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13th International Electronics Recycling Congress IERC 2014

January 22 – 24, 2014, Salzburg, Austria



Patronage: DIGITALEUROPE European Committee of Domestic Equipment Manufacturers (CECED) European Electronics Recyclers Association (EERA) Federal Ministry of Agriculture, Forestry, Environment and Water Management, Austria Global Lighting Association Japan Electronics and Information Technology Industries Association (JEITA) PlasticsEurope Verband Deutscher Metallhändler e.V. (VDM) WEEE Forum





WELCOME ADDRESS

NIKOLAUS BERLAKOVICH

Federal Minister for Agriculture, Forestry, Environment and Water Management Austria

It is a great pleasure for me to welcome you again here in Austria in the beautiful city of Salzburg, one of the cultural metropolises of Europe. I hope you will enjoy the hospitality and culture of Salzburg as well as this congress.

The recast of the EC Directive on waste electrical and electronic equipment shall contribute towards bringing the EU a step closer to its aim of being a "recycling society" that seeks to avoid waste in the first place and to use waste as a resource.

As the market continues to expand and innovation cycles become even shorter, the replacement of equipment accelerates, making EEE a fast growing source of waste. The majority of goods production still relies on the continuous mining of raw materials. Not only the huge consumption of fossil energy resources, but also the vast quantities of mined mineral raw materials are still on the

rise. This tremendous material turnover driven by the economy is leading to more and more waste and harmful substances.

Accordingly, recycling and energy recovery are the keymilestones in our sustainable waste management. Waste in general and also waste of electrical and electronic equipment are the resources, the raw materials which we will almost only have in Europe in the future.

Consider all the raw materials which are not available in Europe and which have to be imported in a large scale. We have to ensure that recycling fulfils our needs for raw materials almost particularly. New treatment technologies help to recover the materials to a great extent. But we have to withstand the huge global market. We must keep the recycling circuits as small as possible and have to develop appropriate economic structures on this basis.

This is important particularly in the area of waste streams with a predominant share of metals like WEEE and ELV and their resulting secondary raw materials. It is our task to secure these raw materials for the European market. The export outside of Europe has to be handled with great care. A lack of recycling results in the loss of valuable resources.

I wish all the best for the 13th International Electronics Recycling Congress and many interesting presentations as well as fruitful discussions. Have a nice and successful time in Salzburg.



lebensministerium.at



FOREWORD

DR VIKTOR HAEFELI

Chairman of the Steering Committee International Electronics Recycling Congress

Welcome to Salzburg – the hometown of Amadeus Mozart and "Red Bull"

In the name of the Steering Committee I welcome you to Salzburg for the 13th International Electronics Recycling Congress. Our industry faces the implementation and enforcement of uniform, global and clear standards.

All the stakeholders of the WEEE industries face the challenge of global industrialization and efficiency in the whole value chain (production – use – collecting – recycling – production). The materials recovery, and the closed resource loop – what is becoming known as the "Circular Economy" will become more and more important for the whole industry and production countries.

There is no waste, there are raw materials!

The WEEE industry is in the transformation from effectiveness to efficiency.

In other words: The industrialization of the whole WEEE industry with worldwide, clear, lean and effective processes and standards has already started. The whole value chain will be streamlined towards efficiency.

What has the industry to do to be more efficient?

Every process step must bring an added value to the whole lifecycle of the product.

It starts in the design phase. The product has to be designed for cost efficiency and in addition designed with the end in mind. The production industry has to use not only recycled metals but also recycled polymers. The second important step is the collection and the transportation of the used E&E material. Transportation has a huge CO₂-emission reduction potential.

The recycling industry was forced to follow the path towards industrialisation and increased efficiency because of the rapid arowina waste stream and increased competition. On the other side, the fast growing waste stream led to the development of activities beside the recycling such as collecting systems, recycling fees and recycling funds, different recycling technologies, directives, standards, take back systems, logistic- and recycling industry and so on... Not all of these processes have a positive added value at the moment and have a huge potential for efficiency.

The still fast growing electrical and electronic waste stream, that once carried a significant negative value, high treatment and disposal costs has changed in the last years to a huge global resource recovery stream with a growing average positive value.

It seems reasonable to ask: Does a positive value stream really need so much regulations and stakeholders? How will this waste stream be transformed from effectiveness to efficiency?

There are still activities which are not according to the WEEE directive. Most importantly the E&E waste materials which are still exported. In addition, there is a part of this material stream that is not recycled according to the WEEE directive. We hope that the politicians and authorities of our civilized countries will organize the law enforcement to become much more effective.

