12th European Lead Battery Conference

ISTANBUL
21-24 SEPTEMBER 2010
In the period since the 11th European Lead Battery Conference in Warsaw in 2008, which was attended by more than 500 delegates, the global economy has been in turmoil, resulting in many new challenges and opportunities for all sectors of industry – not least for transport and power generation and hence for batteries.

High fuel prices and growing demand from emerging economies are stimulating efforts to improve energy efficiency. At the same time scientific and political pressures demand that significant reductions are needed in greenhouse gas emissions. Vehicle manufacturers are responding with new designs that require batteries with operating characteristics markedly different from present day duties. Electricity generators are looking increasingly to renewable energy sources with an accompanying need for improved energy storage. Expanding telecom and motive power markets also impose challenging demands on batteries.

The European Lead Battery Conferences have established a reputation as a premier forum for the discussion and exchange of technical information within the lead-acid battery industry. 12ELBC will present an ideal opportunity for those in industry, academia and research to come together to gain an increased insight into the new and evolving developments which are providing the basis for the increasing commercial success of the industry, as it seeks to play its part in confronting the global challenges.

Details of the 12ELBC Technical Programme are given in this brochure. The working language will be English. Due to the large number of high quality papers to be presented, some sessions will be held in parallel.

After the Conference each delegate will be sent a CD of all papers presented at 12ELBC. The edited texts of selected technical and research papers given at 12ELBC and accepted by the Journal of Power Sources will be included in an issue of the Journal reporting on the Conference.

SPECIAL VISIT
On Tuesday 21 September a visit will take place to TUBITAK, The Scientific and Technological Research Council of Turkey, Marmara Research Centre Energy Institute, located approx 20 km from the Conference Hotel. The visit will include presentations about the work of the Institute, and a tour of the Strategic Business Unit which focuses on power electronics and control techniques, notably for electric vehicles and batteries. Delegates who would like to take part in this visit should complete the necessary details in the registration form. The visit fee covers the coach transfer and an English speaking hostess. The coach will depart at 13.30. As numbers are limited, allocation of space will be in the order applications are made and payment received.
EXHIBITION
During 12EELBC, there will be an exhibition for suppliers to the industry of equipment, technology, materials and components. More than 80 exhibitors are expected to participate. For information about the exhibition and to reserve space, please contact Allan Cooper at the Conference Secretariat.

POSTER SESSION
A special area will be available for exhibiting technical posters. Interested delegates may exhibit one poster up to 0.9m wide by 1.5m high. This must be related to technological developments. Those interested should contact the Conference Secretariat before 30 July. As the number of poster positions is limited, early application is advised. Delegates exhibiting posters are entitled to a discount of €100 refundable at the conference. This discount is only applicable to the principal author of the poster.

INTERNATIONAL LEAD AWARD
During the Conference, the lead industry will present its prestigious award in recognition of achievements and contributions made by the recipient to the lead and battery industries.

SOCIAL EVENTS

Tuesday 21 September
All delegates and registered accompanying persons are cordially invited to a cocktail reception, to be held at the Grand Cevahir Hotel at 18.30.

Thursday 23 September
Delegates and registered accompanying persons are invited to the Conference Gala Dinner to be held at 19.30 at the Ciragan Palace, once home to Sultan Abdül Aziz, but now a luxury hotel overlooking the Bosphorus and a short coach drive from the Conference Hotel.

SIGHTSEEING AND TOURS
Turkey has much to offer visitors: breathtaking natural beauty, unique historical and archaeological sites, and a tradition of hospitality and competitive prices. It is not surprising therefore that it has recently become one of the world’s most popular tourism destinations. Situated where Europe meets Asia it is an enchanting blend of Eastern and Western culture, a vibrant, modern city, with a unique identity.

Istanbul is one of the European Capitals of Culture for 2010. Its many Ottoman mosques and Byzantine churches and its spectacular location overlooking the Golden Horn and the Bosphorus are without parallel. Amongst its attractions is the Topkapi Palace, heart of the Ottoman Empire for nearly four centuries and overlooking the Bosphorus and the Sea of Marmara. Another is Aya Sofia from the Byzantine empire, originally a church, later a mosque and now a museum, but for nearly 1,000 years it was the largest enclosed space in the world.

