14th International Congress for Battery Recycling
16 – 18 September 2009
Geneva, Switzerland

Patronage:
Federal Office for the Environment (FOEN)
European Battery Recycling Association (EBRA)
Rechargeable Battery Recycling Corporation (RBRC)
The Rechargeable Battery Association (PRBA)

Sponsored by:
We are facing a very exciting period for the battery market. While the “conventional” battery types, i.e. the zinc-based alkaline batteries, are continuously sold by billions as power sources for a variety of house applications, new systems are aggressively conquering new markets. The most impressive is the consumer electronic market that is constantly increasing with massive production of popular portable devices, such as laptop computers, cellular phones and MP3s having high operational sophistication. These devices require a level of power and energy density that can be only provided by new chemistries involving exotic electrode and electrolyte materials. The key example is the lithium battery that has an energy density five times higher than that of conventional systems. The new energy scenario also considers the shift from polluting, combustion engine cars ideally to no-emission or at least to controlled-emission vehicles. The latter, namely new hybrid cars are now established commercially with many hundred thousand units on the road. The electric engine of this vehicle is presently powered by a nickel-metal hydride battery module. However, it is now demonstrated that consistent improvement may be achieved by passing to lithium-ion battery powered systems. Accordingly, many top car manufacturers in Europe, United States and Asia are budgeting great investments for producing car-grade lithium batteries. However, the ultimate goal is to develop a commercially viable no-emission, electric car. Also in this case, impressive efforts are in progress, mainly by joint ventures between car and battery companies. The key role of batteries in our future energy economy is also confirmed by the large investment in their development fixed in the stimulus plan of the present US administration.

The life of all of batteries, regardless whether they are primary or rechargeable, conventional or advanced, inevitably comes to an end. Since their chemistries may represent a hazard for the human health, a separate collection and a proper recycling is mandatory. This is not yet an established process. While the recycling of conventional systems, such as lead-acid, nickel-cadmium and alkaline batteries is at a satisfactory level, that of the emerging systems, such as nickel-metal hydride and lithium, is still at a preliminary stage. It is expected that these new types of batteries, which are produced at a rate of several billions per year, will soon reach the exhaust state. Nevertheless, it is still unclear which will be their fate.

There is the need of urgent actions to reach higher recycling levels coping with new directives which are coming from the European and Government institutions. Examples are the EU Directive which calls for a 45% target within the next few years and the CE regulation 1907/2006 which goes under the REACH acronym. This important goal can be only achieved by promoting technical and environmental discussions among experts who can jointly define the present and future strategies of the collection policy, such as to identify the most acceptable and profitable compromise between cost and efficiency of recycling the various batteries types.

This Congress is unique in this respect since it is the only internationally recognized event where attendees may benefit by high level technical presentations, as well as by informative debates on the current environmental legislations. Thus, ICBR cannot be missed by anyone involved in the field. Beside the informative and exciting programs, ICBRs are well known for the high standard of the social activities and for the choice of elegant and beautiful sites. This tradition is maintained also for this 2009 edition and I am sure that you will not be disappointed by having decided to be part of this unique event.

Let’s power a clean world! Welcome to ICBR 2009, welcome to Genève!
## Opening Speaker

**Daniel CHAMBAZ**  
Republic and Canton of Geneva  
Head Office of the Environment  
Chief Executive Officer of the Environment  
Switzerland

"Welcome to Geneva"

## Keynote Speakers

**Ruska KELEVSKA**  
European Commission  
DG Environment  
Unit Sustainable Production and Consumption  
Administrator  
Belgium

"Progress in the implementation of the Batteries Directive 2006/66/EC"

**Katharina KUMMER PEIRY**  
Secretariat of the Basel Convention (SBC)  
Executive Secretary  
Switzerland

"Future challenges for the Basel Convention"

