



## PROGRAM

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# TIMETABLE 1<sup>st</sup> E-MOBILITY INTEGRATION SYMPOSIUM

MONDAY, 23 OCTOBER 2017	
E-Mobility Symposium	
08:00 – 09:00	FOYER
	REGISTRATION
09:00 – 09:10	ROOM ALEXANDER 2
	OPENING: WELCOME AND INTRODUCTION
09:10 – 11:00	ROOM ALEXANDER 2
	SESSION 1: KEYNOTE SESSION
COFFEE BREAK (20 MIN) & POSTER SESSION	
11:20 – 13:15	ROOM ALEXANDER 1
	SESSION 2A: EVs AND DISTRIBUTION GRIDS
11:20 – 13:15	ROOM ALEXANDER 2
	SESSION 2B: INTERNATIONAL EXPERIENCE
LUNCH (45 MIN)	
14:00 – 16:00	ROOM ALEXANDER 1
	SESSION 3A: EVs AND POWER SYSTEM ASPECTS
14:00 – 16:00	ROOM ALEXANDER 2
	SESSION 3B: EV CHARGING EXPERIENCE
COFFEE BREAK (15MIN)	
16:15 – 17:40	ROOM ALEXANDER 1
	SESSION 4A: GRID CODE AND POWER QUALITY
16:15 – 17:40	ROOM ALEXANDER 2
	SESSION 4B: MODELLING
17:45-18:30	ROOM ALEXANDER 2
	SESSION 5 – PODIUM DISCUSSION AND CLOSURE
18:30	POSTER RECEPTION & NETWORKING

## MONDAY, 23 OCTOBER 2017

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**08:00 – 09:00 Registration**

**09:00 – 09:10 Welcome**

**09:10 – 11:00 SESSION 1 – KEYNOTE SESSION**

> Session Chair **T. Ackermann (Energynautics, Germany)**

**09:10 – 10:40 Presentations (18min. each)**

- **The Powernetworks and E-Mobility : Risks and Opportunities**  
Susanne Nies (Entso-E, Belgium)
- **Transformation of the German Energy and Transport Sector – a National Analysis**  
K. Goldammer, O. Arnhold, M. Fleck, F. Grüger, B. Schachler (Reiner Lemoine Institute, Berlin, Germany) ([Submission-ID Emob-142](#))
- **E-Mobility and its Future Effect on Demand and Flexibility: Chances and Challenges 2035 from a Transmission System Operator’s Perspective**  
R. Bauer, J. Henkel (50Hertz Transmission, Germany), G. Papaefthymiou, R. Kuwahata (Elia Grid International (egi), Germany) ([Submission-ID Emob-190](#))
- **The Impact of E-Mobility on Distribution Grid Expansion? One Research Question, a Lot of Answers**  
S. Patzack (FGH Aachen, Germany) ([Submission-ID Emob-xxx](#))
- **The Role of EV's in Ancillary Services**  
S. Thies (Tennet, Netherlands) ([Submission-ID Emob-xxx](#))

**10:40 – 11:00 Discussions**

**11:00 – 11:20 COFFEE BREAK**

**11:20 – 13:15 SESSION 2A – EVs AND DISTRIBUTION GRIDS**

> Session Chair **E. Tröster (Energynautics, Germany)**

**11:20 – 12:50 Presentations (18 min. each)**

- **Determination of the Integration and Influencing Potential of Rapid-Charging Systems for Electric Vehicles in Distribution Grids**  
M. Kurth, M. Gödde, A. Schnettler (RWTH Aachen University, Germany), A. Probst (Netze BW, Germany), D. Pieper (Netzgesellschaft Düsseldorf, Germany) ([Submission-ID Emob-155](#))
- **Flash Recharging Tram Catenary-Free: Impact Analysis on Italian Distribution Networks**  
C. Carlini, D. Moneta (RSE, Italy) ([Submission-ID Emob-60](#))
- **Maximizing EV-Integration in LV Grids Using the Universal Smart Energy Framework**  
E. Coster, H. Fidder, M. Broekmans (Stedin, Netherlands) ([Submission-ID Emob-74](#))
- **Peak Shaving by Means of Buffer Storages in Charging Stations**  
J. Wussow, B. Engel (TU Braunschweig, Germany) ([Submission-ID Emob-79](#))
- **Impact of Electric Vehicle Charging on Low-Voltage Grids and the Potential of Battery Storage as Temporary Equipment during Grid Reinforcement**  
L. Held, M. Uhrig, M. R. Suriyah, T. Leibfried (Karlsruhe Institute of Technology, Germany), E. Junge, S. Lossau, M. Konermann (Netze BW, Germany) ([Submission-ID Emob-139](#))

