

PROCEEDINGS 12th International Electronics Recycling Congress IERC 2013

January 16 – 18, 2013, Salzburg, Austria





Patronage:

Federal Ministry of Agriculture, Forestry, Environment and Water Management, Austria European Electronics Recyclers Association (EERA) European Committee of Domestic Equipment Manufacturers (CECED) Japan Electronics and Information Technology Industries Association (JEITA) Global Lighting Association DIGITALEUROPE ORGALIME PlasticsEurope WEEE Forum





WELCOME ADDRESS

NIKOLAUS BERLAKOVICH

Federal Minister for Agriculture, Forestry, Environment and Water Management Austria The European waste management strategy is guided by the principles of precaution and sustainability. The aim is to achieve the objectives of the European waste management through an optimal mix of waste prevention, re-use, recycling, and other forms of recovery and disposal. Every precept and every instrument must be measured according to the relevant principles and obligations rather than becomina an end in itself.

The majority of goods production 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. Waste management supplies the economy with secondary raw materials and energy sources. Due to the scarcity of resources, secondary resources and the corresponding processing technologies, but also re-use, are becoming increasingly important. The objective is to further increase the contribution of waste management to sustainable material flow and resource management.

In order to be able to make a major contribution to the raw material base, waste needs to be evaluated based on various criteria such as relevance to raw materials, the level of contaminants in the context of waste treatment, raw material requirements, but also in consideration of environmental impact and climate protection.

In addition, the knowledge base requires further improvement. There are incentives and guidelines for the further development of collection systems, reclaiming, recovery and disposal technologies and their capacities as well as the use of secondary raw materials and substitute fuels with effective removal of contaminants. The choice of desirable treatment channels should be encouraged through economic incentives.

Stemming the flow of secondary raw materials out of the EU is a central concern. Appropriate measures should be taken to secure the most important secondary materials for the European economy, as well. For the sake of value creation, waste as a carrier of important secondary materials, especially waste electrical or electronic equipment or end-of-life vehicles should be kept inside the EU.

The next three days are going to be challenging. The IERC 2013 is a very important event and I believe we can all look forward to many interesting presentations, exhibitions as well as mutually fruitful discussions and collaboration. I wish every success and a nice stay 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 12th International Electronics Recycling Congress.

Our industry faces the WEEE recast, which promises higher recycling targets and greater sustainability through recycling and efficient use of resources.

When we look back at the beginning of the WEEE, we see that we had a huge and fast arowing waste stream with no effective processes for managing the millions of tons of these materials. With the WEEE directive came clear processes and regulations for this enormous waste stream. At this time almost all the electric and electronic scrap had a negative value. This situation led to the rapid growth of complex and effective processes such as collecting systems, recycling fees and recycling funds, different recycling technologies, standards, take back systems, logistic- and recycling industry and so on...

The WEEE directive brought about a sophisticated domestic European recycling industry with a huge variety of stakeholders. Coinciding with the dramatic increase in the collection of WEEE informal recycling sectors, particularly in developing countries, also grew rapidly and began competing for these raw materials - with much lower cost structures due to less strict and sometimes non-existent environmental and safety controls. This highly unlevel international playing field and the total lack of law enforcement are the critical factors impacting the health of our domestic recycling economy.

The WEEE recast has the aim of consistent development towards more effectiveness in materials recovery, collecting and logistics. We hope that the politicians and authorities of our civilized countries will organize the law enforcement to be just as effective.

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, thanks to many of the people in this room, to a huge global resource recovery stream with an growing average positive value. It seems reasonable to ask: Does a positive value stream really need so much regulations and stakeholders? We will see that the next steps in WEEE will be the development from effective-

ness 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.

All the stakeholders of the WEEE industries stand before 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 will become for the whole industry and production countries more and more important. In our industry you need common knowledge about market development and technologies, raw materials, commodity prices, legal requirements for collection, transportation, recycling and you have to take care of the constant change of the electronics products we are talking about. IERC 2013 will give you the

platform to discuss such is-

sues. It is a growing, innova-

tive, neutral and very effec-

tive platform to meet clients

and competitors, 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 meet you in beautiful Salzburg – a town full of pioneers and success stories.