In our industry you need common knowledge about market development and recycling technologies, raw materials, commodity prices, legal requirements for collection, transportation and you have to take care of the constant change of the electronics products we are talking about.

IERC 2014 will give you the platform to discuss such issues. It is a growing, innovative, neutral and very effective platform to meet many of the world leaders in this industry: your clients and competitors, to listen to market trends and the news of the speakers, discuss with the authorities, see the hottest products of the exhibitors and make business in a relaxed atmosphere.

I look forward to meeting you in beautiful Salzburg – a town full of pioneers and stories of success.



GUEST SPEAKER

DR BERTRAND PICCARD Psychiatrist, Balloonist and Adventurer





As a doctor, I always learned that a problem is called a symptom that a symptom has a cause and the cause has a treatment. When we speak of climate change, when we speak of CO₂, we are not looking at the source of the problem: we are only looking at a symptom that has a very clear cause. This cause is our dependence on fossil energy. It is a fact that we use far too much non-renewable energy, which is expensive and pollutes our world. Yet there is a treatment called CleanTech. This allows us to decrease our consumption of energy and produce renewable energy, all the while creating jobs, making profit and sustainable growth. What we are doing with the Solar Impulse program is giving a concrete demonstration of the efficiency of these technologies. Everything we are using in our plane in order to flight day and night without any fuel, you can also use. This is not the secret technology of tomorrow, it is the technology of yesterday: the same solar panels, batteries, electrical motors, insulation foam, LED lightening system, construction techniques, softwares. You can use them yourself. When governments state that they still can't reduce the consumption of fossil fuels before investing in more research and innovation, it is completely false. The technologies already exist.

If all of the existing technology, all the CleanTech, was used in our society, we would already be able to halve our total energy consumption and produce half of the rest from renewable sources. It would leave 25% supply from fossil energy, which would be acceptable for the environment.

So why aren't we doing it? In my view, there are two main reasons:

1. Too many people confuse the notions of price and cost. We are told that renewable energy is more expensive than fossil energy. This is a misunderstanding ripe with consequence. All of the costs of renewable energy are included in the price. The price of petrol, or gas or coal does not include the entire cost: you don't pay for the 200 million vears that are necessary to replenish stocks, you don't pay for the oil slicks, you don't pay for the wars that have already begun and that will be gagaravated in order to procure oil, and you are not yet paying for the environmental cost of the CO₂ produced by fossil fuels.

We are comparing things that cannot be compared. Evidently the price of petrol is always less expensive than that of solar energy, but the cost of petrol is much more expensive than the equivalent cost of renewable energy.

2. The second reason is that the sacrosanct laws of the market no longer work in a speculative and globalized world. In the past, you would have been

able to expect from the market a progressive equalization of the prices of energy derived from different sources and thus obtain a spontaneous transition. Today this is no longer possible: our world does not work like that anymore. Our world functions on acceleration, on crisis, on speculation. The subprime mortgage crisis is a typical example of a market law that spiraled out of control. The grand paradox is that we can't simply take a political position from the left or right wing and apply it. In each doctrine there are elements absolutely necessary to arrive at an

efficacious result. To resolve the current challenges, we need both entrepreneurs and governments.

The problem is that each entrepreneur expects their competitors to take the first step because there is a certain risk in pioneering, in investing in renewable energy when you are the only one to do so. Critical mass has not yet been attained and we don't know exactly which technologies are going to be the most immediately profitable or the breakthroughs of tomorrow. And so, they wait. On the other side, the governments say that it is up to the private entrepreneurs to take the first step. And so nothing, or very little, happens.

Today, people are forbidden from throwing garbage into the forest, but it is still permitted to waste energy and to spew as much CO₂ as we want into the atmosphere. We are lacking the political will and the legal framework that would oblige our society, industries and consumers to use technologies that would allow us to decrease our consumption of fossil fuels. Government action is what we have to encourage from now on if we want to energize industry, create jobs, and improve our purchase power and trade balance - while at the same time protecting our environment.

www.solarimpulse.com

KEY MESSAGES



BJARNE SCHIELDROP

SEB Chief Analyst, Commodities Norway

prices as we leave the financial crisis behind?"

