

ICBR 2012

17th International Congress for Battery Recycling ICBR 2012

September 12 – 14, 2012, Amsterdam, Netherlands



Patronage:

Association of European Automotive and Industrial Battery Manufacturers (EUROBAT)

Call2Recycle®

European Battery Recycling Association (EBRA)

The European Association for Advanced Rechargeable Battery Technologies (RECHARGE)

The Rechargeable Battery Association (PRBA)



FOREWORD



PROFESSOR BRUNO SCROSATI

Chairman of
the Steering Committee
International Congress for
Battery Recycling

The International Congress for Battery Recycling is worldwide recognized as the top conference in battery recycling technologies and marketing. These fortunate series, initially addressed to a European audience, are now events that cannot be missed by anyone interested in this important, constantly growing and demanding field. ICBRs provide a unique forum where scientists, engineers, producers and recyclers can meet to share their views and discuss their business.

This year's edition will open with a session devoted to key aspects of battery recycling, science and technology. These topics include waste policy legislation, new demand in the battery market, new materials for advanced lithium batteries and believe for the first time, the challenges posed by to the expected large diffusion in the road of hybrid

and electric vehicles. After a general session where the impact of the legislation on the battery collection and recycling industry will be further discussed and evaluated in detail by a series of presentations of experts in the area, the program will be continued by two parallel sessions, both covering important aspects of battery recycling, one on resource efficiency and sustainability and the other on transport and safety.

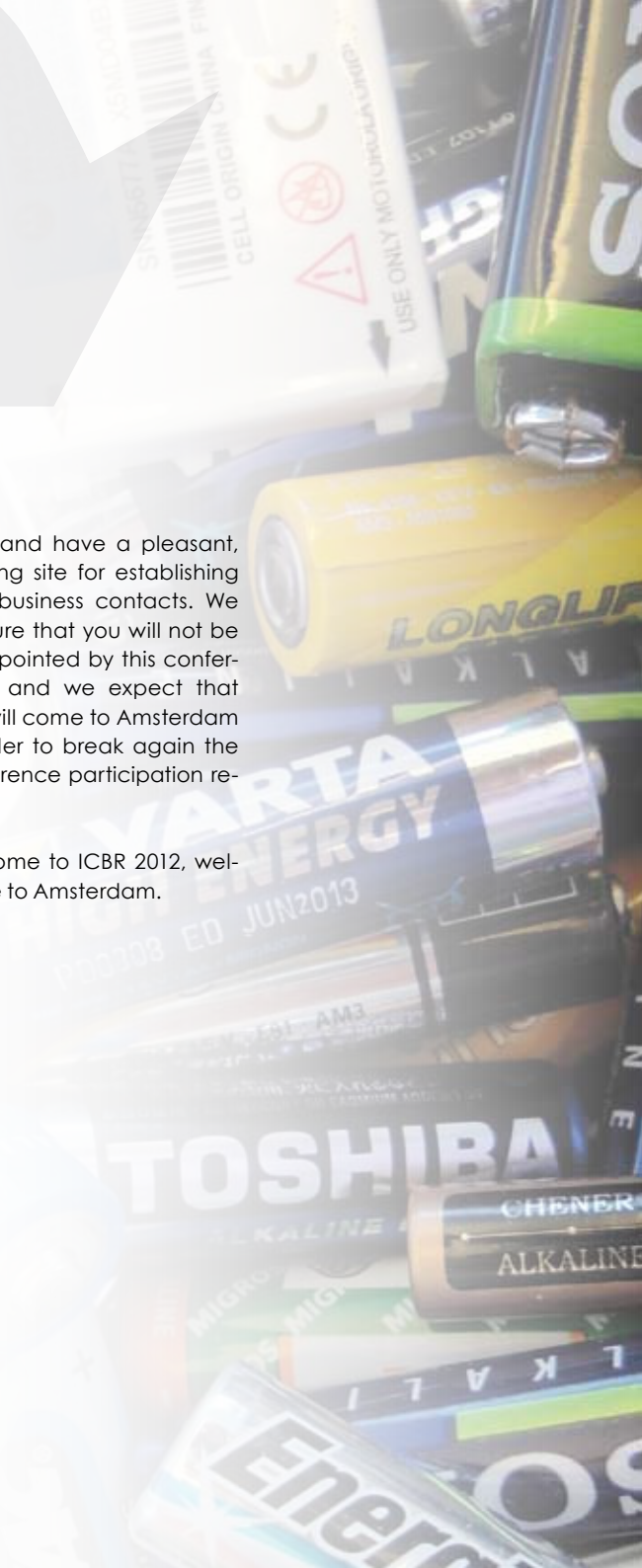
In the morning session of the second day we will touch the market aspects by examining the status of battery collection, the characteristics and the achievements of recycling plants in Europe. The afternoon session will be focused on the presentation of the worldwide growing number of recycling plants and processes, as well as on the evaluation of future markets. The congress will be then closed by an exciting