## International Steering Committee

**Prof. Bruno Scrosati,**  
Chairman  
University La Sapienza (Rome)  
Department of Chemistry  
Italy

**Jan Bartels**  
STIBAT  
Managing Director  
Netherlands

**Manfred Beck**  
Recycling International Magazine  
Editor  
Netherlands

**Greg Broe**  
Rechargeable Battery Recycling Corp. (RBRC)  
Vice President Finance & Administration  
USA

**Jacques David**  
SCRELEC  
Managing Director  
France

**Dr Jürgen Fricke**  
Foundation GRS Batterien  
Chairman of the Board  
Germany

**Andreas Krebs**  
Batrec Industrie AG  
Managing Director  
Switzerland  
Representative of EBRA

**Jill Ledger**  
SAFT  
Corporate Communication and Investor Relations  
Director  
France

**Toshio Matsuoka**  
Matsuoka Tech. Consultant Ltd.  
Consultant  
Japan

**Mike Tomaszewski**  
Immetco Inc.  
President and General Manager  
Finance and Administration  
USA

**Mark Tomaszewski**  
Immetco Inc.  
President and General Manager  
Finance and Administration  
USA

**Johan van Peperzeel**  
Van Peperzeel B.V.  
President  
Netherlands

**Dr Jean-Pol Wiaux,**  
Chairman of the Scientific Committee  
RECHARGE  
Manager  
Belgium
Charming Geneva

Geneva is situated between the Alps and the Jura Mountains at the very south-west part of Switzerland. The Canton with its 282 square km, the lake “Leman” and the river Rhone, presents a marvellous surrounding to its visitors who can enjoy the alpine mountains in the background of the environing green countryside.

Geneva is Switzerland’s most international city, as it is where the European seat of the UNO is based. Even the International Red Cross directs its humanitarian campaigns from here.

With its over 30 museums, its numerous art galleries as well as its theatres and its opera where famous international artists perform, Geneva is also an important cultural centre.

www.geneve-tourisme.ch

Location of the Congress

The 14th International Congress for Battery Recycling will be held from 16 – 18 September 2009 in the Hotel InterContinental in charming Geneva.

Hotel InterContinental****
7–9, chemin du Petit-Saconnex
1209 Geneva
Switzerland

Phone  +41 22 919 39 39
Fax  +41 22 919 38 38
www.intercontinental.com/geneva
## Congress Program ICBR 2009

### Wednesday, 16th September 2009

<table>
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<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 09.30 – 09.45 | "Welcome and Introduction"  
Prof. Bruno Scrosati, Chairman of the Steering Committee                                      |
| 09.45 – 11.00 | **KEYNOTE SPEAKERS**  
"Opening Speech"  
Daniel CHAMBAZ, Republic and Canton of Geneva, Switzerland  
"Progress in the implementation of the Batteries Directive 2006/66/EC"  
Ruska KELEVSKA, European Commission, Belgium  
"Future challenges for the Basel Convention"  
Katharina KUMMER PEIRY, Secretariat of the Basel Convention, Switzerland                     |
| 11.00 – 12.30 | **Session 1: Battery & Metal Market**  
Session Chairman: Jill Ledger, SAFT, France  
11.00 – 11.30 "The rechargeable battery market 2008-2020"  
Christophe Pillot, Avicenne Développement, France  
11.30 – 12.00 "Overview of the battery metal markets"  
Scott F. Sibley, U.S. Geological Survey, USA  
12.00 – 12.30 "Integrating battery recycling in the electric vehicle market development!"  
Cécile Fournier, Renault SA, France |
| 12.30 – 14.00 | Lunch                                                                                                                                           |
| 14.00 – 14.30 | **Session 2: Battery Recycling Processes & Recycling Efficiency**  
Session Chairman: Mark Tomaszewski, Inmetco Inc., USA  
14.00 – 14.30 "New challenges for the Battery Collection and Recycling Industry"  
Bertrand Schutz, European Battery Recycling Association  
14.30 – 15.00 "Frame conditions for the calculation of the recycling efficiency of the battery recycling process"  
Alexander Potrykus, BiPRO GmbH, Germany  
15.00 – 15.30 "Recycling efficiency of battery recycling processes: A joint industry approach"  
Andreas Krebs, European Battery Recycling Association & RECHARGE |
| 15.30 – 16.00 | Coffee break                                                                                                                                  |
| 16.00 – 16.30 | "Collection and recycling of rechargeable batteries in Europe: Can we meet 25% collection and 50% recycling efficiency target set by the Battery Directive for 2012?"  
Ghislain van Damme, Umicore Recycling Solutions, Belgium  
16.30 – 17.00 "Keep it safe"  
Dr Jean-Pol Wiaux, RECHARGE, Belgium |
| 19.30      | Networking dinner                                                                                                                              |