KEY MESSAGES



CHRISTIAN SCHIRMEISTER

J.P. Morgan Executive Director -Global Commodities Group United Kingdom

"TRADING ON THE LONDON METAL EXCHANGE (LME)"



ANDERS JANSSON

Stena Metall President and CEO Sweden

> **"STRATEGIES IN CHALLENGING** TIMES"



JEAN COX-KEARNS

DELL Global Takeback Director of Compliance Ireland

"RECYCLING CHALLENGES AND OPPORTUNITIES IN **DEVELOPING COUNTRIES**"



MIKE CHEN

WorldScrap.com President China

> **"THE CHINA RECYCLING** INDUSTRY IS TRANSFERRING"

PROF. OLADELE OSIBANJO

Basel Convention Coordinating Centre for Training & Technology Transfer for the African Region (BCCC-Africa) Federal Ministry of Environment Nigeria

KLAUS HIERONYMI

Hewlett-Packard Global Resource Efficiency and Circular Economy Strategies

"MAXIMISING THE OPPORTUNITIES AND MINIMISING THE RISKS OF ELECTRONIC WASTE IN AFRICA"



"HOW STANDARDS CONTRIBUTE TO LEVEL PLAYING FIELDS"



Solvay Group Industrial Director Rare Earth Systems France



"RECYCLING OF RARE EARTH IS OUR'S"





INTERNATIONAL STEERING COMMITTEE



DR VIKTOR HAEFELI Chairman of the Steering Committee IERC Switzerland

VICTOR DUART

STEPHANE BURBAN Xstrata Copper Canada Manager Recycling Switzerland

JEAN COX-KEARNS

DELL Global Takeback

Director of Compliance

MANFRED FAHRNER

ALBA R-plus GmbH

Chief Sales Officer

Ireland

Germany

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

DR MICHAEL BIDDLE

ROGER BURRI Air Mercury AG President Switzerland





MANFRED BECK **Recycling International** Magazine Editor Netherlands



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



STEFAN-GEORG FUCHS Aurubis AG Deputy Head Commercial Recycling, Head of Electronic Scrap Procurement Germany



DR SVEN GRIEGER ENE EcologyNet Europe GmbH Managing Director Germany



VENKATESHA MURTHY Vans Chemistry Pte. Ltd. Director / E-Waste Consultant Singapore



KLAUS HIERONYMI Hewlett-Packard Global Resource Efficiency and Circular Economy Strategies



WENDY NEU Hugo Neu Corporation Executive Vice President USA



DR JACO HUISMAN Delft University of Technology Associate Professor Netherlands



DR ANDREAS RÖTHLISBERGER WEEE Forum Switzerland

PROF. YASUHIRO

Professor and Consultant

University of EHIME

TSUGITA

Japan



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



DR THOMAS MARINELLI Philips Lighting B.V. **Director WEEE Management** Netherlands



NORBERT ZONNEVELD FFRA **Executive Secretary** Netherlands



For the participants of the congress a number of rooms are held at a special rate until December 14, 2012 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 12th International Electronics Recycling Congress IERC 2013 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

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 2013

TUESDAY, JANUARY 15, 2013

17.00 – 19.00 Registration

WEDNESDAY, JANUARY 16, 2013

08.30 – 09.30 Registration and welcome coffee

09.30 – 11.00 Keynote speakers from industry and authorities

"Welcome and Introduction" Dr Viktor Haefeli, Chairman of the Steering Committee

KEYNOTE SPEAKERS

"Trading on the London Metal Exchange (LME)" Christian Schirmeister, J.P. Morgan, United Kingdom

"Strategies in challenging times" Anders Jansson, Stena Metall, Sweden

Surprise Keynote Speaker

PRESENTING THE COWBELL AWARD 2013

11.00 - 11.30 Coffee break

Session 1: <u>Dealing with unlevel playing fields around the world?</u> Session Chairman: Victor Duart, IBM Corporate Environmental Affairs, Spain

- 11.30 11.50 "Creating system of WEEE collection Problems in Eastern Europe" Artur Augustynowicz, Hermes Recycling sp. z o.o., Poland
- 11.50 12.10 "Environmental damages caused by commodities theft What we can change" Christoph Werth, NOEX AG, Germany
- 12.10 12.30 "Prostitution in the waste industry! Are we, the recyclers, prostituted for the producers of WEEE?"