key note lecture where the challenges for transportation of dangerous goods will be discussed by an international company.

To put it simple – a very interesting and perhaps ambitious program. To make it a real and profitable experience for the participants, we have carefully selected the speakers among the top worldwide experts. Another qualifying aspect of the ICBRs is the choice of the location. Last year's edition took place in Venice with much appreciation of the delegates. This year we move to Amsterdam, another sophisticated and very pleasant city. In addition, the well-known, traditional high class of the ICBR series will be guaranteed, if not even surpassed, in this edition by the high standard of the social activities that include a super networking dinner event, where the participants will enjoy excellent

food and have a pleasant, relaxing site for establishing their business contacts. We are sure that you will not be disappointed by this conference and we expect that you will come to Amsterdam in order to break again the conference participation record!

Welcome to ICBR 2012, welcome to Amsterdam.



KEYNOTE SPEAKERS



JULIUS LANGENDORFF

European Commission
DG Environment
Unit Waste Management
Deputy Head of Unit
Belgium

“THE EU’S RESOURCE EFFICIENCY AGENDA
AND ITS RELEVANCE TO EU WASTE POLICY AND
LEGISLATION”

RUUD KOORNSTRA

Tendris
Founder
Netherlands

“E-MOBILITY IN THE NETHERLANDS –
HORIZON 2020”



OLIVIER VALLÉE CFA

Natureo Finance
Senior Research Analyst
France

“BATTERY DEMAND IN THE MASS MARKETS
OF GRID STORAGE AND HYBRID/ELECTRIC
VEHICLES”

STEFAN SAUERBIER

DP DHL
Global Restricted Commodities Manager
Germany

“DANGEROUS GOODS AS PART OF THE SUPPLY
CHAIN: THE VIEW OF AN INTERNATIONAL TRANS-
PORT COMPANY”



DOMINIC HOMBERGER

UMICORE Rechargeable Battery Materials
Sales & Product Manager
Belgium

“CATHODE MATERIALS FOR LI-ION CELLS TODAY
AND TOMORROW - A MATERIALS ROADMAP FOR
THE MAIN LI-ION MARKET SEGMENTS”



INTERNATIONAL STEERING COMMITTEE



PROFESSOR BRUNO SCROSATI
Chairman
University La Sapienza (Rome)
Department of Chemistry
Italy



JACQUES DAVID
SCRELEC
Managing Director
France



CARL E. SMITH
Call2Recycle®
CEO/President
USA



ALAIN VASSART
EBRA
General Secretary
Belgium



DR JEAN-POL WIAUX
Chairman of the Scientific Committee
RECHARGE
Director General
Belgium



