retrofit solution brings safety and reliability upgrade to aged switchgear installed base (x)
Carlo Gemme, ABB, Dalmine (BG), Italy; Paola Bassi, ABB, Dalmine (BG), Italy; Fabio Pellegrini, ABB, Dalmine (BG), Italy

1436 New metod for in-service non-intrusive partial discharge measurement on MV solid dielectric switch (x)
Nenad Uzelac, G&W Electric, Bolingbrook, IL, USA; Ana Milosevic, Nikola Tesla Institute, Belgrade, Serbia; Srdjan Milosavljevic, Nikola Tesla Institute, Belgrade, Serbia

1461 A field check on the condition of vacuum interrupters after long periods of service (x)
Martin Leusenkamp, Eaton, Suzhou, China; Theo van Rijn, Alliander, Arnhem, The Netherlands; Martin Binnendijk, Eaton, Hengelo, The Netherlands; Bert ter Hedde, Eaton, Hengelo, The Netherlands

1488 Strategy for assessment of distribution transformer lifetime under EV scenarios (x)
Yuan Gao, University of Manchester, Manchester, UK; Bevan Patel, University of Manchester, Manchester, UK; Qiang Liu, University of Manchester, Manchester, UK; Zhongdong Wang, University of Manchester, Manchester, UK; Darren Jones, Electricity North West, Manchester, UK

1515 Construction of waterproof underground substations M.V./L.V. (x)
Ernesto Vidal, Edenor, Buenos Aires, Argentina; Miguel Pulice, Edenor, Buenos Aires, Argentina

1572 TNB Approach on Managing Asset Retirement for Distribution Transformers (x)
Young Zaidey Yang Ghazali, Tenaga Nasional Berhad, Petaling Jaya, Selangor, Malaysia; Mohd Aizam Talib, TNB Research Sdn. Bhd., Bangi, Selangor, Malaysia; Alexis Maria Soosai, TNB Research Sdn. Bhd., Bangi, Selangor, Malaysia

1604 Managing Performance, Cost and Risk of Distribution Asset through Cbm Method: Study Case in Pt Pln Indonesia (x)
DANIEL TAMPUBOLON, PT PLN INDONESIA, JAKARTA, Indonesia

1630 Modification of the arrester arrangement when converting the method of neutral treatment (x)
Claus Neumann, Darmstadt University of Technology, Darmstadt, Germany; Klaus Winter, Swedish Neutral AB, Stockholm, Sweden

1651 Transformer fault diagnosis based on ontology and dissolved gas analysis (x)
Yanli Xin, South China University of Technology, Guangzhou, China; Wenhu Tang, South China University of Technology, Guangzhou, China; Guojun Lu, Guangzhou Power Supply Co. Ltd., Guangzhou, China; Yuning Wu, Guangzhou Power Supply Co. Ltd., Guangzhou, China; Guopei Wu, Guangzhou Power Supply Co. Ltd., Guangzhou, China; Yu Qin, Guangzhou Power Supply Co. Ltd., Guangzhou, China

Block 3: Innovation in Network Components – Part 1: Cables and Lines

0130 Increase of the grid integration of decentralized power plants by the application of certified grid regulation units in the substation and power plant (x)
Tobias Funk, Maschinenfabrik Reinhausen, Regensburg, Germany; Thomas Smolka, Maschinenfabrik Reinhausen, Regensburg, Germany; Manuel Sojer, Maschinenfabrik Reinhausen, Regensburg, Germany Bernhard Schowe-von der Brelie, FGH, Mannheim, Germany

0223 Full-scale 11kV Fault Current Limiter for the distribution grid based upon zero power consumption ceramic ferrite permanent magnets (x)
Jeremy Hall, Cardiff University, Cardiff, UK; Andy Cheer, Faultcurrent Ltd., Cardiff, UK

0303 Type testing cable and accessories, a must (x)
Edwin Pultrum, DNV GL Energy, Arnhem, The Netherlands; Hong He, DNV GL Energy, Arnhem, The Netherlands; Ronald Gruntjes, DNV GL Energy, Arnhem, The Netherlands

0521 Smart Area Aachen: Communication Infrastructure for innovative Equipment (x)
Fjodor Lamm, NEXANS Deutschland GmbH, Moenchengladbach, Germany; Pascal Hahulla, STAWAG, Stadtwerke Aachen Aktiengesellschaft, Aachen, Germany

0543 Field trial deployment for the evaluation of G3-PLC performance in the medium voltage grid (x)
Olgan DURIEUX, ORES, Gosselies, Belgium; Laurent MONSIEUR, ORES, Gosselies, Belgium; Trésor DIAKIESE, UMONS, Mons, Belgium; Aurélien VAN LAERE, UMONS, Mons, Belgium; Sébastien BETTE, UMONS, Mons, Belgium; Gilles FOUCHE, Nexans, Donchery, France; Dries LEMMENS, Laborelec, Linkebeek, Belgium; Veronique Moeyaert, UMONS, Mons, Belgium

0638 Wireless connection in distribution substation application (x)
Patrick Pipet, Schneider Electric, Grenoble, France; Didier Leblond, Schneider Electric, Grenoble, France; Michel Clemence, Schneider Electric, Grenoble, France

0678 AmpaCity Project - Update on world's first superconducting cable and fault current limiter installation in a German city center (x)
Mark Stemmle, Nexans Deutschland GmbH, Hannover, Germany; Frank Merschel, RWE Deutschland AG, Essen, Germany; Mathias Noe, Karlsruhe Institute of Technology, Karlsruhe, Germany

0713 Secure Integration and Rollout of IEC 61850-Based Smart Components Within the iniGrid Project
Stephan Hutterer, Sprecher Automation GmbH, Linz, Austria; Johann Meindl, Sprecher Automation GmbH, Linz, Austria; Wolfgang Hauer, Eaton Industries (Austria) GmbH, Vienna, Austria; Friederich Kupzog, AIT - Austrian Institute of Technology, Vienna, Austria

0720 ELVIS (Enel Low Voltage Identification System): Improving narrowband PLC communication performance by means of electrical characteristics measurement of distribution line (x)
Giuseppe Borgone, Enel Distribuzione S.p.a., Rome, Italy; Luca Fumagalli, Enel Distribuzione S.p.a., Rome, Italy; Gabriele Faggioni, Enel Distribuzione S.p.a., Rome, Italy

0769 Tests of innovative fault detectors for the French distribution network (x)
LOIC JOSEPH-AUGUST, EDF R&D, Moret sur Loing, France; GILLES MALARANGE, EDF R&D, Clamart, France; THIERRY PELINSKI, EDF R&D, Moret sur Loing, France; DIDIER COLIN, ERDF, Reims, France DOMINIQUE KLAJA, ERDF, Puteaux, France

0985 Commercial application of superconducting fault current limiters in the Western Power Distribution grid in the UK (x)
Beate West, Nexans Deutschland GmbH, Hannover, Germany; Mark Stemmle, Nexans Deutschland GmbH, Hannover, Germany; Jonathan Berry, Western Power Distribution, Birmingham, UK; Achim Hobl, Nexans SuperConductors GmbH, Hürth, Germany

1018 Communicator with the additional function of conversion of communication protocols (x)
Ivica Hadjina, HEP ODS d.o.o., Split, Croatia; Ivan Brcic, RIZ-Odasiljaci d.d., Zagreb, Croatia; Domagoj Tominac, HELM d.o.o., Zagreb, Croatia

1041 Overhead Line Mechanical Behaviour - Dynamic Model
Miroslav Müller, Czech Technical University in Prague, Prague, Czech Republic; Zdenek Müller, Czech Technical University in Prague, Prague, Czech Republic; Josef Tlustý, Czech Technical University in Prague, Prague, Czech Republic

1093 Improved Passive-Damped LCL Filter to Enhance Stability in Grid-Connected Voltage-Source Converters
Remus Narcis Beres, Aalborg University, Aalborg, Denmark; Xiongfei Wang, Aalborg University, Aalborg, Denmark; Frede Blaabjerg, Aalborg University, Aalborg, Denmark; Claus Leth Bak, Aalborg University, Aalborg, Denmark; Marco Liserre, University of Kiel, Kiel, Germany

1101 Sensors in the French distribution network for smart grid applications
Mouhamad Malick, EDF R&D, Moret sur Loing, France; Dominique Croteau, EDF R&D, Moret sur Loing, France ; Guillaume Christian, EDF R&D, Moret sur Loing, France ; Tambrun Roger, ERDF, La Défense, France

1165 Reliability Prediction Methods - The procedure used by EDP (x)
Marco Silva, EDP Labelec, Lisbon, Portugal ; Rui Barbosa, EDP Distribuição, Lisbon, Portugal, Ricardo Matos, EDP Distribuição, Lisbon, Portugal

1230 Line Voltage Regulator for voltage adjustment in MV-grids (x)
Martin Carlen, ABB, Zurich, Switzerland; Frank Cornelius, ABB, Brilon, Germany; Irma Buschmann, ABB, Brilon, Germany; Jens Tepper, ABB, Brilon, Germany; Michael Schneider, Westnetz, Trier, Germany; Rainer Jakobs, Westnetz, Trier, Germany; Harald Wiesler, ABB, Zurich, Switzerland; Adam Slupinski, ABB, Brilon, Germany