Poul Bengt, Ragn-Sells Danmark A/S, Denmark

12.30 - 14.00 Lunch

14.00 - 15.30 PANEL DISCUSSION: "FREE TRADE, FAIR TRADE OR NO TRADE"

Moderator: Dr Mike Biddle, MBA Polymers, Inc., USA

Participants: Mike Chen, WorldScrap.com, China Stefan-Georg Fuchs, Aurubis AG, Germany Dr Jaco Huisman, Delft University of Technology, Netherlands Prof. Oladele Osibanjo, Basel Convention Coordinating Centre for Training & Technology Transfer for the African Region, Nigeria Jim Puckett, Basel Action Network (BAN), USA

15.30 - 16.00 Coffee break

Session 2: <u>From waste to resources</u> Session Chairman: Manfred Beck, Recycling International Magazine, Netherlands

- 16.00 16.30 "Innovative ideas for the collection of valuable electronic appliances: Example Electroreturn" Manfred Fahrner, ALBA R-plus GmbH, Germany
- 16.30 17.00 "Recycling challenges and opportunities in developing countries" The "Producer Alliance" Perspective Jean Cox-Kearns, DELL Global Takeback, Ireland
- 17.00 17.30 "Recycled materials in consumer products – A mental step change for consumers and companies alike" Cecilia Nord, Electrolux AB, Sweden

Parallel Session 2: <u>Strategic materials</u> recycling Session Chairman: Dr Thomas Marinelli, Philips Lighting B.V., Netherlands

"Recycling of rare earth magnets" Dr Allan Walton, University of Birmingham, United Kingdom

"How to diversify its supply of rare earth by developing recycling? Example of fluorescent lamps and permanent magnets" Frédéric Carencotte, Solvay Group, France

"IT-Product design – A question of mineral resources?" Klaus Hieronymi, Hewlett-Packard

17.30 – 18.30 "Bierfass" reception in the exhibition hall sponsored by



AIR MERCURY THE SHREDDER RESIDUE COMPANY

Networking dinner

CONGRESS PROGRAM IERC 2013

THURSDAY, JANUARY 17, 2013

08.00 - 09.00 Welcome coffee

	Session 3: <u>Main challenges in WEEE 2.0</u> Session Chairman: Dr Jaco Huisman, Delft University of Technology, Netherlands	Parallel Session 3: Optimizing pre processing Session Chairman: Venkatesha Murthy, Vans Chemistry Pte. Ltd., Singapore
09.00 – 09.30	"WEEE2 – Standalone directive or an integral part of the EU's resource efficiency and Eco design strategies" Sigrid Linher, ORGALIME aisbl, Belgium	"REDWAVE XRF – New applications in sensor- based-sorting using X-ray fluorescence" Martin Weiss, REDWAVE a trademark of BT-Wolfgang Binder GmbH, Germany
09.30 – 10.00	"Producer and product responsibility – Renewal or replacement because of a paradigm shift?" Hans-Jochen Lückefett, 1WEEE Services GmbH, Germany	"Recycling of highly functional and strate- gically important metals from WEEE – Current status and future perspectives" Prof. Vera S. Rotter, Berlin University of Tech- nology & Prof. Sabine Flamme, Münster University of Applied Sciences, Germany
10.00 – 10.30	"How WEEELABEX will contribute to a green economy" Pascal Leroy, WEEE Forum, Belgium	"Becoming more effective in treating WEEE scrap" Dieter Jerschl, Eldan Recycling, Germany
10.30 - 11.00	Coffee break	
	Session 4: <u>Update on display recycling</u> Session Chairman: Stefan-Georg Fuchs Aurubis AG, Germany	Parallel Session 4: <u>Technology developments</u> Session Chairman: Prof. Hsiao-Kang Ma, National Taiwan University, Taiwan
11.00 – 11.30	"The cutting edge technology of LCD treatment" Jan Visser, Coolrec bv, Netherlands	"Online converting of CFCs in fridge dis- posal plants into compounds that do not deplete the ozone layer" Peter Hessler, UNTHA Recyclingtechnik GmbH, Germany

