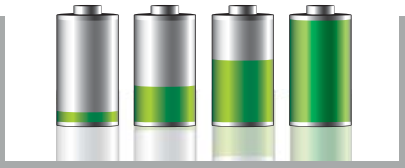
CONFERENCE PROGRAM

CHARGING THE FUTURE



EES EUROPE CONFERENCE

MAY 30–31, 2017
ICM MÜNCHEN

ees® EUROPE

www.ees-europe.com


Solar Power
Storage Park
Lithium Ion
Battery System

CONTENTS

PROGRAM

SUPPORTERS & PARTNERS

EUROBAT

Fraunhofer ISE

NAATBatt INTERNATIONAL

ZSW

ZVEI: Die Elektroindustrie

MEDIA PARTNERS

ees INTERNATIONAL THE ELECTRICAL ENERGY STORAGE MAGAZINE

POWER DRIVE | EUROPE

pv magazine group

SUN&WIND ENERGY The Platform for Renewable Energies

CONFERENCE ORGANIZER

SOLAR PROMOTION

EES AND INTERSOLAR EUROPE ON YOUR SMARTPHONE AND TABLET

The global app offers an overview of all ees and Intersolar events worldwide and will help you plan your visit both during the run up to the event as well as when you have arrived.

For ees and Intersolar Europe the app includes:

- detailed exhibitor lists
- interactive floor plans
- information on interesting forums, workshops and presentations
- ees Europe and Intersolar Europe Conference
- matchmaking for registered conference participants
- the latest tweets and social media updates
- current bus and subway times
- information on tickets, opening hours, travel services and places to eat

All this and lots more useful information on visiting the exhibition.

→ www.intersolarglobal.com/App

CONFERENCE PROCEEDINGS

Dear Conference Attendee,

All presentations of the ees Europe Conference for which we have obtained the respective permission from the speakers, will be uploaded to our conference system during the conference.

Please visit the ees Europe website www.ees-europe.com, choose "Program" on top and click the button "Proceedings" under the navigation "Conference". Please enter the barcode from your conference badge to access the conference proceedings. Access is only granted to Intersolar Europe & ees Europe Conference participants. Please note that Side-Event and Workshop presentations are not included.

EES EUROPE CONFERENCE COMMITTEE 2017

CHAIRMEN

Prof. Dr. Werner Tillmetz
Member of the Board, Head of the Electrochemical Energy Technologies Division, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

Dr. Matthias Vetter
Head of Department PV Off-Grid Solutions and Battery System Technology, Division Electrical Energy Systems EES, Fraunhofer Institute for Solar Energy Systems ISE, Germany

CONFERENCE COMMITTEE

James J. Greenberger
Executive Director,
NAATBatt International, U.S.

Christophe Pillot
Director,
AVICENNE Energy, France

Dr. Holger Hesse
Stationary Energy Storage (Head of Research Group), Institute for Electrical Energy Storage Technology, TUM Technical University of Munich, Germany

Santiago Senn
Director Energy Storage Systems (EMEA), LG Chem Europe GmbH, Germany

Kai-Philipp Kairies
Team Leader Market Development of Storage Systems, Institute for Power Electronics and Electrical Drives, RWTH Aachen University, Germany

Alfons Westgeest
Executive Director,
EUROBAT- Association of European Automotive and Industrial Battery Manufacturers, Belgium

Nina Munzke
Team Leader Stationary Storage Systems, Karlsruhe Institute of Technology (KIT), Germany

EES EUROPE CONFERENCE PROGRAM

Tuesday, May 30, 2017

9:00am–10:00am	ees & Intersolar Europe Conference Opening PAGE 9 — ROOM 14B	
10:15am–11:15am	European and Global Market Developments for Stationary and Automotive Storage Systems PAGE 10 — ROOM 14B	
Coffee Break		
11:45am–1:15pm	Status of Residential Solar-Plus-Storage: Competing Technologies, Performance, Optimization PAGE 12 — ROOM 13A	Automotive Battery Technologies PAGE 14 — ROOM 13B
Lunch Break		
2:30pm–4:00pm	Real Life Projects: Commercial & Utility-Scale PAGE 12 — ROOM 13A	Vehicle Integration and Charging Technologies PAGE 14 — ROOM 13B
Coffee Break		
4:30pm–6:00pm	Risk Mitigation, Quality Assurance & Bankability PAGE 13 — ROOM 13A	Real Life Projects: Vehicle to Grid (V2G) PAGE 15 — ROOM 13B
6:00pm–9:30pm	Conference Barbecue PAGE 7 — ICM – Garden	