"What's in store for commodity



THOMAS BREITKOPF

REMONDIS AG & Co. KG Member of the Board Germany

OPF

"Closing the loop – The importance of WEEE recycling as an independent raw material source"



LENNART EVRELL

Boliden President & CEO Sweden

> "Source for metal production or a sustainability strategy"



MARIA BANTI

European Commission DG Environment Policy Officer Belgium

"The challenges in the implementation of the new WEEE Directive"

CINTIA GATES

DELL Inc. Latin America Compliance Manager USA "Latin America needs responsible recyclers"

DAVID SCUDERI

Samsung Electronics Environmental Affairs Manager United Kingdom

"High quality recycling today to meet the challenges of tomorrow"

"Countering WEEE illegal trade"

DR THERESE SHRYANE

INTERPOL Environmental Crime Programme France



INTERNATIONAL STEERING COMMITTEE



DR VIKTOR HAEFELI Chairman of the Steering Committee IERC SMART RESOURCES Switzerland



VICTOR DUART Vice-Chairman IBM Corporate Environmental Affairs Manager Environmental Policy & Programs Europe & Japan, Spain



DR MICHAEL BIDDLE Chairman of the Scientific Committee MBA Polymers, Inc. President and Founder, USA



MANFRED BECK **Recycling International** Editor Netherlands



OLOV BOMAN **Boliden Commercial AB** Manager Secondary Raw Materials Sweden



DR MARCO BULETTI Federal Office for the Environment (FOEN), Waste Recovery and Treatment Section Deputy Head of Section Switzerland



STEPHANE BURBAN Glencore Recycling Switzerland



Air Mercury AG Switzerland

JEAN COX-KEARNS DELL Global Takeback Director of Compliance Ireland



MANFRED FAHRNER ALBA R-plus GmbH Chief Sales Officer Germany

STEFAN-GEORG FUCHS Aurubis AG **Executive Director Complex Materials** Recycling / Precious Metals Germany

DR SVEN GRIEGER ENE EcologyNet Europe GmbH Managing Director Germany



Global Resource Efficiency and Circular Economy Strategies **DR JACO HUISMAN**

Hewlett-Packard

KLAUS HIERONYMI

Delft University of Technology Associate Professor Netherlands

FONS KRIST

Netherlands



Cimelia Resource Recovery Pte. Ltd. Executive Director Marketina & Sales Singapore



PROF. HSIAO-KANG MA National Taiwan University Department of Mechanical Enaineerina Taiwan



DR THOMAS MARINELLI Philips International B.V. Group Environment, Health & Safety



VENKATESHA MURTHY Vans Chemistry Pte. Ltd. Managing Director Singapore



WENDY NEU Hugo Neu Corporation Chief Executive Officer USA



DR ANDREAS RÖTHLISBERGER **SENS** Foundation President Switzerland

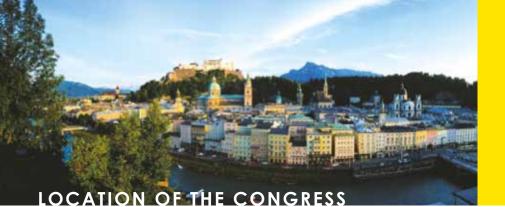






NORBERT ZONNEVELD EERA Executive Secretary Netherlands





For the participants of the congress a number of rooms are held at a special rate until December 14, 2013 at the hotels mentioned below. 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 ACCOMMODATION



The 13th International Electronics Recycling Congress IERC 2014 will be held at the:

Salzburg Congress Auerspergstrasse 6 5020 Salzburg, Austria

 Phone
 +43 662 889870

 Fax
 +43 662 88987210

 www.salzburgcongress.at



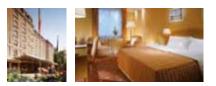
Salzburg Congress is located in the centre of Mozart's city. You can easily reach the congress centre by all modes of transport.

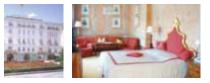


Salzburg – The city of Mozart

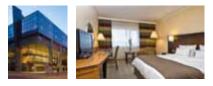
UNESCO nominated Salzburg's city centre as part of the world's cultural and natural heritage. Now the city officially ranks among the most beautiful cities in the world, certainly one deserving a high degree of protection.

www.salzburg.info













Sheraton Salzburg Hotel *****

Auerspergstrasse 4, 5020 Salzburg Phone +43 662 889990, Fax +43 662 881776 www.sheraton.com/salzburg next to the congress centre

Hotel Bristol Salzburg *****

Makartplatz 4, 5020 Salzburg Phone +43 662 873557, Fax +43 662 8735576 www.bristol-salzburg.at 5 minutes walking distance to the congress centre