1295 Accuracy of Voltage Transformers - Design Criteria and a Survey on the Precision and Reproducibility of a New Model-Based Calibration Approach (x)
Michael Freiburg, OMICRON electronics GmbH, Klaus, Austria; Erik Sperling, Pfiffner Instrument Transformers Ltd., Hirschthal, Switzerland; Michael Krueger, OMICRON electronics GmbH, Klaus, Austria

1361 Martinique evaluates smartmetering: expectations and local review (x)
Laure Chossegros, EDF IES, Paris, France ; Joseph Maire, EDF IES, Paris, France ; Rondy Gilles, EDF IES, Paris, France

1477 Security aspects on PMU data communication based on IP Networks in Smart Grids (x)
Tiago Antonio Rizzetti, Federal University of Santa Maria, Santa Maria, Brazil; Luciane Neves Canha, Federal University of Santa Maria, Santa Maria, Brazil; Rafael Gressler Milbradt, Federal University of Santa Maria, Santa Maria, Brazil; Jeann Carlo Raguzzoni, Federal University of Santa Maria, Santa Maria, Brazil

1512 A comparison of field results with modelled behaviour for a power electronics regulator used to manage dynamic voltage variation on a feeder with high PV content (x)
Olivia Leitermann, Gridco Systems, Woburn, MA, USA; Vincent Martinelli, Gridco Systems, Woburn, MA, USA; James Simonelli, Gridco Systems, Woburn, MA, USA

Block 4: Innovation in Network Components – Part 2: Substations

0057 New generation of switchgears with cable testing facilities (x)
Jose Manuel Inchausti, ORMAZABAL, Igorre, Bizkaia, Spain; Sergio Sebastián, ORMAZABAL, Igorre, Bizkaia, Spain

0058 New generation of circuit-breaker switchgear (x)
JULIO RODRÍGUEZ, ORMAZABAL, IGORRE, BIZKAIA, Spain; SERGIO SEBASTIAN, ORMAZABAL, IGORRE, BIZKAIA, Spain; JOSEBA AROSTEGUI, ORMAZABAL, IGORRE, BIZKAIA, Spain

0128 Continuous Vacuum Monitor for Air Insulated Vacuum Circuit Breakers (x)
Hans Schellekens, Schneider Electric, Grenoble, France

0149 Performances comparison inside the Electric Energy Storage Systems of Enel Distribuzione (x)
Christian Noce, Enel Distribuzione SpA, Roma, Italy ; Laura Pimpinella, Enel Distribuzione SpA, Roma, Italy

0212 New material for Compact Secondary Substation enclosures (x)
Carlos Martinez Nieto, ABB AS, Jüri, Estonia; Ivan Pedersen, ABB A/S, Fredericia, Denmark; Ants Palgi, ABB AS, Jüri, Estonia

0230 Alternative gas to SF₆ for use in High Voltage Switchgears: g³ (x)
Yannick KIEFFEL, ALSTOM GRID, VILLEURBANNE, France ; François BIQUEZ, ALSTOM GRID, VILLEURBANNE, France ; Philippe PONCHON, ALSTOM GRID, VILLEURBANNE, France

0371 New computational framework for analyzing of short-time withstand current effects in a switchgear design (x)

Shailendra Singh, Schneider Electric, Regensburg, Germany; Reino Hauck, Schneider Electric, Regensburg, Germany; Jhon J Moncaleano Torres, Schneider Electric, Brisbane, Australia; Pavel Novak, Schneider Electric, Regensburg, Germany; Jaroslav Snajdr, Schneider Electric, Regensburg, Germany

0421 Hardware in the Loop Multi-Objective Optimization of Medium Voltage Switching Devices (x)
Octavian Craciun, ABB AG, Ladenburg, Germany

0517 Modeling & Simulation extrapolated internal arc test results: A coupled fluid-structural transient methodology (x)
Jerome Douchin, Schneider Electric, Grenoble, France; Emmanuel Frangin, Schneider Electric, Grenoble, France; Ezequiel Salas, Schneider Electric, Monterrey, Mexico; Sandip Hirade, Schneider Electric, Bengalore, India

0519 Benefits of Controlled Switching of Medium Voltage Circuit Breakers (x)
André Mercier, IREQ (Hydro-Québec Research Center), Varennes, QUEBEC, Canada; Marc Lacroix, VIZIMAX Inc., Longueuil, QUEBEC, Canada; Pierre Taillefer, VIZIMAX Inc., Longueuil, QUEBEC, Canada

0529 High Accuracy Measurement Capabilities Integrated To Reclosers for Mv Power Networks (x)
Lorenzo Peretto, Altea SA, Mendrisio, Switzerland; Nenad Uzelac, G&W Electric, Bolingbrook, IL, USA; Blair Kerr, G&W Electric, Bolingbrook, IL, USA; Elisa Scala, Altea SA, Mendrisio, Switzerland

0538 Contribution of the HV/LV prefabricated substation standard and practises to the robustness of the prefabricated HV E-houses (x)
Thierry Cormenier, Schneider-Electric, Fabrègues, France

0587 Alternative gas insulation in medium-voltage switchgear (x)
Maik Hyrenbach, ABB AG, Ratingen, Germany; Tobias Hintzen, ABB AG, Ratingen, Germany Pascal Müller, EWZ, Zürich, Switzerland; John Owens, 3M, St. Paul / Minnesota, USA

0610 Distribution Transformer Cooling using the geothermal energy from the underground electric pipelines (x)
Pedro del Rosal Cimadevilla, Hidrocantábrico Distribución Eléctrica, Oviedo, Asturias, Spain; Javier Gómez-Aleixandre, Universidad de Oviedo, Oviedo, Asturias, Spain

0739 Internal arcs: Pressure rise versus cooling methods in air insulated MV switchgear (x)
Yvette Peterman-Gunther, Eaton Industries (Netherlands) B.V., Hengelo, The Netherlands; Gerard Schoonenberg, Eaton Industries (Netherlands) B.V., Hengelo, The Netherlands; Johan De Jong, Eaton Industries (Netherlands) B.V., Hengelo, The Netherlands

0777 Impact of Operating Mechanism type on MV Vacuum Circuit Breaker Reliability (x)
Juan Tobias, Schneider Electric, Grenoble, France; Jean-Marc Biasse, Schneider Electric, Grenoble, France; Philippe Picot, Schneider Electric, Grenoble, France; Denis Perrin, Schneider Electric, Grenoble, France; Marc Bonjean, Schneider Electric, Grenoble, France; Eduardo Pujadas, Schneider Electric, Grenoble, France

0784 Compact, Safe and Eco-friendly Substations for Mumbai City (x)
R Pillai, The Tata Power Company, Mumbai, India; Chintamani Chitnis, The Tata Power Company, Mumbai, India; Sabine Bowers, Cargill, Amtsgericht Krefeld HRB, Germany

0789 Integrated installation of a switch with no exposed live parts for MV overhead insulated networks (x)
Anthony Sberro, Ensto Novexia, Lyon, France; Nicolas Hue, Ensto Novexia, Lyon, France

0874 LVDC Pilot Implementation in Public Distribution Network
Tomi Hakala, Elenia Oy, Tampere, Finland; Tommi Lähdeaho, Elenia Oy, Tampere, Finland; Reijo Komsi, ABB Oy Drives, Helsinki, Finland

0926 Dielectric properties of gases suitable for secondary medium voltage switchgear (x)
Magne Saxegaard, ABB, Skien, Norway; Martin Kristoffersen, ABB, Skien, Norway; Patrick Stoller, ABB, Baden-Dättwil, Switzerland; Martin Seeger, ABB, Baden-Dättwil, Switzerland; Maik Hyrenbach, ABB, Ratingen, Germany; Henrik Landsverk, ABB, Skien, Norway

0951 Virtual assessment of customized (non-standard) substation solutions for renewable applications (x)
LUIS DEL RIO ETAYO, ORMAZABAL CORPORATE TECHNOLOGY, AMOREBIETA, Spain; SERGIO BARRIO, ORMAZABAL CORPORATE TECHNOLOGY, AMOREBIETA, Spain; JON ALCORTA, ORMAZABAL CORPORATE TECHNOLOGY, AMOREBIETA, Spain; ASIER ARTECHE, ORMAZABAL GLOBAL ENGINEERING, ZAMUDIO, Spain; EMILIO BARO, ORMAZABAL POWER SYSTEMS, KREFELD, Germany; DAVID NUÑEZ, ORMAZABAL RENEWABLES, GETAFE, Spain

1027 Towards a new generation of secondary substations on French distribution networks to accommodate smart grids requirements
Christian GUILLAUME, EDF R&D, MORET SUR LOING, France ; Michel CORDONNIER, ERDF, PARIS LA DEFENSE, France ; Fabienne MONTEL-RAGU, EDF R&D, MORET SUR LOING, France ; Franck GAILLARD, EDF R&D, MORET SUR LOING, France ; Malick MOUHAMAD, EDF R&D, MORET SUR LOING, France ; Florent LEMENAGER, EDF R&D, CLAMART, France ; Mustapha HABJA, EDF R&D, CLAMART, France

