

Joint International Congress and Exhibition



ELECTRONICS GOES GREEN 2008+

Merging Technology and Sustainable Development
In conjunction with the **1st World ReUse Forum**

Final Program



CARE INNOVATION, Europe



ECO DESIGN, Japan



IEEE ISEE, USA

September 7 – 10, 2008

**ESTREL Hotel & Convention Center
Berlin, Germany**

Organized by Fraunhofer Institute for Reliability and Microintegration IZM, Berlin
TU Berlin, Research Center of Microperipheric Technologies
TU Vienna

In Cooperation with SAT, Austria
EcoDeNet, Japan
IEEE Computer Society, TC Electronics and the Environment, USA
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Final Program

EGG 2008+

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ELECTRONICS GOES GREEN 2008+

**Merging Technology and
Sustainable Development**

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Glass dome designed by Sir Norman Foster, Reichstag, Berlin

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Preface

ELECTRONICS GOES GREEN 2008+

Condemned to success, haunted by its consequences!

This sums up the situation of today's electronics industry.

Condemned to success – the world will need to make full use of the most advanced technologies so that ever increasing numbers of people can live on this planet in dignity and appropriate standard of living. These technologies must enable the effective utilization of resources, energy efficiency, and the transfer of essential knowledge to wherever it is needed, e. g. to optimize agronomics and to provide effective training and education. Research must enable resource saving, utmost energy efficiency and the use of renewable energies. The electronics industry has taken great strides in recent decades but more effort and resources still need to be allocated to research and development.

It is this success that for itself has become part of the problem as well as it is key to the solution. Increasing standby- and off-mode losses of ever more electronic devices in our homes and offices are just one example of how electronics increases the burden on the environment and contributes to climate change. Miniaturization and globalized mass production make electronics devices cheaper and affordable

for more people. Using noble or scarce metals in such mass-produced electronic products wastes valuable resources.

International legislation drives industry to greening their business practices and products. However, climate change, dwindling fossil energy sources and increasing competition for raw materials will require far more than legal compliance. The research community and electronics industry beyond legislation must strive towards sustainable development. Otherwise, the electronics industry will deplete the material base, as well as the credentials, of its success.

Merging technology and sustainable development – the **Electronics Goes Green 2008+** is the place to discuss what is necessary, what is possible, what others do and what you can do.



Prof. Dr. Dr. h. c. Herbert Reichl
Chairman of EGG 2008+,
Director of the Fraunhofer Institute for
Reliability and Microintegration IZM,
Head Research Center for
Microperipherals at TU Berlin

Scope

MERGING TECHNOLOGICAL AND SUSTAINABLE DEVELOPMENT

What drives technological development? Technology! The continuous pursuit of the feasible, more functionalities, smaller phones, faster computers, lighter notebooks...

It was just published that the peak oil – the maximum of possible oil production – was already passed in 2006. At the same time, the global oil demand increases, as well as the world's population. Climate change already happens ever more obvious. Food shortages are discussed every day in the press.

Must we accept limits in a world aspiring permanent growth? But isn't it the limitation that gives sense and drive to efficiency? With equal limits of carbon dioxide emissions per person on this planet, for example, higher efficiency can buy more of what we think to need for a comfortable life within this limit.

It will require all our social and technological abilities to master these global challenges. Merging technological and sustainable development hence is a way. We need technological development for sustainable development, not technological development that ends in itself. We must strive for the most efficient and the least toxic. The more functional must have priority over just more functionalities.

The focus in the sessions of the **Electronics Goes Green 2008+** Conference is on how the electronics industry can contribute to the required changes, and what and how it has to change itself:

Legislation: Impacts, Improvements & Harmonization

- Worldwide legislative activities and standardization
- Legal context of global reuse

Products, Systems and Sustainable Technologies

- Life cycle thinking and energy efficiency
- Resource optimization
- Electronics and sustainability

Management & Social Responsibility

- Approaches for management and measurement
- Sustainability drivers and limitations
- Global market transformation
- End-of-life business

Podium sessions:

Representatives from industry, NGOs, and governments will discuss on a panel how consumers can be informed and motivated to purchase green products. The "Provoquium" will shatter some of the common beliefs about the environment to make us take a fresh look at things and think about better solutions.

World Reuse Forum:

The Electronics Goes Green Conference 2008+ is co-locating with the new World ReUse Forum with information around the topic of reuse of electronics.

Board

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Schroeder, J. M. Gideon	Cisco Systems, Inc., USA
Terazono, Atsushi	National Institute for Environmental Studies, Japan

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Creutzfeldt, Martina	MCC Public Relations, Germany
Middendorf, Andreas	Technische Universität Berlin, Germany
Schischke, Karsten	Fraunhofer IZM, Germany



1ST WORLD REUSE FORUM WRF 2008 BERLIN

The 1st World ReUse Forum 2008 is the only platform for presenting the latest developments in international aspects of electronics refurbishing and reuse. Presentation topics include the growing environmental case for electronics reuse and the surprising ways that reuse is benefiting low-income economies and charities across the globe. Sessions will also be held demonstrating how to make refurbishing cost-effective, legally compliant and attractive for the consumer.

The Forum will give an insider's view of the three major economic regions Europe, America and Asia with high level plenary speakers from global electr(on)ic industries, recycling companies, research institutes and environmental & consumer organizations.

The 1st World ReUse Forum 2008 is an initiative of StEP – a collaboration of various UN organizations aiming to solve the e-waste problem, and is hosted by the United Nations University. Together with prominent members from industry, governments, international organizations,

NGOs and the science sector actively participating in StEP, the initiative initiates and facilitates approaches towards the sustainable handling of e-waste including ReUse.

The 1st World ReUse Forum 2008 will focus on sustainable reuse/refurbishment/ spare parts cases and systems to minimize environmental, health and safety issues – especially in industrializing countries. The following key questions will be addressed:

- What are the benefits of reuse?
- What is the current situation?
- What are barriers to reuse?
- And how to overcome these?

The 1st World Reuse Forum may be booked separately from the **EGG2008+** Conference at a reduced fee (only for Sunday). This will facilitate broad participation of stakeholders that are specifically interested in reuse activities.

More sessions and discussions on reuse will take place throughout the **EGG 2008+** Conference. They are organized jointly by the WRF and the **EGG 2008+** Conference.

1st World ReUse Forum

Forum

Attendance is only possible for participants who are registered for the **EGG 2008+** conference.

For participants of the **EGG 2008+**, the Sunday events are part of their conference fee.

The 1st World ReUse Forum 2008 will include:

- Exploring global reuse practices, principles and standards for EEE products from B2B and B2C users that are economically, socially and environmentally appropriate
 - How equipment enters the “reuse” category including but not limited to software minimum acceptable specifications, upgradeability, market demand and technology
 - Assembling a “current-use” practices for qualifying existing conditions in developed and developing countries
 - Identifying common barriers to product life extension and recommending practices to overcome these
 - Trans-boundary shipments: Developing cross-border experience for determining when reuse is economically, environmentally and socially preferable to Recycling
 - Developing environmental and business know-how and innovative business models for refurbishment and reuse of electronic equipment and components
- Designing quality standards for maintaining the quality of environmentally sound practices, data privacy and usage extension
 - Identifying gaps in current knowledge and developing curricula to increase capacity building for the stakeholders involved



Prof. Dr. Lutz-Günther Scheidt
Chairman of the 1st World ReUse Forum,
Vienna University of Technology, Austria

1st World ReUse Forum

Sessions

FIRST WORLD REUSE FORUM

SUNDAY, SEPT 7, 11.00 – 18.30

Room Paris

12.00 Opening First World ReUse Forum

Lutz-Guenther Scheidt · Technical University Vienna and Austrian Society for Systems Engineering and Automation, Austria

John Dickenson · AER Worldwide, Hayward, USA

SESSION WRF.1: SIGNIFICANT CONTRIBUTION OF REUSE TO LOCAL ECONOMY

Session Chair: Claudia Maurer, United Nations University, Bonn, Germany

12.30 RUSO: ReUse Shops Oberösterreich

Christian Pladerer; Markus Meissner · Austrian Institute of Ecology, Department Resource Management, Vienna, Austria

12.55 Integrated Inverse Distribution and Production System for Sustainable Development

Hidetaka Hayashi; Tadatomo Suga · The University of Tokyo/School of Engineering, Tokyo, Japan

Masatsugu Kitamura · NPO EcoDesign Promotion Network, Tokyo, Japan

13.20 Technical and Economic Feasibility of ReUse Activities for WEEE Experiences from Trials in AUSTRIA

Markus Spitzbart · KERP Centre of Excellence “Electronics & Environment”, Vienna, Austria

Felicitas Schneider · BOKU-University of Natural Resources and Applied Life Sciences Institute of Waste Management, Vienna, Austria

Matthias Neitsch · ARGE Reparatur und Servicecentren, Vienna, Austria

Barbara Pramreiter · VISP, Grafenwörth, Austria

Anton Stengeli · Demontage- und Recyclingzentrum, Vienna, Austria

Stefan Salhofer · KERP Centre of Excellence “Electronics & Environment”, Vienna, Austria

SESSION WRF.2: COMMUNICATION WITH STAKEHOLDERS

Session Chair: Atsushi Terazono, National Institute for Environmental Studies, Tsukuba, Japan

14.15 Fair Reuse – Promoting Global Reuse Networks

Horst Broehl-Kerner · RREUSE – Reuse and Recycling European Union Social Enterprises, Brussels, Belgium

Note that the Opening of the World ReUse Forum starts at 12.00, not 12.30 as in the preliminary program. Snacks will be served during registration.

All participants of the World ReUse Forum are invited to join the Get-together directly after the closing. For details, see the events section of the Electronics Goes Green final program.

Sessions

14.40 Empirical Study on Consumer Acceptance and Product Return Behavior

Christoph Herrmann; Tobias Luger · Technische Universität Braunschweig, Institute of Machine

Tools and Production Technology, Braunschweig, Germany

Grit Walther; Thomas Spengler; Jenny Steinborn · Technische Universität Braunschweig,

Department of Economics and Business Administration, Institute of Production and Logistics

Management, Braunschweig, Germany

Dirk Schöps; Ralf Brüning · ELPRO Elektronik Produkt Recycling GmbH, Braunschweig, Germany

Sven Mücke · KOSATEC Computer GmbH, Braunschweig, Germany

Anne-Kathrin Wentland; Winrich Kratel · WAS Wolfsburger Abfallwirtschaft und

Straßenreinigung, Wolfsburg

15.05 WEEE: Recommendations on ReUse for the Concerned Parties – The Guideline VDI 2343

Ralf Brüning · Dr. Brüning Engineering, Brake, Germany

Bernd Rosemann · Bayreuth University, Bayreuth, Germany

Bettina Enderle · Allen & Overy LLP, Frankfurt, Germany

15.30 The Value Conservation concept –

What is Green on ReUse-Economy?