ANDREAS KREBS
Batrec Industrie AG
Managing Director
Switzerland



MIKE TAKAO
Sanyo Electric Co., Ltd.
Mobile Energy Company
Senior Manager
Japan



JAN BARTELS
STIBAT
Managing Director
Netherlands



JILL LEDGER
SAFT
Corporate Communication
and Investor Relations
Director
France



MARK R. TOMASZEWSKI
INMETCO
President
USA



GEORGIOS CHRYSOS
Stiftung GRS Batterien
Managing Director
Germany



TOSHIO MATSUOKA
Matsuoka Technical
Consultant Ltd.
Consultant
Japan



JOHAN VAN PEPERZEEL
Van Peperzeel B.V.
Managing Director
Netherlands

LOCATION OF THE CONGRESS



The 17th International Congress for Battery Recycling will be held from **September 12 – 14, 2012** in the NH Grand Hotel Krasnapolsky in charming Amsterdam.

NH Grand Hotel Krasnapolsky is located in the very heart of the city, right on the central Dam square near many major tourist and business attractions. The hotel combines a traditional feeling with the comfort and style of modern conveniences.

NH Grand Hotel Krasnapolsky *****

Dam, 9
1012 JS Amsterdam
Netherlands
Phone +31 20 554 91 11
Fax +31 20 622 86 07
www.nh-hotels.com



BEAUTIFUL AMSTERDAM

Although the seat of Netherlands government is in The Hague, Amsterdam is the nominal capital. Amsterdam is the largest city of the Netherlands. It has a population of more than 750'000.

The city is the financial and cultural capital of the Netherlands. Many large Dutch institutions have their headquarters there, and 7 of the world's top 500 companies, including Philips and ING, are based in this city.

Amsterdam is a city of tolerance and diversity. It has all the advantages of a big city: culture, nightlife, international restaurants, good transport – but is quiet. Thanks to its extensive canals it has little road traffic.

Amsterdam's attractions, including its historic canals, the Rijksmuseum, the Van Gogh Museum, Stedelijk Museum, Hermitage Amsterdam, Anne Frank House, Amsterdam Museum and its redlight district, draw more than 3,7 million international visitors annually.

However, museums are the main tourist attraction in Amsterdam, there are over fifty museums. A visit to the Van Gogh Museum is a unique experience. The museum contains the largest collection of paintings by Vincent Van Gogh in the world.



www.amsterdam.info

ACCOMMODATION

For the participants of the congress a number of rooms are held at a special rate if you register before **July 31, 2012**. If you wish, you may also extend your stay at this lovely hotel at the same special rate.



NH Grand Hotel Krasnapolsky *****

Dam, 9
1012 JS Amsterdam
Netherlands

Phone +31 20 554 91 11
Fax +31 20 622 86 07
www.nh-hotels.com



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CONGRESS PROGRAM ICBR 2012

TUESDAY, SEPTEMBER 11, 2012

17.00 – 19.00 **Registration**

WEDNESDAY, SEPTEMBER 12, 2012

08.00 – 09.30 **Registration and welcome coffee in the exhibition area**

09.30 – 09.45 "Welcome and Introduction"
Prof. Bruno Scrosati, Chairman of the Steering Committee

09.45 – 12.00 **KEYNOTE SPEAKERS**

"The EU's Resource Efficiency Agenda and its relevance to EU waste policy and legislation"
Julius Langendorff, European Commission, Belgium

"Battery demand in the mass markets of grid storage and hybrid/ electric vehicles"
Olivier Vallée CFA, Natureo Finance, France

"Cathode materials for Li-ion cells today and tomorrow – A materials roadmap for the main Li-ion market segments"
Dominic Homberger, UMICORE Rechargeable Battery Materials, Belgium

"E-mobility in the Netherlands – Horizon 2020"
Ruud Koornstra, Tendris, Netherlands

12.00 – 13.30 **Lunch**

Session 1: Impact of the legislation on the battery collection and recycling industry
Session Chairman: Carl E. Smith, Call2Recycle®, USA

13.30 – 14.00 "Insights and challenges when calculating the recycling efficiency achieved with spent batteries"
Dr Alain Vassart, EBRA, Belgium