**12:50– 13:15 Discussions**

<b>11:20 – 13:15</b>	<b>SESSION 2B – INTERNATIONAL EXPERIENCE</b>
> Session Chair	J. C. Smith (UVIG, USA)
<b>11:20 – 13:08</b>	<b>Presentations (18 min. each)</b>
	<ul style="list-style-type: none"> <li>• <b>Regulatory Issues in the Development of Electro-Mobility Services: Lesson Learned from the Italian Experience</b> L. Lo Schiavo, D. Bonafede (AEEGSI – National Regulatory Authority for Energy, Italy), S. Celaschi, F. Colzi (RSE, Italy) (Submission-ID Emob-54)</li> <li>• <b>Electric Mobility – The Challenges of Regulating the Charging Infrastructure During Early Market Development in Brazil</b> A.C. Marques de Araujo, R.E. Hardinge-Bailey de Amorim (ANEEL - Brazilian Electricity Regulatory Agency, Brazil) (Submission-ID Emob-57)</li> <li>• <b>Effects of Heavy-Duty Vehicle Electrification on Infrastructure: The Case of Switzerland</b> E. Çabukoglu, G. Georges, L. Küng, K. Boulouchos (ETH Zurich – LAV, Switzerland) (Submission-ID Emob-110)</li> <li>• <b>Integration of Multifarious Electric Vehicle Charging Infrastructure Flexibility: Applications in India</b> G. Ghatikar (India Smart Grid Forum   LeRa, USA), N. Parchure (Octillion Power Systems, USA), R. K. Pillai ( India Smart Grid Forum, India) (Submission-ID Emob-222)</li> <li>• <b>The Impact of Electric Vehicles Deployment on Production Cost in a Caribbean Island Country</b> E. Taibi, C. Fernández (International Renewable Energy Agency – IRENA, Germany) (Submission-ID Emob-9)</li> <li>• <b>Electric Vehicle Charge-and-Share: Campus Demonstration on Sustainable Charge, Energy Mobility &amp; Sharing</b> Y. Ota, T. Nakajima (Tokyo City University, Japan) (Submission-ID Emob-171)</li> </ul>
<b>13:08 – 13:15</b>	<b>Discussions</b>

## 13:15 – 14:00 LUNCH BREAK

<b>14:00 – 16:00</b>	<b>SESSION 3A – EVs AND POWER SYSTEM ASPECTS</b>
> Session Chair	J. Persson (Vattenfall, Sweden)
<b>14:00 – 15:48</b>	<b>Presentations (18 min. each)</b>
	<ul style="list-style-type: none"> <li>• <b>Necessary Contribution of Electric Vehicles to Limited Frequency Sensitive Mode: Impact on Frequency Stability in the ENTSO-E Continental Europe Synchronous Area</b> J. Lehner (TransnetBW, Germany), G. Kerber (LEW Verteilnetz, Germany) (Submission-ID Emob-84)</li> <li>• <b>EV Charging Coordination to Secure Power Grid Stability</b> B. Kirpes, S. Klingert (Universität Mannheim, Germany), M. Eider (Deggendorf Institute of Technology, Germany), R. Basmadjian, H. de Meer (University of Passau, Germany), M. Pérez Ortega (Gfi BeLux, Belgium) (Submission-ID Emob-186)</li> <li>• <b>Grid Integration of Electric Vehicle Fleets Using a Traffic Light Concept</b> M. Vasconcelos, M. Kurth, A. Schnettler (RWTH Aachen University, Germany) (Submission-ID Emob-82)</li> <li>• <b>Grid Impact of Electric Vehicles with Secondary Control Reserve Capability</b> T. Degner, G. Arnold, R. Brandl, J. Dollichon, A. Scheidler (Fraunhofer IWES, Germany) (Submission-ID Emob-298)</li> <li>• <b>Leveraging the Benefits of Integrating and Interacting Electric Vehicles and Distributed Energy Resources</b> M. Paschmann (University of Cologne, Germany) (Submission-ID Emob-99)</li> <li>• <b>The Vision of E-Mobility in the Perspective of the Existing Power Infrastructure – Successfully Managing Conflicting Expectations</b> K. Burges, M. Döring (Ecofys Germany, Germany) (Submission-ID Emob-284)</li> </ul>
<b>15:48 – 16:00</b>	<b>Discussions</b>