### Thursday, 17th September 2009

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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| 09.00 – 09.30 | **Session 3: Battery & Metal Sorting**  
Session Chairman: Johan van Peperzeel, Van Peperzeel B.V., Netherlands  
09.00 – 09.30 "Automatic sorting of button cell to D by X-Ray – Current technical status report"  
Jörg Schunicht, TiTech GmbH, Germany  
09.30 – 10.00 "Battery compliance overview: lessons learned from WEEE?"  
Marcel Kaal, Pincvision, Netherlands  
10.00 – 10.30 "Sorting of spent batteries, still necessary? Experience of 8 years and 50’000 tons"  
Dr Klaus Nowak, UNI-CYC GmbH, Germany |
| 10.30 – 11.00 | Coffee break                                                                                                                                  |
| 11.00 – 11.30 | **Session 4: International Battery Legislation & Transboundary Movements**  
Session Chairman: Dr Jean-Pol Wiaux, RECHARGE, Belgium  
11.00 – 11.30 "Assuming responsibility for E-waste through recycling: Emerging issues with product stewardship"  
Carl E. Smith, Rechargeable Battery Recycling Corp. (RBRC), USA  
11.30 – 12.00 "Transboundary shipment of second-hand electric and electronic equipment/e-waste and batteries – Perspectives for an optimization of material flows"  
Knut Sander, Ökopol GmbH, Germany |
| 12.00 – 13.30 | Lunch                                                                                                                                           |
| 13.30 – 14.00 | **Session 5: Collection Schemes**  
Session Chairman: Dr Jürgen Fricke, Foundation GRS Batterien, Germany  
13.30 – 14.00 "Battery collection in Switzerland"  
Alexander Brun, INOBAT, Switzerland  
14.00 – 14.30 "Waste batteries – How to make an uninteresting product thrilling"  
Nicole Knudsen, Foundation GRS Batterien, Germany  
14.30 – 15.00 "ECOPILAS: A new model to manage batteries in Europe"  
José Pérez, ECOPILAS, Spain  
15.00 – 15.30 "Battery schemes: International lessons applied to local markets"  
Christina Brandmann, 1WEEE Services GmbH, Germany |
| 15.30 – 16.00 | Coffee break                                                                                                                                  |
| 16.00 – 17.00 | **Round Table Discussion:**  
"Spent battery collection schemes: Bright or dark future?"  
Moderator: Patrick de Metz, SAFT, France  
Participants:  
Jan Bartels, Stibat, Netherlands  
Jan-Olof Eriksson, El-Kretsen AB, Sweden  
Dr Jürgen Fricke, Foundation GRS Batterien, Germany  
Carl E. Smith, RBRC, USA |
| From 17.00 | Cocktail reception and poster presentations in the exhibition hall |
Friday, 18th September 2009

Plant tours leaving from the Hotel InterContinental

**AFE Valdi, Feurs (France)**

- **08.00** Departure by bus to AFE
- **11.00** Arrival at AFE
- **11.00** - **13.00** Plant tour of the battery recycling plant
- **17.00** Arrival at the airport of Geneva
- **17.30** Arrival at the Hotel InterContinental

AFE Valdi was founded in 1997 resulting from the excellent and promising results of the European program EUREKA EU902, Life Environment. It was also gratified with the Lillehammer award in 1999. Certified ISO 14001, AFE Valdi is focused on valorisation of metallic and mineral by-products. Its activities are based on hydro and pyrometallurgical processes within 2 French plants.