Sightseeing tours will be available and can be booked either through the conference hotels or via the Conference Registration Desk.

CONFERENCE REGISTRATION

The 12th European Lead Battery Conference will be held at:

Grand Cevahir Hotel
Darülaceze Cad. Okmeydanı, Şişli,
 Istanbul, Turkey.
Telephone: +90 212 314 42 42
Fax: +90 212 314 42 44
Email: info@grandcevahirhotel.com.tr
CONFERENCE FEES AND REGISTRATION

Fees, per person, to attend the conference are given below. These include attendance at all sessions, documentation, morning coffee, lunch, afternoon tea, the reception and Gala Dinner, access to the exhibition and a copy of the Conference Proceedings on a CD.

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<th>12ELBC</th>
<th>Before</th>
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<th>Accompanying</th>
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<td></td>
<td>25 June 2010</td>
<td>25 June 2010</td>
<td>Persons</td>
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<td>€1550</td>
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Please note that since the conference is taking place in Turkey it falls outside the scope of VAT.

ACcompanyING PERSONS

A fee of €250 is payable for persons who are accompanying delegates to 12ELBC. This will cover lunches, the reception and Gala Dinner, but not attendance at Conference sessions or the exhibition.

POSSIBLE REDUCTIONS IN THE 12ELBC FEE

When three or more delegates (accompanying persons not included) from the same company/organisation register at the same time for 12ELBC, a reduction of €120 per delegate may be taken from the fee.

12ELBC speakers and session chairmen are entitled to a special registration fee of €1175.

Eligible registrants, when calculating their reduction in the 12ELBC fee, may claim the largest reduction to which they are entitled. Only one reduction in the fee, however, may be taken. Accompanying persons are not entitled to any reduction in their fee.

A special discount is being offered to any delegate in full-time education. Please contact the Conference Secretariat for details. The 12ELBC Exhibition Brochure gives details of the reduction in fees available to exhibitors.

REGISTRATION

To register for the Conference please complete the registration form and send it to the Conference Secretariat, International Lead Association, in London with payment in Euros. Please refer to the form for payment options which include cheque, bank transfer or credit card. A pdf copy of the registration form is available on the conference website.

You can also register on-line. Full details can be found on the conference website www ila-lead org/12ELBC.

CANCELLATION

If it becomes necessary to cancel a registration, please contact the Conference Secretariat. The following refund conditions will apply:

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<th>Between 16 July and 27 August 2010</th>
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<td>Full refund less €75</td>
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Substitutions may be made at any time but the Conference Secretariat must be informed.

CONFERENCE SECRETARIAT

Maura McDermott
International Lead Association
17a Welbeck Way
London, W1G 9YJ
United Kingdom
Tel: +44 (0)207 499 8422
Fax: +44 (0)207 493 1555
Email: 12elbc ila-lead org
Global Overview

Markets, opportunities and perspectives

Chairmen: Andy Bush, International Lead Association-Europe, United Kingdom

European battery markets and regulation
Ray Kubis, EnerSys Europe, Switzerland

The lead industry of the future - rollercoaster ride in lead prices to continue?
Neil Hawkes, CRU International, United Kingdom

Meeting transport and energy needs: IEA scenarios to 2050
Lew Fulton, International Energy Agency, Switzerland

Presentation of 2010 ILA Award
David Wilson, International Lead Association, United Kingdom

Global industrial battery market forecast
Bob Cullen, Hollingsworth & Vose, United States

Powerframe – enabling plate technology to drive quality and performance today, and emerging application needs tomorrow
Bob Gruenstern, JCI, United States

Battery market and competition in Turkey
Ali Alim, Mutlu Aku, Turkey

In celebration of Gaston Planté’s lead-acid battery: the faithful 150-year-old retainer of electrical energy
David Rand, CSIRO Energy Technology, Australia
Suppliers Forum