Wednesday, May 31, 2017

9:00am–10:30am	Battery Cell Production in Europe? – Podium Discussion PAGE 16 — ROOM 14B	
Coffee Break		
11:00am–12:30pm	Non-Battery Storage Technologies – From Short-Term to Seasonal Solutions PAGE 17 — ROOM 13A	Battery Production Technology: Assembly PAGE 18 — ROOM 13B
Lunch Break		
2:00pm–3:30pm	UPS Technologies and Applications PAGE 17 — ROOM 13A	Battery Production Technology: Materials, Availability, Recycling & Lifecycle PAGE 18 — ROOM 13B

SIDE-EVENT PROGRAM

Thursday, June 1, 2017

9:00am–11:00am	Battery Safety Tutorial PAGE 19 — ROOM 21

Subject to change

CONFERENCE TICKETS

Tickets	
Full Conference[1]	€1,105
Full Conference incl. Barbecue[2]	€1,200
Day Ticket Tuesday[3]	€745
Day Ticket Tuesday incl. Barbecue[4]	€840
Day Ticket Wednesday[5]	€540
Conference Barbecue	€95
Battery Safety Tutorial	€355

1 Includes the regular ees & Intersolar Europe sessions. Side-Events and Conference Barbecue are not included. **2** Includes the regular ees & Intersolar Europe sessions and the Conference Barbecue. Side-Events are not included. **3** Includes the regular ees & Intersolar Europe sessions from Tuesday. Side-Events and Conference Barbecue are not included. **4** Includes the regular ees & Intersolar Europe sessions from Tuesday and the Conference Barbecue. Side-Events are not included. **5** Includes the regular ees & Intersolar Europe sessions from Wednesday. Side-Events are not included.

CONFERENCE QUICK FACTS

Dates	May 30–31, 2017
Hours	9:00am–6:00pm
Venue	ICM – Internationales Congress Center München Messe München 81823 Munich, Germany
Program	→ www.ees-europe.com → Program → Conference
Contact	Ms. Banu Bektas bektas@solarpromotion.com Tel. +49 (0) 7231 58598-211

CONFERENCE BARBECUE

Join us on Tuesday, May 30 at 6:00pm in the ICM garden for the popular Conference Barbecue. Save your spot to meet with experts from around the world. Places are limited.

Register on-site for €95

TUESDAY, MAY 30, 2017

TUESDAY, MAY 30, 2017

EES & INTERSOLAR EUROPE CONFERENCE OPENING

Time 9:00am–10:00am
Room 14 B

9:00am Conference Welcome
Dr. Florian Wessendorf, Managing Director, Solar Promotion GmbH, Germany

9:10am Global Market Outlook
Dr. Christian Westermeier, President, SolarPower Europe, Belgium

9:25am PV/Wind+Storage: A Sustainable Way for Continuous Growth
Tom Zhao, Managing Director Solar Division, BYD Company LTD., China

9:40am Energiewende – Transmission Grids in Tomorrow's Renewable World
Dr. Werner Götz, Chief Executive Officer, TransnetBW GmbH, Germany


Dr. Florian Wessendorf


Dr. Christian Westermeier


Tom Zhao


Dr. Werner Götz

Summary
The future of energy supply is decentralized and intelligent! The combination of power generation, storage and energy management is constantly gaining in importance – but what does this mean for the photovoltaic and energy storage industry? Which role do digitalization and big data play in the context of energy transition? The conference opening will give vital insights in what affects the whole industry. Top-notch keynote speaker will outline which role the energy and transportation sector will play in the new energy world.

