

# ICBR 2014

www.icm.ch

## 19<sup>th</sup> International Congress for Battery Recycling ICBR 2014

September 24 – 26, 2014, Hamburg, Germany



### Patronage:

Federal Ministry for the Environment, Nature Conservation,  
Building and Nuclear Safety, Germany

Association of European Automotive and  
Industrial Battery Manufacturers (EUROBAT)

Call 2 Recycle®

EUCOBAT

European Battery Recycling Association (EBRA)

The European Association for Advanced Rechargeable  
Batteries (RECHARGE)

The Rechargeable Battery Association (PRBA)



GLENCORE



## FOREWORD



### PROFESSOR BRUNO SCROSATI

Chairman of  
the Steering Committee  
International Congress for  
Battery Recycling

In one of the first editions of these fortunate series of congresses, I reported on a simple experiment that I had carried out in the terrace of my apartment in Rome. In synthesis, I planted in various pots flower plants, I crushed common, commercially available, labeled as mercury free, green AA batteries into the soil of a part of them. I followed the time evolution of the plants and saw that, while the battery-free ones had no changes, the leaves and the flowers of those containing the crushed batteries soon withered, faded and eventually, died up.

The reason for citing this past event is that I believe that even today no battery is environmentally benign. Due to the present globalization we can likely have in the market batteries coming from countries where the environmental concern is not particularly high.

Accordingly, spent batteries in general cannot be simply dumped in the urban waste, this makes recycling a top priority for our present society in Europe as well as worldwide. However, there are still differences among legislations and a certain confusion persists due to the renewal of the chemistries of modern batteries. Hence, a forum where these important matters can be carefully examined, discussed and evaluated by world leader experts, such as that provided by the series of the International Congress for Battery Recycling, ICBR, is a unique opportunity that cannot be missed by anyone involved in a field of continuously growing importance and evolution, such as that of battery recycling. Indeed, ICBR is worldwide rated as the top event where scientists, engineers, producers and recyclers can meet to share their opinions and discuss their business.

This year's ICBR edition will be opened by a session with keynote lectures aimed to inform the audience on the battery legislation in force in Germany, Europe and worldwide, on the latest development of battery collection rates and recycling, as well as on the financial aspects that may be associated with these activities. The day will continue with a session where the new challenges for battery manufacturers and for the recycling industry will be presented by a series of lectures delivered by top experts in the field.

In the morning of the second day, we will be informed on the development of safety aspects linked to the presence of a large variety of lithium batteries on the market and the hazards created by their collection and transportation at end of life. In parallel, we will hear about recycling plants and related processes worldwide with particular

focus on the best available technologies, on the certification of operators involved in the recycling chain and on the novel recycling efficiency calculation methodology. This important technical program will be worthily completed by test drives from Volkswagen and by the plant tour on the third day, this time directed to Redux Technology GmbH in Bremerhaven.

It is a great program that will stimulate interest and living discussions among the participants! On behalf of the Steering Committee I would like to express our thanks to all the experts who have accepted the invitation to deliver their talks and hence, to contribute with their presentations to the success of the congress.

In addition to high technical standard, another unique tradition of the ICBR series is the great locations where they are usually held. This year's

choice is Hamburg, the city well known for its medieval history and for its port, the second largest in Europe.

In addition, don't miss the Networking Dinner in the course of which superb food and drinks will be served, so that to provide the attendees with an enjoyable and relaxing atmosphere for meeting colleagues and establishing business contacts.

Such an outstanding program could only be ensured by the tireless dedication of the ICM staff who have worked very hard to make this congress another ICBR unforgettable experience.

Welcome to ICBR 2014, welcome to exciting Hamburg.

## 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

## KEYNOTE SPEAKERS

### HOLGER LANGE

State Secretary for Environment  
Ministry for Urban Development and Environment  
Free and Hanseatic City of Hamburg  
Germany

“Opening Speech”



### DR HELGE WENDENBURG

Director General  
Water Management and Resource Conservation  
Federal Ministry for the Environment, Nature Conservation,  
Building and Nuclear Safety  
Germany

“Opportunities and challenges in the  
context of the advancement of national  
product responsibility regulations”



## INTERNATIONAL STEERING COMMITTEE



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**Chairman**  
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France



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USA



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EBRA  
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**Chairman of the Scientific  
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G&P Batteries Ltd.  
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Managing Director  
Germany



**DR DIETER  
OFFENTHALER**  
Batrec Industrie AG  
Managing Director  
Switzerland



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



## LOCATION & ACCOMMODATION

For the participants of the congress a number of rooms are held at a discounted rate if you register **before August 31, 2014**. If you wish, you may also extend your stay at this lovely hotel at the same rate.