14.00 – 14.30 "A new WEEE Directive, will it work in practise?"
Norbert Zonneveld, EERA, Netherlands

14.30 – 15.00 "Future challenges for the battery recycling industry in a sustainable society"
Dr Jean-Pol Wiaux, Recharge, Belgium

15.00 – 15.30 **Coffee break in the exhibition area**

Session 2: Resource efficiency/Sustainability
Session Chairman: Jill Ledger, SAFT, France

15.30 – 16.00 "Market opportunities for recovery of critical raw materials from Li-Ion and NiMH batteries"
Margaret Doherty, Environment Agency, United Kingdom

16.00 – 16.30 "Heavy metal content in portable batteries"
Regina Kohlmeyer, UBA – Federal Environment Agency, Germany

16.30 – 17.00 "Energy storage in renewable energy systems"
Michael Lippert, SAFT, France

17.00 – 17.30 "Sustainability in the European portable power industry"
Hans Craen, EPBA, Belgium

Parallel Session 3: Transport & Safety
Session Chairman: Johan Van Peperzeel, Van Peperzeel B.V., Netherlands

"Conditions which could result in explosion and ignition during the collection and recycling of primary lithium cells and batteries"
Dr Tim Snee and Ceri Petrie, Health and Safety Executive, United Kingdom

"Safe collection, transportation and recycling of primary and secondary lithium batteries"
Imke May, Stiftung GRS Batterien, Germany

"Lithium batteries transport regulation in 2013"
Dr Marco Ottaviani, ANIE-CSI, Italy

"Safety in battery collection – A guided tour through best practices in Europe"
Jan Bartels, Eucobat, Netherlands

19.30 **Cocktail reception on the boat sponsored by**

20.15 **Networking dinner**



CONGRESS PROGRAM ICBR 2012

THURSDAY, SEPTEMBER 13, 2012

08.00 – 09.00 Welcome coffee in the exhibition area

Session 4: Batteries collection
Session Chairman: Georgios Chryssos, Stiftung GRS Batterien, Germany

09.00 – 09.30 "Portable battery recycling – The UK journey"
David Reynolds, BatteryBack Plc, United Kingdom

09.30 – 10.00 "Battery collection in Austria"
Alois Grinschgl, Saubermacher AG, Austria

10.00 – 10.30 "Collection and disposal of waste batteries in Turkey during the period of 2009 – 2011"
Savas Arna, Turkish Portable Battery Association (TAP), Turkey

10.30 – 11.00 Coffee break in the exhibition area

Session 5: Recycling plants & processes (Europe)
Session Chairman: Alain Vassart, EBRA, Belgium

11.00 – 11.30 "Six years of development towards the BAT – The story of the Nordic battery recycler"
Jarmo Pudas, AkkuSer Ltd., Finland

11.30 – 12.00 "The BATREC process and its recycling efficiency"
Dr Dieter Offenthaler, Batrec Industrie AG, Switzerland

12.00 – 12.30 "A new way in the recycling of alkali-manganese batteries"
Dr Klaus Nowak, UNI-CYC GmbH, Germany

12.30 – 14.00 Lunch

Session 6: Recycling plants & processes (international)
Session Chairman: Andreas Krebs, Batrec Industrie AG, Switzerland

14.00 – 14.30 "The South American battery recycling industry focused in Brazil"
Almir dos Santos Trindade, Antares Recycling Ltd., Brazil

14.30 – 15.00 "North American trends on battery applications, processing capacity and consumer behaviour"
Carl E. Smith, Call2Recycle®, USA

15.00 – 15.30 "Battery recycling and flow analysis of them in Japan"
Dr Misuzu Asari, Kyoto University, Japan

15.30 – 16.00 Coffee break in the exhibition area

Session 7: Future markets and challenges
Session Chairman: Dr Jean-Pol Wiaux, RECHARGE, Belgium