<b>14:00 – 16:00</b>	<b>SESSION 3B – EV CHARGING EXPERIENCE</b>
> Session Chair	M. Perez Ortega (Gfi Informatique, Belgium)
<b>14:00 – 15:48</b>	<b>Presentations (18 min. each)</b>
	<ul style="list-style-type: none"> <li>• <b>Modelling the Electrification of Bus Depots using Real Data: Consequences for the Distribution Grid and Operational Requirements</b> M. Dietmannsberger (Hamburger Hochbahn, Germany), M. Schumann, M. Meyer, D. Schulz (Helmut-Schmidt-University, Germany) (<a href="#">Submission-ID Emob-24</a>)</li> <li>• <b>Grid Compatible Flash Charging Technology: TOSA e-bus infrastructure</b> L. Lonoce, B. Warner (ABB Switzerland, Switzerland), V. Holz (ABB, Germany) (<a href="#">Submission-ID Emob-51</a>)</li> <li>• <b>Grid-Integration of High Power Charging Infrastructure</b> J. Brombach (Innovation for ENERCON, Germany), F. Mayer, C. Strafiel (Wobben Research and Development – WRD, Germany), J. Winkler (ENERCON, Germany), A. Beekmann (Wobben Research and Development – Germany) (<a href="#">Submission-ID Emob-36</a>)</li> <li>• <b>Interoperability as the Framework for Smart Successful Smart Charging Services</b> C. Hahn, P. Gumienny (Hubjet, Germany) (<a href="#">Submission-ID Emob-273</a>)</li> <li>• <b>Assist EV Drivers to Act Smarter</b> C. Kacperski, F. Kutzner (University of Mannheim, Germany) (<a href="#">Submission-ID Emob-189</a>)</li> <li>• <b>Assessment of the Marginal Emission Factor Associated with Electric Vehicles Charging</b> G. Pareschi, G. Georges, K. Boulouchos (ETH Zurich, Switzerland) (<a href="#">Submission-ID Emob-154</a>)</li> </ul>
<b>15:48 – 16:00</b>	<b>Discussions</b>

**16:00 – 16:15 COFFEE BREAK**

<b>16:15 – 17:40</b>	<b>SESSION 4A – GRID CODE AND POWER QUALITY</b>
> Session Chair	K. Burges (Ecofys, Germany)
<b>16:15 – 17:27</b>	<b>Presentations (18 min. each)</b>
	<ul style="list-style-type: none"> <li>• <b>Technical Data Analysis and Power Grid Effects of Fast Charging Processes of Electric Vehicles</b> G. Göhler, L. Effing (University of Stuttgart, Germany) (<a href="#">Submission-ID Emob-78</a>)</li> <li>• <b>Compliance Assessment of Grid Connected EV Charging Stations</b> J. Langstädtler, J. Döll (FGH, Germany) (<a href="#">Submission-ID Emob-47</a>)</li> <li>• <b>Impact of Electric Vehicles on Power Quality in Central Charging Infrastructures</b> F. Möller, S. Müller, J. Meyer (Technical University Dresden, Germany) (<a href="#">Submission-ID Emob-101</a>)</li> <li>• <b>Measurement of Harmonics and Sags in Grid Voltages when Charging Electric Vehicles</b> J. Persson, J. Wetterström, Y. He (Vattenfall R&amp;D, Sweden) (<a href="#">Submission-ID Emob-127</a>)</li> </ul>
<b>17:27 – 17:40</b>	<b>Discussions</b>