Frank Becker · ReUse-Computer e.V. Berlin, Germany

SESSION WRF.3: INNOVATIVE BUSINESS MODELS IN REUSE MARKETS

Session Chair: John Dickenson, AER Worldwide, Hayward, USA

16.30 Case Study: Multi Life Cycle Center

Bernd Kopacek · Austrian Society for Systems Engineering and Automation, Vienna, Austria

16.55 Business Models for Maximising Sustainability from Post-Use WEEE & EEE

Morgan Johnson · Sims Recycling Solutions, Business Development, Stratford-upon-Avon, USA

17.20 Maximising Re-Use Through End of Life Process –

A Producer's Perspective

Jonathan Perry · Dell Corporation Ltd, Bracknell, United Kingdom

PODIUM DISCUSSION AND CLOSING

17.45 Podium Discussion Global Reuse Activities

J. M. Gideon Schroeder · CISCO, San Jose USA

Joan Krajewski · Microsoft, Redmond, USA

Atsushi Terazono · National Institute for Environmental Studies, Tsukuba, Japan

18:30 Closing Stakeholder Day WRF

Lutz-Guenther Scheidt · Technical University Vienna and Austrian Society for Systems Engineering

and Automation, Austria

OPENING CEREMONY

Introductions: Reichl, Herbert – Chairman of the conference,
Director Fraunhofer IZM, Berlin, Head of Research Center for Microperipherics,
Technische Universität Berlin, Germany

9.45 **Introduction and Welcome to Electronics Goes Green 2008+**

Reichl, Herbert – Chairman of the conference,
Director Fraunhofer IZM, Berlin, Head of Research Center for Microperipherics,
Technische Universität Berlin, Germany

10.00 **Welcome Address of the Governing Mayor of Berlin**

Husung, Hans-Gerhard – State Secretary for Science and Research in the Berlin
Senate, Berlin, Germany

10.10 **Ambitious Targets for Energy Efficiency – A Responsibility Resulting from Climate Policy**

Gabriel, Sigmar – Federal Environment Minister, Germany

10.40 **Increasing Energy Efficiency – A Task for National and International Economic Policy**

Wöhrl, Dagmar – Parliamentary Secretary of State in the Federal Ministry of
Economics and Technology, MdB, Germany

11.10 **Resource Efficiency and Sufficiency and the Production and Consumption of Electronics**

Hoballah, Arab – UNEP, Head Production & Consumption Branch, Division of
Technology Industry and Economics, Paris, France

11.35 **ICT-Based Innovation for a Low-Carbon Economy: European Challenges and Policies**

Johnston, Peter – European Commission - Information Society and Media DG,
Head of Evaluation & Monitoring, Brussels, Belgium

Opening

12.00 International EcoDesign Harmonisation

Ichikawa, Yoshiaki – Convenor of IEC TC 111 WG 2 (Environmentally Conscious Design) and Chief Engineer, Corporate Environmental Policy Division, Hitachi ,LTD., Tokyo, Japan

MONDAY, Sept. 8, 13.30–15.30

Estrell Hall A

OPENING KEY NOTES

Session Chair: Nissen, Nils F. – Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

13.30 Energy Efficient IT – Starts with the Microprocessor but Doesn't End There

Swope, William A. – Vice President Corporate Affairs, Intel Co., Santa Clara, CA, USA

14.00 Green IT in Practice

Wienholtz, René – CTO, Strato AG, Berlin, Germany

14.30 Regeneration – The Future is Green

Bandle, Alain D. – Vice President and General Manager, Public Segment Europe, Dell Inc., Frankfurt, Germany

15.00 Sustainable Consumption & Production: A Future Challenge

Reinhart, Joachim – COO of Panasonic Europe Ltd., Member of the Board of Matsushita Electric Industrial Co., Ltd. (Panasonic Corporation), Wiesbaden, Germany

MONDAY, September 8, 16:00 – 18:00

Estrel Hall A

1

1.1 WEEE REVIEW

Session Chair: Huisman, JACO · United Nations University, Zero Emissions Forum, Bonn, Germany / Delft University of Technology, Design Engineering, Design for Sustainability Program, Delft, The Netherlands
Middendorf, Andreas · Technische Universität Berlin, Berlin, Germany

16.00 Lessons from the 2008 WEEE Review Research Studies

Huisman, JACO · United Nations University, Zero Emissions Forum, Bonn, Germany / Delft University of Technology, Design Engineering, Design for Sustainability Program, Delft, The Netherlands

Magalini, Federico; Kuehr, Ruediger; Maurer, Claudia · United Nations University, Zero Emissions Forum, Bonn, Germany

16.30 Environmental Care in a Competitive World

Hieronymi, Klaus · Hewlett Packard, Boeblingen, Germany
Dempsey, Mark · Hewlett Packard, Bracknell, United Kingdom

17.00 Practical Aspects of Individual Producer Responsibility – Lessons to be Learned from Experiences in Germany

Rotter, Susanne; Chancerel, Perrine · Technische Universität Berlin, Berlin, Germany
Schill, Wolf-Peter · DIW, Berlin, Germany

17.30 New Indicators for the Calculation of Recoverability Rates

Moenne-Loccoz, Guillaume · Neopost Technologies SA, Bagneux, France
Mathieux, Fabrice · G-SCOP Laboratory, University of Grenoble, Grenoble, France
Lescuyer, Linda · CODDE, Paris, France
Brissaud, Daniel · G-SCOP Laboratory, University of Grenoble, Grenoble, France

TUESDAY, September 9, 08:30 – 10:30

Estrel Hall A

1.2 EUP IMPLEMENTATION 1

Session Chair: Lohse, Joachim · Öko-Institut e.V., Freiburg, Germany

Stobbe, Lutz · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

08.30 Eco-Design Requirements of Energy-Using Products: Consequences and Opportunities for Producers

Lückefett, Hans-Jochen · Krug und Petersen Government Affairs & Consulting GmbH, Germany

09.00 Improvement Options for Complex Set-Top Boxes – Results of the EuP Preparatory Study

Iyama, Sanaée; Turunen, Lea · Bio Intelligence Service S.A.S., Ivry-sur-Seine, France

Schischke, Karsten · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Mudgal, Shailendra; Tinetti, Benoît; Edon, Marie-Lys · Bio Intelligence Service S.A.S., Ivry-sur-Seine, France

Stobbe, Lutz · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

09.30 Implementation of the EuP Directive: Status Quo and Critical Observations

Jepsen, Dirk; Reintjes, Norbert · Ökopool GmbH, Hamburg, Germany

10.00 A Model for Gaining Significant Data to Establish Energy Profiles of Passive Electronic Components

Körber, Guido · Codemercs, Schönefeld, Germany

Schulz, Gerd · EPCOS, München, Germany

Viehmann, Kurt-Rainer · Vishay, Heilbronn, Germany

Huck, Walter · Murata, Nürnberg, Germany

Dietrich, Marcus · ZVEI, Frankfurt, Germany

Schischke, Karsten; Nissen, Nils F.; Stobbe, Lutz · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

TUESDAY, September 9, 11:00 – 12:30

Estrel Hall A

1.3 EUP IMPLEMENTATION 2

Session Chair: Lohse, Joachim · Öko-Institut e.V., Freiburg, Germany

Turunen, Lea · Bio Intelligence Service S.A.S., Ivry-sur-Seine, France

11.00 The Basque Approach to EuP Compliance –

A Reference for SMEs and Regional Policy Makers

Ruiz, Nerea · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany /

Ingurumenaren Kideak Ingeniería, Bilbao, Spain

Schischke, Karsten; Reichl, Herbert · Fraunhofer-Institut für Zuverlässigkeit und

Mikrointegration (IZM), Berlin, Germany

11.30 The Ecological Profile and LCA Utilization Model for Ecodesign

Valkama, Jani; Keskinen, Marika · Tampere University of Technology, Department of Electronics,

Tampere, Finland

Miettinen, Timo J. · ABB Oy Drives, Helsinki, Finland

Tähkämö, Leena · Helvar Oy Ab, Karkkila, Finland

Korhonen, Pekka · Vaisala Oyj, Helsinki, Finland

12.00 Implementing the EuP Directive – Impressions from Germany

Akkerman, Floris · Federal Institute for Materials Research and Testing (BAM), Berlin, Germany

Mordziol, Christoph; Oehme, Ines · Federal Environment Agency (UBA), Dessau-Roßlau,

Germany

TUESDAY, September 9, 14:00 – 15:30

Estrel Hall A

PODIUM DISCUSSION

“How to Inform Consumers About Environmental Product Innovations?”

SEE PAGE 47 OF THIS PROGRAM FOR DETAILS.

Sessions

TUESDAY, September 9, 16:30 – 18:00

Estrel Hall A

1.5 ROHS REVIEW RESULTS, EXEMPTIONS AND EXTENSIONS

Session Chair: Huisman, JACO · United Nations University, Zero Emissions Forum, Bonn, Germany / Delft University of Technology, Design Engineering, Design for Sustainability Program, Delft, The Netherlands
Deubzer, Otmar · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

16.30 Beyond RoHS: Moves Toward Prohibition of a Wider Band of Substances in a Larger Pool of Consumer Products

Emilsson, Mathias; Dumortier, Thierry · ENHESA S/A, Brussels, Belgium
Beatley, Paul · ENHESA Inc., Washington, USA

17.00 New Approach for Homogeneous Material Definition in EU RoHS – How to Keep Things Practical Without Compromising Results?

Koskinen, Kaisa-Reeta; Terho, Markus · Nokia Corporation, Espoo, Finland

17.30 Review of Exemptions from Electronics-Related Material Bans – Status of Reviews, Backgrounds and Experiences of a Reviewer

Deubzer, Otmar · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany
Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

WEDNESDAY, September 10, 08:30 – 10:30

Estrel Hall A

1.6 ROHS & REACH: REGULATIONS FOR SUBSTANCE CONTROL

Session Chair: Stutz, Markus · Dell, Frankfurt, Germany
Schulz, Gerd · EPCOS, Munich, Germany

08.30 REACH – Implementation Efforts in the Electronics Industry

Seidel, Michael · Hewlett-Packard GmbH, Environmental Business Organisation EMEA, Böblingen, Germany

Sessions

9.00 **REACHing Asia: Recent Trends in Chemical Regulations of China, Japan and Korea**

Park, DaeYoung · ENHESA S.A., Brussels, Belgium

Song, Me-Young · Merck KGaA, Darmstadt, Germany

Lee, Kwi-HO · REACH Business Service Centre, Seoul, Korea

Cong, Xiong · China Chamber of Commerce of Metal, Minerals, Chemicals Importers & Exporters, Beijing, China

9.30 **Environmental Legislation Affecting Electronics Manufacturing – RoHS – REACH – Full Material Data**

Michel, Hans-Jürgen · Nokia Siemens Networks GmbH & Co. KG, Bruchsal, Germany

Ahto, Riitta; Tamminen, Jouni · Nokia Siemens Networks Oy, Espoo, Finland

10.00 **The Newest EU Member State is... New Jersey?: Adoption of the RoHS Directive by U.S. States**

Welsch, Jack · ENHESA, Inc., Washington, DC, USA

WEDNESDAY, September 10, 11:00 – 12:30

Estrel Hall A

THE ELECTRONICS GOES GREEN PROVOQUIUM

A New, Informative and Fast-Paced Format for Challenging Discussions.

SEE PAGE 48 OF THIS PROGRAM FOR DETAILS.