TUESDAY, MAY 30, 2017

Time 10:15am–11:20am
Room 14 B

Summary
During this session delegates will learn about both the recent and anticipated future market developments focusing on Europe but considering also hotspot markets for stationary and mobile applications around the globe. Thereby national strategies of storage integration, support schemes, expansion scenarios as well as bottlenecks for large-scale deployment will be considered.

EUROPEAN AND GLOBAL MARKET DEVELOPMENTS FOR STATIONARY AND AUTOMOTIVE STORAGE SYSTEMS

10:15am Welcome and Introduction
Dr. Harald Diaz-Bone, International Advisor, Consultancy, Germany

10:20am Worldwide Battery Market
Christophe Pillot, Director, Avicenne Energy, France

10:35am Battery Energy Storage in the EU: Opportunities, Services and Benefits
Francesco Gattiglio, EU Affairs Officer, EUROBAT Association of European Automotive and Industrial Battery Manufacturers, Belgium

10:50am Battery Technology Monitoring and Roadmapping for mobile and stationary Applications 2030+
Dr. Axel Thielmann, Deputy Head of the Competence Center Emerging Technologies, Fraunhofer Institute for Systems and Innovation Research ISI, Germany

11:05am Business Models for Energy Storage in Germany and Hotspot Markets
Anne Bräutigam, Senior Manager Energy, Environment & Resources, Germany Trade and Invest, Germany


Dr. Harald Diaz-Bone


Christophe Pillot


Francesco Gattiglio


Dr. Axel Thielmann


Anne Bräutigam

GRIDBANK™

SAFE POWER, LONGER

SAFE	ROBUST	RELIABLE
NON-FLAMMABLE	HIGH POWER	50,000+ CYCLES

The most advanced lithium-ion energy storage system on the market.

The Alevo GridBank is the "Swiss Army Knife" for the grid with tools that offer flexibility across the entire electricity supply chain. At the heart of the GridBank is Alevo Battery Technology (ABT) which uses Alevolyte™, a breakthrough inorganic electrolyte containing powerful, non-flammable attributes not found in any other battery on the market today. GridBank systems range from 35 kWh/70 kW to 1 MWh/2MW and can scale to fit your needs. Our custom solutions can serve as a source of revenue, provide cost savings, integrate with renewables, and preserve legacy assets.

ALEVO™

REDEFINING ENERGY

LEARN MORE AT WWW.ALEVO.COM

BOOTH B2.295

TUESDAY, MAY 30, 2017

Time 11:45am–1:10pm
Room 13 A

STATUS OF RESIDENTIAL SOLAR-PLUS-STORAGE: COMPETING TECHNOLOGIES, PERFORMANCE, OPTIMIZATION

Summary
Batteries in solar-plus-storage applications are on the market and used now for a couple of years already, e.g. in Germany more than 52,000 systems have been installed end of 2016. This session will highlight the different competing technologies for this kind of application and will provide insights into the achieved performance. Optimization potentials will be discussed, which are identified by the gained field experiences. Finally approaches to improve the economics of these systems both on a component and on the system level will be highlighted.

11:45am Welcome and Introduction
Dr. Matthias Vetter, Head of Department PV Off-Grid Solutions and Battery System Technology, Division Electrical Energy Systems EES, Fraunhofer Institute for Solar Energy Systems ISE, Germany

11:50am The Global Energy Storage Market - Current Status and Key Future Trends
Sam Wilkinson, Senior Research Manager, IHS Markit, U.K.

12:10pm Efficiency Guide for PV-Storage Systems
Martin Rothert, Head of Product Group Residential & Commercial Battery Inverter, SMA Solar Technology AG, Germany

12:30pm Performance Benchmark: Battery Home Storage Systems Put to the Test
Nina Munzke, Team Leader Stationary Storage Systems, Karlsruhe Institute of Technology (KIT), Germany

12:50pm From Home Storage Systems to a Network of Distributed Storage
Felix Dembski, Vice President Strategy, sonnen GmbH, Germany


Dr. Matthias Vetter


Sam Wilkinson


Martin Rothert


Nina Munzke


Felix Dembski

Time 2:30pm–4:00pm
Room 13 A

REAL LIFE PROJECTS: COMMERCIAL & UTILITY-SCALE

Summary
Economy of scale effects, which leads to reduced system prices, allow also the consideration of battery storage systems in commercial PV applications on roof-tops of handicraft enterprises, supermarkets or manufacturing sites with the purpose to increase the PV self-consumption and the reduction of the electricity bill. In utility-scale PV parks battery storage allows new operating control strategies and commercialization concepts of PV electricity as feeding-in is now controllable. This provides a significant additional value of the generated power. This session will focus on best practice projects offering insights to the technical but also economical performance of such PV battery systems.