New products for the production, management and recycling of lead-acid batteries

**Chairman:**
Eric Donjon,
Entek, United Kingdom

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**Update on continuous paste mixing and punched SLI and industrial grids**
Victor Saleh and A Vincze,
Teck Metals Ltd, Canada

**Formation systems with acid recirculation technology**
Christian Papmahl,
Inbatec GmbH, Germany

**Improvements for heavy duty batteries by use of TBLS+**
Ian Klein, H R Demarco and S Piccoli,
Penox GmbH, Germany

**Continuous grid and plate making for positive and negative plates**
John Wirtz,
Wirtz Manufacturing, United States

**Latest developments in AGM separators and pasting papers and recommendations for an optimized selection**
Sylvie Bayle and N Benattar,
Bernard Dumas SAS, France

**Advances in Evactherm process for improved paste mixing**
Philippe Bourdin,
Maschinenfabrik Gustav Eirich GmbH & Co KG, Germany

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**High speed stacking and palletizing for continuous lines**
Doug Bournas and D Imach,
MAC Engineering and Equipment Company Inc, United States

**Explosion-proof lead-acid battery**
Achim Luelsdorf,
Frötek-Kunststofftechnik GmbH, Germany

**New developments in AGM battery manufacture**
Massimiliano Ianniello and P Farina,
Sovema SpA, Italy

**BM-Battery Machines becomes BM-Rosendahl cast-on-strap machine for flooded SLI and VRLA batteries**
Richard Jonach,
BM-Rosendahl, Austria

**Advantages of premium pasting paper vs commodity paper**
Fabrice Werner,
Glatfelter Gernsbach GmbH & Co KG, Germany

**High performance separators for batteries in tropical applications**
G K Natesh, M N Ganesh, K Krishna and K M Mahadevavswamy,
Raman Fibre Science Pvt Ltd, India

**High efficiency battery charger**
Werner Retzlaff,
Mentzer Electronic, Malta

**Battery breaking system**
D D Sharma,
Fluid-O-Matic, India
Recent developments in the science and technology of lead-acid batteries

**Chairwoman:** Marion Perrin, CEA-INES - Recherche, Développement et Innovation, France

**Super soft secondary lead for calcium grids and active material**
David Prengaman and U Buggelsheim, Eco-Bat Group, United States and Europe

**Influence of expander components on the reversibility of the charge-discharge processes**
Detchko Pavlov, P Nikolov and T Rogachev, Institute of Electrochemistry and Energy Systems (IEES), Bulgarian Academy of Sciences, Bulgaria

**How can impedance spectroscopy be trusted? A review on quality**
Heide Meiwes, RWTH Aachen University, Germany

**Carbon honeycomb grids for high energy density lead acid batteries**
Angel Kirchev, Laboratoire de Stockage Electrique (LSE), N Kircheva and M Perrin, CEA-INES – Recherche, Développement et Innovation, France

**Mechanism of the thermal phenomena in valve-regulated lead-acid batteries with operating closed oxygen cycle**
Mitko Dimitrov, B Drenchev, D Pavlov and D Valkovska, Institute of Electrochemistry and Energy Systems (IEES), Bulgarian Academy of Sciences, Bulgaria

**Cold cranking capability of SLI batteries with a tetrabasic lead sulphate nucleation additive**
Safak Dogu, Yigit Battery and Middle East Technical University, M K Aydinol, Middle East Technical University and E Miser, Yigit Battery, Turkey

**Effects of methoxyl groups of lignophenols on the performance of lead acid batteries**
Takayuki Kimura, Shin-Kobe Electric Machinery Co Ltd, Japan

**Optimization studies of carbon additives to negative active material**
David Boden, D V Loosmore, M A Spencer and T D Wojcinski, Hammond Expanders Division, Hammond Group Inc, United States
Meeting battery requirements for the increasing degree of electrification in vehicles

Use and development of battery systems for HEVs, start and go, full electric vehicles and plug-in hybrid vehicles
Ali Madani, Avicenne, France

Applications of lead-acid batteries for automotive CO₂ reduction
Peter Miller, Ricardo Cambridge Technical Centre, United Kingdom