WEDNESDAY, September 10, 13:30 – 15:30

Estrel Hall A

1.8 **ROHS SUBSTANCE ANALYTICS AND TESTING**

Session Chair: Jönbrink, Anna Karin · Swerea IVF AB, Mölndal, Sweden

Middendorf, Andreas · Technische Universität Berlin, Germany

13.30 **The IEC RoHS Testing Standard (IEC 62321)**

Stutz, Markus · Dell, Frankfurt, Germany

Loch, Michael · Motorola, Schaumburg, IL, USA

Sessions

14.00 Determining the Testing Frequency for RoHS Relevant Parts

Hornberger, Markus · Fraunhofer-Institut für Produktionstechnik und Automatisierung (IPA),
Produkt- und Qualitätsmanagement, Stuttgart, Germany

Janusz-Renault, Gabriela · Fraunhofer-Institut für Produktionstechnik und Automatisierung (IPA),
Produkt- und Qualitätsmanagement, Stuttgart, Germany / JDS Uniphase Corporation, Milpitas, USA
(since Oct 2007)

Karl, Georg · AGFA HealthCare GmbH, Munich, Germany

Dully, Stefan · Fraunhofer-Institut für Produktionstechnik und Automatisierung (IPA), Produkt- und
Qualitätsmanagement, Stuttgart, Germany

14.30 Information System on Substances in Products and Raw Materials as an Important Step to Reach Compliance with RoHS Directive in a Company

Simanovska, Jana; Bažbauers, Gatis; Valters, Karlis · Institute of Energy Systems and
Environment, Faculty of Energy and Electrical Engineering, Riga Technical University, Latvia

15.00 Rapid Environmental Assessment Lab – Employing Material Assay Methods for RoHS and WEEE Assessments and Support LCA and REACH Evaluations

Riess, Michael; Pongratz, Siegfried · Motorola GmbH, Taunusstein, Germany

Olson, Bill · Motorola Inc., Schaumburg, IL, USA

MONDAY, September 8, 16:00 – 18:00

Estrel Hall B

2.1 LEAD-FREE TECHNOLOGIES

Session Chair: Bukat, Krystyna · Tele and Radio Research Institute, Warsaw, Poland

Schneider-Ramelow, Martin · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration
(IZM), Berlin, Germany

16.00 Lead-Free Solder Strategy of Automotive Suppliers: A Real Options Approach

Dworak, Christian · Robert Bosch GmbH, Gerlingen-Schillerhöhe, Germany / Institute of Business
Administration Department III - Corporate Finance, University of Stuttgart, Germany

16.30 A Case Study for Developing Lead-Free Class A Server Products

Schueller, Randy; Ables, Wallace; Fitch, Jon; O'Connel, Scott · Dell Inc. Austin, Texas,
USA

Sessions

17.00 nanoFlux – Solder Pastes Doped with Various Elements

Zerrer, Patrick; Fix, Andreas · Robert Bosch GmbH, Stuttgart, Germany

Hutter, Matthias; Pape, Uwe · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Prikhodovsky, Andrey · NMB, Neue Materialien Bayreuth GmbH, Bayreuth, Germany

17.30 Immersion Ag as an Alternative in “Green” COB Technology

Schneider-Ramelow, Martin; Müller, Jutta; Göhre, Jens-Martin · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

TUESDAY, September 9, 08:30 – 10:30

Estrel Hall B

2.2 LEAD-FREE RELIABILITY ISSUES

Session Chair: Schneider-Ramelow, Martin · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Bukat, Krystyna · Tele and Radio Research Institute, Warsaw, Poland

8.30 Lead-Free Solder Joints: Reliability and Metallurgical Reactions

Hutter, Matthias; Schmidt, Ralf; Pape, Uwe; Oppermann, Hermann · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

9.00 Assessing Reliability of Lead-Free Solder Joints on the Different PWB Finishes

Koziol, Grazyna; Bukat, Krystyna; Arazna, Aneta; Borecki, Janusz; Steplewski, Wojciech · Tele and Radio Research Institute, Warsaw, Poland

9.30 Reliability of Backward and Forward Compatible Lead-Free and Lead-Containing BGA Connections

Biglari, Mostafa · Mat-Tech BV, Son, The Netherlands

Kodentsov, Sacha · University of Technology Eindhoven, Chemical Engineering and Chemistry, Eindhoven, The Netherlands

Yakovleva, Olga; Brom, Erik; Biglari, Mohammed H. · Mat-Tech BV, Son, The Netherlands

Sessions

10.00 **Effects of Voiding on Lead-Free CSP Solder Joint Reliability with and Without Microvia-In-Pad**

Ahrens, Thomas; Poech, Max Hermann · Fraunhofer-Institut für Siliziumtechnologie (ISIT), Itzehoe, Germany

Höfer, Eberhard · Technische Universität Dresden, Dresden, Germany

Wege, Sonja · ZVE/Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Oberpfaffenhofen, Germany

Lauer, Thomas · EADS, Ulm, Germany

Haritz, Helga · Fraunhofer-Entwicklungszentrum Röntgentechnik (EZRT), Fürth, Germany

TUESDAY, September 9, 11:00 – 12:30

Estrel Hall B

2.3 **HALOGEN-FREE PRINTED WIRING BOARDS**

Session Chair: Pfahl, Robert C. · International Electronics Manufacturing Initiative, Inc.

(INEMI), Herndon, VA, USA

Aschenbrenner, Rolf · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

11.00 **Halogen-Free Laminates:**

State of Play and Update on Recent Industry Activities

Beard, Adrian · Clariant Produkte (D) GmbH, Hürth, Germany

Döring, Manfred · Karlsruhe Institute of Technology, Karlsruhe, Germany

11.30 **U.S. EPA Flame Retardants in Printed Circuit Boards Partnership**

Vokes, Kathleen; Vrabel, Melanie · United States Environmental Protection Agency, Washington, DC, USA

Connor, Emily · Abt Associates Inc., Bethesda, MD, USA

Fong, Arthur · IBM Corporation, San Ramon, CA, USA

12.00 **Halogen Free Flame Retardant Systems for Epoxy Based Printed Wiring Boards**

Ihmels, Carsten W. · Nabaltec AG, Schwandorf, Germany

Dietz, Mathias · Clariant Produkte (D) GmbH, Hürth, Germany

TUESDAY, September 9, 16:00 – 17:30

Estrel Hall B

2.5 FLAME RETARDANTS

Session Chair: Pfahl, Robert C. · International Electronics Manufacturing Initiative, Inc.
(iNEMI), Herndon, VA, USA
Middendorf, Andreas · Technische Universität Berlin, Berlin, Germany

16.00 Dell Strategy for Reduction of Brominated Flame Retardants and Polyvinyl Chloride in Electronic Products

Martinez, Maureen E.; O'Connell, Scott; Whitley, Allen · Dell Inc., Round Rock, TX, USA

16.30 VECAP™: Paving the Way for REACH

Tange, Lein · ICL-IP Europe, Amsterdam, The Netherlands
Steukers, Veronique · Albemarle, Louvain-la-Neuve, Belgium

17.00 Halogen-Free Polyamides and Polyesters for Electronics

Clauss, Margot; Hild, David; Kaprinidis, Nikolas · Ciba Inc, Basel, Switzerland
Hoerold, Sebastian · Clariant Produkte (D) GmbH, Gersthofen, Germany
Schmitt, Elmar · Clariant Produkte (D) GmbH, Sulzbach, Germany

WEDNESDAY, September 10, 08:30 – 10:30

Estrel Hall B

2.6 RELIABILITY INFLUENCES ON SUSTAINABILITY

Session Chair: Müller, Wolfgang H. · Technische Universität Berlin, Lehrstuhl für
Kontinuumsmechanik und Materialtheorie (LKM), Berlin, Germany
Jacob, Peter: Empa Swiss federal Laboratories for Materials Testing and Research, Duebendorf,
Switzerland

8.30 Condition Monitoring of Microsystems Supporting Sustainability

Bochow-Ness, Olaf · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin,
Germany
Eckert, Tilman; Jaeschke, Johannes; Middendorf, Andreas · Technische Universität Berlin,
Berlin, Germany
Nissen, Nils F. · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany
Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

Sessions

9.00 **On-line Condition Monitoring of Power Semiconductors**

Wernicke, Thies; Gegusch, Rene; Dieckerhoff, Sibylle; Middendorf, Andreas;
Seliger, Günther; Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

9.30 **Is the Reliability of Remanufactured Second Life Electronic Products Better Than That of New?**

Errington, Mark; Childe, Stephen J. · University of Exeter, School of Engineering, Computing and Mathematics, Exeter, United Kingdom

10.00 **Microelectronic Components: How Reliability Impacts Sustainability**

Jacob, Peter · Empa Swiss federal Laboratories for Materials Testing and Research, Duebendorf, Switzerland
Rütsch, Michael · Vossloh Kiepe GmbH, Düsseldorf, Germany

WEDNESDAY, **September 10**, 13:30 – 15:30

Estrel Hall B

2.8 **BIO-BASED POLYMERS**

Session Chair: Shapiro, Andrew A. · University of California, Electrical Engineering & Computer Science Department, The Henri Samueli School of Engineering, Irvine, CA, USA
Aschenbrenner, Rolf · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration, Berlin, Germany

13.30 **Plastics Scorecard (v.2.0 beta) – Defining the Path to Sustainable Electronic Enclosures**

Rossi, Mark · Clean Production Action, Medford, MA, USA
Greiner, Tim · Pure Strategies, Gloucester, MA, USA

14.00 **Bioepoxy-Flax Composites for Printed Circuit Boards**

Shapiro, Andrew A.; Lincoln, John D.; Earthman, James C.; Saphores, Jean-Daniel M.; Oguseitan, Oladele A.; Schoenung, Julie M. · University of California, Irvine, CA, USA

14.30 **Expanding the Technological Boundaries of the Biopolymer PHB in Electronic Products**

Walachowicz, Frank; Petermann, Cornelia · Siemens AG, CT MM Eco, Berlin, Germany
Achatz, Brigitte; Scherzer, Dietrich; Schneller, Arnold · BASF SE, Ludwigshafen, Germany
Scheel, Wolfgang; Schmidt, Ralf; Nissen, Nils F.; Müller, Jutta · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Sessions

15.00 Sustainability Assessment of Polymers Based on Renewable Resources for Electronic Products

Achatz, Brigitte; Piepenbrink, Markus; Saling, Peter; Scherzer, Dietrich · BASF SE, Ludwigshafen, Germany

Walachowicz, Frank; Petermann, Cornelia · Siemens AG, CT MM Eco, Berlin, Germany

Nissen, Nils F.; Müller, Jutta · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

MONDAY, September 8, 16:00 – 18:00

Room Paris

3

3.1 ENERGY EFFICIENCY

Session Chair: Salhofer, Stefan · KERF Center of Excellence Electronics & Environment, Vienna, Austria

Stobbe, Lutz · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

16.00 Global Responsibility for Green Electronics and ICT

Stobbe, Lutz; Griese, Hansjörg · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

16.30 Energy Efficient Products and Processes: Potentials, Barriers and Solutions

Frey, Otmar · ZVEI – German Electrical and Electronic Manufacturers' Association, Frankfurt am Main, Germany

17.00 An Energy Efficiency Index for Televisions

Siderius, Hans-Paul · SenterNovem, Utrecht, The Netherlands

Harrison, Robert · UK Market Transformation Program, London, United Kingdom

Kaplan, Katherine · US EPA/Energy Star Program, Washington D.C., USA

17.30 Energy Saving Products for Office and Home Application: Technical Features and Environmental Impacts

Salhofer, Stefan; Schiffleitner, Andreas; Stachura, Marek · KERF Center of Excellence Electronics & Environment, Vienna, Austria

Sessions

TUESDAY, September 9, 08:30 – 10:30

Room Paris

3.2 CO₂ FOOTPRINT

Session Chair: Herrmann, Constantin · PE INTERNATIONAL, Leinfelden-Echterdingen

(Stuttgart), Germany

Eagan, Patrick · University of Wisconsin-Madison, Madison, WI, USA

8.30 Methods and Overview on Activities on Carbon Footprints

Herrmann, Constantin; Spielmann, Michael · PE INTERNATIONAL, Leinfelden-Echterdingen