Hotel Crowne Plaza Salzburg ****

Rainerstrasse 6–8, 5020 Salzburg Phone +43 662 889780, Fax +43 662 878893 www.imlauer.com 2 minutes walking distance to the congress centre

Hotel Radisson BLU****

Fanny-von-Lehnert-Strasse 7, 5020 Salzburg Phone +43 662 4688 0, Fax +43 662 4688 298 www.radissonblu.de/conferencehotel-salzburg 10 minutes walking distance to the congress centre

Best Western Hotel Imlauer ****

Rainerstrasse 12, 5020 Salzburg Phone +43 662 88992, Fax +43 662 8899271 www.imlauer.com, (non smoking hotel, free parking!) 5 minutes walking distance to the congress centre

Hotel Zum Hirschen Achat Plaza ****

Saint Julien Strasse 21–23, 5020 Salzburg Phone +43 662 889030, Fax +43 662 8890358 www.zumhirschen.at 5 minutes walking distance to the congress centre



CONGRESS PROGRAM IERC 2014

WEDNESDAY, JANUARY 22, 2014

08.00 – 09.30 Registration, welcome coffee in the exhibition area

09.30 – 11.30 "Welcome and Introduction"

Dr Viktor Haefeli, Chairman of the Steering Committee

KEYNOTE SPEAKERS

"What's in store for commodity prices as we leave the financial crisis behind?" Bjarne Schieldrop, SEB, Norway

"Closing the loop – The importance of WEEE recycling as an independent raw material source" Thomas Breitkopf, REMONDIS AG & Co. KG, Germany

"Source for metal production or a sustainability strategy" Lennart Evrell, Boliden, Sweden

11.30 – 13.00 Lunch in the exhibition area

Session 1: Implementing WEEE 2 Session Chairman: Victor Duart, IBM Corporate Environmental Affairs, Spain

- 13.00 13.20 "The challenges in the implementation of the new WEEE Directive" Maria Banti, European Commission, Belgium
- 13.20 13.50 "How can you reach 65%?" Norbert Zonneveld, EERA and Jan Vlak, Wecycle, Netherlands
- 13.50 14.10 "Extended producer responsibility 2.0 when WEEE has a value" **Eelco Smit, Philips Consumer Lifestyle, representing DIGITALEUROPE, Netherlands**
- 14.10 15.00 Q & A Session: WEEE 2 Are the drivers in place for success?

| Moderator: | Jean Cox-Kearns, DELL Global Takeback, Ireland |
|---------------|---|
| Participants: | Maria Banti, European Commission, Belgium Klaus Hieronymi, Hewlett-Packard Eelco Smit, Philips, representing DIGITALEUROPE, Netherlands David Scuderi, Samsung Electronics, United Kingdom (invited) |

15.00 – 15.30 Coffee break in the exhibition area

| Session 2: Standards Impacting Recyclers | |
|--|--|
| Session Chairman: Dr Sven Grieger, ENE | |
| EcologyNet Europe GmbH, Germany | |

15.30 – 16.00 "The next frontier in data security" Robert Johnson, NAID® (National Association for Information Destruction), USA

- 16.00 16.30 "New market driver for recycler certification" Jeff Omelchuck, EPEAT Registry Services, Green Electronics Council, USA
- 16.30 17.00 "The 1st operational year of the WEEELABEX" Mario Vöröš, WEEELABEX Organisation, Czech Republic

Parallel Session 2: <u>Batteries from WEEE –</u> <u>Take Back & Recycling</u> Session Chairman: Dr Marco Buletti, FOEN, Switzerland

"A solution for safe handling and transportation of Lithium batteries" Sebastian Kross, Stiftung GRS Batterien, Germany

"The link between the WEEE and the Battery Directives in their respective implementation" Dr Alain Vassart, EBRA aisbl/ivzw and Dr Jean-Pol Wiaux, RECHARGE aisbl, Belgium

"An update on recycling technology & take back of batteries in Switzerland" Dr Dieter Offenthaler, Batrec Industrie AG, Switzerland

- 17.00 18.30 Cocktail reception in the exhibition area sponsored by
- 19.30 Networking dinner "Oktoberfest"