The 19<sup>th</sup> International Congress for Battery Recycling will be held from September 24 – 26, 2014 in the Hotel Atlantic Kempinski in beautiful Hamburg, Germany.

The Hotel is situated close to the train station, major shopping areas, and famous museums and theatres – a luxury oasis in the heart of Hamburg on the shores of lake Alster.



### **Hotel Atlantic Kempinski Hamburg\*\*\*\*\***

An der Alster 72–79

20099 Hamburg

Germany

Phone +49 40 28880

Fax +49 40 247129

[www.kempinski.com/en/hamburg](http://www.kempinski.com/en/hamburg)



## VIBRANT HAMBURG

Hamburg is not only Germany's second largest metropolis, booming port-town and business center – locals claim it is also the country's most beautiful city. Hamburg is best known for its maritime character: The port with the newly developed HafenCity district, the Elbe river and beautiful Alster lake, that invites for sailing trips in the middle of the city, all create a unique atmosphere.

In addition to its beautiful waterways, scenic views and generous parks, Hamburg offers an unmatched range of attractive sights, cultural events, great shopping and exciting nightlife. Symphony concerts and club culture, jazz festivals, theatrical performances and poetry slams are just as much part of Hamburg culture as are luxury brands and independent

labels, haute cuisine and fish sandwiches at the famous Sunday fish market.

Hamburg also offers first class museums such as the Hamburg Art Gallery, the Bucerius Art Forum, or the International Maritime Museum. Those looking for excellent entertainment might want to see a ballet at the State Opera House, enjoy a pop concert at o2 World arena, or go to one of over 100 live music clubs. More than 40 stages, including the Thalia Theatre, the German Schauspielhaus and the English Theatre, offer almost anything from one-man plays to cabaret.

Shopping visitors will find the same broad range from international designer flagship stores to hip boutiques, large shopping malls and vintage thrift shops.



[www.hamburg-tourism.de](http://www.hamburg-tourism.de)

## WORKSHOPS

TUESDAY, SEPTEMBER 23, 2014

The following two workshops are organized by EBRA and RECHARGE. They will take place on Tuesday, September 23, 2014, the day before the congress.

For EBRA and RECHARGE Members the workshops are free of charge.

14.00 – 15.30

### CERTIFICATION OF BATTERY RECYCLING PLANTS



**EBRA**

EUROPEAN BATTERY RECYCLING ASSOCIATION

Update of the certification of battery recycling plants  
by Dr Alain Vassart, EBRA, Belgium

16.00 – 18.00

### TRANSPORT OF DANGEROUS GOODS



Update of the transport regulation at UN, ICAO and  
ADR levels by Dr Marco Ottaviani, ANIE-CSI, Italy and  
Dr Jean-Pol Wiaux, RECHARGE, Belgium

If you wish to participate at these workshops, please register by  
means of the registration form.

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The new e-Golf.



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\*Fuel consumption in l/100 km: combined 0.9, energy consumption in kWh/100 km: combined 7.2, CO<sub>2</sub> emissions in g/km: combined 21.

\*\*Energy consumption in kWh/100 km: combined 12.7, CO<sub>2</sub> emissions in g/km: 0.  
Illustration depicts optional equipment at extra costs.



## CONGRESS PROGRAM ICBR 2014



### TUESDAY, SEPTEMBER 23, 2014

- 13.00 – 19.00**      **Registration**
- 14.00 – 15.30**      **Workshop:** Certification of battery recycling plants
- 16.00 – 18.00**      **Workshop:** Transport of dangerous goods

### WEDNESDAY, SEPTEMBER 24, 2014

- 08.00 – 09.45**      **Registration and welcome coffee in the exhibition area**

#### Session 1: OPENING AND KEYNOTE SPEAKERS

- 09.45 – 11.30**      "Welcome and Introduction"  
**Prof. Bruno Scrosati, Chairman of the Steering Committee**
- "Opening Speech"  
**Holger Lange, Ministry for Urban Development and Environment,  
Free and Hanseatic City of Hamburg, Germany**
- "Opportunities and challenges in the context of the advancement of  
national product responsibility regulations"  
**Dr Helge Wendenburg, Water Management and Resource Conservation,  
Federal Ministry for the Environment, Nature Conservation, Building and  
Nuclear Safety, Germany**
- Surprise Keynote Speaker**
- 11.30 – 13.00**      **Lunch in the exhibition area**