(Stuttgart), Germany

9.00 Carbon Footprint of Mobile Communications and ICT

Malmodin, Jens · Ericsson Research, Stockholm, Schweden

9.30 Zero-Emission Datacenters

Michel, Bruno · IBM Research GmbH, Zurich Research Laboratory, Rüschlikon, Switzerland

10.00 Emerging Methods for Scope 3 Greenhouse Gas Accounting

Hermanns, Silke · AMD GmbH, Munich, Germany

O'Cleirigh, Heather · AMD Inc., Austin, Texas, USA

TUESDAY, September 9, 11:00 – 12:30

Room Paris

3.3 COMPANY BENCHMARKS

Session Chair: Eagan, Patrick · University of Wisconsin-Madison, Madison, WI, USA

Herrmann, Constantin · PE INTERNATIONAL, Leinfelden-Echterdingen (Stuttgart), Germany

11.00 Identifying Climate Leader Companies and Their Success Factors

Meissen, Ronald E. · Baxter International Inc, Deerfield, IL, USA

Eagan, Patrick · University of Wisconsin-Madison, Madison, WI, USA

Sessions

11.30 **Greenpeace's Benchmarking of Electronics Manufacturers on Their Corporate Policies on Chemicals, Energy and Producer Responsibility for End-of-Life Products**

Hojsik, Martin · Greenpeace International, Bratislava, Slovakia

Harrell, Casey · Greenpeace International, San Francisco, USA

Kruszewska, Iza · Greenpeace International, Lewes, UK

12.00 **Green Manufacturing at Motorola**

Wang, Aiju; Liu, Jim; Olson, Bill · Motorola Electronic (China) Ltd., Tianjin, China

TUESDAY, **September 9**, 14:00 – 15:30

Room Paris

3.4 **GREEN IT: COMPUTATION**

Session Chair: Fujimoto, Jun · Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, Japan

Tobias, Mario · BITKOM, Berlin, Germany

14.00 **Energy Efficient IT Products & Infrastructures for Data Centers**

Heidegger, Jürgen · Fujitsu Siemens Computers, Munich, Germany

14.30 **Datacenters with Energy Re-Use**

Brunschwiler, Thomas; Michel, Bruno; Smith, Brian; Rüttsche, Erich · IBM Research GmbH, Zurich Research Laboratory, Rüschlikon, Switzerland

15.00 **Alternative Compute Models: End-to-End Energy Impact**

Patterson, Michael K.; Wigle, Lorie · Intel Corporation, Hillsboro, OR, USA

TUESDAY, **September 9**, 16:00 – 18:00

Room Paris

3.5 **GREEN IT: ICT SYSTEMS**

Session Chair: Tobias, Mario · BITKOM, Berlin, Germany

Fujimoto, Jun · Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, Japan

Sessions

16.00 **The Long Term Effects of ICT on International Division of Labour and CO₂ Emissions**

Matsumoto, Mitsutaka; Takahashi, Yukari · National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

16.30 **The eRoad Less Taken: Cooling the Climate Through ICT**

Harper, Stephen F. · Intel Corporation, Washington D.C., USA

17.00 **Wireless Sensor Networks for Agriculture and Automation: Challenges and Chances for Sustainability**

Beucker, Severin; Clausen, Jens · Borderstep Institut für Innovation und Nachhaltigkeit gGmbH, Berlin, Germany

Schischke, Karsten; Mwanza, Jenipher; Altendorf, Peter · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

17.30 **Assessment of Power Consumption from ICT in Current and Future States**

Fujimoto, Jun · The University of Tokyo, Research Center for Advanced Science & Technology, Tokyo, Japan / Japan Science and Technology Agency, CREST, Japan

Hata, Tomoyuki; Tamura, Tetsuya; Kashima, Takahiro · NEC Corporation, New Solutions Development Division, Tokyo, Japan / Japan Science and Technology Agency, CREST, Japan

WEDNESDAY, **September 10**, 08:30 – 10:30

Room Paris

3.6 **MICRO-ENERGY: ALTERNATIVES IN THE SMALL POWER RANGE**

Session Chair: Jansen, Arjen · Delft University of Technology, Delft, The Netherlands

Oberender, Christof · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

8.30 **Mobile Stand-Alone Power Supply Devices for Small Electrical Appliances and Industrial Applications**

Lang, Oliver · Solarc Innovative Solarprodukte GmbH, Berlin, Germany

Sessions

- 9.00 Promises and Predictions on Human-Powered Energy Systems**
Jansen, Arjen; Stevels, Ab · Delft University of Technology, Delft, The Netherlands
- 9.30 Application Opportunities of Energy Harvesting Principles into “Non-Electric” Output Forms for Small Electronic Systems**
Tsunezawa, Kayoko · Technische Universität Berlin, Berlin, Germany
Oberender, Christof · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany
Reichl, Herbert · Technische Universität Berlin, Berlin, Germany
- 10.00 Micro-Fuel Cells and the Need for Miniaturization**
Flipsen, Bas · Delft University of Technology, Delft, The Netherlands

WEDNESDAY, September 10, 11:00 – 12:30

Room Paris

3.7 SME SUPPORT

- Session Chair:** Hengrasmee, Charuek · Electrical and Electronics Institute, Pranakorn, Bangkok, Thailand
Schischke, Karsten · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany
- 11.00 Managing Environmental Changes in an SME**
Rollet, Patrice · AVANTEC, Vincennes, France
- 11.30 ECO*TRONICS: A Collective Action for Ecodesign Implementation Within Small and Medium Enterprises**
Lescuyer, Linda; Janin, Marc · CODDE (COncEption, DéveloppEment Durable Environnement), Moirans, France
Robiolle, Michel · JESSICA FRANCE, GIF sur YVETTE, France
Vital, Xavier · CODDE (COncEption, DéveloppEment Durable Environnement), Moirans, France
- 12.00 Eco-Design, Energy Efficiency and Cleaner Production Strategies: SME Business Cases from Thailand and Malaysia**
Schischke, Karsten · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany
Sau Soon, Chen; Ahmad, Mohd Nazri; Nee, Tan Yong; Wan Hussein, Wan Mazlina; Ramasamy, Rajeswari K. · SIRIM Bhd., Shah Alam, Malaysia

Sessions

Lohsomboon, Pongvipa; Lecksiwilai, Narueteap · Thailand Environment Institute, Bangkok, Thailand

Chintapanyasakun, Vijittra · Leonics Co., Chachoengsao, Thailand

Noitachang, Soraluck · Thai Energy Conservation Ltd., Suphanburi, Thailand

Abdul Wahab, Abdul Rafid · JWR Technology Sdn. Bhd., Penang, Malaysia

Huat, Tan Kim · Akty Technologies Sdn. Bhd., Penang, Malaysia

Jirasiththamrong, Boonpida · Siam Tack Co. Ltd., Bangkok, Thailand

Yong, Ng Kok · Zoomic Electronics Sdn. Bhd., Penang, Malaysia

Leong, Oon Kok · AMPmas Sdn. Bhd., Penang, Malaysia

Chandaeng, Waroonrake · Bitwise (Thailand) Co. Ltd., Samutprakarn, Thailand

Rodrigo, Julio · SIMPPLE, Tarragona, Spain

Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

WEDNESDAY, September 10, 14:00 – 15:30

Room Paris

3.8 GREEN MARKETING – CONSUMER ASPECTS

Session Chair: Chang, Hsiang-Tang · National Kaohsiung First University of Science and Technology, Kaohsiung City, Taiwan

Hermann, Ferdinand · Hewlett-Packard GmbH, Augsburg, Germany

14.00 Practical Assessment on Green Products – A Basis for a Simple Switch Program

ten Houten, Maarten · Philips Lighting, Sustainability Support Team, Eindhoven, The Netherlands

van Amelsfort, Lieke · Philips Lighting, Sustainability Support Team, Eindhoven, The Netherlands / Eindhoven University of Technology, The Netherlands.

14.30 A Research on Correlation Among User Dependence, Sustainable Product Serviceability and Development Strategy

Chang, Hsiang-Tang · National Kaohsiung First University of Science and Technology, Kaohsiung City, Taiwan

Teng, Chia-Shin · Tunghai University, Taichung City, Taiwan

15.00 Positive Consumption – A Contemporary Approach to Fill the Needs of Conscious Consumers, Businesses and Overall Sustainability

Mäkirintala, Olli-Pekka · Nokia Oyj, Espoo, Finland

MONDAY, September 8, 16:00 – 18:00

Estrel Hall C5

4

4.1 SUSTAINABILITY ASSESSMENT

Session Chair: Nakamura, Jiro · NTT Energy and Environment Systems Laboratories, NTT Corporation, Kanagawa, Japan

Oberender, Christof · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

16.00 Social Impact Assessment of ICT Services in France and Japan Using Gross Social Feel-Good (GSF) Index

Nakamura, Jiro; Tsuda, Masayuki; Takahashi, Kazue Ichino; Hara, Minako · NTT Energy and Environment Systems Laboratories, NTT Corporation, Kanagawa, Japan

Lagorce, Jacques; Tanaka, Tomoko; Aubree, Marc; Barnole, Valerie · France Telecom, Issy-Les-Moulineaux, France

16.30 A Sustainability Assessment of a Mediated Service – A Pilot Study

Moberg, Åsa; Henriksson, Greger; Räsänen, Minna; Hedberg, Leif; Westermark, Mary · Royal Institute of Technology, KTH, Stockholm, Sweden

17.00 Sustainable Electrical & Electronic Systems for the Automotive Sector – SEES

Reimann, Kathy · Technische Universität Berlin, Berlin, Germany

Alber, Sebastian · CIMA-KFT, Szakony, Hungary

Finkbeiner, Matthias · Technische Universität Berlin, Berlin, Germany

Eikelenberg, Nicole · Ford Research and Advanced Engineering Europe, Aachen, Germany

Álvarez, Ignacio · LEAR Automotive EEDS Spain, Valls – Tarragona, Spain

Larrañaga, Miren · GAIKER Technological Centre, Zamudio, Spain

17.30 Sustainable Indicator System for Recycling Companies in Germany

Engel, Britta; Möller, Mathias · TU Braunschweig, Braunschweig, Germany

Schöps, Dirk · ELPRO Elektronik-Produkt Recycling GmbH Braunschweig, Braunschweig, Germany

Steinborn, Jenny; Walther, Grit · TU Braunschweig, Braunschweig, Germany

Sessions

TUESDAY, September 9, 08:30 – 10:30

Estrel Hall C5

4.2 DESIGN FLOW INTEGRATION 1

Session Chair: Shibaïke, Narito · Matsushita Electric Industrial Co., Ltd., Tokyo, Japan
van der Wel, Hans · Philips Healthcare, Best, The Netherlands

8.30 Ecodesign in the Medical Device Industry with Examples from X-Ray Equipment, Showing an Adapted Design Process

Hove, Ulrich · Philips Healthcare, Hamburg, Germany
van der Wel, Hans · Philips Healthcare, Best, The Netherlands

9.00 Environmental Regulations in Life Cycle Design Activities

Fargnoli, Mario; Di Gravio, Giulio; Costantino, Francesco; Bisillo, Simona · University of Rome "La Sapienza", Rome, Italy