CONGRESS PROGRAM IERC 2014

THURSDAY, JANUARY 23, 2014

08.00 – 09.00 Welcome coffee in the exhibition area

| Session 3: <u>Are WEEE Transparent?</u> Session Chairman: Dr Jaco Huisman, Delft University of Technology, Netherlands | Parallel Session 3: <u>Challenges with Hazardous</u> <u>Components</u> Session Chairman: Fons Krist, Cimelia Resource Recovery Pte. Ltd., Singapore | 14.00 – 14. |
|--|---|---|
| "Smart fridge recycling" Dr Viktor Haefeli, SMART RESOURCES, Switzerland | "Recycle flat screens in a safe and profitable system" Claes Rydén, MRT System Interna- tional AB, Sweden | R |
| "WEEE recyclers are limited in growing thru import/export limitations in the EU" Jan Visser, Coolrec Group, Netherlands | "Toxicity of lamps and LCD-screens" Werner Larsen, UCR AG Metals & Rare Earth Chemical Recovery, Switzerland | |
| Dr Therese Shryane, INTERPOL – Environ- | "Overcoming the challenge of displays containing mercury" Dan Cronin, FHG IPP Logipal, Netherlands | <mark>14.45 – 15.0</mark> |
| | | 15.00 – 15.3 |
| Coffee break in the exhibition area | | |
| Session 4: <u>Focus on Latin America</u> Session Chairman: Dr Andreas Röthlisberger, Stiftung SENS, Switzerland | Parallel Session 4: <u>Critical Materials Recovery</u> Session Chairman: Wendy Neu, Hugo Neu Corporation, USA | 15.30 – 16.0 |
| "A report of take back legislation in Latin America" Mick Bilney, Cardno TEC GmbH, USA | "Magpie Polymers for selective capture of platinum group metals" Dr Vladica Bocokić, Magpie Polymers, France | |
| "Challenges for state-of-the-art recy- cling in emerging markets: A case study on refrigerator recycling in Brazil" Philipp Bohr, Indústria e Comércio Fox de Reci- clagem e Proteção ao Clima Ltda., Brazil | "Recycling of Rare Earth Magnets, theoreti- cal and experimental results from sorting experiments" Prof. Ralf Holzhauer, West- fälische Hochschule University of Applied Science, Germany | 16.00 – 16.3 |
| "The landscape in Latin America" Cintia Gates, DELL Inc., USA | "Intelligent grading of E-waste – How infor- mation can increase recyclers revenues" Hans Eric Melin, Optisort AB, Sweden | 16.30 – 17.0 |
| | Session Chairman: Dr Jaco Huisman, Delft University of Technology, Netherlands "Smart fridge recycling" Dr Viktor Haefeli, SMART RESOURCES, Switzerland "WEEE recyclers are limited in growing thru import/export limitations in the EU" Jan Visser, Coolrec Group, Netherlands "Countering WEEE illegal trade" Dr Therese Shryane, INTERPOL – Environ- mental Crime Programme, France Coffee break in the exhibition area Session 4: Focus on Latin America Session Chairman: Dr Andreas Röthlisberger, Stiftung SENS, Switzerland "A report of take back legislation in Latin America" Mick Bilney, Cardno TEC GmbH, USA "Challenges for state-of-the-art recy- cling in emerging markets: A case study on refrigerator recycling in Brazil" Philipp Bohr, Indústria e Comércio Fox de Reci- clagem e Proteção ao Clima Ltda., Brazil | Session Chairman: Dr Jaco Huisman, Delft University of Technology, NetherlandsComponents Session Chairman: Fons Krist, Cimelia Resource Recovery Pte. Ltd., Singapore"Smart fridge recycling" Dr Viktor Haefeli, SMART RESOURCES, Switzerland"Recycle flat screens in a safe and profitable system" Claes Rydén, MRT System Interna- tional AB, Sweden"WEEE recyclers are limited in growing thru import/export limitations in the EU" Jan Visser, Coolrec Group, Netherlands"Toxicity of lamps and LCD-screens" Werner Larsen, UCR AG Metals & Rare Earth Chemical Recovery, Switzerland"Countering WEEE illegal trade" Dr Therese Shryane, INTERPOL – Environ- mental Crime Programme, France"Overcoming the challenge of displays containing mercury" Dan Cronin, FHG IPP Logipal, NetherlandsCoffee break in the exhibition areaSession Chairman: Dr Andreas Röthlisberger, Stiftung SENS, SwitzerlandParallel Session 4: <u>Critical Materials Recovery</u> Session Chairman: Wendy Neu, Hugo Neu Corporation, USA"A report of take back legislation in Latin America" Mick Bilney, Cardno TEC GmbH, USA"Magpie Polymers for selective capture of platinum group metals" Dr Vladica Bocokić, Magpie Polymers, France"Challenges for state-of-the-art recy- cling in emerging markets: A case study on refrigerator recycling in Brazil" Philipp Bohr, Indvistria C Comércio Fox de Reci- Glagem e Proteção ao Clima Ltda., Brazil"Intelligent grading of E-waste – How infor- mation can increase recyclers revenues" |