16.00 – 16.30 "The removal of traction batteries from crashed and end of life electric vehicle"
Thomas Kindt, Renault, France

16.30 – 17.00 "New markets where batteries could be used and also new recycling opportunities for technologies under development"
Dr Virginia Gómez, PV CYCLE aisbl, Belgium

17.00 – 17.30 "Recycling of batteries for low and ultra low carbon vehicles"
Dr Valentina Gentili, Axon Technologies Ltd., United Kingdom

17.30 – 18.00 **KEYNOTE SPEAKER**

"Dangerous goods as part of the supply chain: The view of an international transport company"
Stefan Sauerbier, DP DHL, Germany

from 18.00 Cocktail reception in the exhibition area

PLANT TOUR ICBR 2012

FRIDAY, SEPTEMBER 14, 2012

DELA GMBH, DORSTEN, GERMANY



08.00	Departure by bus to DELA GmbH, Dorsten
11.00	Arrival at DELA GmbH, Dorsten
11.00 – 13.30	Visit of the recovery site for secondary goods
17.00*	Arrival at the airport Schiphol Amsterdam
17.30	Arrival at the NH Grand Hotel Krasnapolsky

DELA GmbH Recycling-Solutions Portrait

We are a waste management and recycling company as well as a supplier of high-quality raw materials. Founded in 1989, we specialize in economic and environmentally sound recycling solutions for our national and international customers in the field of petro chemistry, oil and gas exploration, chlorine producers as well as lamp recycling and battery recycling. Our services include the efficient treatment and recovery of non ferrous (NF) metals and Fe-metals, mercury, black mass from battery recycling, lamp recycling and plastic sorting. The various technologies in use can be adapted to the customer's needs as required.

Our range of services

- Recycling of filter materials such as spent catalysts and activated carbons
- Treatment of NF-metals and mercury containing wastes
- Stabilisation of metallic mercury by formation of mercury sulphide
- Production of high purity mercury
- Sorting of batteries and treatment of primary batteries
- Recycling of fluorescent tubes and lamps
- Sorting of plastics according to types and colours
- Treatment of luminescent powder
- Recovery of valuable secondary raw materials such as metal concentrates, high purity mercury and soda-lime glass

The DELA GmbH is operating leading technologies and innovative plants for the recovery of secondary raw materials at 4 sites in Germany.

www.dela-recycling.de

* No guarantee on arrival time due to traffic conditions.



People need raw materials to work with,
and a healthy environment to live in.



Zinc-carbon and alkaline-manganese batteries



Battery treatment plant
Bad Oeynhausen



Fe-metals

Black mass

Button cells



Rotary kiln - Dorsten

Secondary raw material

Your partner for the recovery of valuable raw materials from wastes

Our main business is the recovery of non ferrous (NF) metals and mercury.

We operate innovative and advanced technologies for sorting and treatment of spent batteries, button cells and battery powder at two of our sites in Germany.

Sorting of battery mixtures and treatment of primary batteries such as zinc-carbon and alkaline-manganese batteries is carried out at our site in Bad Oeynhausen. Button cells and battery powder, the so called "black mass" is treated in the rotary kiln at our site in Dorsten.

Valuable ferrous and non ferrous metals such as mercury and even precious metals such as silver are recovered and can be reintroduced to the market as a commodity.

DELA GmbH Recycling - Solutions

Gottlieb-Daimler-Str. 33
46282 Dorsten

www.dela-recycling.com

PLANT TOUR ICBR 2012

FRIDAY, SEPTEMBER 14, 2012

VAN PEPERZEEL B.V., LELYSTAD NETHERLANDS



08.30	Departure by bus to Van Peperzeel B.V., Lelystad
10.00	Arrival at Van Peperzeel B.V., Lelystad
10.00 – 13.00	Visit of the battery sorting plant
15.00*	Arrival at the airport Schiphol Amsterdam
15.30	Arrival at the NH Grand Hotel Krasnapolsky

Van Peperzeel was founded in 1978 starting as a small scrap dealer. Over the years the company has grown into an important player on the Dutch market. Not only because of their speciality of non-ferrous metals and non-ferrous residues, i.e. industrial waste such as skimming's and turnings. Today the company is leading in the collection of lead acid batteries in the Netherlands. They work for nationally operating wholesalers in the automotive industry. The annual collecting amounts to many thousands of tons of old car batteries. The batteries are prepared for recycling and delivered to acknowledged processors in Europe.