9.30 Activity of Japanese Electronics Industry on Environmental Performance Indicator Toward Future Standardization

Shibaïke, Narito · Matsushita Electric Industrial Co., Ltd., Tokyo, Japan
Shinomura, Yoshiko · Fujitsu Limited, Kawasaki, Japan
Ichinohe, Masayuki · Hitachi Ltd., Tokyo, Japan
Tanaka, Motohiro · Mitsubishi Electric Corporation, Tokyo, Japan
Takata, Noriko · NEC Corporation, Tokyo, Japan
Miyake, Koji · Sanyo Electric Co., Ltd., Moriguchi, Japan
Aihara, Shiro · Sharp Corporation, Osaka, Japan
Takeyama, Norio · Toshiba Corporation, Tokyo, Japan

10.00 Product Related Environmental Restrictions in the United States

Abrams, Fern · IPC - Association Connecting Electronics Industries, Arlington, VA, USA

TUESDAY, September 9, 11:00 – 12:30

Estrel Hall C5

4.3 DESIGN FLOW INTEGRATION 2

Session Chair: van der Wel, Hans · Philips Healthcare, Best, The Netherlands
Shibaïke, Narito · Matsushita Electric Industrial Co., Ltd., Tokyo, Japan

11.00 Development of LCCBA for Eco-Design in the Electronics Industry

Lee, Sang-Yong · AIST (National Institute of Advanced Science and Technology), Tsukuba, Japan
Itsubo, Norihiro · Musashi University of Technology, Yokohama, Japan
Motoshita, Masaharu; Jeong, In-Tae; Yamaguchi, Hiroshi · AIST (National Institute of Advanced Science and Technology), Tsukuba, Japan

11.30 Specifying Mechatronic Systems in Early Design Phases for Analysing Sustainability Aspects

Deyter, Sebastian; Gausemeier, Jürgen · University of Paderborn, Heinz Nixdorf Institute, Paderborn, Germany
Middendorf, Andreas; Reichl, Herbert · Technische Universität Berlin, Berlin, Germany
Steffen, Daniel · Unity AG, Büren, Germany
Tsunezawa, Kayoko · Technische Universität Berlin, Berlin, Germany
Walachowicz, Frank · Siemens AG Corporate Technology, Berlin, Germany

12.00 Design Support System for Global Environment Conscious Product

Kumazawa, Takaaki; Hiroshige, Yuzo · Hitachi Ltd, Yokohama, Japan
Deubzer, Otmar · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

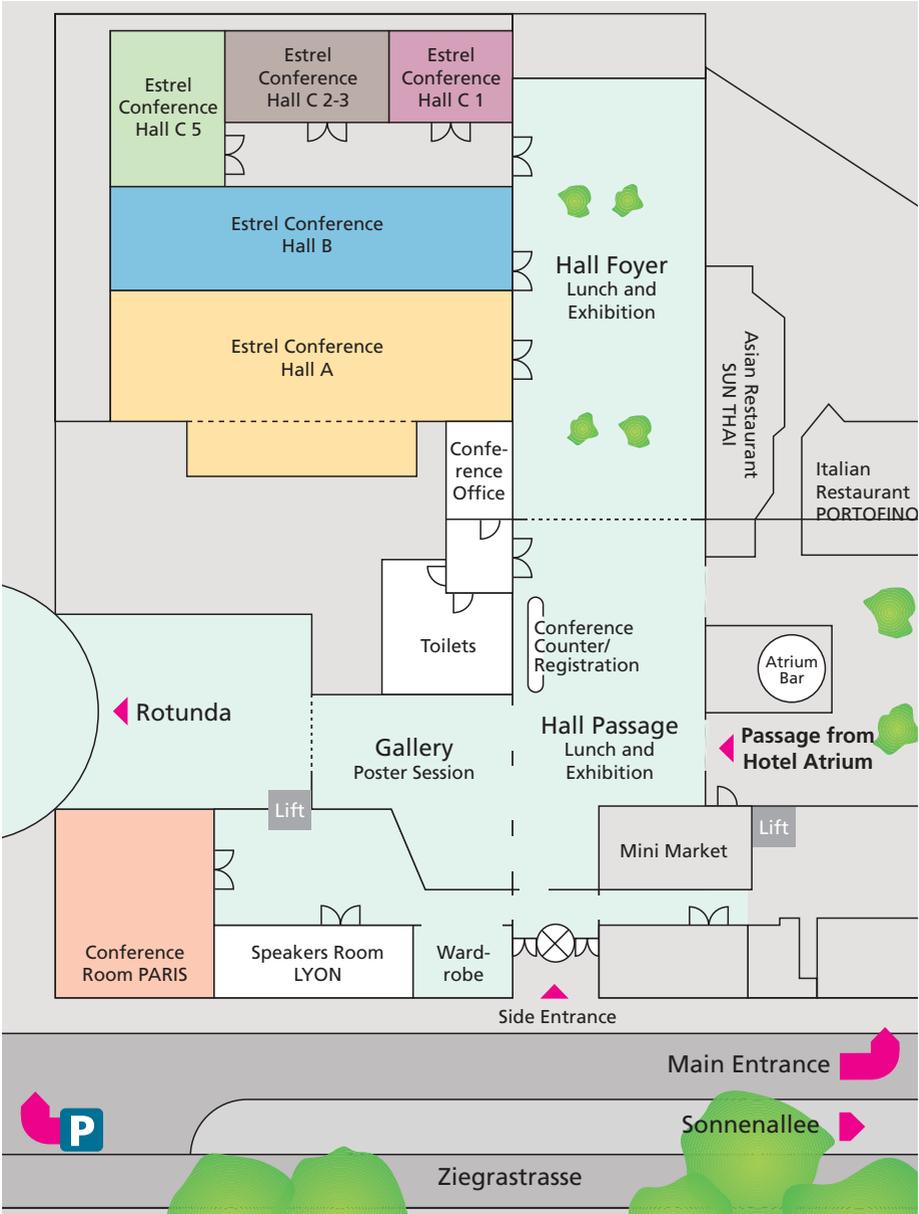
TUESDAY, September 9, 14:00 – 15:30

Estrel Hall C5

4.4 SECTOR-SPECIFIC ECODESIGN AND REGIONAL COMPARISON

Session Chair: Hermann, Ferdinand · Hewlett-Packard GmbH, Augsburg, Germany
Stutz, Markus · Dell, Frankfurt, Germany

Conference Hall Plan



Program at a Glance

Program

SUNDAY, Sept. 7	12.00 – 12.30		
	12.30 – 13.45		
	14.15 – 15.55		
	16.30 – 17.45		
	17.45 – 18.30		
	18.00 – 22.00	ELECTRONIC GOES GREEN 2008+	
MONDAY, Sept. 8	9.45 – 12.15		
	12.30 – 13.30	International Press Conference	
	13.30 – 15.30		
	16.00 – 18.00	1.1 WEEE Review	2.1 Lead-free Technologies
	19.00 – 23.00		
TUESDAY, Sept. 9	8.30 – 10.30	1.2 EuP Implementation 1	2.2 Lead-free Reliability
	11.00 – 12.30	1.3 EuP Implementation 2	2.3 Halogen-free Printed Wiring Boards
	12.30 – 14.00	Exhibition	
	14.00 – 15.30	Podium Discussion	
	16.00 – 18.00	1.5 RoHS Review	2.5 Flame Retardants
	19.00 – 23.00		
	WEDNESDAY, Sept. 10	8.30 – 10.30	1.6 RoHS & REACH
11.00 – 12.30		Provoquium	
12.30 – 13.30		Exhibition	
13.30 – 15.30		1.8 RoHS Analytics	2.8 Bio-based Polymers
16.00 – 17.00			
18.30 – 20.00			
THURSDAY, Sept. 11	8.30 – 19.30		

Estrel Hall A

Estrel Hall B

Program at a Glance

Opening World ReUse Forum			
WRF 1			
WRF 2			
WRF 3			
Podium Discussion & Closing WRF			
19.00 Pre-Conference Discussion Panel	AND 1ST WORLD REUSE FORUM GET-TOGETHER [Rotunda]		
Opening Ceremony [Estrel Hall A/B]			
Exhibition Opening		Poster Session	
Opening Key Notes [Estrel Hall A/B]			
International Symposium 1			
3.1 Energy Efficiency	4.1 Sustainability Assessment	5.1 Harmonization & Standardization	6.1 ReUse and Transboundary Shipments
EGG 2008+ RECEPTION AND AWARD CEREMONY			
International Symposium 2			
3.2 CO ₂ Footprint	4.2 Design Flow Integration 1	5.2 Recycling Technologies	6.2 ReUse Technology, Tools and Design
International Symposium 3			
3.3 Company Benchmarks	4.3 Design Flow Integration 2	5.3 eWaste Case Studies	6.3 Initiatives to Promote ReUse
Poster Session			
International Symposium 4			
3.4 Green IT: Computation	4.4 Sector-specific Ecodesign	5.4 Green Semiconductors	6.4 ReUse or Recycling?
International Symposium 5			
3.5 Green IT: ICT Systems	4.5 Ecodesign Beyond the Product Level	5.5 Green Corporate Strategies	6.5 Global ReUse Definitions and Panel
BOAT TOUR » BERLIN BY NIGHT «			
International Symposium 6			
3.6 Micro-Energy Sources	4.6 LCA Topics	5.6 Compliance and Material Declarations	6.6 eWaste: System Analysis
International Symposium 7			
3.7 SME Support	4.7 Product Ecodesign	5.7 Printed and Polytronic Systems	6.7 eWaste: Management and Guidelines
Poster Session			
International Symposium 8			
3.8 Green Marketing & Consumer Aspects	4.8 Materials & Processes Ecodesign	5.8 Creativity for Future Technologies	6.8 eWaste: Case Studies Asia
Closing Key Notes [Estrel Hall A/B]			
GUIDED TOUR IN THE REICHSTAG BUILDING			
TECHNICAL TOURS			

Room Paris

Romm C5

Room C1

Room C2/3

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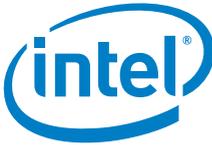


It's clear today that we're living in the "ReGeneration", which includes people of all ages throughout the world who want to make a difference in improving the Earth we share. IT must develop and embrace the highest environmental standards to help regenerate our planet. Through Dell's ambitious energy-efficiency programs, virtualization and power-management solutions, and industry-leading recycling, we are providing ways to protect the environment, reduce

CO₂ output and reduce cost. Through "Plant a Tree for Me" we are making it easy for our customers to reduce their climate footprint. Through our commitment to be the first carbon-neutral computer company, we are setting an example for the rest of the industry to follow.

"Our goal is simple and clear. We'll take the lead in setting an environmental standard for our industry that will reflect our partnership with, and direct feedback from our customers, suppliers and stakeholders, and we intend to maintain that leadership."

Michael Dell, Chairman and CEO, Dell



Intel co-founder Gordon Moore, a long-time champion of the environment, instilled a legacy of environmental consciousness that continues at Intel today. We strongly encourage our employees to apply the same level of knowledge and creativity

to solving the environmental challenges of design and production as they do to creating and developing the next breakthrough technology. We strive to minimize our environmental footprint and achieve the highest standards of environmental consciousness in everything we do and to encourage the continued use of our products to address the world's challenges for efficiency and productivity.



Panasonic has maintained a commitment to contribute to society through business, based on the belief that "a company is a public entity of society." We promote environmental initiatives that acknowledge our obligation to preserve the earth's resources and protect our nat-

ural surroundings. One of our main business priorities is to fine-tune an environmentally responsible management style to maintain and nurture the ecology of the planet.