#### Session 2: Legislation Session Chairman: **Jill Ledger, SAFT, France**

- 13.00 – 13.30**      "Results of the Fitness Check on Waste Directives"  
**José Rizo Martin, European Commission, Belgium**
- 13.30 – 14.00**      "Priorities for the Battery Directive review"  
**Peter Binnemans, EUCOBAT, Belgium**
- 14.00 – 14.30**      "Battery Legislation: 'Burning' issues have not been removed"  
**Hans-Jochen Lueckefett, 1cc GmbH, Germany**

- 14.30 – 15.00**      **Coffee break in the exhibition area**

#### Session 3: Collection Efficiency Session Chairman: **Georgios Chryssos, Stiftung GRS Batterien, Germany**

- 15.00 – 15.30**      "How the battery life cycle influences the collection rate of battery  
collection schemes"  
**Peter Coonen, Bebat, Belgium**  
**Bram Desmet, Möbius, Belgium**
- 15.30 – 16.00**      "Does mandatory collection affect compliance scheme performance?"  
**Carl E. Smith, Call2Recycle®, USA**
- 16.00 – 16.30**      "Battery and WEEE collection – Synergy or battlefield?"  
**Dr Petr Kratochvíl, ECOBAT s.r.o., Czech Republic**
- 16.30 – 17.00**      "Understanding consumer and professional practices for battery  
recycling to leverage actions in France"  
**Frédéric Hédouin, COREPILE S.A., France**  
**Emmanuel Toussaint-Dauvergne, SCRELEC, France**

- 19.30**      **Cocktail reception**

- 20.00**      **Networking dinner**

# CONGRESS PROGRAM ICBR 2014



## THURSDAY, SEPTEMBER 25, 2014

**08.00 – 09.00** Welcome coffee in the exhibition area

**Session 4:** **Safety I**  
**Session Chairman:** Johan Van Peperzeel, Van Peperzeel B.V., Netherlands

09.00 – 09.30 "Lithium batteries safety: From hazards to solutions"

**Dr Jean-Pol Wiaux and Dr Claude Chanson, RECHARGE, Belgium**

09.30 – 10.00 "Risks, challenges and opportunities – The business of sorting batteries"

**Michael Green, G&P Batteries Ltd., United Kingdom**

10.00 – 10.30 "What firefighters need to know when approaching a lithium battery fire"

**Kurt Vollmacher, CTIF International Association of Fire and Rescue Services**

**10.30 – 11.00** Coffee break in the exhibition area

**Session 5:** **Safety II**  
**Session Chairman:** Michael Green, G&P Batteries Ltd., United Kingdom

11.00 – 11.30 "Packaging materials for spent Li-Ion batteries"

**Qiaoyan Pan, ACCUREC Recycling GmbH, Germany**

11.30 – 12.00 "Development of an optimized fire safe transportation system for Lithium-based batteries for multiple purpose"

**Prof. Ulrich Krause, GENIUS, Germany**

12.00 – 12.30 "Minimizing risks of storing waste lithium batteries"

**Daren E. Jorgensen, JET Environmental Services Inc., USA**

**Parallel Session 6: Technology I**  
**Session Chairman:** Dr Alain Vassart, EBRA, Belgium

"Sorting batteries with PGNA"

**Jan Sletsgaard, FORCE Technology, Denmark**

"Phase chemistry study to support the technology development for the recycling of lithium ion batteries"

**Elien Haccuria, PYROSEARCH, University of Queensland, Australia**

"The recovery of valuable metals from portable batteries using plasma arc technology"

**Stephen Gill, Tetronics International Ltd., United Kingdom**

**12.30 – 14.00** Lunch in the exhibition area

**Session 7:** **Technology II**  
**Session Chairman:** Dr Dieter Offenthaler, Batrec Industrie AG, Switzerland

14.00 – 14.30 "Umicore's roadmap towards industrial recycling for Advanced Batteries"

**Sybolt Brouwer, Umicore Battery Recycling, Belgium**

14.30 – 15.00 "New recycling technologies needed – Requirements for batteries of tomorrow"

**Sebastian Kross, Stiftung GRS Batterien, Germany**

15.00 – 15.30 "Battery recycling at VEOLIA: The new roads"

**Denis Foy, Euro Dieuze Industrie, France**

**15.30 – 16.00** Coffee break in the exhibition area

**Session 8:** **Certification/Sustainability**  
**Session Chairman:** Dr Jean-Pol Wiaux, RECHARGE, Belgium

16.00 – 16.30 "Sustainability in the European portable power industry"

**Hans Craen, EPBA, Belgium**

16.30 – 17.00 "Battery Recycling Audit of supporting non-end-of-waste operations – The Redux case"