<b>16:15 – 17:40</b>	<b>SESSION 4B – MODELLING</b>
> Session Chair	N. Martensen (Energynautics, Germany)
<b>16:15 – 17:15</b>	<b>Presentations (20 min. each)</b>
•	<b>Modelling and Simulation of a Public Transport System with Battery-Trolleybuses for an Efficient E-Mobility Integration</b> D. Baumeister, M. Salih, M. Wazifehdust, P. Steinbusch, M. Zdrallek (University of Wuppertal, Germany), S. Mour, L. Lenuweit, P. Deskovic (SWS Netze Solingen, Germany), H. Ben Zid (Stadtwerke Solingen, Germany) (Submission-ID Emob-105)
•	<b>Development of a Model for Power Grids Based on the Cellular Approach for an Optimum Integration of Electric Charging Infrastructure</b> J. Vopava, B. Thormann, T. Kienberger (Montanuniversitaet Leoben, Austria) (Submission-ID Emob-66)
•	<b>Forecast Model for Electromobile Loads at Stuttgart Airport and Fair</b> H. Triebke (Fraunhofer IAO, Germany), E. Siehler (Stuttgart Airport, Germany), E. Staebler (Landesmesse Stuttgart, Germany) (Submission-ID Emob-137)
<b>17:15 – 17:40</b>	<b>Discussions</b>

<b>17:45 – 18:30</b>	<b>SESSION 5 – PODIUM DISCUSSION AND CLOSURE</b>
> Session Chair	M. van der Meijden (TenneT, Netherlands)
<b>17:45 – 18:25</b>	
•	<b>Interaction between EV and Power System</b> <b>Podium Discussion Panelists</b> R. Bauer (50 Hertz Transmission, Germany) J. Brombach (ENERCON, Germany) K. Burges (Ecofys, Germany) J. Persson (Vattenfall R&D, Sweden) S. Thies (TenneT, Germany)
<b>18:25– 18:30</b>	<b>Closure</b>

**18:30 – 19:30 Poster Reception & Networking**

## POSTER PRESENTATIONS

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- **NEFUSTA - the Electrical Fueling Station for E-Mobility AND Grid Support**  
J. van der Burgt (DNV GL, Netherlands) ([Submission-ID Emob-23](#))
- **Modelling Charging of Electric Vehicles Using Mixture of User Behaviours**  
M. Shepero, J. Munkhammar (Uppsala University, Sweden) ([Submission-ID Emob-34](#))
- **The Improvement of Grid Integration for Electromobility through Innovative Business Models**  
K. Rambow-Hoeschele (Glasgow Caledonian University, United Kingdom | Aalen University, Germany | Bosch, Germany),  
I. Walter (Glasgow Caledonian University, United Kingdom | Aalen University, Germany), A. Nagl (Aalen University,  
Germany), D. Harrison, B. Wood (Glasgow Caledonian University, United Kingdom), K. Bozem (bozem | consulting associates  
| munich, Germany | Aalen University, Germany), K. Braun, P. Hoch, Peter (Aalen University, Germany) ([Submission-ID Emob-85](#))
- **Demands on the Electrical Grid Due to Electromobility in Hamburg**  
M. Schumann, M. Meyer, D. Schulz (Helmut Schmidt University, Germany), M. Dietmannsberger (Hamburger Hochbahn,  
Germany) ([Submission-ID Emob-102](#))
- **Sector Coupling: Optimized Scheduling of Electric Vehicle Charging and Heat Production in Home Energy Systems**  
M. Zimmerlin, M. Wilferth, T. Leibfried (Karlsruhe Institute of Technology – KIT, Germany) ([Submission-ID Emob-107](#))
- **Analysis of Various Charging Strategies for Electrified Public Bus Transport Utilizing a Lightweight Simulation Model**  
P. Dicke (Friedrich Alexander University Erlangen-Nürnberg –FAU, Germany), B. Meyer (Fraunhofer UMSICHT, Germany),  
M. Pruckner (Friedrich Alexander University Erlangen-Nürnberg –FAU, Germany) ([Submission-ID Emob-111](#))
- **HIL Test of Power System Frequency Control by Electric Vehicles**  
H. Toda, Y. Ota, T. Nakajima (Tokyo City University, Japan), K.-i. Kawabe (Tokyo Institute of Technology, Japan), A. Yokoyama  
(University of Tokyo, Japan) ([Submission-ID Emob-167](#))
- **Exploring Electric Vehicle Participation in the Icelandic Balancing Market as Virtual Power Plant**  
F. Steingrube (Reykjavik University, Iceland), S. Perkin (Landsnet, Iceland), E. Lazarczyk, H. Stefánsson (Reykjavik University,  
Iceland) ([Submission-ID Emob-246](#))