In this sense Panasonic is participating actively in the "Electronics Goes Green 2008+" conference to visualize that coexistence with the environment is an essential part of our corporate business philosophy.

Sessions

14.00 **Environmentally Conscious Design for Information & Communication Technology/Consumer Electronics (ICT/CE)**

Hermann, Ferdinand · Hewlett-Packard GmbH, Augsburg, Germany

Fischer, Thomas · Sony Deutschland GmbH, Germany

Weeren, Silvio · IBM Deutschland, Germany

14.30 **Environmentally Conscious Design of Medical Devices**

Schröder, Freimut · Siemens Healthcare Sector, Erlangen, Germany

Turnbull, Aidan · ENVIRON, Bath, United Kingdom

15.00 **Industrial Activities in EcoDesign – A Comparison Between Sweden and Thailand**

Boonkanit, Prin · Department of Industrial Engineering, Faculty of Engineering, King Mongkut's Institute of Technology North Bangkok, Thailand

Lin, Han-Hsuan · Environmental Technology and Management, Department of Management and Engineering, Linköping University, Sweden

Kengpol, Athakorn · Department of Industrial Engineering, Faculty of Engineering, King Mongkut's Institute of Technology North Bangkok, Thailand

Lindahl, Mattias; Sakao, Tomohiko · Environmental Technology and Management, Department of Management and Engineering, Linköping University, Sweden

TUESDAY, September 9, 16:00 – 18:00

Estrel Hall C5

4.5 **ECODESIGN BEYOND THE PRODUCT LEVEL**

Session Chair: Vickers, Jeffrey J. · International Centre for Sustainability Engineering and Research (ICSER), University of Auckland, New Zealand / Atronic Technologies, Auckland, New Zealand

Nissen, Nils F. · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

16.00 **Texas Instruments Global Solutions Enable Greener and Cleaner Applications**

Monnier, Olivier; Pichl, Beatrix; Malleus, Francois · Texas Instruments, Digital controllers, Analog components, Villeneuve Loubet, France

Sessions

16.30 **Streamlined Life Cycle Assessment of an Efficiency-Improving Embedded Electronic Device**

Vickers, Jeffrey J. · International Centre for Sustainability Engineering and Research (ICSER),
University of Auckland, New Zealand / Actronic Technologies, Auckland, New Zealand
Boireau, Lucie · Actronic Technologies, Auckland, New Zealand
Boyle, Carol A. · International Centre for Sustainability Engineering and Research (ICSER),
University of Auckland, New Zealand

17.00 **Device Switching on Demand – A Standby Reducing System**

Ulmer, Daniel; Franke, Daniel · IT-Designers GmbH, Esslingen am Neckar, Germany
Deubzer, Otmar; Nissen, Nils F. · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration
(IZM), Berlin, Germany

17.30 **Interdependencies Between Reliability and Standby**

Nissen, Nils F. · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany
Middendorf, Andreas · Technische Universität Berlin, Berlin, Germany
Stobbe, Lutz; Schlösser, Alexander · Fraunhofer-Institut für Zuverlässigkeit und
Mikrointegration (IZM), Berlin, Germany
Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

WEDNESDAY, **September 10**, 9:00 – 10:30

Estrel Hall C5

4.6 **LCA TOPICS**

Session Chair: Goedkoop, Mark · PRé Consultants bv, Amersfoort, The Netherlands
Oppermann, Wilfried · Panasonic Europe Ltd. - Env. Department, Germany

9.00 **The More Comprehensive – The Higher the Impact? LCA Studies in the Sector of ICT Before and After the Release of Ecoinvent Data v2.01**

Hischier, Roland · Empa, Technology & Society Lab/Life Cycle Assessment & Modelling Group, St.
Gallen, Switzerland / ecoinvent Centre, c/o Empa, St. Gallen, Switzerland
Lehmann, Martin · Empa, Technology & Society Lab/Life Cycle Assessment & Modelling Group, St.
Gallen, Switzerland

Sessions

9.30 **Development of Environmental Database Focused on Asian Countries and its Applications to Environmental Management**

Kobayashi, Yoshinori; Hondo, Yoshiyuki; Kobayashi, Hideki · Toshiba Corporation, Kawasaki, Japan

10.00 **Comparison of End-of-Life Strategies of WEEE by LCA in China**

Lu, Bin; Yang, Jianxin · State Key Laboratory of Urban and Regional Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China

WEDNESDAY, September 10, 11:00 – 12:30

Estrel Hall C5

4.7 **PRODUCT ECODESIGN APPROACHES AND EXAMPLES**

Session Chair: Oppermann, Wilfried · Panasonic Europe Ltd. - Env. Department, Germany
Jönbrink, Anna Karin · Swerea IVF AB, Mölndal, Sweden

11.00 **Lighting Up Off-Grid Areas**

Jeanmaire, Corinne · Philips Lighting BV, Eindhoven, The Netherlands

11.30 **On Reduction of Mobile Phone Chargers**

Stand-by Energy Consumption

Santiago, Cáceres · Valladolid University, Valladolid, Spain
Pablo, Montequi · Phoenix Solar S.L, Madrid, Spain

12.00 **Advanced Environmental Technologies for PDP-TV**

Kasahara, Mitsuhiro; Aoki, Takashi; Uehara, Hirotooshi; Yabiku, Hideo · Visual Products And Display Devices Business Group, Panasonic AVC Networks Company, Matsushita Electric Industrial Co., Ltd., Osaka, Japan

WEDNESDAY, September 10, 14:00 – 15:30

Estrel Hall C5

4.8 MATERIALS & PROCESSES ECODSIGN

Session Chair: Lindahl, Mattias · Environmental Technology and Management, Department of Management and Engineering, Linköping University, Sweden

Wensing, Michael · Fraunhofer Wilhelm-Klauditz-Institute, Material Analysis and Indoor Chemistry, Braunschweig, Germany

14.00 Going Green with PVC

Spindler, Ernst-Josef · Vinnolit GmbH & Co. KG, Burghausen, Germany

14.30 A Novel Green Technology for the Plated Through Hole Process

Retallick, Richard; Ding, Ying (Judy) · MacDermid Incorporated, Electronics Solutions, Waterbury, CT, USA

15.00 Ultra-Fine Particle Release from Hardcopy Devices

Wensing, Michael; Delius, Wolfgang; Schripp, Tobias; Uhde, Erik · Fraunhofer Wilhelm-Klauditz-Institute, Material Analysis and Indoor Chemistry, Braunschweig, Germany

Salthammer, Tunga · Fraunhofer Wilhelm-Klauditz-Institute, Material Analysis and Indoor Chemistry, Braunschweig, Germany / University of Applied Sciences Braunschweig/Wolfenbüttel, Wolfenbüttel, Germany

MONDAY, September 8, 16:00 – 18:00

Estrel Hall C1

5

5.1 HARMONIZATION & STANDARDIZATION

Session Chair: Fisher, Kevin · Intel Corporation (UK) Ltd, Corporate Technology Group – TPS, Swindon, United Kingdom

Schischke, Karsten · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

16.00 Environmental Conscious Design, Energy Efficiency: Is There a Role for Standards?

Fisher, Kevin · Intel Corporation (UK) Ltd, Corporate Technology Group – TPS, Swindon, United Kingdom

Sessions

16.30 Environmental Standardization and the Related Work & Strategy of Ecma International TC38

Hermann, Ferdinand · Hewlett-Packard GmbH, Dornach, Germany
Weeren, Silvio · IBM Deutschland, Stuttgart, Germany
Fischer, Thomas · Sony Deutschland, Stuttgart, Germany

17.00 Electronic Product Environmental Assessment Tool (EPEAT)

Rifer, Wayne · Green Electronics Council, Portland, Oregon, USA

17.30 Eco-Labeling Technology – For You and the Planet

Williams, Wendy · TCO Development, Stockholm, Sweden

TUESDAY, September 9, 08:30 – 10:30

Estrel Hall C1

5.2 RECYCLING TECHNOLOGIES

Session Chair: Lundholm, Göran · Hans Andersson Metal AB, Enköping, Sweden
Hagelüken, Christian · Umicore Precious Metals Refining, Hanau, Germany

8.30 Production Methods for Recovering Base Materials in LCDs

Ranerup, Kenny; Letcher, Bill · Swedish LCD Center, AB Borlänge, Sweden
Lundholm, Göran · Hans Andersson Metal AB, Enköping, Sweden
Edwards, Mårten O.M.; Nyman, Hans · Swedish LCD Center, AB Borlänge, Sweden

9.00 Optical Fibre Cable Recycling at the L-FIRE European Project

Arnaiz, Sixto · GAIKER Technological Centre, Zamudio, Spain
in 't Groen, Bart · KEMA Nederland, Arnhem, The Netherlands
Rivera, Consol · OPTRAL, Pineda de Mar, Spain
Sander, Sven · HAMOS, Penzberg, Germany
Caldeira, Guilherme · CABELTE (former ICB), Vila Nova de Gaia, Portugal
Vaz, Nuno · RECIPOP, Vila Nova de Gaia, Portugal
Arroyo, Iñaki · EURO METAL RECYCLING, Valle de Trápaga, Spain
Heße, Shirin · TEIJIN, Wuppertal, Germany
Horstink, Jan · MVE (Milieu Visie Europe), Dordrecht, The Netherlands

Sessions

9.30 **Polychlorinated Biphenyls in Small Capacitors from Waste Electrical and Electronic Equipment**

Eugster, Martin · Technology and Society Laboratory, Empa, Swiss Institute for Materials Science and Technology, St. Gallen, Switzerland

Kasser, Ueli · Büro für Umweltchemie, Zürich, Switzerland

Seiler, Cornelia; Zenegg, Markus · Analytical Chemistry Laboratory, Empa, Swiss Institute for Materials Science and Technology, Dübendorf, Switzerland

10.00 **Sustainable Plastics Manufacturing: Opportunities and Challenges Using Plastics from Recycled Electronics**

Arola, Darren; Riise, Brian · MBA Polymers, Richmond, CA, USA

Höggerl, Günther; Bliberger, Robert; Polczer, Johann · MBA Polymers

Kunststoffverarbeitung GmbH, Kematen/Ybbs, Austria

TUESDAY, **September 9**, 11:00 – 12:30

Estrel Hall C1

5.3 **EWASTE CASE STUDIES**

Session Chair: Hagelüken, Christian · Umicore Precious Metals Refining, Hanau, Germany
Lundholm, Göran · Hans Andersson Metal AB, Enköping, Sweden

11.00 **Hybrid (WIO) LCA of the Introduction of Active Disassembling Fasteners Using Hydrogen Storing Materials into Electric and Electronic Equipments**

Yamasue, Eiji · Kyoto University, Kyoto, Japan

Matsubae-Yokoyama, Kazuyo · Tohoku University, Sendai, Japan

Kondo, Yasushi; Nakamura, Shinichiro · Waseda University, Tokyo, Japan

Ishihara, Keiichi N. · Kyoto University, Kyoto, Japan

11.30 **Mining Our Computers – Opportunities and Challenges to Recover Scarce and Valuable Metals from End-of-Life Electronic Devices**

Hagelüken, Christian · Umicore Precious Metals Refining, Hanau, Germany

Meskers, Christina · Umicore Precious Metals Refining, Hoboken, Belgium

Sessions

12.00 Crade-to-Crade: Take-Back for Closing the Loop – To Recycle or Not to Recycle

Marinelli, Thomas · Philips Lighting, WEEE Management Team, Eindhoven, The Netherlands
ten Houten, Maarten · Philips Lighting, Sustainability Support Team, Eindhoven, The Netherlands
Huisman, Jaco · Delft University of Technology, Delft, The Netherlands