AFE Valdi’s by-products are divided into several groups such as: alkaline, saline and NiMH batteries, catalysts from petro chemistry, and wastes from foundries, steelworks, chemical or mechanical factories.

From the treatment of AFE Valdi’s by-products, composite ferroalloys are produced. Metal specifications are defined for each product in collaboration with customers. Therefore the expectations of each consumer are fulfilled and further AFE Valdi develops its capabilities.

With more than 100 employees and a turnover of EUR 25 M. in 2008, AFE Valdi achieved an outstanding growth owing to its mastered processes and relevant knowledge. AFE Valdi provides a top-quality service as illustrated by the satisfaction of its customers.

More information at: [www.afegroup.com](http://www.afegroup.com)

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**MTB Recycling, Trept (France)**

- **09.00** Departure by bus to MTB
- **11.00** Arrival at MTB
- **11.00** - **13.00** Plant tour of the cable, electronics & lamp recycling plant
- **16.00** Arrival at the airport of Geneva
- **16.30** Arrival at the Hotel InterContinental

Located in the middle of Europe, MTB Recycling has been developing grinding, sorting and recovery techniques for all types of waste over the past 30 years. With its three production lines, MTB Recycling’s cable division collects around 40’000 tons of waste each year, from which energy is recovered.

Thanks to this process, approximately 20’000 tons of granules start a new sustainable life cycle each year.

The main advantage of the high-performance process that MTB uses on its site in Trept results from its multi-functionality. It can be used to process cables, wood, tarpaulin, electronic wastes, aluminium profiles, etc... and also enables the company to carry out custom works for many other types of applications.

At the cutting edge of shredder design and manufacturing, MTB Recycling is also specialized in the manufacture of granulators, rotary shears as well as screening and density separation techniques.

A large number of plants in Europe and across the globe are equipped to process used tyres, electric cables, non-ferrous metals, car shredder residues, common industrial waste and WEEE. Each year, many customers call upon MTB Recycling for turnkey recycling solutions.

MTB Recycling’s experience and know-how has also allowed it to create processing plants for very specific types of waste such as oil filters, catalytic converters, asbestos waste, wind-screen wipers and bumpers, to name only a few.

Today, MTB Recycling offers the widest range of equipments available on the market, in terms of both diversity and size.

More information at: [www.mtb-recycling.fr](http://www.mtb-recycling.fr)

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**S.N.A.M., St. Quentin-Fallavier (France)**

- **09.00** Departure by bus to S.N.A.M.
- **11.00** Arrival at S.N.A.M.
- **11.00** - **13.00** Plant tour of the battery recycling plant
- **16.00** Arrival at the airport of Geneva
- **16.30** Arrival at the Hotel InterContinental

Founded in 1977 in Lyon, S.N.A.M. is now a French eco-citizen company, aware of the environmental issue of its activities and seeks to enroll in a developmental perspective that respects the Environment. With its experience and 80 people who compose, S.N.A.M. is now the European leader for the recycling of batteries.

Its 2 main activities are:

- sorting of batteries and accumulators for the account to collection companies
- recycling of End-of-Life rechargeable batteries of all sizes and industrial waste.

Our mastered recycling technologies are Nickel-Cadmium, Nickel Metal Hydride, and Lithium-Ion.

Overall, 1’400 tons of batteries and accumulators are sorted and more than 5’600 tons of wastes per year are recycled.

Our final products are:

- pure Cadmium metal (99.995% purity)
- Nickel-iron products
- Cobalt products

More information at: [www.snam.com](http://www.snam.com)

* No guarantee on arrival time due to traffic conditions.
## Hotel Accommodation

For the participants of the congress a number of rooms are held until **August 14, 2009** at a special rate at the below-mentioned hotels. Reservation after this date will be subject to space and rate availability. If you wish, you may also extend your stay at the same rate.