45 GUEST SPEAKER



"Pioneering spirit for inventing the future" Dr Bertrand Piccard, Psychiatrist, Balloonist and Adventurer Initiator and Chairman of Solar Impulse Project, Switzerland

In 1999, he achieved the first non-stop round the world balloon flight. Currently he is working together with Andre Borschberg on the project Solar Impulse: The first airplane able to fly day and night with no fuel only powered by the power of the sun. In 2015, they will alternatively fly around the world without a drop of fuel.

00 PRESENTING THE GREEN COWBELL AWARD 2014

30 Coffee break in the exhibition area

| | Session 5: <u>Best Recycling Technologies</u> Session Chairman: Prof. Hsiao-Kang Ma, National Taiwan University, Taiwan |
|------------|---|
| 15.30 – 16 | "Trends in electronics and their implications for the recycling industry. Is the sky really the limit?" Christina Meskers, Umicore Precious Metals Refining, Belgium |
| 16.00 - 16 | 30 "Recycling WEEE plastics – A challenge to meet the WEEE Directive targets" Lein Tange, ICL-IP Europe (representing EFRA), Netherlands |

0 "Current state of the art in the separation of shredded WEEE scrap" Scott Newell, The Shredder Company, LLC, USA

Parallel Session 5: World Wide Take Back Session Chairman: Olov Boman, Boliden Commercial AB, Sweden

"E-waste in Africa – One year on, progress and still opportunities" Hervé Guilcher, Hewlett-Packard EMEA, on behalf of the E-waste solutions alliance for Africa (Dell, HP, Nokia, Philips and **Reclaimed Appliances**)

"WEEE TRACE: RFiD based system to ensure full traceability of WEEE flows" Enrique Redondo, Fundación ECOLEC, Spain

"National status on electronics waste management and recycling technology" Dr Sandip Chatterjee, Dept. of Electronics & Information Technology, Ministry of Communication & Information Technology, India

from 17.00 Cocktail reception in the exhibition area sponsored by FHG IPP LOGIPAL

12.30 – 14.00 Lunch in the exhibition area



TOOL BOX TALKS

NETWORKING DINNER "OKTOBERFEST"

THURSDAY, JANUARY 23, 2014

| 11.00 - 12.30 | Technology Solutions & Equipment Providers |
|-----------------------------|--|
| SORTING SOLUTIONS RECYCLING | "Sensor based sorting of WEEE plastics with brominated flame retardants" Tom Jansen, TOMRA Sorting GmbH, Germany |
| | "WEEE shredding – A vertical approach" Mario Zöllig, swissRTec AG, Switzerland |
| STEINERT | "Treatment of remaining materials from E-scrap recycling with sensor technology" Patrick Lindweiler, STEINERT Elektromagnetbau GmbH, Germany |
| Votechnik | "LCD Recycling" Dr Lisa O'Donoghue, ALR Votechnik, Ireland |



On Wednesday, January 22, a fantastic networking dinner will be organized in beautiful Salzburg.

The Münchner Zwietracht - the most popular "Oktoberfest" band of the world – ensures an unforgettable evening!

You are very welcome to dress up with Dirndl or Lederhosen (you may also rent "Oktoberfest" costumes at: www.costume.at/feste.htm / Phone: +43 662 873 203).

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



Meet friends and business partners in a nice atmosphere!

PLANT TOURS IERC 2014

FRIDAY, JANUARY 24, 2014

EREMA ENGINEERING RECYCLING MASCHINEN EREMA UND ANLAGEN GMBH, ANSFELDEN

| 09.30 | Departure by bus to EREMA GmbH |
|---------------|---|
| 11.30 | Arrival at EREMA GmbH |
| 12.00 - 14.00 | Visit of of the production plant of plastic recycling systems |
| 16.30* | Arrival at Salzburg Airport |
| 16 45 | Arrival at the Salzburg Congress Centre |

Since it was founded in 1983, **EREMA Engineering Recycling Maschinen und Anlagen GmbH** has specialised in the development and production of plastics recycling systems and technologies for the plastics processing industry.