TUESDAY, September 9, 14:00 – 15:30

Estrel Hall C1

5.4 GREEN SEMICONDUCTORS

Session Chair: Higgs, Tim · Intel Corporation, Chandler, AZ, USA
Hermanns, Silke · AMD GmbH, Munich, Germany

14.00 Green Semiconductor Manufacturing – Good for Business and Environment

Higgs, Tim; Brady, Todd · Intel Corporation, Chandler, AZ, USA

14.30 The Life-Cycle Environmental Impacts of Etching Silicon Wafers and (PE)CVD Chamber Cleaning

Schottler, Martin · M+W Zander FE GmbH, Stuttgart, Germany
de Wild-Scholten, Mariska · Energy research Centre of the Netherlands, Petten, The Netherlands

15.00 A Component Supplier's Green Approach – Texas Instruments

Frimann, Mark · Texas Instruments Inc., Dallas, TX, USA
Yeakley, Tim · Texas Instruments Inc., Environmental Health and Safety, Dallas, TX, USA

TUESDAY, September 9, 16:00 – 18:00

Estrel Hall C1

5.5 GREEN CORPORATE STRATEGIES

Session Chair: Nakamura, Akira · Corporate Environmental Affairs Division, Matsushita
Electric Industrial Co., Ltd, Osaka, Japan
Hohaus, Christian · Fraunhofer-Institut für Materialfluss und Logistik (IML), Dortmund, Germany

16.00 Siemens' Environmental Portfolio

Pfitzner, Ralf · Siemens AG, Munich, Germany

Sessions

16.30 Sustainable Innovation and ECOMOTO

Olson, Bill · Motorola, Schaumburg, IL, USA

Pongratz, Siegfried; Riess, Michael · Motorola GmbH, Taunusstein, Germany

17.00 Eco Ideas' Declaration –

Panasonic's Challenges Directed Towards Global Warming Prevention

Nakamura, Akira · Corporate Environmental Affairs Division, Matsushita Electric Industrial Co., Ltd,
Osaka, Japan

17.30 Corporate Resource Management Systems

Hohaus, Christian; Kathrin Hesse · Fraunhofer-Institut für Materialfluss und Logistik (IML),
Dortmund, Germany

WEDNESDAY, September 10, 08:30 – 10:30

Estrel Hall C1

5.6 COMPLIANCE AND MATERIAL DECLARATIONS

Session Chair: Schröder, Freimut · Siemens Healthcare Sector, Erlangen, Germany

McGovern, Damien · Compliance and Risks Ltd., Cork, Ireland

8.30 Industry-Led Substances Declarations Web Database

Schröder, Freimut · Siemens Healthcare Sector, Erlangen, Germany

Turnbull, Aidan · ENVIRON, Bath, United Kingdom

9.00 Adopting Environmental Compliance Management Systems in the Electronics Sector

Butler, Tom · University College Cork, Cork, Ireland

McGovern, Damien · Compliance and Risks Ltd., Cork, Ireland

9.30 REACH, RoHS, LCA – Managing Several Complex Material Compliance Requirements Efficiently, Fulfilling Customers' Needs and Evaluation of the Environmental Effects of a Product During the Whole Lifecycle in SAP

Bachmann, Erik · TechniData AG, Mörfelden - Walldorf, Germany

Clese, Frank-Dieter · TechniData AG, Markdorf, Germany

10.00 From Greenwash to Corporate Environmental Responsibility

McGovern, Damien · Compliance and Risks Ltd., Cork, Ireland

Butler, Tom · University College Cork, Cork, Ireland

Sessions

WEDNESDAY, September 10, 11:00 – 12:30

Estrel Hall C1

5.7 PRINTED AND POLYTRONIC SYSTEMS

Session Chair: Handwerker, Carol · Purdue University, West Lafayette, IN, USA

Bock, Karlheinz · Technische Universität Berlin, Berlin, Germany / Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Polytronic Systems Department, Munich, Germany

11.00 Nanoparticle-Enabled Printing of Green, Large-Area Electronic Hierarchical Systems

Handwerker, Carol · Purdue University, West Lafayette, IN, USA

Brazis, Paul; Gamota, Dan · Motorola, Schaumburg, IL, USA

Guo, Yan; Kim, Suk Jun; Slamovich, Elliott; Stach, Eric · Purdue University, West Lafayette, IN, USA

Zhang, Jie · Motorola, Schaumburg, IL, USA

11.30 Environmental Risk Assessment of Printable Electronics

Keskinen, Marika; Valkama, Jani · Tampere University of Technology, Department of Electronics, Tampere, Finland

12.00 Heterointegration of Complete Systems Based on Polytronics

Bock, Karlheinz · Technische Universität Berlin, Berlin, Germany / Fraunhofer-Institut für

Zuverlässigkeit und Mikrointegration (IZM), Polytronic Systems Department, Munich, Germany

Nissen, Nils F.; Müller, Jutta · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

WEDNESDAY, September 10, 13:30 – 15:30

Estrel Hall C1

5.8 CREATIVITY FOR FUTURE TECHNOLOGIES

Session Chair: Hosoda, Naoe · National Institute for Materials Science, Advanced Nano Materials, Tsukuba, Japan

Pfahl, Robert C. · International Electronics Manufacturing Initiative, Inc. (iNEMI), Herndon, VA, USA

13.30 Bionics – EcoDesign Inspirations from Nature

Bannasch, Rudolf · Forschungsgemeinschaft BIODON e.V., Berlin, Germany

Sessions

14.00 Biomimetic Joint for Reversible Interconnection

Hosoda, Naoe · National Institute for Materials Science, Advanced Nano Materials, Tsukuba, Japan
Miyajima, Akiyuki · Shibaura Institute of Technology, Tokyo, Japan

14.30 Two TRIZ Based Eco-Innovation Methods by Biomimetic Concepts and Case-Based Reasoning

Chen, Jahau Lewis; Huang, Lin-Chin; Yang, Cheng Jung · Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan

15.00 Future Initiatives for Sustainability

Pfahl, Robert C.; O'Malley, Grace · International Electronics Manufacturing Initiative, Inc. (iNEMI), Herndon, VA, USA

MONDAY, September 8, 16:00 – 18:00

Estrel Hall C2/3

6

6.1 REUSE AND TRANSBOUNDARY SHIPMENTS (organized jointly with World ReUse Forum)

Session Chair: Scheidt, Lutz Guenther · Technical University Vienna, Austria
Suzuki, Masachika · International University of Japan, Graduate School of International Management, Minami Uonuma-shi, Japan

16.00 Material Flow of Second Hand Electrical and Electronic Equipments Exported from Japan to the Philippines

Yoshida, Aya; Terazono, Atsushi · National Institute for Environmental Studies, Research Center for Material Cycles and Waste Management, Tsukuba, Japan

16.30 Assessing the E-Waste Situation in Africa

Schluep, Mathias; Rochat, David · Swiss Materials Science & Technology Institute (Empa), Technology & Society Lab, St. Gallen, Switzerland
Munyua, Alice Wanjira · Kenya ICT Action Network (KICTAnet), Nairobi, Kenya
Laissaoui, Salah Eddine · Moroccan Cleaner Production Centre, Casablanca, Morocco
Wone, Salimata · African Institute for Urban Management (IAGU), Dakar, Senegal
Kane, Cissé · Global Digital Solidarity Fund (DSF), Geneva, Switzerland
Hieronymi, Klaus · Hewlett Packard GmbH, Böblingen, Germany

Sessions

17.00 International Resource Recycling System (IRRS) to Manage E-Waste in the Asia-Pacific Region – The Case of Fuji Xerox

Suzuki, Masachika; Subramanian, Logakanthi · International University of Japan, Graduate School of International Management, Minami Uonuma-shi, Japan
Watanabe, Tomio; Hasegawa, Hiroyuki · Fuji Xerox Co., Ltd., Japan

17.30 E-Waste in Society: The Case of Accra, Ghana

Fuhriman, Darrell · Department of Geography, Pennsylvania State University, University Park, PA, USA

TUESDAY, September 9, 08:30 – 10:30

Estrel Hall C2/3

6.2 REUSE TECHNOLOGY, TOOLS AND DESIGN
(organized jointly with World ReUse Forum)

Session Chair: Fitzpatrick, Colin · University of Limerick, Limerick, Ireland

Kopacek, Bernd · SAT, Austrian Society for Systems Engineering and Automation, Vienna, Austria

8.30 ReLCD – Recycling and Re-Use of LCD Panels

Kopacek, Bernd · SAT, Austrian Society for Systems Engineering and Automation, Vienna, Austria

9.00 Computer for Schools in Developing Countries – Decision Making Tool for Sustainable Supply Strategies

Böni, Heinz; Streicher-Porte, Martin; Marthaler, Christian · Empa, Swiss Federal

Laboratories for Materials Testing and Research, St. Gallen, Switzerland

Camacho, Angel · Computadores para Educar, Bogota, Colombia

9.30 Out of the Closet!

Signaling Software Reliability in Secondary PC Markets

Hickey, Stewart; Fitzpatrick, Colin; O'Connell, Maurice · University of Limerick, Limerick, Ireland

10.00 A Reusable Compact Fluorescent Lamp Design

Kitamura, Masatsugu · EcoDesign Promotion Network, Tokyo, Japan

Hayashi, Hidetaka · The University of Tokyo, Tokyo, Japan

TUESDAY, September 9, 11:00 – 12:30

Estrel Hall C2/3

6.3 INITIATIVES TO PROMOTE REUSE

(organized jointly with World ReUse Forum)

Session Chair: Suzuki, Masachika · International University of Japan, Graduate School of International Management, Minami Unuma-shi, Japan
Scheidt, Lutz Guenther · Technical University Vienna, Austria

11.00 RREUSE – Reuse and Recycling European Union Social Enterprises: An Umbrella for Sustainable Reuse Business Models

Sepp Eisenriegler · ARGE R.U.S.Z GmbH, Austria / RepaNet, Austria / RREUSE, Belgium

11.30 Medical Electrical Equipment – Good Refurbishment Practice

Arglebe, Carlos · Siemens AG Healthcare Sector QM&RA, Erlangen, Germany
Braun, Markus; Plumeyer, Martin · Siemens AG Healthcare Sector Refurbished Systems, Forchheim, Germany

12.00 How Much E-Waste in US Basements and Attics?

Results from a National Survey

Saphores, Jean-Daniel M. · University of California, Department of Civil and Environmental Engineering, Irvine, CA, USA
Nixon, Hilary K. · San Jose State University, Department of Urban and Regional Planning, San Jose, CA, USA
Ogunseitán, Oladele F. · University of California, Public Health Program, College of Health Sciences; and Department of Environmental Health, Science, and Policy, School of Social Ecology, Irvine, CA, USA
Shapiro, Andrew A. · University of California, Electrical Engineering & Computer Science Department, The Henri Samueli School of Engineering, Irvine, CA, USA

TUESDAY, September 9, 14:00 – 15:30

Estrel Hall C2/3

6.4 REUSE OR RECYCLING?

(organized jointly with World ReUse Forum)

Session Chair: Kopacek, Bernd · SAT, Austrian Society for Systems Engineering and Automation, Vienna, Austria
Deubzer, Otmar · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Sessions

14.00 Longer Term Use/Reuse or Replacement?

An Application of 'Prescriptive' LCA to Decision Making on Electrical Home Appliances