- **Hotel InterContinental*****
  7–9, chemin du Petit-Saconnex
  1209 Geneva
  Switzerland
  Phone + 41 22 919 39 39
  Fax + 41 22 919 38 38
  www.intercontinental.com/geneva
  (congress place)

- **Hotel Royal****
  41-43, rue de Lausanne
  1201 Geneva
  Switzerland
  Phone + 41 22 906 14 14
  Fax + 41 22 929 38 38
  www.manotel.com/en
  (20 min. walk to the congress place)

- **Hotel International et Terminus***
  20, rue des Alpes
  1201 Geneva
  Switzerland
  Phone + 41 22 906 97 77
  Fax + 41 22 906 97 78
  www.international-terminus.ch
  (25 min. walk to the congress place)

## Registration Fees

Registration for the congress should be made by means of the registration form. Participants registering and paying before **July 31, 2009** will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

<table>
<thead>
<tr>
<th>Congress Fee</th>
<th>before July 31, 2009</th>
<th>after July 31, 2009</th>
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</thead>
<tbody>
<tr>
<td>Fee for participants</td>
<td>€ 1'290.–</td>
<td>€ 1'390.–</td>
</tr>
<tr>
<td>Fee for speakers</td>
<td>€ 690.–</td>
<td>€ 790.–</td>
</tr>
<tr>
<td>Fee for students</td>
<td>€ 490.–</td>
<td>€ 590.–</td>
</tr>
<tr>
<td>Networking dinner (Sept. 16, 2009)</td>
<td>€ 90.–</td>
<td>€ 100.–</td>
</tr>
</tbody>
</table>

Plant tours (Sept. 18, 2009):
- AFE Valdi, Feurs                                | € 30.–               | € 50.–             |
- MTB Recycling, Trept                             | € 30.–               | € 50.–             |
- S.N.A.M., St. Quentin-Fallavier                 | € 30.–               | € 50.–             |

**Accompanying Person (spouse)**

| Networking dinner (Sept. 16, 2009)               | € 100.–              | € 110.–            |

All prices excl. 7.6% VAT

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 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:

- **Bank:** Neue Aargauer Bank, 5400 Baden, Switzerland
- **Beneficiary:** ICM AG
- **Account number:** 447941-72
- **IBAN:** CH41 0588 1044 7941 7200 0
- **Clearing number:** 5881
- **Swift code:** AHHBCH22XXX
“Meet your clients”
Networking Dinner

On Wednesday, September 16, a special networking dinner will be organized in charming Geneva.

Do not miss this perfect possibility to meet your business partners and register to this evening now!

Exhibition and Poster Presentations

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

The fee for an exhibition stand (2 m x 3 m) is EUR 2'500.– and for a poster presentation EUR 250.– for the full time of the conference.

Space is limited, so take the chance and book your exhibition stand or your poster presentation today!
Who should attend?

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

Organizer of the ICBR

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Susann Schmid
Congress Assistant

Ying Liu
Congress Assistant

Sibylle Zimmerli
Congress Assistant

Battery Recycling by Pyrometallurgy

A process enabling the recovery of used batteries’ metallic and mineral content:

For one ton of alkaline and zinc-carbon batteries loaded in the furnace, AFE VALDI recovers:

- 1 ton of batteries (with 200 kg of water and electrolyte)
- 300 kg of manganese ferro-alloy
- 350 kg of zinc oxide powder
- 150 kg of energetic material and reducing agents

Carbon, graphite and active materials contained are also recovered in AFE VALDI’s process (VFE plant), they are used to reduce metallic oxides into metal, and to produce energy.

Recycling Rate
Over 80% (on dry)

150 kg of energetic material and reducing agents

Adapted tools to recycle your wastes

AFE VALDI
Technology for a sustainable environment
Looking for a versatile shredder?
We build one every week!

Range: From 4 to 35 Tons in weight,
Capacity: From 500 kg to 40 Tons per hour

For each kind of waste, we have the solution
Just pick your color!

European Leader of batteries recycling
Nickel Cadmium
Nickel Metal Hydride
Lithium Ion
Mixed batteries sorting

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