**Prof. Bernd Friedrich, RWTH Aachen University, Germany**

17.00 – 17.30 "The Why and How of the certification initiative for battery recycling plants"

**Dr Alain Vassart, EBRA, Belgium**

**from 17.30**

**Farewell reception in the exhibition area**



## PLANT TOUR ICBR 2014

FRIDAY, SEPTEMBER 26, 2014

### REDUX TECHNOLOGY GMBH, BREMERHAVEN



<b>08.45</b>	Departure by bus to Redux Technology GmbH, Bremerhaven
<b>11.00</b>	Arrival at Redux Technology GmbH, Bremerhaven
<b>11.00 – 13.30</b>	<b>Visit of the battery sorting and recycling plant</b>
<b>15.45*</b>	Arrival at Hamburg Airport
<b>16.15*</b>	Arrival at the Hotel Atlantic Kempinski

#### Battery Sorting and Recycling Plant

**Redux GmbH** has locations in Dietzenbach and Bremerhaven and is one of the leading battery recyclers in Europe. Our proprietary technique enables us to provide the entire portfolio of battery recycling at both locations and to offer our customers all services from sorting to recycling.

[www.redux-gmbh.de](http://www.redux-gmbh.de)

\* No guarantee on arrival due to traffic conditions.





[www.redux-gmbh.de](http://www.redux-gmbh.de)

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[info@redux-technology.de](mailto:info@redux-technology.de)  
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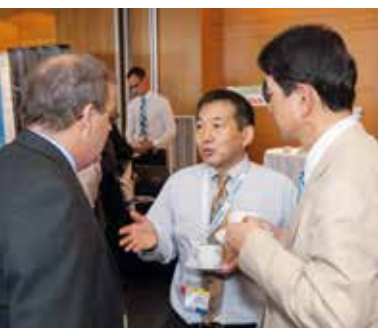


Recycling AlMn, ZnC and NiMH batteries:  
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battery recycling nature

## EXHIBITION AND POSTER PRESENTATIONS



The exhibition area provides your company with the perfect opportunity to reach key industry decision makers. Promote your products to all congress attendees.

The fee for an exhibition booth (2 m x 3 m) is as from EUR 3'000.– and for a poster presentation as from EUR 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!



## EXHIBITION

As per May 23, 2014:

**GLENCORE**

**Glencore Nickel International S.A., Belgium**

 **Metal Depot**

**Metal Depot Zurich AG, Switzerland**



**Raw Materials Company Inc., Canada**



**Redux Recycling GmbH, Germany**



**Umicore Battery Recycling, Belgium**



**VALDI – ERAMET, France**



**Volkswagen AG, Germany**

## NETWORKING DINNER



On **Wednesday, September 24, 2014**, an unforgettable networking dinner will be organized for the participants of ICBR 2014.

Do not miss this perfect opportunity to meet your business partners and friends in a nice atmosphere and register to this event now.

Meet friends and  
business partners in a  
nice atmosphere!



## SPONSORS





## ORGANIZER

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Conference Assistant

Registration for the congress should be made by means of the registration form or online. Participants registering and paying **before July 31, 2014** will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

## REGISTRATION FEES

	<b>before July 31, 2014</b>		<b>after July 31, 2014</b>	
<b>Congress Fee</b>				
Fee for participants	EUR	1'390.-	EUR	1'490.-
Fee for speakers	EUR	790.-	EUR	890.-
Fee for students	EUR	590.-	EUR	690.-
Networking dinner (Sept. 24)	EUR	100.-	EUR	120.-
Networking dinner for spouse (Sept. 24)	EUR	120.-	EUR	140.-

### Workshops (Tuesday, Sept. 23)

Certification of battery recycling plants	EUR	30.-/0.-*	EUR	50.-/0.-*
Transport of dangerous goods	EUR	30.-/0.-*	EUR	50.-/0.-*

\* Free of charge for EBRA and RECHARGE Members

### Plant tour (Friday, Sept. 26)

Redux Technology GmbH, Bremerhaven	EUR	40.-	EUR	60.-
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### Online registration

You may also register online at: [www.icm.ch/icbr-2014](http://www.icm.ch/icbr-2014)

### Registration on site EUR 100.- surcharge

### Additional Proceedings

If it is not possible for you to attend the congress, you may purchase the complete proceedings at EUR 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  
IBAN: CH41 0588 1044 7941 7200 0  
Swift code: AHHBCH22XXX  
Currency: EUR

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[www.grs-batterien.de](http://www.grs-batterien.de)