Finally, Van Peperzeel is well known around the world for its expertise on all aspects of waste consumer batteries. Their modern premises in Lelystad houses the national sorting centre of waste consumer batteries in the Netherlands.

More and more products run on consumer batteries nowadays. Daily, hundreds of different brands and types of consumer batteries are thrown away, turned in or disposed by producers. Luckily, all consumer batteries can be recycled.

Van Peperzeel works closely together with Stibat (the Battery foundation). Stibat has been founded to help producers and importers to carry out their obligation to collect and process used consumer batteries. Van Peperzeel takes care of Stibat's collecting, sorting and processing of all consumer batteries throughout the Netherlands.

Annually, more than 3'000 tons of consumer batteries are sorted with the help of specially designed machines. This means over 500'000 batteries each day are sorted. The experience in sorting these batteries over the years resulted in an unique knowledge about used batteries and its recycling possibilities. Van Peperzeel offers these knowledge through consultancy contracts, helping different European companies and/or countries setting up collecting schemes.

www.peperzeel.nl

* No guarantee on arrival time due to traffic conditions.



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TRAINING COURSE



TRANSPORT OF DANGEROUS GOODS TARGETING LITHIUM BATTERIES

EXCLUSIVELY FOR THE PARTICIPANTS OF ICBR 2012

Directed by: Kristel Vermeersch, KVS & Partners bvba.,
Dangerous Goods Consulting, Belgium

When: Friday, September 14, 2012

Time: 09.00 h – 15.00 h

Location: NH Grand Hotel Krasnapolsky,
Amsterdam, Netherlands

Price: 190 EUR per person
(incl. documents & certificate)
Lunch and coffee breaks included
* Minimum number of participants: 15

Sponsor:



The workshop is directed by:



Kristel Vermeersch
Dangerous Goods Consulting

All attendants
will get a certificate
for attending the
training course !

WHO SHOULD ATTEND THE TRAINING COURSE?

- Battery recycling companies
- Representatives of authorities
- Battery manufacturers
- Lawyers and consultants of the battery and recycling industry
- Transportation companies in the battery recycling industry
- Anyone shipping Lithium batteries

COURSE DESCRIPTION

The course will give you an overview of International Transport Regulations (UN/Road/Air/Sea) and the decision process. The classification and identification of Lithium batteries will be reviewed including the UN test criteria for Lithium batteries. The participants will learn how to use and interpret the information and special provisions provided in the lists of dangerous goods in the different transport regulations. The course will also cover the packing requirements for Lithium batteries including the differences amongst the different transport modes. A description of transport documents required for shipments of Lithium batteries will be supplied.

To attend this training course, please register at info@icm.ch
before August 30, 2012. Thank you.

NETWORKING DINNER

For the participants of the congress we have organized again an unforgettable networking dinner on **Wednesday, September 12, 2012.**

The cocktail will be served on a boat and we will take you on a romantic cruise through the beautiful channels of Amsterdam. You will then enjoy a nice networking dinner with excellent food and a fantastic show with your friends and business partners in the famous "Wintergarden" of the NH Grand Hotel Krasnapolsky.

Do not miss this perfect possibility to meet your business partners and friends and register to this networking dinner now.



Meet friends and
business partners in a
nice atmosphere!



EXHIBITION AND POSTER PRESENTATIONS

EXHIBITION



A special exhibition will be organized for companies wishing to display their products or advertising materials.