1090 Thermal design of future medium voltage switchgear (x)
Elin Fjeld, Telemark University College, Porsgrunn, Norway; Wilhelm Rondeel, Telemark University College, Porsgrunn, Norway; Knut Vagsaether, Telemark University College, Porsgrunn, Norway; Magne Saxegaard, ABB, Skien, Norway; Pål Skryten, ABB, Skien, Norway; Elham Attar, ABB, Skien, Norway

1120 Implementing a Battery Energy Storage System with a Converterless Direct Connection to an LVDC Distribution Network (x)
Pasi Nuutinen, Lappeenranta University of Technology, Lappeenranta, Finland; Andrey Lana, Lappeenranta University of Technology, Lappeenranta, Finland; Tero Kaipia, Lappeenranta University of Technology, Lappeenranta, Finland; Aleksi Mattsson, Lappeenranta University of Technology, Lappeenranta, Finland; Antti Pinomaa, Lappeenranta University of Technology, Lappeenranta, Finland; Pasi Peltoniemi, Lappeenranta University of Technology, Lappeenranta, Finland; Janne Karppanen, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland; Pertti Silventoinen, Lappeenranta University of Technology, Lappeenranta, Finland; Mika Matikainen, Suur-Savon Sähkö Oy, Mikkeli, Finland

1299 EcoDesign of Dry Transformers (x)
Jens Tepper, ABB, Brilon, Germany; Martin Carlen, ABB, Zurich, Switzerland

1339 Dynamic mechanical behaviour of a low voltage transformer winding under short circuit conditions (x)
Bruno Bosnjak, Siemens AG, Nuremberg, Bavaria, Germany; Hermann Landes, SIMetris GmbH, Erlangen, Bavaria, Germany; Andreas Hauck, SIMetris GmbH, Erlangen, Bavaria, Germany

1503 A novel way of implementing visible break in a Solid Dielectric Switch (x)
Kennedy Darko, G&W Electric, Bolingbrook, IL, USA; Nenad Uzelac, G&W Electric, Bolingbrook, IL, USA; Donald Martin, G&W Electric, Bolingbrook, IL, USA; Steve Boggs, Non Linear Systems, Hartford, CT, USA

1533 Oxidation aging and resulting dielectric performance of a natural ester insulation system for transformers (x)
Kevin Rapp, Cargill, Brookfield, WI, USA; Alan Sbravati, Cargill, Sao Paulo, Brazil; John Luksich, Cargill, Brookfield, WI, USA; David Bingenheimer, Cargill, Brookfield, WI, USA

1538 Impact of the Ecodesign Directive on Traceability in Power Transformer Loss Measurements (x)
Gert Rietveld, VSL, Delft, The Netherlands; Ernest Houtzager, VSL, Delft, The Netherlands; Dongsheng Zhao, VSL, Delft, The Netherlands

9.00 – 17.30 hrs: Poster session, Session 5: Planning of Power Distribution Systems

> Poster area (L-2)

(x) = *interactive guided tour*

Block 1: Risk Assessment and Asset Management

- Sub Block 1: Risk Assessment

0275 Reliability Evaluation for Energy Storage System Combined with Renewable Energy Sources
Wook-Won Kim Kim, Hanyang University, Seoul, Republic of Korea; Jin-O Kim Kim, Hanyang University, Seoul, Republic of Korea; Je-Seok Shin, Hanyang University, Seoul, Republic of Korea

- Sub Block 2: Reliability assessment

0731 Layered reliability assessment of a typical Finnish medium voltage network under multiple weather and load scenarios (x)
Bruno de Oliveira e Sousa, Aalto University, Espoo, Finland; John Millar, Aalto University, Espoo, Finland; Atte Pihkala, Helsingin Energia, Helsinki, Finland; Matti Lehtonen, Aalto University, Espoo, Finland

1012 Novel Power System Reliability Indices Calculation Method (x)
Andrés Honrubia-Escribano, CIRCE (Centre of Research for Energy Resources and Consumption), Zaragoza, Spain; Laura Giménez de Urtasun, CIRCE (Centre of Research for Energy Resources and Consumption), Zaragoza, Spain; Samuel Borroy Vicente, CIRCE (Centre of Research for Energy Resources and Consumption), Zaragoza, Spain; Susana Martín Arroyo, CIRCE (Centre of Research for Energy Resources and Consumption), Zaragoza, Spain; Miguel García Gracia, CIRCE (Centre of Research for Energy Resources and Consumption), Zaragoza, Spain

1158 Reliability improvement by optimizing MV substation configuration in combination with remote controlled switches (x)
Edward Coster, Stedin, Rotterdam, The Netherlands; Dirk Boender, Stedin, Rotterdam, The Netherlands; Bram Staarink, TU Eindhoven, Eindhoven, The Netherlands

1240 Smart Improvement of Distribution Grid Reliability (x)
Daniel Kouba, E.ON Czech Republic, Ceske Budejovice, Czech Republic; David Mezera, E.ON Czech Republic, Ceske Budejovice, Czech Republic; Miroslav Kopt, E.ON Czech Republic, Ceske Budejovice, Czech Republic; Filip Broz, EGC-EnerGoConsult CB, Ceske Budejovice, Czech Republic

1368 The Application of the Logical Structural Matrix for Reliability Analysis in a Distribution System Planning Environment (x)
Nelson Knak Neto, Federal University of Santa Maria, Santa Maria, Brazil; Alzenira R. Abaide, Federal University of Santa Maria, Santa Maria, Brazil; Daniel P. Bernardon, Federal University of Santa Maria, Santa Maria, Brazil; Luciane N. Canha, Federal University of Santa Maria, Santa Maria, Brazil; Roberto Pressi, AES Sul, São Leopoldo, Brazil

- Sub Block 3: Asset Management and Maintenance Strategies

0530 Sustainable Asset Management Strategy Achievable Today with Adaptable Services Plans (x)
Annabelle Defendini, Schneider Electric Industries, Reuil Malmaison, France; Denis Koch, Schneider Electric Industries, Meylan, France; Alain Malot, Electric Industries, France

0804 Validation of the Effectiveness of Virtual Instrumentation for Distribution Transformers (x)
Lia Aprilia, Alliander N.V., Arnhem, The Netherlands; Tongyou Gu, Alliander N.V., Arnhem, The Netherlands; Bert Hollander, Alliander N.V., Arnhem, The Netherlands; Geert Janssen, IBM Research, Yorktown Heights, NY, USA; Dzung Phan, IBM Research, Yorktown Heights, NY, USA; Jeroen Schuddebeurs, Alliander N.V., Arnhem, The Netherlands; Jinjun Xiong, IBM Research, Yorktown Heights, NY, USA; Yada Zhu, IBM Research, Yorktown Heights, NY, USA

0980 Knowledge preparations for extending lives of 10 kV PILC cables
Qikai Zhuang, Alliander, Arnhem, The Netherlands, Nico Steentjes, Alliander, Arnhem, The Netherlands

1061 Failure Rate Trends in an Aging Population - Monte Carlo Approach (x)
Niklas Ekstedt, KTH - Royal Institute of Technology, Stockholm, Sweden; Sajeesh Babu, KTH - Royal Institute of Technology, Stockholm, Sweden; Patrik Hilber, KTH - Royal Institute of Technology, Stockholm, Sweden

Block 2: Network Development

- Sub Block 1: Innovative Power Distribution

0414 Determination and origins of reactive power flows in HV/MV substations (x)
Juliette MORIN, L2EP, Lille, France ; Frederic COLAS, L2EP, Lille, France ; Xavier GUILLAUD, L2EP, Lille, France ; Sébastien GRENARD, ERDF, Paris, France

0431 Wind farm operation and control strategy based on battery storage system
Jingjing Zhang, Hitachi(China)Research & Development Corporation, Beijing, China; Jing Zhang, Hitachi(China)Research & Development Corporation, Beijing, China; Yuliang Wang, Hitachi(China)Research & Development Corporation, Beijing, China

0633 New ancillary services required to electrical storage systems for correct network planning and operation (x)
Luciano Cocchi, Enel Distribuzione, Rome, Italy; Cristiano Pezzato, Enel Distribuzione, Rome, Italy; Alberto Cerretti, Enel Distribuzione, Rome, Italy; Christian Noce, Enel Distribuzione, Rome, Italy; Ettore Deberardinis, Cesi, Milan, Italy; Roberto Nicolini, Cesi, Milan, Italy

0760 Derivation of Recommendations for the Future Reactive Power Exchange at the Interface between Distribution and Transmission Grid (x)
Philipp Schäfer, FGH e.V., Aachen, NRW, Germany; Hendrik Vennegeerts, FGH e.V., Aachen, NRW, Germany; Simon Krahl, FGH e.V., Aachen, NRW, Germany; Albert Moser, FGH e.V., Aachen, NRW, Germany