2:30pm Welcome and Introduction
Nina Munzke, Team Leader Stationary Storage Systems, Karlsruhe Institute of Technology (KIT), Germany

2:35pm Self-Consumption 2.0 – Grid Compatible Self-Production by Combining PV, CHP, Battery and Thermal Storage
Ulrich Bürger, Chief Technology Officer, Smart Power GmbH & Co. KG, Germany

2:50pm Lessons Learned in Designing and Deploying North America's Largest In-Building Storage System (20MW/80MWh)
John Jung, Chief Executive Officer, Greensmith Energy Management Systems, U.S.

3:05pm Energy Storage from a Perspective of a WEC Manufacturer
Bettina Lenz, Senior Expert Energy Storage, ENERCON GmbH, Germany

3:20pm Intelligent Battery Energy Storage Systems (BESS) in Industry
Niko A. Iliadis, Managing Director, Renemig Energy GmbH, Switzerland
Stephen J. Philips, President, Optimal Power Solution PTY Ltd., Australia

3:35pm Stacked Services with Energy Storage
Dr. Randell Johnson, Chief Analytics Officer, Alevo Analytics, U.S.

3:50pm Q&A Round


Nina Munzke


Ulrich Bürger


John Jung


Bettina Lenz


Niko A. Iliadis


Stephen J. Philips


Dr. Randell Johnson

TUESDAY, MAY 30, 2017

RISK MITIGATION, QUALITY ASSURANCE AND BANKABILITY

Time 4:30pm–6:00pm
Room 13 A

4:30pm Welcome and Introduction
Burkhard Holder, Managing Director, VDE Renewables GmbH, Germany

4:35pm An Insurer's Perspective on Storage Projects
Dr. Sebastian Scholz, Senior Business Development Manager, Munich RE, Germany

4:50pm Strategies and Success Factors for Developing Energy Storage Projects
Busso von Bismarck, Head of Business Development, Qinous GmbH, Germany

5:05pm The Role of IE – From the Project Idea to Real World Evaluation
Dr. Matthias Vetter, Head of Department PV Off-Grid Solutions and Battery System Technology, Division Electrical Energy Systems EES, Fraunhofer Institute for Solar Energy Systems ISE, Germany

5:20pm Panel Session: Risk Mitigation, Quality Assurance and Bankability
Moderator: Burkhard Holder, Managing Director, VDE Renewables GmbH, Germany
- Ruben Bach, Partner, svs Capital Partners Germany
- Dr. Sebastian Scholz, Senior Business Development Manager, Munich RE, Germany
- Dr. Matthias Vetter, Head of Department PV Off-Grid Solutions and Battery System Technology, Division Electrical Energy Systems EES, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- Busso von Bismarck, Head of Business Development, Qinous GmbH, Germany


Burkhard Holder


Dr. Sebastian Scholz


Busso von Bismarck


Dr. Matthias Vetter


Ruben Bach

Summary
Before energy storage systems (ESS) can be adopted in the mass market, several questions arise from various stakeholders such as project developers, the financial sector, and the insurance sector. The questions that will be tackled in this session are: How are ESS projects currently being financed and what are the current views on ESS project bankability? What are some interesting innovative business and financing models for ESS projects? What are the challenges for financial stakeholders in evaluating ESS, such as determining quality, and how can these be addressed? What are the risks for these projects, and what are the options for mitigating these risks?