Product portfolio

- Plastics recycling systems for standard applications, production waste and for heavily printed/contaminated post-consumer waste
- FDA approved PET recycling systems, efsa approval requested via customers (e.g. for bottle-to-bottle recycling)
- Inline PET applications (e.g. for fibres, films and strapping)
- Fully-automatic self-cleaning melt filters
- COREMA® plastic recycling system for the production of highly filled an customised compounds
- Pelletizing systems

www.erema.at



* No guarantee on arrival time due to traffic conditions.

eco



We close the loop.

The specialists in plastic recycling systems.



Choose the Number One.



PLANT TOURS IERC 2014

FRIDAY, JANUARY 24, 2014

MONTANWERKE BRIXLEGG AG BRIXLEGG



| 08.30 | Departure by bus to Montanwerke Brixlegg AG |
|---------------|---|
| 10.30 | Arrival at Montanwerke Brixlegg AG |
| 10.30 - 12.30 | Visit of the copper smelter |
| 14.30* | Arrival at Salzburg Airport |
| 14.45 | Arrival at the Salzburg Congress Centre |

Montanwerke Brixlegg AG is Austria's only copper producer and has a history stretching back more than 500 years. Today Montanwerke is one of the leading secondary smelters in Europe.

Core business is recycling copper and other precious metals from scrap and in further steps process it into cathodes and billets. For these two highly pure copper products the total output is over 200'000 tons per year.

www.montanwerke-brixlegg.com

* No guarantee on arrival time due to traffic conditions.

THE HIGH QUALITY STANDARD IS RECOGNISED ALL OVER THE WORLD



Montanwerke Brixlegg AG is a secondary smelter and processes more than 150.000 tons of copper containing scrap. The products that result from this process provide the raw material for a wide range of application possibilities in various fields.

More information: www.montanwerke-brixlegg.com





Montanwerke Brixlegg AG Werkstraße 1 · 6230 Brixlegg · Austria Tel: +43 5337 6151 115 · Fax +43 5337 6151 102 office@montanwerke-brixlegg.com

PLANT TOURS IERC 2014

FRIDAY, JANUARY 24, 2014

MÜLLER-GUTTENBRUNN. **MBAPOLYMERS** METRAN AND MBA POLYMERS Müller-Guttenbrunn Grunn

| 08.00 | Departure by bus to Müller-Guttenbrunn Group |
|---------------|---|
| 10.15 | Arrival at the above mentioned 3 companies |
| 10.15 - 14.45 | Visit of the shredder plant of Metall Recycling Mü-Gu |
| | Visit of the metal separation plant of Metran |
| | Visit of the plastic recycling plant of MBA Polymers |
| 17.00* | Arrival at Salzburg Airport |
| 17.15 | Arrival at the Salzburg Congress Centre |

The Müller-Guttenbrunn Group is the largest E-waste processor in Central and South Eastern Europe with an unprecedented recycling depth.

The Müller-Guttenbrunn facility in Amstetten de-pollutes the E-waste with the patented SmasherTM. A new and specialized shredder with a design capacity of 80,000 MT's opened in May 2013. The selective shredder recovers a high quality ferrous metal scrap with very little loss of copper and other non-ferrous metals in the ferrous fraction.

The shredder residues are transported to **Metran** to be further processed into a range of non-ferrous concentrates. Metran also creates a valuable plastics fraction, which is delivered to MBA Polymers for further processing. Even metals <1mm can thus be extracted and re-introduced into the recycling cycle.

MBA Polymers recovers high-quality post-consumer ABS, HIPS and PP resins for use in demanding applications. Premium grades are offered under the EvoSource™ brand and are either UL-HB recognized, impact modified and/or available in different colours - replacing virgin plastics and closing the loop. These post-consumer plastics reduce energy consumption by over 80% and protect the environment from between 1 and 3 tons of CO₂ emissions, compared to the production of one ton of "virgin" plastics from petrochemicals. The MBA Polymers plastics recycling facility covers approximately 20,000 m², with a processing capacity of some 50,000 tons per year with a workforce of 100 people.

www.mueller-guttenbrunn.at, www.mbapolymers.com

* No guarantee on arrival time due to traffic conditions.