0880 Estimation Method for Frequency of SVR Tap Changing by Fluctuation Analysis of PV Generation (x)
Ken'ichiro YAMANE, Hitachi, Ltd., Hitachi-shi, Ibaraki-ken, Japan; Takuya MATSUMOTO, Hitachi, Ltd., Hitachi-shi, Ibaraki-ken, Japan; Masahiro WATANABE, Hitachi, Ltd., Hitachi-shi, Ibaraki-ken, Japan; Katsuhiro MATSUDA, Tohoku Electric Power Co., Inc., Sendai-shi, Miyagi-ken, Japan; Toshiyuki SETO, Tohoku Electric Power Co., Inc., Sendai-shi, Miyagi-ken, Japan; Jun MURAKOSHI, Tohoku Electric Manufacturing Co., Ltd., Tagajo-shi, Miyagi-ken, Japan; Tomoya SATO, Tohoku Electric Manufacturing Co., Ltd., Tagajo-shi, Miyagi-ken, Japan

1035 Increasing power generation capacity on meshed electrical grids - GridON's Fault Current Limiter successfully suppresses multiple network faults during two years in service (x)
Uri Garbi, GridON Ltd, Givatayim, Israel

1116 Profitability of underground cabling in the Finnish rural electricity distribution in the future (x)
Juha Haakana, Lappeenranta University of Technology, Lappeenranta, Finland; Jukka Lassila, Lappeenranta University of Technology, Lappeenranta, Finland; Tero Kaipia, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland

1129 Standardised Connections and the Economic Benefits of Fault Current Limiters on Distribution Networks (x)
Jonathan Berry, Western Power Distribution, West Midlands, UK; Neil Murdoch, Parsons Brinckerhoff, Surrey, UK

1280 Development of Methods and Models for a Study into UK Distribution Systems of 2030 (x)
James King, Parsons Brinckerhoff, Manchester, UK; Jamie McWilliam, Energy Networks Association, London, UK; Gillian Williamson, Parsons Brinckerhoff, Manchester, UK; Victor Levi, University of Manchester, Manchester, UK; Sarah Carter, Ricardo-AEA, Guildford, UK

1530 Interconnected low voltage grid, grid for the future smart grids? (x)
Stanislav Votruba, PREdistribuce, a.s., Prague, Czech Republic; Filip Broz, EGC - EnerGoConsult CB s.r.o., Ceske Budejovice, Czech Republic; Lukas Krivanec, PREdistribuce, a.s., Prague, Czech Republic; Karel Prochazka, EGC - EnerGoConsult CB s.r.o., Ceske Budejovice, Czech Republic

- Sub Block 2: Smart Grid Systems and Applications

0043 Microgrid's Strategic Planning in KEPCO
Dae young KIM, KEPCO, Seoul, Republic of Korea

0120 Comparing the integration of innovative aspects in Smart Grid demonstration projects (x)
Stijn Van Loo, G2Elab, Grenoble, France; Damien PICAULT, G2Elab, Grenoble, France
0219 CITYOPT - Holistic simulation and optimisation of energy systems in smart cities (x)
Régis DECORME, CSTB, Sophia Antipolis, France ; Alain ANFOSSO, CSTB, Sophia Antipolis, France ; Isabelle JALMAIN, EDF, Marseille, France ; Patrick LESBROS, EDF, Marseille, France ; Marie TATIBOUET, NCA (Métropole Nice Côte d'Azur), Nice, France ; Gabriele SANTINELLI, EXPERIENTIA, Torino, Italy

0605 Conclusions from smart grid field tests -deployment of results, methods and new technologies (x)
Andreas Abart, Netz OOE GMBH, Linz, Oberoesterreich, Austria; Walter Tenschert, Netz OOE GMBH, Linz, Oberoesterreich, Austria; Ewald Traxler, Netz OOE GMBH, Linz, Oberoesterreich, Austria

0661 Probabilistic Assessment of P_{dc}/V_g Droop Control of PV Inverters (x)
VASILIKI KLONARI, UMONS, MONS, Belgium ; JEAN-FRANCOIS TOUBEAU, UMONS, MONS, Belgium; ZACHARIE DE GREVE, UMONS, MONS, Belgium; TINE VANDOORN, UGHENT, GHENT, Belgium; BART MEERSMAN, UGHENT, GHENT, Belgium; FRANCOIS VALLEE, UMONS, MONS, Belgium; JACQUES LOBRY, UMONS, MONS, Belgium

0682 Voltage Control in Intelligent Secondary Substations by Voltage Observation Methods Based on Local Measurements (x)
Daniel Schacht, FGH e.V., Mannheim, Germany; Hendrik Vennegeerts, FGH e.V., Mannheim, Germany; Björn Keune, TU Dortmund University, Dortmund, Germany; Adam Slupinski, ABB AG, Mannheim, Germany; Robert Frings, INFRAWEST GmbH, Aachen, Germany

0701 Smart Grid Taxonomy - A System View from a DSO's Perspective (x)
Hauke Basse, BKW Energie AG, Bern, Switzerland

0737 Concept Grid: a new test platform for smart grid systemsGeneral presentation & Experiments (x)
Benoît Puluhen, EDF, Moret-sur-Loing, France; Aude Pelletier, EDF, Moret-sur-Loing, France; Loïc Joseph-Auguste, EDF, Moret-sur-Loing, France; Thierry Pelinski, EDF, Moret-sur-Loing, France

0740 Curtailment Assessment Methods Characterisation and Definition (x)
Jorge Pena-Martinez, Smarter Grid Solutions, Glasgow, UK; Christopher Williams, Smarter Grid Solutions, New York, USA; Laura Kane, Smarter Grid Solutions, Glasgow, UK; Graham Ault, Smarter Grid Solutions, Glasgow, UK; Euan Norris, Scottish Power Energy Networks, Glasgow, UK; John Moffat, Scottish Power Energy Networks, Glasgow, UK; Ross Anderson, Scottish Power Energy Networks, Glasgow, UK

0981 Selecting Sites for FUN-LV field trials (x)
Claire Newton, Ricardo-AEA, Guildford, Surrey, UK; Cliff Walton, Ricardo-AEA, Guildford, Surrey, UK; James Gooding, UK Power Networks, London, UK

1006 Cost analysis from Smart Grid implementation in Medium Voltage distribution grid (x)
Stian Reite, ABB, Skien, Norway; Magnar Bjørk, Epos Consulting, Drammen, Norway; Åshild Helland, Lyse Elnett, Sandnes, Norway

1033 Distribution Network Planning for Commercial and Industrial Areas: the Realisation of Flexible and Modular Smart Microgrids
Frits Wattjes, Eindhoven University of Technology, Eindhoven, The Netherlands; Rob Goes, Liandon BV, Duiven, The Netherlands; Jur Erbrink, Liandon BV, Duiven, The Netherlands

1117 Planning Network Investment in a Smart Low Carbon World
Mark Sprawson, EA Technology, Chester, UK; Dave A Roberts, EA Technology, Chester, UK; David Clements, EA Technology, Chester, UK; Manuel Castro, EA Technology, Chester, UK

1193 New design methods for energy infrastructures in future urban areas (x)
Per Nørgaard, Technical University of Denmark (DTU), Roskilde, Denmark

1205 Modernizing distribution network management with Linky smart meters - lessons learned in GreenLys project (x)
Clement Baudot, ERDF, Lyon, France; Guillaume Roupioz, ERDF, Lyon, France; Aymeric Billet, ERDF, Paris, France

1238 Synergetic effects for DSOs and customers caused by the integration of renewables into the distribution network - Influences on business and national economics
Maria Aigner, University of Technology, Graz, Austria; Ernst Schmautzer, University of Technology, Graz, Austria; Beate Friedl, Institute for Advanced Studies Carinthia, Klagenfurt, Austria; Alfons Haber, Authorized expert, Klagenfurt, Austria; Markus Bliem, Institute for Advanced Studies Carinthia, Klagenfurt, Austria

1281 On the definition and applicability of Key Performance Indicators for evaluating the performance of smart grids concepts (x)
Marco Rossi, RSE, Milan, Italy; Jesus Varela Sanz, IBERDROLA, Madrid, Spain; Benoit Bletterie, AIT, Vienna, Austria; Maria Sebastian Viana, ERDF, Paris, France

1356 Brazilian Smart Grid Roadmap - An innovative methodology for proposition and evaluation of Smart Grid functionalities for highly heterogeneous distribution grids (x)
Daniel Perez Duarte, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Nelson Kagan, University of São Paulo, São Paulo, SP, Brazil; Marcos Roberto Gouvêa, University of São Paulo, São Paulo, SP, Brazil; Julio Labronici, University of São Paulo, São Paulo, SP, Brazil; Fernando Cezar Maia, BENCH Consultoria e Assessoria em Energia, Rio de Janeiro, RJ, Brazil; Acacio Barreto Neto, SUMMA Engenharia Consultiva LTDA, Niterói, RJ, Brazil; Daniel Senna Guimarães, CEMIG Distribuição, Belo Horizonte, MG, Brazil; Leandro Sabença Cesar, AES Eletropaulo Metropolitana, São Paulo, SP, Brazil; Adriano Bonini, CPFL Energia, Campinas, SP, Brazil; José Francisco Resende da Silva, ELEKTRO Distribuição, Campinas, SP, Brazil; Mariana Fulan de Souza, Sinapsis Inovação em Energia, São Paulo, SP, Brazil