TUESDAY, MAY 30, 2017

Time 11:45am–1:10pm
Room 13 B

AUTOMOTIVE BATTERY TECHNOLOGIES

Summary
This session on automotive battery technologies will focus on applications for light-duty and heavy-duty battery electric vehicles (BEVs), various types of hybrid electric vehicles (HEVs) as well as starter batteries specifically for the 48 V vehicle grid. The requirements for these applications vary greatly in terms of energy content, power capability and cycle life needs. In contrast to stationary energy storage applications, automotive batteries have to withstand temperatures from -40°C to 70°C and must include a broad range of safety-related features to protect against shock, vibration, crush, nail penetration, short circuiting and other risks. The presentations will provide an overview of current development efforts and trends.

11:45am Welcome and Introduction
Prof. Dr. Werner Tillmetz, Member of the Board, Head of the Electrochemical Energy Technologies Division, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

11:50am Lithium-Technologies for Automotive Applications
Prof. Dr. Werner Tillmetz, Member of the Board, Head of the Electrochemical Energy Technologies Division, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

12:10pm From E-Bikes to Storage – Batterie From Chilwee
Dr. Jiyang Deng, Chilwee Power Co., Ltd., China

12:30pm Main Drivers and Key Trends Observed in Advanced Batteries: Focus on Chemistry Types and Battery Formats
Dr. Milan Rosina, Senior Analyst, Yole Développement, France

12:50pm Q&A Round


Prof. Dr. Werner Tillmetz


Dr. Jiyang Deng


Dr. Milan Rosina

Supported by
POWER 2 DRIVE | EUROPE

Time 2:30am–4:00pm
Room 13 B

VEHICLE INTEGRATION AND CHARGING TECHNOLOGIES

Summary
This session will focus on vehicle integration of automotive batteries as well as on the charging infrastructure. For vehicle integration topics like cooling, crash protection and other safety features are of interest.Flexible and fast charging technologies including a smart communication to the vehicle are of great importance for a broad market penetration.

2:30pm Welcome and Introduction
Prof. Dr. Werner Tillmetz, Member of the Board, Head of the Electrochemical Energy Technologies Division, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

2:35pm The Future of Urban Mobility is Autonomous, Connected, Electric and Wireless
Thomas Nindl, Director Business Development, Qualcomm CDMA Technologies GmbH, Germany

2:55pm Upcoming Standard for Evaluation for Repurposing of Batteries – UL 1974
Ibrahim Jilani, Global Business Development, UL LLC, U.S.

3:15pm High-Power-Charging Systems for Next Generation eCars
Alessandro Schillaci, Senior Business Consultant, Siemens AG, Germany

3:35pm Q&A Round


Prof. Dr. Werner Tillmetz


Thomas Nindl


Ibrahim Jilani


Alessandro Schillaci

Supported by
POWER 2 DRIVE | EUROPE

TUESDAY, MAY 30, 2017

REAL LIFE PROJECTS: VEHICLE TO GRID (V2G)

Time 4:30pm–6:00pm
Room 13 B

4:30pm Welcome and Introduction
James J. Greenberger, Executive Director, NAATBatt International, U.S.

4:35pm Analysis of the Secondary Use Potential of Commercially Operated Electric Vehicle Fleets
Jan Figgener, Research Assistant, RWTH Aachen University, Institute for Power Electronics and Electrical Drives, Germany

4:55pm How Car Batteries Disrupt the Energy and Automotive World
Marcus Fendt, Managing Director, The Mobility House (TMH), Germany

5:15pm Nissan Vehicle to Grid and Stationary Storage, Ambitions and Realities
Jesus Lugaro, Technical Manager, Energy Services, Nissan Europe, France

5:35pm Are Fuel Cell Vehicles Obsolete in a 500km EV world?
Dr. Claudia Brasse, Consultant, Claudia Brasse Consulting, Germany


James J. Greenberger


Jan Figgener


Marcus Fendt


Jesus Lugaro


Dr. Claudia Brasse

Supported by

POWER 2 DRIVE | EUROPE

Summary

With the in increase of fluctuating power generators like PV systems and wind turbines the need of flexibility options in the grid and especially in the the distribution grid rises. Electric cars as shiftable loads are therefore an ideal option as the charging can be done quite flexible during the day. Thereby smart energy management solutions consider the specific user needs in terms of the needed state of charge of the car battery at a certain point of time of the day. Furthermore these electric cars can also be used to support the grid by offering grid services via smart power electronics. Such future scenarios, chances but also risks and challenges will be discussed within this session showing approaches, operation results and also lessons learned so far.