 11.30 - 12.00 "Facts & figures of display take back and recycling in Turkey" Murdt Ilgar, Exitcom Recycling Ltd., Turkey 12.00 - 12.30 "Material recovery of CRT panel glass in glass wool production" Martin Fišer, ASEKOL s.r.o. & Jan Brázda, KNAUF INSULATION, spol. s r.o., Czech Republic 12.30 - 14.00 Lunch 12.30 - 14.00 Lunch 14.00 - 14.30 "The role of EOLE standards in leveling the playing field" Libby Chaplin, Arcadian Solutions & Anne Peters, Gracestone, Inc., USA 14.30 - 15.00 "Product sustainability standards and the impact on electronics design and recycling" Carl E. Smith, EPEAT & Call2Recycle®, Christina Bocher, DEKRA & Colin Proietto, ULE, USA 15.00 - 15.30 Coffee break 15.30 - 17.00 PANEL DISCUSSION: "HOW STANDARDS CAN CONTRIBUTE TO LEVEL PLAYING FIELDS" Moderator: Klaus Hieronymi, Hewlett-Packard Participants: Representative of European Commission, Belgium Christian Dworak, 85H Bosch und Siemens Hausgeräte GmbH, Germany Lynn Rubinstein, R2 Solutions, USA David Scuderi, Samith, EPEAT & Call2Recycle®, USA Norbert Zonneveld, EERA, Netherlands 							
glass wool production" Martin Fišer, ASEKOL s.r.o. & Jan Brázda, KNAUF INSULATION, spol. s r.o., Czech Republic efficient WEEE recycling" Jörg Krönig, Vecoplan AG, Germany 12.30 - 14.00 Lunch Session 5: Standards more effective than legislation? Session Chairman: Dr Sven Grieger, ENE EcologyNet Europe GmbH, Germany 14.00 - 14.30 "The role of EOLE standards in leveling the playing field" Libby Chaplin, Arcadian Solutions & Anne Peters, Gracestone, Inc., USA 14.30 - 15.00 "Product sustainability standards and the impact on electronics design and recycling" Carl E. Smith, EPEAT & Call2Recycle®, Christina Bocher, DEKRA & Colin Proietto, ULE, USA 15.00 - 15.30 Coffee break 15.30 - 17.00 PANEL DISCUSSION: "HOW STANDARDS CAN CONTRIBUTE TO LEVEL PLAYING FIELDS" Moderator: Moderator: Klaus Hieronymi, Hewlett-Packard Participants: Representative of European Commission, Belgium Christian Dworak, BSH Bosch und Siemens Hausgeräte GmbH, Germany Lynn Rubinstein, R2 Solutions, USA David Scuderi, Samsung Electronics, United Kingdom (invited) Carl E. Smith, EPEAT & Call2Recycle®, USA		11.30 - 12.00	and recycling in Turkey" Murat Ilgar, Exitcom Recycling Ltd.,	electronic waste"			
Session 5: Standards more effective than legislation? Session Chairman: Dr Sven Grieger, ENE EcologyNet Europe GmbH, Germany 14.00 - 14.30 "The role of EOLE standards in leveling the playing field" Libby Chaplin, Arcadian Solutions & Anne Peters, Gracestone, Inc., USA 14.30 - 15.00 "Product sustainability standards and the impact on electronics design and recycling" Carl E. Smith, EPEAT & Call2Recycle®, Christina Bocher, DEKRA & Colin Proietto, ULE, USA 15.00 - 15.30 Coffee break 15.30 - 17.00 PANEL DISCUSSION: "HOW STANDARDS CAN CONTRIBUTE TO LEVEL PLAYING FIELDS" Moderator: Klaus Hieronymi, Hewlett-Packard Participants: Representative of European Commission, Belgium Christian Dworak, BSH Bosch und Siemens Hausgeräte GmbH, Germany Lynn Rubinstein, R2 Solutions, USA David Scuderi, Samsung Electronics, United Kingdom (invited) Carl E. Smith, EPEAT & Call2Recycle®, USA		12.00 - 12.30	glass wool production" Martin Fišer, ASEKOL s.r.o. & Jan Brázda, KNAUF INSULATION, spol. s r.o., Czech	efficient WEEE recycling"			
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from 17.00 Cocktail reception in the exhibition hall