The fee for an exhibition booth (2m x 3m) is € 3'000.- and for a poster presentation € 290.- for the full time of the conference.

Space is limited, so take the chance and book your exhibition booth or your poster presentation today!



As per July 31, 2012:

	Ecotest, Netherlands
	Euro Dieuze Industrie / Veolia Propreté, France
	Greenoffice, France
	Honda Nederland B.V., Netherlands
	LAB23, Italy
	Optisort AB, Sweden
	STIBAT, Netherlands
	Umicore Battery Recycling, Belgium
	UNTHA shredding technology GmbH, Austria
	VALDI – ERAMET, France
	Vecoplan AG, Germany
	Xstrata Nickel International S.A., Belgium

REGISTER BY
JULY 31, 2012
TO RECEIVE
DISCOUNT RATE

WHO SHOULD ATTEND?

- Battery producers
- Recycling companies
- Waste management companies
- Battery collection schemes
- Battery collection and transportation companies
- Non ferrous metal traders
- Non ferrous metal industry
- Associations in the field of battery waste management
- Financing organization for battery recycling
- Environmental authorities
- Laboratories for material science
- Universities and research institutes
- Consultants

ICM AG
International
Congress & Marketing
Schwaderhof 7
5708 Birrwil, Switzerland

Phone +41 62 785 10 00
Fax +41 62 785 10 05

info@icm.ch
www.icm.ch

Registration for the congress should be made by means of the registration form.

Participants registering and paying **before July 31, 2012** will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

REGISTRATION FEES

ORGANIZER OF ICBR 2012



JEANETTE DUTTLINGER
Congress Organizer



MIRJAM WAGNER
Congress Assistant



SUSANN SCHMID
Congress Assistant



CLAUDIA GERSTENDÖRFER
Congress Assistant



SABRINA BOLLIGER
Congress Assistant



SANDRA MANNHART
Congress Assistant

Congress Fee

Fee for participants
Fee for speakers
Fee for students

	before July 31, 2012	after July 31, 2012
Fee for participants	€ 1'390.-	€ 1'490.-
Fee for speakers	€ 790.-	€ 890.-
Fee for students	€ 590.-	€ 690.-
Networking dinner (Sept. 12, 2012)	€ 100.-	€ 110.-
Networking dinner for spouse (Sept. 12, 2012)	€ 110.-	€ 120.-
Plant tours (Sept. 14, 2012):		
- Dela GmbH, Germany	€ 40.-	€ 50.-
- Van Peperzeel B.V., Netherlands	€ 40.-	€ 50.-
Training course (Sept. 14, 2012):		
- Transport of dangerous goods (Li-batteries)	€ 190.-	€ 200.-
Registration on site	€ 100.- surcharge	

Networking dinner (Sept. 12, 2012)
Networking dinner for spouse (Sept. 12, 2012)

Plant tours (Sept. 14, 2012):

- Dela GmbH, Germany
- Van Peperzeel B.V., Netherlands

Training course (Sept. 14, 2012):

- Transport of dangerous goods (Li-batteries)

Registration on site € 100.- surcharge

Additional Proceedings

If it is not possible for you to attend the congress, you may purchase the complete proceedings at € 350.-. Participants will get the proceedings free of charge.

Payment

Payment should be made in EUR by bank transfer or by credit card. Wire payment to:

Beneficiary: ICM AG
Bank: Neue Aargauer Bank, 5400 Baden, Switzerland
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SPONSORS



You and us: Collection and recycling for portable and industrial batteries

GRS Batterien guarantees you professional collecting, sorting and recycling of spent batteries. Many years of experience in the handling of portable batteries has made it possible to implement the first nationwide collection system for industrial batteries, in particular industrial lithium accumulators from e-bikes.

We offer individual solutions for eco-friendly recycling to all producers and distributors in Germany.

www.grs-batterien.de