WEDNESDAY, MAY 31, 2017

Time 9:00am–10:30am
Room 14 B

BATTERY CELL PRODUCTION IN EUROPE – PANEL DISCUSSION

Summary
Currently Asian companies play a dominant role in lithium-ion cell mass production; therefore most of the cells are delivered to Europe from China, Korea and Japan. Political decisions like the German energy transition and a trend towards electromobility lead to the question of large-scale cell production capacities also in Europe. Who will invest in such facilities, who will possess and operate these facilities and do European companies have a chance to be competitive on the market? Such questions will be discussed within this podium discussion by high-level representatives of the battery industry.

9:00am Welcome and Introduction
Dr. Matthias Vetter, Head of Department PV Off-Grid Solutions and Battery System Technology, Division Electrical Energy Systems EES, Fraunhofer Institute for Solar Energy Systems ISE, Germany

9:10am Panel Discussion
- Bin Guo, Director, Energy Storage Business Development, BYD Company LTD., China
- Markus Hackmann, Partner and Lead E-Mobility, P3 automotive GmbH, Germany
- Peter König, Head of Corporate and Business Development, LIACON Batteries GmbH, Germany
- Dr. Jörg Reim, Chief Technical Officer, Litarion GmbH, Germany
- Thomas Speidel, Chief Executive Officer, ads-tec GmbH, Germany


Dr. Matthias Vetter


Bin Guo


Markus Hackmann


Peter König


Dr. Jörg Reim


Thomas Speidel

WEDNESDAY, MAY 31, 2017

NON-BATTERY STORAGE TECHNOLOGIES – FROM SHORT-TERM TO SEASONAL SOLUTIONS

Time 11:00am–12:30pm
Room 13 A

11:00am Welcome and Introduction
11:05am Hydrogen – Energy Storage Technology with Various Applications
Johannes Daum, Team Leader Power-based Fuels, NOW GmbH
(National Organisation Hydrogen and Fuel Cell Technology), Germany
11:25am Ultracapacitors a Mature Powerful Energy Source
Jan-Hendrik Ernst, EMEA Application Engineering Manager, Maxwell Technologies SA, Switzerland
11:45am Current Developments in Flywheel Storage Technology
Thilo Engelmann, Project Manager, Stornetic GmbH, Germany
12:05pm Offshore Pumped Hydro Storage
Matthias Puchta, Head Energy Storage Systems Department,
Fraunhofer Institute for Wind Energy and Energy System Technology, Germany


Johannes Daum


Jan-Hendrik Ernst


Thilo Engelmann


Matthias Puchta

Summary
Battery storage technologies currently play the dominant role for storing decentralized renewable energies, in on-grid and in off-grid applications. But in the field of short-term storage other options like supercapacitors and fly wheels offer interesting alternatives. For seasonal storage, which is necessary in power supply systems with huge fractions of renewables and huge seasonal fluctuations in electricity production, hydrogen and other power2gas technologies offer their advantages. This session will focus on such technologies and will describe their role in power supply systems with large fractions of renewables.

UPS TECHNOLOGIES AND APPLICATIONS

Time 2:00pm–3:30pm
Room 13 A

2:00pm Welcome and Introduction
2:05pm UPS Technologies and Applications
Bernhard Rill, Vice President, Gustav Klein GmbH & Co KG, Germany
2:25pm The Next Generation Ultracapacitor-Powered UPS Solutions
Gert Miedema, Head of Sales, Skeleton Technologies, Germany
2:45pm UPS Technologies and Applications in Combination PV
Patrick Willems, General Manager, Vision UPS Systems Sarl, Luxembourg
3:05pm Q&A Round


Bernhard Rill


Gert Miedema


Patrick Willems

Summary
UPS provides near-instantaneous protection from input power interruptions, by supplying energy stored in batteries, supercapacitors, or flywheels. Typically UPS are used in applications to protect computers, data centers or telecommunication equipment in case of an unexpected power disruption. This session will describe the different technologies and system configurations and will highlight newest developments in this field.