WEEE recycling with unprecedented recycling depth





- Patented Smasher Technology for de-pollution
- Latest shredder and separation technologies



 Presence in Central and South-Eastern Europe

Müller-Guttenbrunn Group, Industriestrasse 12, A-3300 Amstetten, Austria Tel: +43 7472 / 64 181, Fax: +43 7472 / 64 181 38, www.mueller-guttenbrunn.at, office@mueller-guttenbrunn.at



Tel: +43 7476 77 488, Fax: +43 7476 77 488 44, www.mbapolymers.com, office@mba-polymers.at

prepare for a better world

PLANT TOURS IERC 2014

FRIDAY, JANUARY 24, 2014



08.00Departure by bus to Saubermacher Dienstleistungs AG12.00Arrival at Saubermacher Dienstleistungs AG12.00 - 14.30Visit of the electronics recycling plant with ANDRITZ MeWa QZ,
Granulator and REDWAVE sensor based sorters in Unterpremstätten15.00*Arrival at Graz Airport19.00*Arrival at Salzburg Airport19.15Arrival at the Salzburg Congress Centre

Saubermacher is Austria's leading private waste disposal and recycling specialist.

The company is regarded as a highly competent partner for an entire array of environmental issues for more than 1'600 local authorities and 40'000 customers within industry, trade and commerce in Austria.

As an internationally successful company, Saubermacher manages about 100 locations and 75 joint ventures in Austria, Slovenia, Hungary, Czech Republic and Romania from its headquarters in Feldkirchen bei Graz.

www.saubermacher.com







Saubermacher E-Cycling-Park

With our high-tech equipment, up to 15,000 tons of used electrical appliances can be processed annually in an environmentally-friendly way. Through the use of this equipment, Saubermacher helps to ensure that the entire added value remains in Styria.

Ing. Alois Grinschgl Am Damm 50 A-8141 Unterpremstätten T: 059 800 8401 E: a.grinschgl@saubermacher.at www.saubermacher.at

for an environment worth living in

LAYOUT EXHIBITION AS PER SEPTEMBER 27, 2013

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 fees for an exhibition booth for the duration of the congress are:

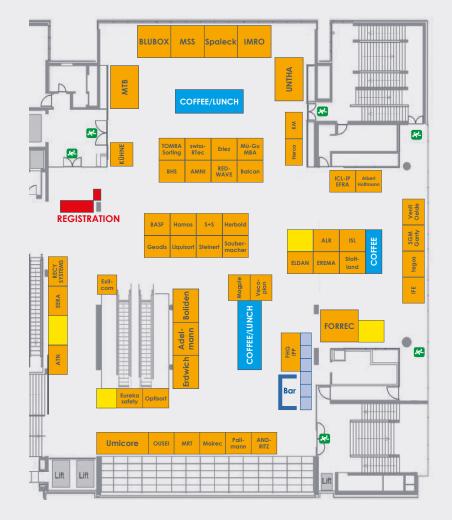
> **Booth 6 m**² 2m x 3m **Booth 12 m**² 3m x 4m

EUR 3'500.-EUR 4'900.-

Poster presentation (wall rental) EUR 290.-/350.-

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











EXHIBITORS AS PER SEPTEMBER 27, 2013

















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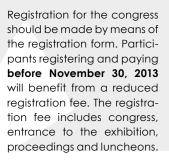








WHO SHOULD ATTEND?



REGISTRATION FEES

after

before





- Original electronic equipment manufacturers (OEMs)
- Electronic components suppliers
- Electronic equipment importers and dealers
- Retailers
- Ferrous & non-ferrous metal traders
- Collection and transportation companies
- Recycling and dismantling companies
- Shredding companies
- Plastics industry
- Non-ferrous metal industry
- Ferrous and stainless steel industry
- Environmental authorities
- Universities and research institutes
- Laboratories for material science



| Congress Fee | Nov. 3 | 30, 2013 | Nov. 3 | 30, 2013 |
|--|--------------------------|---------------------|--------------------------|---------------------|
| Fee for participants Fee for speakers Fee for students | EUR EUR EUR | 1'490 890 590 | EUR EUR EUR | 1'590 990 690 |
| Networking dinner (Jan. 22, 2014) Networking dinner for spouse (Jan. 22, 2014) | EUR EUR | 100 120 | EUR EUR | 120 140 |
| Plant Tours (Jan. 24, 2014): | | | | |
| – EREMA GmbH – Montanwerke Brixlegg AG – Müller-Guttenbrunn, Metran, MBA Polymers – Saubermacher Dienstleistungs AG | EUR EUR EUR EUR | 40 40 40 | EUR EUR EUR EUR | 60 60 60 |

All prices excl. 20% Austrian VAT Congress registration on site EUR 100.– surcharge.

Online registration

You may also register online at: www.icm.ch/ierc-2014

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:

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|--------------|---|
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Upcoming ICM Events:

Electronics Recycling Asia WRF 2013





14th International Automobile Recycling Congress IARC 2014



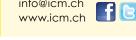


14th International Electronics Recycling Congress IERC 2015





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