- Sub Block 3: DC Distribution Systems

0604 Design and Construction of Korean LVDC distribution system for Supplying DC power to Customer
Jintae Cho, KEPRI, Daejeon, Republic of Korea; Jae-Han Kim, KEPRI, Daejeon, Republic of Korea; Wookyu Chae, KEPRI, Daejeon, Republic of Korea; Hak-ju Lee, KEPRI, Daejeon, Republic of Korea; Juyong Kim, KEPRI, Daejeon, Republic of Korea

0937 Design and Operation Schemes for Battery Energy Storage Systems in Low-Voltage DC Distribution Systems Considering Voltage Control and Economic Feasibility
Bo-Min Kweon, Kookmin University, Seoul, Republic of Korea; Il-Yop Chung, Kookmin University, Seoul, Republic of Korea; Ju-Yong Kim, KEPCO, Daejeon, Republic of Korea; Jin-Tae Cho

Block 3: Distribution Planning

- Sub Block 1: General Planning

0336 An Analytical Decision Model to High Voltage Network Planning (x)
Rita Chaves Rebelo, EDP Distribuição, Porto, Portugal; Francisco Cravo Branco, EDP Distribuição, Lisbon, Portugal

0379 Risk Analysis Methodologies for Distribution Network Investment Projects and Portfolios (x)
Ines Verdelho, EDP - Distribuição, Lisboa, Portugal; Ricardo Prata, EDP - Distribuição, Lisboa, Portugal; Pedro Carvalho, Instituto Superior Tecnico, Lisboa, Portugal; Carlos Santos, EDP - Distribuição, Lisboa, Portugal

0420 How to zip a multi M€ GIS project into a few dozen k€? (x)
Jorge Mendes Santos, EDP Distribiução, S.A., Coimbra, Portugal; Anabela El-Zein, EDP Distribiução, S.A., Coimbra, Portugal; José Freitas Cardoso, EDP Distribiução, S.A., Coimbra, Portugal; Rui Pena, EDP Distribiução, S.A., Coimbra, Portugal; José Maria Figueiredo, EDP Distribiução, S.A., Coimbra, Portugal; João Garcia Mendes, EDP Distribiução, S.A., Coimbra, Portugal

0425 Opportunities presented by smart by smart grids to improve network planning, optimising electrical vehicle, DER, and load integration (x)
Ricardo Prata, EDP - Distribuição, Lisboa, Portugal, Pedro Mousinho, EDP - Distribuição, Lisboa, Portugal; Diogo Moreira, EDP - Distribuição, Lisboa, Portugal

0544 MV planning approach using time series, billing data of medium voltage consumers and substation feeders metering
André Meffe, Daimon, Sao Paulo, SP, Brazil; Carlos C. B. Oliveira, Daimon Engineering & Systems, São Paulo, SP, Brazil; Anderson H. Uyekita, Daimon Engineering & Systems, São Paulo, SP, Brazil; Alden U. Antunes, Daimon Engineering & Systems, São Paulo, SP, Brazil; Dário Takahata, Daimon Engineering & Systems, São Paulo, SP, Brazil; Francisco J. S. Pimentel, Centrum Engineering, Florianópolis, SC, Brazil; José C. M. Córdova, Centrum Engineering, Florianópolis, SC, Brazil; Lucio T. Prazeres, Centrum Engineering, Florianópolis, SC, Brazil; Luiz A. Miranda, Centrum Engineering, Florianópolis, SC, Brazil; Jean E. Costanzi, Centrais Elétricas de Santa Catarina, Joinville, SC, Brazil; Márcio L. V. Godoy, Centrais Elétricas de Santa Catarina, Joinville, SC, Brazil; Amilton F. Cardoso Junior, Centrais Elétricas de Santa Catarina, Joinville, SC, Brazil

0686 Optimal Planning of Urban Distribution Network Considering its Topology
Victor Gouin, G2ELab, Saint-Martin-d'Hères, France ; Marice-Cécile Alvarez-Hérault, G2ELab, Saint-Martin-d'Hères, France ; Bertrand Raison, G2ELab, Saint-Martin-d'Hères, France

0753 An Application of Cluster Reference Grids for an Optimized Grid Simulation (x)
Gerhard Walker, Netze BW GmbH, Stuttgart, Germany; Haiko Nägele, Netze BW GmbH, Stuttgart, Germany; Fabian Kniehl, Netze BW GmbH, Stuttgart, Germany; Alexander Probst, Netze BW GmbH, Stuttgart, Germany; Marc Brunner, University of Stuttgart, Stuttgart, Germany; Stefan Tenbohlen, University of Stuttgart, Stuttgart, Germany

0916 Distribution Network Pricing Model for Efficient use of Existing Infrastructure and Efficient new Investments (x)
Anula Abeygunawardana, Queensland University of Technology, Brisbane, Australia; Ali Arefi, Queensland University of Technology, Brisbane, Australia; Gerard Ledwich, Queensland University of Technology, Brisbane, Australia

1002 Communication Project of primary substations and surrounding network (x)
Inês Cândido Silva, EDP Distribuição, Lisbon, Portugal; Inês Mousinho, EDP SA, Lisbon, Portugal; Rita Monteiro, EDP SA, Lisbon, Portugal; Vítor Cabral, EDP Distribuição, Lisbon, Portugal; Rui Babau, EDP Distribuição, Lisbon, Portugal; Miguel Freitas, EDP Distribuição, Lisbon, Portugal; Renata Machado, EDP Distribuição, Lisbon, Portugal; Pedro Torres, EDP Distribuição, Lisbon, Portugal; Rui Saraiva Silva, EDP Distribuição, Lisbon, Portugal; Joana Bernardo, EDP Distribuição, Lisbon, Portugal

1008 The impact of restructuring urban and suburban distribution grids with Smart Grid approaches on system reliability (x)
Matej Rejc, Siemens AG Österreich, Vienna, Austria; Gerhard Hafner, Wiener Netze GmbH, Vienna, Austria; Alfred Einfalt, Siemens AG Österreich, Vienna, Austria; Andreas Lugmaier, Siemens AG Österreich, Vienna, Austria

1021 Utilizing a modern network information system in the optimization of network investments
Jussi Vatilo, Trimble Navigation Ltd, Espoo, Finland; Harri Salmivaara, Electrosoft Oy, Helsinki, Finland; Tommi Lähdeaho, Elenia Oy, Tampere, Finland

1167 Multi-level distribution grid planning process by means of a multi-agent-system (x)
Andre Seack, TU Dortmund University, Dortmund,NRW, Germany; Jan Kays, TU Dortmund University, Dortmund,NRW, Germany; Christian Rehtanz, TU Dortmund University, Dortmund,NRW, Germany

1337 Computer-aided distribution network planning using expert rules
Neel van Hoesel, Eindhoven University of Technology, Eindhoven, The Netherlands; Marinus Grond, Eindhoven University of Technology, Eindhoven, The Netherlands; Anton Ishchenko, Phase to Phase B.V., Arnhem, The Netherlands; Han Slootweg, Eindhoven University of Technology, Eindhoven, The Netherlands

1364 Development tool for Regulatory Evaluation of Investment in Expansion of Brazilian Distribution Systems (x)

Daniel Perez Duarte, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Marcelo Aparecido Pelegrini, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Ewerton Guarnier, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Mariana Fulan de Souza, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Letícia Bernadete H. Sugano, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Willian F. Peixoto, Sinapsis Inovação em Energia, São Paulo, SP, Brazil; Rubem B. S. de Brito, Eletrobrás Holding, Rio de Janeiro, RJ, Brazil; Nelson Kagan, Universidade de São Paulo, São Paulo, SP, Brazil; Marcos Roberto Gouvêa, Universidade de São Paulo, São Paulo, SP, Brazil; Ricardo Penido Dutt Ross, Centro de Pesquisas de Energia Elétrica - CEPEL, Rio de Janeiro, RJ, Brazil; Charles Mariano P. de Almeida, Eletrobrás Alagoas, Maceió, AL, Brazil; Rodrigo A. Sossai, Eletrobrás Rondônia, Porto Velho, RO, Brazil

1382 Integrated planning of distribution networks: Interactions between land use, transport and electric vehicle charging demand (x)
Gonzalo Bustos-Turu, Imperial College London, London, UK; Koen H. van Dam, Imperial College London, London, UK; Salvador Acha, Imperial College London, London, UK; Nilay Shah, Imperial College London, London, UK

1418 SIRIs Platform: General Features of the First Integrated Computational Simulator of Smart Grids in Development for Brazilian Electric Utilities (x)
Arlan Luiz Bettiol, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Antônio Carniato, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Luiz F. do N. Passos, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Norbert Penner, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Jair André Cortina, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Ricardo Calefi Junior, NEO DOMINO RESEARCH IN POWER SYSTEMS, Florianópolis - Santa Catarina, Brazil; Rafael Z. Homma, CELESC, Florianópolis - Santa Catarina, Brazil; Fernando H. Molina, CELESC, Florianópolis - Santa Catarina, Brazil