WEDNESDAY, MAY 31, 2017

Time 11:00am–12:30pm
Room 13 B

BATTERY PRODUCTION TECHNOLOGY: ASSEMBLY

Summary
This session will focus on assembly technologies for lithium ion cells and battery packs. Global investment in new production lines for cell and battery packs is very high. Approximately ten gigafactories are needed to meet expected demand over the next ten years. Advanced manufacturing technologies will focus on high speed, low energy demand and high output rates (yield & quality), which lead to reduced production costs. New cell designs and optimized packaging to reduce volumes are also of great importance

11:00am Welcome and Introduction
Prof. Dr. Werner Tillmetz, Member of the Board, Head of the Electrochemical Energy Technologies Division, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

11:05am Smart Size Battery Cell Factory
Dr. Klaus Eberhardt, Technology Manager PV/Battery, M+W Group GmbH, Germany

11:25am Distributed Li-ion Manufacturing
Joseph Adiletta, Senior Director of Products, 24M Technologies, Inc., U.S.

11:45am New Challenges in Battery Modules Assembly and Pack Production
Manfred Fischer, Product Manager, Strama-MPS Maschinenbau GmbH & Co. KG, Germany

12:05pm Laser Welding of Metallic Materials - Solutions for Battery Assembly
Dr. Ulrich Ehmes, Vice President Sales Energy Storage, Manz AG, Germany


Prof. Dr. Werner Tillmetz


Dr. Klaus Eberhardt


Manfred Fischer


Dr. Ulrich Ehmes

Time 2:00pm–3:30pm
Room 13 B

BATTERY PRODUCTION TECHNOLOGY: MATERIALS, AVAILABILITY, RECYCLING & LIFECYCLE

Summary
This session will address new materials in advanced lithium ion cell production. Discussion will center on materials for high performance cells, improved safety behavior as well as the availability of sustainable raw materials. Due to the rapid growth of markets, materials recycling is increasingly important. The session will also address recycling technologies and recycling design.

2:00pm Welcome an Introduction
Prof. Dr. Werner Tillmetz, Member of the Board, Head of the Electrochemical Energy Technologies Division, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

2:05pm Carbon Footprint of Li-Ion Battery and Ways to Reduce It
Dr. Klaus Brandt, Consultant, Consultancy, Germany

2:25pm Monitoring of Critical Raw Material for the Energy Storage
Dr. Torsten Brandenburg, Head of Unit, The German Mineral Resources Agency (DERA), Germany

2:45pm Materials, Availability, Recycling & Lifecycle
Dr. Gulio Gabrielli, Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany

3:05pm Q&A Round


Prof. Dr. Werner Tillmetz


Dr. Klaus Brandt


Dr. Torsten Brandenburg


Dr. Gulio Gabrielli

BATTERY SAFETY TUTORIAL

Time 9:00am–12:15pm
Room 21

Participation €355,
register online or on-site

Batteries become daily use components for many applications and specifically on critical aerospace systems. In the race for energy and power density, we shouldn't forget the safety. Unfortunately, we face a daily safety events with injuries and severe damage. In some of the cases like the Boeing Dreamliner and Samsung Galaxy Note7 the event cost fortune to the device makers as well as hurting dramatically their reputation. This training program focuses on portable and stationary battery safety along battery cycle life (acceptance, testing, assembly, use, transportation and disposal). The training incorporates Shmuel De-Leon's and other experiences on battery safety for over 27 years of work in the field. The motivation behind the training is to provide attendees with the knowledge needed to safely handle the batteries in their organizations and to support reduction in safety events.