PLANT TOURS IERC 2013

FRIDAY, JANUARY 18, 2013

MONTANWERKE BRIXLEGG AG BRIXLEGG

MONTANWERKE

IIID

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

Die Montanwerke Brixlegg AG verarbeitet jährlich mehr als 160.000 Tonnen kupferhaltiges Sekundärmaterial. Das daraus gewonnene hochreine Kupfer hat einen Kupfergehalt von mind. 99,999 %. Diese exzellente Qualität und die verschiedensten Anwendungsbereiche unserer Produkte haben unser Markenzeichen "BRX" weltweit bekannt gemacht.

100%

RECYCLING

Mehr Informationen über Recycling und unsere Produktion erfahren Sie unter **www.montanwerke-brixlegg.com**



MONTANWERKE





Müller-Guttenbrunn Group

We utilize raw materials from waste fractions Your partner for e-waste, end-of-life vehicles and metals





use of the most modern separation technologies

recovery of valuable resources recycling of small scale metal particles

environmental-friendly-removal of harmful substances

partner of the Lower Austrian Waste Management Associations

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



MBA Polymers Austria Kunststoffverarbeitung GmbH, WiPark, 12. Strasse 8, A-3331 Kematen/Ybbs, Austria Tel: +43 7476 77 488, Fax: +43 7476 77 488 44, www.mbapolymers.com, office@mba-polymers.at

PLANT TOURS IERC 2013

FRIDAY, JANUARY 18, 2013



MÜLLER-GUTTENBRUNN, METRAN AND MBA POLYMERS, AMSTETTEN/KEMATEN

08.00	Departure by bus to Müller-Guttenbrunn Group		
10.00	Arrival at the above mentioned 3 companies		
10.00 - 14.30	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 **Metall Recycling Mü-Gu** in Amstetten de-pollutes the E-Waste in an environmentally friendly manner and each of the de-polluted fractions are disposed of in line with the E-Waste directive. The selective shredder separates high quality ferrous metal scrap; most non ferrous metals are further extracted and concentrated by type of metal (copper, aluminium etc.) by the company Metran GmbH.

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 technical visit will include the MBA Polymers plant in Kematen/Ybbs in Lower Austria, which is one of the most advanced plastics recycling facilities in the world, covering approximately 20'000 m², with a processing capacity of 40'000 tons per year. MBA Polymers Austria employs a staff of 75 highly qualified personnel, operating and supervising the individual production stages, quality assurance, and preventive maintenance.

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

* No guarantee on arrival time due to traffic conditions.

PLANT TOURS IERC 2013

FRIDAY, JANUARY 18, 2013

SAH STAHLWERK ANNAHÜTTE AINRING/HAMMERAU (GERMANY)



08.30	Departure by bus to Stahlwerk Annahütte
09.00	Arrival at Stahlwerk Annahütte
09.00 - 11.00	Visit of the steelworks
11.30*	Arrival at Salzburg Airport
11.45	Arrival at the Salzburg Congress Centre

Please note: To wear sturdy, closed-toed shoes is a must. We also recommend to wear stainresistant clothing.

Whether stabilizer or gear shaft, driller or cutter, in tunnels, runways or skyscrapers – steel from **Annahütte** has proven itself worldwide in the automotive, tool industry as well as in technical engineering.

The starting product for SBQ bars and threadbars is a 1'500 kg steel billet that is heated to 1'150 °C in a walking beam furnace and then rolled out under enormous pressure to a length up to 1'500 meters. Annahütte rolls and refines steel bars to the desired designs of customers who process them into chains and wrenches, connecting rods, cams and steering shafts. If you drive an European car, it is most likely equipped with components made of Annahütte steel. For technical engineering designs, the Stahlwerk Annahütte develops and produces threadbar systems in concrete and pre-stressed steel quality. Whether in the foundations of Berlin's government building, in the new World Trade Center in New York or on the new ICE high speed railway – SAH threadbar systems have proven themselves globally in major construction projects as structural engineering, bridges, tunneling and mining. Annahütte is the world market leader in the segment of hot-rolled threadbar.