Specification requirements for a micro-hybrid low voltage energy storage system
Andreas Störmer, S Schäck, BMW Group, M Gellke, Akkumulatorenfabrik MOLL GmbH & Co. KG and E Karden, FORD, Germany

Market and technology developments of extended cycle life flooded batteries
Graeme Fraser-Bell, Entek, United Kingdom, D Boden, Hammond Group Inc and D Prnegaman, RSR Technologies, USA

The ongoing ALABC hybrid electric vehicle demonstration programme
Allan Cooper, EALABC and M Kellaway, Provectar, United Kingdom

Battery requirements and the development of advanced lead-acid batteries for micro-mild HEVs
Ed Buie, Axion Power International Inc, United States

Lead-acid batteries for micro-hybrid vehicles
Joern Albers, E Meissner and S Shirazi, Johnson Controls Power Solutions Europe, Germany

Comparing different battery technologies for vehicle and stationary applications: is there a future for lead-acid?
Dirk Uwe Sauer, RWTH Aachen University, Germany

The impact of design on battery performance in micro-hybrid applications
Norbert Maleschitz and H Diermaier, Banner GmbH, Germany

The influence of carbon additives on advanced spiral wound lead-acid battery designs for mild hybrid applications
Francisco Trinidad, M Fernández and J Valenciano, Exide Technologies, Spain

DC resistance of SLI batteries in micro-hybrid vehicles: can flooded and AGM designs meet vehicle requirements?
Eckhard Karden and B Fricke, Ford Motor Company and J Kowal, H Meiwes and D-U Sauer, RWTH Aachen University, Germany

Battery simulation equipment for automotive electrical systems
Thorsten Baumhöfer, RWTH Aachen University, Germany

Quiescent voltage determination of lead-acid batteries in automotive applications
Gabor Barany, Robert Bosch Kft, Hungary

Separators for lead-acid batteries in hybrid electric vehicle use
Kevin Whear, Daramic LLC, United States
### Batteries for Industrial Applications

**Telecom, standby, motive power and renewable battery systems**

**Chairmen:**
Geoffrey May, FOCUS Consulting, United Kingdom
David Rand, CSIRO Energy Technology, Australia

<table>
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| **Large volume storage for network support: potential of lead-acid and competitors**
Marion Perrin,
Laboratoire de Stockage Electrique (LSE), CEA-INES - Recherche, Développement et Innovation, France

Marion Perrin |

**Batteries for renewable energy storage systems**
Rainer Bussar, T Hopper and F Kramm,
Exide Technologies, Germany

Rainer Bussar |

**Cyclic VRLA gel and thin plate pure lead technology solutions for hybrid off-grid telecommunications**
Rhodri Evans, H Aschke, L Aughton, G Bonduelle, W Coldrick and M Pope,
EnerSys, United Kingdom

Rhodri Evans |

**Optimization of charging strategies for VRLA batteries in off-grid photovoltaic applications**
Georg Bopp and R P Santos, Fraunhofer Institute Solar Energy and M Mueller,
Steca GmbH, Germany

Georg Bopp |

**Effects of plate thickness on the power performance and cycling ability of the UltraBattery**
Lan Lam, CSIRO Energy Technology, Australia and Jun Furukawa, Furukawa Battery Co Ltd, Japan

Lan Lam and Jun Furukawa |

**Principles of an adaptative charge for tubular lead-acid batteries in photovoltaic systems**
Sylvie Genies,
INES-RDI, A Kirchev, Laboratoire de Stockage Electrique (LSE) and M Perrin,
CEA-INES - Recherche, Développement et Innovation, France

Sylvie Genies |

**Long life VRLA battery for wind power generation systems**
Hisaki Takabayashi, Shin-Kobe Electric Machinery Co., Ltd, Japan

Hisaki Takabayashi |

**Use of zinc sulphate in VRLA batteries**
Li Zhen Gu,
Jiangsu HuaFu Group, Jiangsu Province Engineering Research Center, China

Li Zhen Gu |

**Energy systems for an electric boat fleet**
Klaus Dieter Merz,
Abertax Technologies and Joseph Cilia,
University of Malta, Malta

