

5th E-Mobility Power System Integration Symposium

preceding the 11th Solar & 20th Wind Integration Workshops

VIRTUAL
&
ON-SITE!

27 SEP 2021

 BERLIN
GERMANY

organized by energynautics



PRELIMINARY PROGRAM AS OF 22 SEPTEMBER 2021

Important: This preliminary program is subject to changes. It is strongly recommended to check back regularly.

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TIMETABLE 5TH E-MOBILITY INTEGRATION SYMPOSIUM

MONDAY, 27 SEPTEMBER 2021		
E-Mobility Power System Integration Symposium		
08:00 – 09:00	FOYER	
	REGISTRATION	
09:00 – 09:10	MOA 3	
	OPENING: WELCOME AND INTRODUCTION	
09:10 – 11:00	MOA 3	
	SESSION 1: KEYNOTE SESSION	
	COFFEE BREAK (20 MIN)	
11:20 – 13:00	MOA 3	MOA 4
	SESSION 2A: GRID INTEGRATION ASPECTS	SESSION 2B: MODELLING ASPECTS
	LUNCH (60 MIN)	
14:00 – 15:40	MOA 3	MOA 4
	SESSION 3A: GRID AND REGULATORY ASPECTS	SESSION 3B: CHARGING INFRASTRUCTURE I
	COFFEE BREAK (20 MIN)	
16:00 – 17:40	MOA 3	MOA 4
	SESSION 4A: VEHICLE TO GRID INCL. ANCILLARY SERVICE PARTICIPATION	SESSION 4B: CHARGING INFRASTRUCTURE II
17:45-18:20	MOA 3	
	SESSION 5: PODIUM DISCUSSION & CLOSURE	
18:30	RECEPTION & NETWORKING (MOA BAR)	

MONDAY, 27 SEPTEMBER 2021

08:00 – 09:00 On-site Registration

All times in the session tables show Central European Summer Times (CEST), the ruby stripes show the starting times of the sessions below in additional time zones.

03:00 New York | 04:00 Rio de Janeiro | 08:00 London | 12:30 New Delhi | 14:00 Jakarta | 15:00 Beijing | 16:00 Tokyo | 17:00 Sydney

09:00 – 09:20 Welcome

09:20 – 11:00 SESSION 1 – KEYNOTE SESSION

03:20 New York | 04:20 Rio de Janeiro | 08:20 London | 12:50 New Delhi | 14:20 Jakarta | 15:20 Beijing | 16:20 Tokyo | 17:20 Sydney

> Session Chair Thomas Ackermann (Energynautics, Germany)

09:20 – 10:40 Presentations (20 min. each)

- **Accelerating to Net Zero: Redefining Energy and Mobility; Elia Group's Vision on E-Mobility**
J. Delmote (Elia, Belgium)
- **A Look at Successes and Challenges in the U.S. EV and EV Charging Market Including Smart Charging and Grid Integration**
D. Bowermaster (Electric Power Research Institute – EPRI, USA) (Submission-ID EMOB21-5)
- **Charging of Heavy Duty Battery Electric Vehicles in a Logistic and Grid Perspective**
H. Engdahl (Volvo Group, Sweden)
- **A Global Shift to E-Mobility on the Way to Net-Zero by 2050**
J. Warichet (IEA, France)

10:40 – 11:00 Discussions

11:00 – 11:20 COFFEE BREAK

11:20 – 13:00 SESSION 2A – GRID INTEGRATION ASPECTS

05:20 New York | 06:20 Rio de Janeiro | 10:20 London | 14:50 New Delhi | 16:20 Jakarta | 17:20 Beijing | 18:20 Tokyo | 19:20 Sydney

> Session Chair Thomas Ackermann (Energynautics, Germany)

11:20 – 12:40 Presentations (20 min. each)

- **Interoperable Vehicle2Grid Integration enabled by the Combined Charging System**
R. Michaelis (CharIN Coordination Office, Germany)
- **Quantitative Comparison of Costs and Emissions of Fossil-Fuelled and Electric Heating in Electric Bus Systems**
T. Dahlmann, C. Horn, M. Dietmannsberger (Hamburg Hochbahn AG, Germany) (Submission-ID EMOB21-4)
- **Comparison of Electric Vehicle Fleet Smart Charging Methods**
A. Rutgers (ChargeSim BV, Netherlands) (Submission-ID EMOB21-33)
- **Persisting Barriers in the Context of Vehicle to Grid: Exploring the Role of Minimum Security Range Based on Consumer Experience**
N. Baumgartner (Karlsruhe Institute of Technology – KIT, Germany), F. Kellerer, M. Dreibusch, S. Mang (University of Passau, Germany), M. Ruppert, W. Fichtner (Karlsruhe Institute of Technology – KIT, Germany)
(Submission-ID EMOB21-70)