Key benefits this training provides:

- Full review of root cause for battery safety events
- Guidelines on how to handle batteries safely
- What-to-do guidelines in case of battery safety events
- Checklist of safety equipment needed
- Fresh and updated knowledge about battery safety

Shmuel De-Leon, Founder and Chief Executive Officer, Shmuel De-Leon Energy, Ltd., Israel

Shmuel
De-Leon

Organizer

Shmuel De-Leon Energy Ltd

EXHIBITION QUICK FACTS

Dates	May 31–June 2, 2017		
Hours	Wednesday,	May 31, 2017	9:00am–6:00pm
	Thursday,	June 1, 2017	9:00am–6:00pm
	Friday,	June 2, 2017	9:00am–5:00pm
Venue	Messe München		
	81823 Munich, Germany		
	Halls B1–B2		
Areas of Focus	Rechargeable Batteries for		
	Stationary Applications and Electromobility,		
	Energy Storage Systems,		
	Charging Technologies and Charging Infrastructure,		
	Battery Production Equipment and Materials		

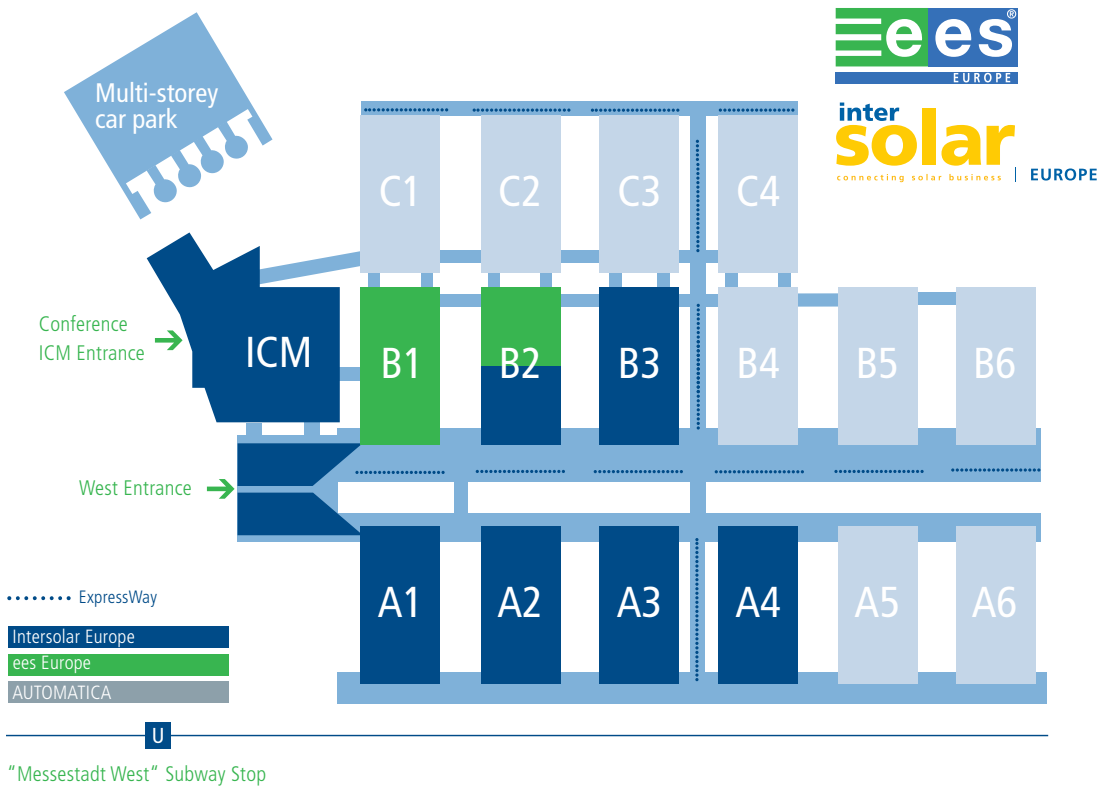
Organizers

SOLAR PROMOTION

Management Marketing FWTM FREIBURG


SOLARWATT
power to the people
VARTA
sonnen

VENUE


Multi-storey car park
C1
C2
C3
C4
Conference
ICM Entrance
ICM
B1
B2
B3
B4
B5
B6
West Entrance
A1
A2
A3
A4
A5
A6
ExpressWay
Intersolar Europe
ees Europe
AUTOMATICA
U
"Messestadt West" Subway Stop