Klaus Dieter Merz and Joseph Cilia |

**Challenging opportunities for lead-acid batteries**
Ajoy Datta and Ashis Ghosh
Luminous Power Technologies, India

Ajoy Datta and Ashis Ghosh |

**Status and prospects for the Chinese photovoltaic market**
Hongyu Chen and R Zhao,
South China Normal University, China

Hongyu Chen |
Travelling to Istanbul

Istanbul is well served by air from many parts of the World and Atatürk Airport is located in Yeşilköy, on the European side of the city. It is some 18 km to the hotel and the Airport website gives the indicative taxi fare to be the equivalent of US$10.

To ensure a good availability, delegates are recommended to make flight and/or hotel reservations well in advance – especially if staying on after the conference. The fact that many cultural events are taking place during 2010 will make Istanbul more popular than usual.

VISA TO ENTER TURKEY
Visitors from some countries may require a visa to enter Turkey, including nationals from Australia, Austria, Canada, Greece, Ireland, Israel, Italy, Netherlands, Portugal, Spain, the UK and the USA. Nationals from some other countries do not need a visa to visit Turkey for up to three months: Belgium, Denmark, Finland, France, Germany, Japan, New Zealand, Norway, Sweden and Switzerland fall into this category. If an entry visa is needed it can usually be bought for about $20 on arrival at the airport. It is important to join the queue to buy your visa before queuing for immigration.

Delegates can find useful information on visa requirements at www.mfa.gov.tr/visa-information-for-foreigners.en.mfa. It is essential that delegates check their own visa needs as the above information is provided as a guide only. Please contact the Conference Secretariat if documentation is required in support of a visa application. If delegates intend to visit other parts of Europe as part of their trip to 12ELBC it is their personal responsibility to check the visa requirements for these countries as they may differ from those in Turkey.

CLIMATE AND WEATHER
In September, the weather should be very pleasant with temperatures of 20-25°C during the day giving plenty of scope for outdoor activity. Lightweight clothing should suffice, but it would be wise to pack something warmer for the evenings.

HOTEL ACCOMMODATION
Hotel accommodation is managed by EUROKONGRESS on behalf of the conference organizers. Special room allotments at preferential rates have been reserved for delegates at the Grand Cevahir Hotel (conference venue). Additional accommodations, also at preferential rates, have been arranged at other selected hotels from which buses will be laid on for delegates in the morning and evening.

The hotel rates are per room per night and are inclusive of breakfast and all local taxes.

For reservations please use the online registration form on the conference homepage www.ila-lead.org/conferences. A pdf copy of the hotel reservation form is available on the website.

Please note that hotel rooms will be allocated on a “first come, first serve” basis. Upon receipt of an accommodation request, EUROKONGRESS will make every effort to meet your requirements. However, in the event of your preferred hotel being fully booked, EUROKONGRESS reserves the right to book another available alternative.

After EUROKONGRESS has received your online reservation, including a valid credit card payment, you will receive email confirmation and an invoice. Any extra costs incurred by guests must be paid directly to the hotel on departure.

As Istanbul is a popular tourist destination, hotel accommodation can be in short supply during September. Delegates are urged to make hotel reservations no later than 16 May 2010 for the Grand Cevahir Hotel. After this date room availability cannot be guaranteed.

CANCELLATION POLICY
For cancellations received by 30 June 2010 the full payment will be reimbursed less an administration fee of €40. Between 1 July and 31 July 2010 one night’s hotel accommodation will be charged. From 1 August 2010 onwards, no refunds can be made for cancellations of the total booking or single nights.

Changes, cancellations or other enquiries must be made in writing to EUROKONGRESS at the following address:

EUROKONGRESS
Schleissheimer Str. 2, D – 80333 Munich, Germany
Tel: +49(0)89 210 986 0 Fax: +49(0)89 210 986 98
Email: 12elbc@eurokongress.de

THE CONFERENCE SECRETARIAT IN LONDON IS NOT ABLE TO MAKE HOTEL RESERVATIONS FOR DELEGATES