12:40– 13:00 Discussions

11:20 – 13:00	SESSION 2B: MODELLING ASPECTS
05:20 New York 06:20 Rio de Janeiro 10:20 London 14:50 New Delhi 16:20 Jakarta 17:20 Beijing 18:20 Tokyo 19:20 Sydney	
> Session Chair	Eckehard Tröster (Energynautics, Germany)
11:20 – 12:40	Presentations (20 min. each)
<ul style="list-style-type: none"> • Integration of E-Mobility Forecasts into Distribution Grid Models M. Uhrig, P. Lipp (LEW Verteilnetz, Germany), P. Clasen, N. Losacker (Westenergie Netzservice, Germany) (Submission-ID EMOB21-21) • Electric Vehicle Modelling for Function Testing of Charging Infrastructures Using Power Hardware-in-the-Loop Simulations A. N. Morab, S. Marchand, B. Wille-Haußmann (Fraunhofer ISE, Germany) (Submission-ID EMOB21-19) • Potential of Intelligent Vehicle Charging in the Low Voltage Grid Including Photovoltaics C. Sundström (Linköping University, Sweden RISE Research Institutes of Sweden, Sweden), D. Jung (Linköping University, Sweden) (Submission-ID EMOB21-53) • Multiagent-System Based Smart Charging Algorithm for a Time-Variant Set of Electric Vehicles S. Eckner, P. Bretschneider (Technical University Ilmenau, Germany) (Submission-ID EMOB21-55) 	
12:40 – 13:00	Discussions

13:00 – 14:00 LUNCH BREAK

14:00 – 15:40	SESSION 3A: GRID AND REGULATORY ASPECTS
08:00 New York 09:00 Rio de Janeiro 13:00 London 17:30 New Delhi 19:00 Jakarta 20:00 Beijing 21:00 Tokyo 22:00 Sydney	
> Session Chair	Peter-Philipp Schierhorn (Energynautics, Germany)
14:00 – 15:20	Presentations (20 min. each)
<ul style="list-style-type: none"> • Market and Field Perspectives on Integration of Electric Vehicles into Balancing Energy Services F. Vorwerk (50Hertz, Germany) • Managing Flexibility in the Distribution Grid S. Holzhauer, F. Krebs (University of Kassel, Germany) (Submission-ID EMOB21-93) • Assessing the Impacts of Market-Oriented Electric Vehicle Charging on German Distribution Grids B. Schachler, A. Heider, T. Röpcke (Reiner Lemoine Institute, Germany), F. Reinke (50Hertz, Germany), C. Bakker (Elia, Belgium) (Submission-ID EMOB21-109) • Realisation of a Sustainable Route Planning Using a Holistic Selection of Locations and Analysis of Charging Park Infrastructure Integrated in Energy Districts S. Junglas, A. Kraut (RWTH Aachen, Germany) (Submission-ID EMOB21-36) 	
15:20 – 15:40	Discussions

14:00 – 15:40	SESSION 3B: CHARGING INFRASTRUCTURE I
08:00 New York 09:00 Rio de Janeiro 13:00 London 17:30 New Delhi 19:00 Jakarta 20:00 Beijing 21:00 Tokyo 22:00 Sydney	
> Session Chair	Pablo Gambín Belinchón (Energynautics, Germany)
14:00 – 15:20	Presentations (20 min. each)
<ul style="list-style-type: none"> • Grid-Related Challenges of High-Power Charging Stations for Battery Electric Long-Haul Trucks K. Burges (RE-xpertise, Germany), S. Kippelt, F. Probst (ef.Ruhr, Germany) (Submission-ID EMOB21-61) • Simply Charging, Anywhere, Anytime with One Contract – ELLA-Futuræ sets Roaming to the Next Level R. Enzenhöfer (TransnetBW, Germany) • HPEVCS - High Power Electric Vehicle Charging Stations J. Martins (REN - Redes Energéticas Nacionais, Portugal) (Submission-ID EMOB21-18) • Smart2Charge: Smart Grid Capable BEV Charging Infrastructure for Rural Areas P. K. Elangovan, D. Lust, E. Gökdemir, J. Silberer, D. Pietruschka, M. Mrso (University of Applied Sciences Stuttgart, Germany) (Submission-ID EMOB21-82) 	
15:20 – 15:40	Discussions