1426 Upgrading MV-grids: A compromise between technological development and cost-efficient solutions (x)
Alex Geschiere, Alliander, Arnhem, The Netherlands; Frans Volberda, Alliander, Arnhem, The Netherlands; Erika Piga-Gehrke, Alliander, Arnhem, The Netherlands

- Sub Block 2: Planning of Active Networks

0042 Assesment of maximum PV penetration levels in low voltage networks using Monte Carlo approach
Marko Kolenc, Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, Slovenia; Igor Papič, Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, Slovenia; Boštjan Blažič, Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, Slovenia

0124 Modern grid planning – A probabilistic approach for low voltage networks facing new challenges (x)
Thomas Wieland, Graz University of Technology, Graz, Austria; Michael Reiter, Graz University of Technology, Graz, Austria; Ernst Schmautzer, Graz University of Technology, Graz, Austria; Lothar Fickert, Graz University of Technology, Graz, Austria

0133 "Smart Planning" - Optimal Balance between Risk & Costs (x)
Christoph Engels, University of Applied Sciences & Arts Dortmund, Dortmund, Germany; Lars Jendernalik, Westnetz GmbH, Dortmund, Germany; Jonas von Haebler, Technical University Dortmund, Dortmund, Germany; Andreas Maier, University of Applied Sciences & Arts Dortmund, Dortmund, Germany; Sebastian Schimmeyer, Intulion GmbH, Dortmund, Germany; Ivan Weber, University of Applied Sciences & Arts Dortmund, Dortmund, Germany

0140 The potential of using generated time series in the distribution grid planning process (x)
Jan Kays, TU Dortmund University, Dortmund, Germany; André Seack, TU Dortmund University, Dortmund, Germany; Ulf Häger, TU Dortmund University, Dortmund, Germany

0187 Techno-Economic Assessment of Planning Principles for Low Voltage Grids in the Presence of Massive Distributed PV Generation (x)
Peter Hauffe, Pfalzwerke AG, Ludwigshafen, Germany; Carsten Wendel, Pfalzwerke Netz AG, Ludwigshafen, Germany; Maximilian Arnold, University of Kaiserslautern, Kaiserslautern, Germany; Wolfram H. Wellssow, University of Kaiserslautern, Kaiserslautern, Germany

0300 Large Scale integration of PV Systems and Heat pumps in a Workmen's Quarter (x)
Edward Coster, Stedin, Rotterdam, The Netherlands; Bart Kers, Stedin, Rotterdam, The Netherlands

0402 Estimating the impact of large scale photovoltaic generations on a meshed low voltage network - a case study results (x)
Sharmistha Bhattacharyya, Endinet, Eindhoven, The Netherlands; Paulus Karremans, Endinet, Eindhoven, The Netherlands

0915 Extraction of 9,163 real LV network models from DNO GIS database to assess overvoltage from PV and consequent mitigation measures (x)
Andrew Crossland, Durham University, Durham, UK; Darren Jones, Electricity North West Limited, Warrington, UK; Neal Wade, Newcastle University, Newcastle-upon-Tyne, UK

0933 A Flexible Tool for Integrated Planning of Active Distribution Networks (x)
Ali Arefi, Queensland University of Technology, Brisbane, Australia; Gerard Ledwich, Queensland University of Technology, Brisbane, Australia; Fanny Boulaire, Queensland University of Technology, Brisbane, Australia; Anula Abeygunawardana, Queensland University of Technology, Brisbane, Australia; Robin Drogemuller, Queensland University of Technology, Brisbane, Australia

1110 New Hybrid Planning Approach for Distribution Grids with a High Penetration of RES
Pascal Wiest, Universität Stuttgart, Stuttgart, Germany; Krzysztof Rudion, Universität Stuttgart, Stuttgart, Germany; Alexander Probst, Netze BW GmbH, Stuttgart, Germany

1527 Impact of Evolving Load Profiles on Distribution System Assets and System Reliability Assessment (x)
Jason Taylor, EPRI, Knoxville, TN, USA; Roger Dugan, EPRI, Knoxville, TN, USA

- Sub Block 3: Optimal Placement of Power and Control Discrete Components

0147 A probabilistic approach for optimal capacitor placement in a distribution system using simultaneous perturbation stochastic approximation (x)
Christian Noce, Enel Distribuzione SpA, Roma, Italy; Guido Carpinelli, University of Naples Federico II, Napoli, Italy; Pietro Varilone, Università degli Studi di Cassino e del Lazio Meridionale, Cassino, Italy; Angela Russo, Politecnico di Torino, Torino, Italy

0534 Reserve Power - Alternative Solution to the Network Investments in Rural Area Networks? (x)
Janne Strandén, Tampere University of Technology, Tampere, Finland; Pekka Verho, Tampere University of Technology, Tampere, Finland; Pertti Pakonen, Tampere University of Technology, Tampere, Finland

0599 Optimal positioning and pre-sizing of storage devices for the improvement of MV distribution grid operation
Jean-François Toubeau, University of Mons, Mons, Belgium; Anthony Brito, University of Mons, Mons, Belgium; Zacharie De Grève, University of Mons, Mons, Belgium; Olgan Durieux, Ores, Louvain-la-Neuve, Belgium; François Vallée, University of Mons, Mons, Belgium; Jacques Lobry, University of Mons, Mons, Belgium

0779 Testing and Validation of an Algorithm for Configuring Distribution Grid Sensor Networks (x)
Paul Clarkson, National Physical Laboratory, Teddington, UK; Alberto Venturi, NEC, Heidelberg, Germany; Alistair Forbes, National Physical Laboratory, Teddington, UK; Andrew Roscoe, University of Strathclyde, Glasgow, UK; Paul Wright, National Physical Laboratory, Teddington, UK

0960 Reactive Power Injection by Wind Farms during Asymmetric Faults - Application to Portuguese Distribution Grid (x)
Nuno Filipe, EDP LABELEC, Lisbon, Portugal ; Andreia Leiria, EDP LABELEC, Lisbon, Portugal ; Miguel Louro, EDP Distribuição, Lisbon, Portugal

1171 Optimization and visualization of distribution automation utilizing advanced network information system (x)
Osmo Siirto, Helen Electricity Network Ltd., Helsinki, Finland; Mikko Oravasaari, Helen Electricity Network Ltd., Helsinki, Finland; Matti Lehtonen, Aalto University, Espoo, Finland

1228 Methodology for allocation of remote controlled switches within long term medium voltage distribution network planning (x)
Tomislav Baricevic, Energy Institute Hrvoje Pozar, Zagreb, Croatia; Minea Skok, Energy Institute Hrvoje Pozar, Zagreb, Croatia; Viktorija Dudjak, Energy Institute Hrvoje Pozar, Zagreb, Croatia

1307 Energy Storage in Distribution Grids - Needs for Cross-Voltage-Level Planning and Optimization (x)
Carsten Boese, Siemens AG, Erlangen, Germany; Linda Martin, Siemens AG, Erlangen, Germany; Ben Gemsjäger, Siemens AG, Erlangen, Germany; Sebastian Harnisch, Bergische Universität Wuppertal, Wuppertal, Germany; Philipp Steffens, Bergische Universität Wuppertal, Wuppertal, Germany; Hans Henning Thies, Bergische Universität Wuppertal, Wuppertal, Germany; Markus Zdrallek, Bergische Universität Wuppertal, Wuppertal, Germany; Jens Hache, Mitteldeutsche Netzgesellschaft Strom mbH, Halle, Germany; Tino Noske, Bergische Universität Wuppertal, Wuppertal, Germany; Stan Mour, Bergische Universität Wuppertal, Wuppertal, Germany

- Sub Block 4: EV Accommodation Planning

0076 SMART SIZING - A Tool for Long-term Planning of Distribution Systems
Stijn COLE, Tractebel Engineering, Brussels, Belgium; Alexandre HAMMER, Tractebel Engineering, Brussels, Belgium; Marc STUBBE, Tractebel Engineering, Brussels, Belgium

0312 Optimal Multistage Planning of LV Networks with EV Load Control: Prospective ICT vs. Traditional Asset Reinforcement Investment (x)
Alexandre Dias, INESC ID - INSTITUTO DE ENGENHARIA DE SISTEMAS EM LISBOA, LISBON, Portugal; Luis Silvestre, EDP DISTRIBUICAO ENERGIA SA, LISBON, Portugal; Pedro Almeida, TRACTEBEL ENGINEERING S.A., BRUSSELS, Belgium; Pedro Carvalho, INESC ID - INSTITUTO DE ENGENHARIA DE SISTEMAS EM LISBOA, LISBON, Portugal; Stephane Rapoport, TRACTEBEL ENGINEERING S.A., BRUSSELS, Belgium; Susete Albuquerque, EDP DISTRIBUICAO ENERGIA SA, LISBON, Portugal

0501 Optimizing investment strategies on network's capacity growth for facilitating large scale integration of electric vehicles (x)
Sharmistha Bhattacharyya, Endinet, Eindhoven, The Netherlands; Angelo van Buuren, Endinet, Eindhoven, The Netherlands; Björn JANSON, Alliander, Arnhem, The Netherlands