As part of its constant research and development work with its own R&D department, SAH has setup cooperation's with other companies and universities.

www.annahuette.com

* No guarantee on arrival time due to traffic conditions.

Stahlwerk Annahütte OUR WORLD OF STEEL



SAS Threadbar-System Solutions for individual challenges



SAS Micro piles for the Foundation of new World Trade Center in New York

SAS Micro piles in the foundations of Berlin government buildings





SAS Threadbar-System on the new ICE high speed railway

Stahlwerk Annahütte Max Aicher GmbH & Co. KG, D-83404 Hammerau / Germany Tel.: +49 (0)8654 / 487 - 0 Fax: +49 (0)8654 / 487 - 964 stahlwerk@annahuette.com www.annahuette.com



prepare for a better world

PLANT TOURS IERC 2013

FRIDAY, JANUARY 18, 2013

SAUBERMACHER DIENSTLEISTUNGS AG UNTERPREMSTÄTTEN



Saubermacher

für eine lebenswerte Um

19.15 Arrival 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.

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for an environment worth living in

EXHIBITION AND POSTER PRESENTATIONS

LAYOUT EXHIBITION AS PER SEPTEMBER 28, 2012





A larg to disp an ext Booth Booth

A large exhibition area will be offered to companies wishing to display their products or advertising materials. The fees for an exhibition booth for the full time of the congress are:

 Booth 6 m²
 2 m x 3 m
 EUR 3'500.

 Booth 12 m²
 3 m x 4 m
 EUR 4'900.

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









EXHIBITORS AS PER SEPTEMBER 28, 2012













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RECY SYSTEMS AG





MASCHINENBAU GMBH







herco Kühltechnik

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Müller-Guttenbrunn Group

SPALECC

Recycling Ltd.

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NETWORKING DINNER

Registration for the congress should be made by means of the registration form. Participants registering and paying **before November 30, 2012** will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

REGISTRATION FEES



On Wednesday, January 16, an unforgettable networking dinner will be organized in beautiful Salzburg.

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





Congress Fee		before Nov. 30, 2012		after Nov. 30, 2012	
Fee for participants Fee for speakers	€ €	1'490.– 890.–	€ €	1'590 990	
Fee for students	€	590	€	690	
Networking dinner (Jan. 16, 2013)	€ €	100 120	€ €	120 140	
Networking dinner for spouse (Jan. 16, 2013)	ŧ	120	ŧ	140	
Plant Tours (Jan. 18, 2013):					
– Montanwerke Brixlegg AG	€	40	€	60	
– Müller-Guttenbrunn, Metran, MBA Polymers	€	40	€	60	
– SAH Stahlwerk Annahütte	€	40	€	60	
– Saubermacher Dienstleistungs AG	€	40	€	60	

All prices excl. 20% Austrian VAT

Congress 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 AGBank:Neue Aargauer Bank, 5400 Baden, SwitzerlandIBAN:CH41 0588 1044 7941 7200 0Swift code:AHHBCH22XXX

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

WHO SHOULD ATTEND?

- 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

ORGANIZER OF IERC 2013

















MANNHART Congress Assistant



The city of Salzburg, best known as the birthplace of Mozart, has a very proud history and is able to magic its visitors back in time. Salzburg is a World Metropolis, Cultural Centre, Festival and Mozart city all rolled into one.

Numerous cultural museums and exhibitions are waiting to be visited. Salzburg offers Tradition and Innovation and also of course outstanding Architecture. There are only a very few cities with such

www.salzburg.info

outstanding baroque work within its many churches. Also worth a mention is the Hohensalzburg Fortress a symbol of the Mozart city and the largest complete fortress in middle Europe.

Salzburg, situated on the Salzach (Salt) river is also a city embedded within an imposing mountain world. Discover and experience with us this fascinating city and the amazing natural beauty within the area.



BEAUTIFUL SALZBURG





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