15:40 – 16:00 COFFEE BREAK

16:00 – 17:40	SESSION 4A: VEHICLE TO GRID INCL. ANCILLARY SERVICE PARTICIPATION
10:00 New York 11:00 Rio de Janeiro 15:00 London 19:30 New Delhi 21:00 Jakarta 22:00 Beijing 23:00 Tokyo 00:00 Sydney	
> Session Chair	Eckehard Tröster (Energynautics, Germany)
16:00 – 17:20	Presentations (20 min. each)
<ul style="list-style-type: none"> • Analysis of Optimally Composed EV Pools for the Aggregated Provision of Frequency Containment Reserve and Energy Arbitrage Trading B. Tepe (Technical University of Munich – TUM, Germany), J. Figgner (RWTH Aachen University – ISEA, Germany), S. Englberger, A. Jossen (Technical University of Munich – TUM, Germany), D. U. Sauer (RWTH Aachen University – ISEA, Germany), H. Hesse (Technical University of Munich – TUM, Germany) (Submission-ID EMOB21-66) • Power Quality of Charging and Discharging of Automobile Batteries Used as Power System Energy Storage E. Fuchs (University of Colorado, USA) (Submission-ID EMOB21-103) • Using Clustering Algorithms to Identify Representative EV Mobility Profiles for Complex Energy System Models T. Schmidt-Achert, A. Ostermann, S. Fattler (Forschungsstelle für Energiewirtschaft e.V., Germany) (Sub-ID EMOB21-79) • Electric Mobility Integration in Energy Communities: Trending Topics and Future Research Directions S. Eckhoff (Leibniz University Hannover, IWI, Germany), H. Wagner (TU Braunschweig, elenia, Germany), O. Werth, J. Gerlach, M. H. Breitner (Leibniz University Hannover, IWI, Germany), B. Engel (TU Braunschweig, elenia, Germany) (Submission-ID EMOB21-37) 	
17:20 – 17:40	Discussions

16:00 – 17:40	SESSION 4B: CHARGING INFRASTRUCTURE II
10:00 New York 11:00 Rio de Janeiro 15:00 London 19:30 New Delhi 21:00 Jakarta 22:00 Beijing 23:00 Tokyo 00:00 Sydney	
> Session Chair	Peter-Philipp Schierhorn (Energynautics, Germany)
16:00 – 17:20	Presentations (20 min. each)
<ul style="list-style-type: none"> • Balanced Priority Charging Put Into Practice for an E-Mobility Fleet of a Regional Council D. Huschenhoefer, J. Petzschmann (Center for Solar Energy and Hydrogen Research – ZSW, Germany), S. Sigle, T. Schneider (Institute of Vehicle Concepts, German Aerospace Center – DLR, Germany) (Submission-ID EMOB21-85) • Reducing Grid Peak Load through Smart Charging Strategies and Battery Energy Storage Systems D. Kucevic, S. Göschl (Technical University of Munich – TUM, Germany), T. Röpcke (Reiner Lemoine Institute, Germany), H. Hesse, A. Jossen (Technical University of Munich – TUM, Germany) (Submission-ID EMOB21-7) • Smart Battery Concept: a Battery that Can Breathe! R. Teodorescu, X. Sui, A. B. Acharya, D.-I Stroe, X. Huang (Aalborg University, Denmark) (Submission-ID EMOB21-94) • Influence of a Workplace Electric Vehicle Charging Station’s Design and Control on Grid Impact A. Starosta, N. Munzke, M. Hiller (Karlsruhe Institute of Technology – KIT, Germany) (Submission-ID EMOB21-51) 	
17:20 – 17:40	Discussions

17:45 – 18:20	SESSION 5 – CLOSING SESSION: PANEL DISCUSSION
11:45 New York 12:45 Rio de Janeiro 16:45 London 21:15 New Delhi 22:45 Jakarta 23:45 Beijing 00:45 Tokyo 01:45 Sydney	
> Session Chair	Karsten Burges (RE-xpertise, Germany)
17:45 – 18:15	
<p>Panel topic: What Infrastructure Do We Need to Power Carbon Free Mobility and Transport?</p> <p>Panelists:</p> <ul style="list-style-type: none"> - Patrick Plötz (Coordinator of Business Unit Energy Economy, Fraunhofer ISI, Germany) - Henrik Engdahl (Chief Engineer Charging, Volvo Group, Sweden) - Frank Geerts (ElaadNL, Netherlands) 	
18:15– 18:20	Closure

18:30 – 20:30 Networking Event: Reception (MOA Bar)