0608 Analysis of the Impact of Battery Storage on Power Distribution Systems (x)
Carlos Mateo, Universidad Pontificia Comillas, Madrid, Spain; Andrea Rodríguez, Universidad Pontificia Comillas, Madrid, Spain; Pablo Frías, Universidad Pontificia Comillas, Madrid, Spain; Javier Reneses, Universidad Pontificia Comillas, Madrid, Spain; Alvaro Sánchez, Universidad Pontificia Comillas, Madrid, Spain; Santiago Bañales, Ormazabal, Bilbao, Spain; Del Rio Luis, Ormazabal, Bilbao, Spain; Mikel Zaldunbide, Ormazabal, Bilbao, Spain; Javier Gómez, Ormazabal, Bilbao, Spain

0746 New Options for Connecting Generation on Distribution Networks and Required Network Control Preparation (x)
Marie-Anne Lafittau, ERDF, Paris la Défense, France ; Guillaume Pelton, ERDF, Paris la Défense, France ; Frédéric Gorgette, ERDF, Paris la Défense, France ; Olivier Carré, ERDF, Paris la Défense, France

0793 EV stochastic sampling: addressing limited geographic areas (x)
Stefan Übermasser, AIT, Vienna, Austria; Fabian Leimgruber, AIT, Vienna, Austria; Martin Noehrer, AIT, Vienna, Austria; Pedro Rocha Almeida, Tractebel Engineering, Brussels, Belgium; Stéphane Rapoport, Tractebel Engineering, Brussels, Belgium; Frederik Geth, Tractebel Engineering, Brussels, Belgium

1092 Reactive Power Support for Optimal Grid Integration of Fast-Charging Infrastructure in German Low-Voltage Networks
Peter Krasselt, Karlsruhe Institute of Technology, Institute of Electric Energy Systems and High-Voltage Technology, Karlsruhe, Germany; Michael Suriyah-Jaya, Karlsruhe Institute of Technology, Institute of Electric Energy Systems and High-Voltage Technology, Karlsruhe, Germany; Thomas Leibfried, Karlsruhe Institute of Technology, Institute of Electric Energy Systems and High-Voltage Technology, Karlsruhe, Germany

1198 Software for the Optimal Allocation of EV Chargers into the Power Distribution Grid (x)
Amparo Mocholí, Instituto Tecnológico de la Energía (ITE), Valencia, Spain ; Carlos Blasco, Instituto Tecnológico de la Energía (ITE), Valencia, Spain ; Irene Aguado, Instituto Tecnológico de la Energía (ITE), Valencia, Spain ; Vicente Fuster, Instituto Tecnológico de la Energía (ITE), Valencia, Spain

1505 Contribution and impacts of grid integrated electric vehicles to the distribution networks and railway station parking lots (x)
Siyamak Sarabi, L2EP-HEI, Lille, France ; Arnaud Davigny, L2EP-HEI, Lille, France ; Vincent Courtecuisse, GEREDIS, Niort, France ; Yann Riffonneau, SNCF, Paris, France ; Benoit Robyns, L2EP-HEI, Lille, France

- Sub Block 5: Smart Grid Planning

0233 Techno-Economic Assessment of Smart Grid Solutions in the Russian Distribution Network of Bashkirenergo (x)
Holger Mueller, Siemens AG, Erlangen, Germany; Andreas Ettinger, Siemens AG, Erlangen, Germany; Elena Nikitina, OOO Siemens, Moscow, Russia; Yurii Radygin, BashkirEnergo, Ufa, Russia

0484 A basis for smart planning: Requirements for expansion planning of future distribution networks (x)
Raoul Bernards, Eindhoven University of Technology, Eindhoven, The Netherlands; Johan Morren, Enexis B.V.,'s-Hertogenbosch, The Netherlands; Han Slootweg, Enexis B.V.,'s-Hertogenbosch, The Netherlands

0953 Assessing the Contribution of Demand Side Response to Network Security (x)
Manuel Castro, EA Technology Ltd, Chester, UK; Richard Potter, EA Technology Ltd, Chester, UK; Daniel Hollingworth, EA Technology Ltd, Chester, UK; Mark Sprawson, EA Technology Ltd, Chester, UK; Dave Roberts, EA Technology Ltd, Chester, UK; David Boyer, UK Power Networks, London, UK

0958 An Investment Versus Flexibilities Comparison Framework (x)
Jérémy Boubert, ERDF, Paris, France ; Solène Boyard, ERDF, Paris, France ; François Dispot, ERDF, Paris, France

1026 A comparison of different curtailment strategies for distributed generation
Alberto Pagnetti, EDF R&D, Clamart, France ; Josselin Fournel, EDF R&D, Clamart, France ; Christophe Santander, EDF R&D, Clamart, France ; Antoine Minaud, ERDF, Paris, France

1253 Curtailment of distribution-side power generation for primary substation investment deferral (x)
Garry Aurel, G2ELab, Grenoble, France; Cadoux Florent, G2ELab, Grenoble, France; Alvarez Marie-Cécile, G2ELab, Grenoble, France; Minaud Antoine, ERDF, Paris, France; HadjSaid Nouredine, G2ELab, Grenoble, France

1377 Time-series Simulations and Assessment of Smart Grid Planning Options of Distribution Grids (x)
Stephan Koch, Adaptricity GmbH, Zurich, Switzerland; Francesco Ferrucci, Adaptricity GmbH, Zurich, Switzerland; Andreas Ulbig, Adaptricity GmbH, Zurich, Switzerland; Michael Koller, EKZ, Zurich, Switzerland

1394 Innovative Planning Method for Deriving New Rules for Future Network Planning (x)
Julia Ziegeldorf, FGH e.V., Mannheim, Nordrhein-Westfalen, Germany; Sören Patzack, FGH e.V., Mannheim, Nordrhein-Westfalen, Germany; Max Hoven, FGH e.V., Mannheim, Nordrhein-Westfalen, Germany; Hendrik Vennegeerts, FGH e.V., Mannheim, Nordrhein-Westfalen, Germany; Albert Moser, FGH e.V., Mannheim, Nordrhein-Westfalen, Germany; Robert Frings, INFRAWEST GmbH, Aachen, Nordrhein-Westfalen, Germany

1623 A smart distribution toolbox for distribution system planning (x)
Manuel Alvarez, Luleå University of Technology, Luleå, Sweden; Math Bollen, Luleå University of Technology, Luleå, Sweden; Sarah Rönnberg, Luleå University of Technology, Luleå, Sweden; Jin Zhong, Luleå University of Technology, Luleå, Sweden; Aurora Gil de Castro, University of Cordoba, Cordoba, Spain

Block 4: Methods and Tools

- Sub Block 1: Load Modeling and Forecasting

0107 Simulation of Domestic Electricity Load Profile by Multiple Gaussian Distribution
Yan GE, Glasgow Caledonian University, Glasgow, UK; Jiachang Dai, Suzhou Power Supply Company, State Grid Corporation of China, China, China; Kejun Qian, Suzhou Power Supply Company, State Grid Corporation of China, China, China; Donald Hepburn, Glasgow Caledonian University, Glasgow, UK; Chengke Zhou, Glasgow Caledonian University, Glasgow, UK

0369 AMR data for planning (x)
Ajay Potdar, Tata Power Co Ltd, Mumbai, India; Christopher Selvin, Tata Power Co Ltd, Mumbai, India; Suhas Dhapare, Tata Power Co Ltd, Mumbai, India

0395 Practical aspects of developing load models at distribution network buses based on field measurements (x)
Kazi Hasan, University of Manchester, Manchester, UK; Jovica Milanovic, University of Manchester, Manchester, UK; Victoria Turnham, Electricity North West, Manchester, UK; Paul Turner, Electricity North West, Manchester, UK

0489 Generation Modeling of Residential Roof-top Photo-Voltaic Systems (x)
Peter K.C. Wong, Victoria University, Melbourne, Australia; Robert Barr, Electric Power Consulting, New South Wales, Australia; Akhtar Kalam, Victoria University, Melbourne, Australia

0520 Smarter Business processes resulting from Smart Data (x)
Goudarz Poursharif, University Of Sheffield, Sheffield/South Yorkshire, UK; Andrew Brint, University Of Sheffield, Sheffield/South Yorkshire, UK; John Holliday, University Of Sheffield, Sheffield/South Yorkshire, UK; Mary Black, Northern Powergrid, Castleford/West Yorkshire, UK; Mark Marshall, Northern Powergrid, Castleford/West Yorkshire, UK

0835 Disaggregated Active and Reactive Demand Forecasting Using First Difference Measured Data and Neural Networks (x)
Elcio Franklin de Arruda, Daimon Engineering and Systems, São Paulo, SP, Brazil; Renan Bergonsi Muller, Daimon Engineering and Systems, São Paulo, SP, Brazil; Marcello Pek Di Salvo, Daimon Engineering and Systems, São Paulo, SP, Brazil; Gustavo Cavalcante de Carvalho Rocha, Centrais Elétricas de Santa Catarina - Celesc, Florianópolis, SC, Brazil; Marcos Tadeu Coelho, Centrais Elétricas de Santa Catarina - Celesc, Florianópolis, SC, Brazil; Luis Bernardo Timboni Baran, Centrais Elétricas de Santa Catarina - Celesc, Florianópolis, SC, Brazil

1149 New planning method for smart and active distribution grids
Erling Tønne, NTE Nett AS, Steinkjer, Norway; Kjell Sand, SINTEF Energy AS, Trondheim, Norway; Jan A Foosnæs, NTE Nett AS, Steinkjer, Norway

1180 A novel long-term forecasting process for electricity distribution business (x)
Jussi Tuunanen, Lappeenranta University of Technology, Lappeenranta, Finland; Samuli Honkapuro, Lappeenranta University of Technology, Lappeenranta, Finland; Jarmo Partanen, Lappeenranta University of Technology, Lappeenranta, Finland

1255 Improved characterisation of embedded PV generation on the LV network (x)
Jorge Acosta, TNEI Services Ltd., Manchester, UK; Russ Bryans, TNEI Services Ltd., Manchester, UK; Charlotte Higgins, TNEI Services Ltd., Manchester, UK; Sarah Weatherhead, TNEI Services Ltd., Manchester, UK; Alan Collinson, Scottish Power Energy Networks, Prenton, UK

1275 Using simulated predictive load curves to improve DSO's network development planning methods integrating Smart Grids functionalities (x)
Aurélie Ferrage, ERDF, Lyon, France; Guillaume Roupioz, ERDF, Lyon, France; Nicolas Kong, ERDF, Lyon, France; Robin Girard, Mines ParisTech, Paris, France; Thibaut Barbier, Mines ParisTech, Paris, France; Maxence Bocquel, ERDF, Lyon, France

- Sub Block 2: Network Modeling and Representation

0800 Classification of Low Voltage Distribution Networks Based on Fixed Data
Chen Zhao, University of Bath, Bath, UK; Chenghong Gu, University of Bath, Bath, UK; Furong Li, University of Bath, Bath, UK

0946 Harmonics analysis using sequential-time simulation for addressing smart grid challenges (x)
Davis MONTENEGRO-MARTINEZ, Universidad de los Andes, Bogotá, D.C., Colombia; Roger DUGAN, EPRI, Knoxville, TN 37932, USA; Gustavo RAMOS-LOPEZ, Universidad de los Andes, Bogotá, D.C., Colombia

1239 Aspects of Real-Time Digital Simulations of Electrical Networks
Ambroz Bozicek, University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia; Leopold Herman, University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia; Bostjan Blazic, University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia; Igor Papic, University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia

1498 Ampacity rating of directly buried distribution cables under the consideration of soil properties to improve efficiency of distribution networks (x)
Constantin Balzer, High Voltages Laboratories, TU Darmstadt, Darmstadt, Germany; Christoph Drefke, Geothermal Science and Technology, Darmstadt, Germany; Johannes Stegner, Geothermal Science and Technology, Darmstadt, Germany; Volker Hinrichsen, High Voltages Laboratories, TU Darmstadt, Darmstadt, Germany; Ingo Sass, Geothermal Science and Technology, Darmstadt, Germany; Klaus Hentschel, Bayernwerk, Regensburg, Germany; Jörg Dietrich, HeidelberCement, Heidelberg, Germany

- Sub Block 3: Load Flow and Short-Circuit Calculations

0238 Managing reactive power in MV distribution grids containing distributed generation (x)
Pieter Vermeyen, Eandis, Merelbeke, Belgium; Piet Lauwers, Eandis, Merelbeke, Belgium

0461 Method to scan the low voltage network flexibility to adapt to future developments (x)
E.C. Aprilia, Alliander N.V., Arnhem, The Netherlands; F. Provoost, Alliander N.V., Arnhem, The Netherlands; J.F.G. Cobben, Alliander N.V., Arnhem, The Netherlands

0641 Probabilistic Analysis Tool of the Voltage Profile in Low Voltage Grids (x)
VASILIKI KLONARI, UMONS, MONS, Belgium ; JEAN-FRANCOIS TOUBEAU, UMONS, MONS, Belgium ; ZACHARIE DE GREVE, UMONS, MONS, Belgium ; OLGAN DURIEUX, ORES, LOUVAIN-LA-NEUVE, Belgium ; JACQUES LOBRY, UMONS, MONS, Belgium ; FRANCOIS VALLEE, UMONS, MONS, Belgium

0692 From Data Collecting to Business Intelligence and Data Mining (x)
Enrique Ramos, Schneider Electric, Seville, Spain; David Pampliega, Schneider Electric, Seville, Spain; Philippe Deschamps, Schneider Electric, Grenoble, France

0837 Characterisation of phase current imbalance on three-phase LV feeders to identify opportunities for rebalancing (x)
Sarah Weatherhead, TNEI Services Ltd, Manchester, UK; Charlotte Higgins, TNEI Services Ltd, Manchester, UK; Alan Collinson, Scottish Power Energy Networks, Prenton, UK

0845 Tracing the Contribution of Individual DG to Grid Supply Point (x)
Zhipeng Zhang, University of Bath, Bath, UK; Furong Li, University of Bath, Bath, UK; Chris Budd, University of Bath, Bath, UK

1178 New methods for distribution network monitoring with smart meters - Verifying data in network information systems (x)
Henning Taxt, SINTEF Energy Research, Trondheim, Norway; Henrik Kirkeby, SINTEF Energy Research, Trondheim, Norway; Helge Seljeseth, SINTEF Energy Research, Trondheim, Norway

1273 Reconstruction of Low Voltage Networks: From GIS Data to Power Flow Models (x)
Alejandro Navarro-Espinosa, The University of Manchester, Manchester, UK; Luis F. Ochoa, The University of Manchester, Manchester, UK; Rita Shaw, Electricity North West, Manchester, UK; Dan Randles, Electricity North West, Manchester, UK

1284 A probabilistic approach to power flow analysis (x)
Zbyněk Brettschneider, PREdistribuce, a.s., Prague, Czech Republic; Radek Hanuš, PREdistribuce, a.s., Prague, Czech Republic; Zdeněk Müller, Czech Technical University in Prague, Prague, Czech Republic

- Sub Block 4: Energy Losses Minimization

0068 Distribution Network Losses and Reduction Opportunities from a UK DNO'S Perspective (x)
Sarat Chandra Vegunta, S&C Electric Europe Ltd., Swansea, UK; David Hawkins, LIG Consultancy Services LLP, Stafford, UK; Frank Clifton, Southern Electric Power Distribution plc, Reading, UK; Alistair Steele, Southern Electric Power Distribution plc, Reading, UK; Stewart Reid, Southern Electric Power Distribution plc, Reading, UK
0069 Technical Feasibility and Cost Benefit Analysis of Network Losses Reduction Opportunities in the UK Isle of Wight 11 kV Network (x)
Sarat Chandra Vegunta, S&C Electric Europe Ltd., Swansea, UK; Mick Barlow, S&C Electric Europe Ltd., Swansea, UK; David Hawkins, LIG Consultancy Services LLP, Stafford, UK; Alistair Steele, Southern Electric Power Distribution plc, Reading, UK; Stewart Reid, Southern Electric Power Distribution plc, Reading, UK

0255 Losses Forecast using Econometric Models (x)
André Meffe, Daimon, São Paulo, SP, Brazil; Carlos Oliveira, Daimon, São Paulo, SP, Brazil; Alden Antunes, Daimon, São Paulo, SP, Brazil; Paulo Baumann, Daimon, São Paulo, SP, Brazil; Fernando Lange, Daimon, São Paulo, SP, Brazil; Anderson Uyekita, Daimon, São Paulo, SP, Brazil; Armando Rocha, CEMIG D, Belo Horizonte, MG, Brazil; Geraldo Gusmão, Axxiom, Belo Horizonte, MG, Brazil

1175 Defining Technical Losses Targets using Data Envelopment Analysis and Technical-Economic Analysis (x)
André Meffe, Daimon, São Paulo, SP, Brazil; Fabio Romero, Daimon, São Paulo, SP, Brazil; Alden Antunes, Daimon, São Paulo, SP, Brazil; Alessandro Alves, Daimon, São Paulo, SP, Brazil; Saad Habib, CEMIG D, Belo Horizonte, MG, Brazil; Armando Rocha, CEMIG D, Belo Horizonte, MG, Brazil; Dário Nunes, Axxiom, Belo Horizonte, MG, Brazil

1191 Optimal Power Distribution Systems Configuration and Switching Sequence Procedure Determinations
Leonardo Ferreira Neto, Daimon, Sao Paulo, SP, Brazil; Alden Antunes, Daimon, Sao Paulo, SP, Brazil; Carlos Cesar Barioni de Oliveira, Daimon, Sao Paulo, SP, Brazil; André Meffe, Daimon, Sao Paulo, SP, Brazil; Alvaro Garcez, Sulgipe, Estancia, SE, Brazil

1652 Technical Losses Assessment in Distribution Systems with Reduced Measurement Capabilities (x)
Gianni Celli, University of Cagliari, Cagliari, Italy; Fabrizio Pilo, University of Cagliari, Cagliari, Italy; Gian Giuseppe Soma, University of Cagliari, Cagliari, Italy; Marcelo Tardio, CESI, Milan, Italy; Giuseppe Pannunzio, CESI, Milan, Italy; Alessandro Bertani, CESI, Milan, Italy