Tasaki, Tomohiro · National Institute for Environmental Studies, Research Center for Material Cycles and Waste Management, Tsukuba, Japan

Motoshita, Masaharu · AIST, Tsukuba, Japan

Sasaki, So · MURC, Tokyo, Japan

14.30 Build Up Communicative and Efficient ICT Products Return System for Reuse Through Trade-In

Li, Juan · Brandenburg Technical University, Chair of Industrial Sustainability, Cottbus, Germany

Scheidt, Lutz Guenther · Technical University Vienna, Austria

Fischer, Frank · webix solutions GmbH, Stuttgart, Germany

15.00 Sustainability by Using Used Assemblies in Automotive Electronics

Mente, Thomas; Schuch, Bernhard; Ernst, Christian; Schuster, Alfred · Conti Temic microelectronic GmbH, Nuremberg, Germany

Böckhorst, Stephan ; Friedrichs, Lars · Hella KGaA Hueck & Co., Lippstadt, Germany

Halser, Klaus · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

Bochow-Neß, Olaf; Middendorf, Andreas · Technische Universität Berlin, Berlin, Germany

TUESDAY, September 9, 16:00 – 18:00

Estrel Hall C2/3

6.5 REUSE AND GLOBAL DEFINITIONS

(organized jointly with World ReUse Forum)

Moderators: Scheidt, Lutz Guenther · Austrian Society for Systems Engineering and Automation, Vienna, Austria

Dickenson, John · AER Worldwide, Fremont, CA, USA

16.00 Lessons from the 2008 WEEE Review Research Studies – Reuse Related

Huisman, Jaco · United Nations University, Zero Emissions Forum, Bonn, Germany / Delft University of Technology, Design Engineering, Design for Sustainability Program, Delft, The Netherlands

Kuehr, Ruediger; Maurer, Claudia · United Nations University, Zero Emissions Forum, Bonn, Germany

Sessions

16:15 **One Global Understanding of Re-Use – Towards Common Definitions**

Scheidt, Lutz Guenther · Austrian Society for Systems Engineering and Automation, Vienna,
Austria

Herrmann, Christoph; Luger, Tobias · Technische Universität Braunschweig, Institute of
Machine Tools and Production Technology, Braunschweig, Germany

16:30 **Moderated Panel Discussion "Glossary, Terms and Global Definitions"**

WEDNESDAY, September 10, 08:30 – 10:30

Estrel Hall C2/3

6.6 **EWASTE: SYSTEM ANALYSIS**

Session Chair: Stobbe, Irina · STeam - Service Software Sustainability, Berlin, Germany
Román, Elisabeth · Narvik University College, Narvik, Norway

8.30 **Logistic Concepts for Take-Back-Systems for Used Electronic Automotive Spare Parts**

Stobbe, Irina · STeam - Service Software Sustainability, Berlin, Germany

Metzler, Stefan; Hohaus, Christian · Fraunhofer-Institut für Materialfluss und Logistik (IML),
Dortmund, Germany

Kaerger, Wolfgang; Groke, Matthias · Callparts System GmbH, Etzin, Germany

Knode, Martin · Retek AG, Ihlow, Germany

Oberender, Christof · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration , Berlin, Germany

9.00 **Scenario Analysis for Sustainable Global Resource Circulation with Traceability Index**

Kishita, Yusuke; Kunii, Eisuke; Fukushige, Shinichi; Umeda, Yasushi · Department of
Mechanical Engineering, Graduate School of Engineering, Osaka University, Osaka, Japan

Fujimoto, Jun · Research Center for Advanced Science and Technology, The University of Tokyo,
Tokyo, Japan

9.30 **"WEEELABEX", the WEEE Forum's Multi-Annual Project Related to the Harmonisation of a Common Set of European Standards for Treatment and Recycling of Electronic and Electrical Waste and for Monitoring the E-Waste Processing Companies**

Hediger, Robert · SENS, Zurich, Switzerland

Leroy, Pascal · WEEE Forum, Brussels, Belgium

Kasser, Ulrich · Umweltchemie, Zurich, Switzerland

Sessions

10.00 Overview of Japanese HARL Systems & Panasonic's Way of Recycling

Hiraki, Tokuhiro; Uehigashi, Koji; Fukuda, Ko · Recycling Business Promotion Office,
Matsushita Electric Industrial Co., Ltd., Osaka, Japan

WEDNESDAY, September 10, 11:00 – 12:30

Estrel Hall C2/3

6.7 EWASTE: MANAGEMENT AND GUIDELINES

Session Chair: Román, Elisabeth · Narvik University College, Narvik, Norway
Stobbe, Irina · STeam - Service Software Sustainability, Berlin, Germany

11.00 WEEE Management System – Cases in Norway and Finland

Román, Elisabeth · Narvik University College, Narvik, Norway
Ylä-Mella, Jenni; Pongrácz, Eva · University of Oulu, Department of Process and Environmental
Engineering, Oulu, Finland / University of Oulu, Thule Institute, NorTech Oulu, Finland
Solvang, Wei Deng · Narvik University College, Narvik, Norway
Keiski, Riitta · University of Oulu, Department of Process and Environmental Engineering, Oulu,
Finland

11.30 Cost-Profit Analysis of Multilateral Recycling System in Asia

Kondoh, Shinsuke · National Institute of Advanced Science and Technology (AIST), Tsukuba, Japan
Fujimoto, Jun · The University of Tokyo, Tokyo, Japan
Umeda, Yasushi · Osaka University, Osaka, Japan
Mishima, Nozomu; Matsumoto, Mitsutaka · National Institute of Advanced Science and
Technology (AIST), Tsukuba, Japan

12.00 Spare Part Management from the View of Sustainability

Oberender, Christof · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin,
Germany
Hiller, Volkmar · Conti Temic microelectronic GmbH, Nürnberg, Germany
Reichl, Herbert · Technische Universität Berlin, Berlin, Germany

WEDNESDAY, September 10, 14:00 – 15:30

Estrel Hall C2/3

6.8 EWASTE: CASE STUDIES ASIA

Session Chair: Terazono, Atsushi · National Institute for Environmental Studies, Research Center for Material Cycles and Waste Management, Tsukuba, Japan
Schischke, Karsten · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Berlin, Germany

14.00 Economic Conditions for Formal and Informal Recycling of E-Waste in China

Wang, Feng · Delft University of Technology, Delft, The Netherlands
Huisman, Jaco · Delft University of Technology, Delft, The Netherlands / United Nations University, Bonn, Germany
Marinelli, Thomas · Philips, Eindhoven, The Netherlands
Zhang, Yuqi · Philips, Shanghai, China
van Ooyen, Stephan · Chiho-Tiande Metals Co.,Ltd., Taizhou, China

14.30 An Evaluation of WEEE Recycling in Japan

Yoshida, Fumikazu · School of Public Policy, Hokkaido University, Sapporo, Japan
Yoshida, Haruyo · Sapporo University, Sapporo, Japan

15.00 E-Waste Generation and Material Flow in Japan and Other Asia

Terazono, Atsushi; Yoshida, Aya · National Institute for Environmental Studies, Research Center for Material Cycles and Waste Management, Tsukuba, Japan

TUESDAY, Sept. 9, 14.00– 15.30

Estrel Hall A

HOW TO INFORM CONSUMERS ABOUT ENVIRONMENTAL PRODUCT INNOVATIONS?

Child labor, worker exploitation, environmentally destructive production, green-washing – consumers are the key to make companies stop such practices differentiating responsible companies from others in their buying decisions.

No customers = no sales = no profits.

It's that easy?! Well, yes and no.

Yes, as public and consumer awareness has increased over recent decades.

Examples show that responsible companies are successful in the market. Others have had to change their business practices to avoid serious damage to turnover.

No, as informed purchasing decisions are only possible if information and transparency exist.

How can consumers access reliable information, particularly about products that are complex and produced in worldwide supply chains, such as electronics? How can companies let the public know about positive measures, so that consumers can differentiate their products from less environmentally-friendly, less sustainable ones?

What is the role of NGOs? How can they support or force companies to provide accurate information? How can companies, NGOs and the public cooperate to promote companies with greener products, impel unwilling companies to change their practices or push such firms to the margins of the market? And how can customers be convinced to purchase greener products?

Moderation:

Matthias Teller · ^{fx} Institut für Zukunftsfähiges Wirtschaften, Berlin, Germany

Participants:

Jaekel, Ulf · Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Berlin, Germany

Kruszewska, Iza · Greenpeace International, London, UK

Reichling, Markus · Panasonic, Environmental Affairs Office, Wiesbaden, Germany

Zedler, Werner · Verbrauchermagazin "Guter Rat", Berlin, Germany (consumer magazine)

Provoquium & Closing Key Notes

Provoquium

WEDNESDAY, Sept. 10, 11.00– 12.30

Estrel Hall A

BRAINSHAKERS AGAINST COMMON TRENDS AND CONVICTIONS ABOUT THE ENVIRONMENT

You like thinking and discussing outside of the box?

Then you should attend the Provoquium. This session will challenge trends and commonly held convictions on environmental issues.

In short 5-minute presentations, six speakers will present brainshaking and provoking theses. They will highlight specific

aspects of environmental problems and trends in society, science, industry and politics. After each presentation, 10 minutes time for discussion give you a chance to express your agreement or objection. Let's take a fresh look at things and find better solutions and new ways.

The speakers and their theses will be revealed at the conference.

Moderation:

Matthias Teller · fX Institut für Zukunftsfähiges Wirtschaften, Berlin, Germany

Closing

WEDNESDAY, September 10, 16.00 – 17.00

Estrel Hall A

CLOSING KEY NOTES

Session Chair: Eagan, Patrick · University of Wisconsin-Madison, Madison, WI, USA

16.00 Innovation in Governance and Technology – The Key to Sustainability

Radermacher, Franz Josef · Forschungsinstitut für anwendungsorientierte Wissensverarbeitung/n (FAW/n), Ulm, Germany

16.30 EcoDesign: A Source of Inspiration and of Creativity

Stevens, Albert L. N. · Design for Sustainability Lab, Delft University of Technology, Delft, The Netherlands

POSTER SESSIONS

A Strategic Approach to Environmental Policy for Cell Phones

Aung Lin, Sharon A. Jones · Lafayette College, Easton Pennsylvania, USA

An Evaluation of Valox iQ* Resins Containing Non-Halogenated Flame Retardants and Post-Consumer Recycled Content for Use in Dell Desktop and Notebook Personal Computer Products

Boisard, Tifenn; Hutchinson, David; O'Connell, Scott · Dell Inc., Austin, TX USA
Alcantar, Cesar; Govoni, Gretchen; Poslinski, Andrew; Gopal, Vikram; Joyce, Robert · SABIC Innovative Plastics, Pittsfield, MA USA

Business Processes and Network Management in Closed-Loop Supply Chains to Close Product Cycles

Herrmann, Christoph · Technische Universität Braunschweig, Institute of Machine Tools and Production Technology, Braunschweig, Germany
Spengler, Thomas · Technische Universität Braunschweig, Department of Economics and Business Administration, Institute of Production and Logistics Management, Braunschweig, Germany
Luger, Tobias · Technische Universität Braunschweig, Institute of Machine Tools and Production Technology, Braunschweig, Germany
Walther, Grit; Steinborn, Jenny · Technische Universität Braunschweig, Department of Economics and Business Administration, Institute of Production and Logistics Management, Braunschweig, Germany

Common Part Strategies for Variant Management in Closed-Loop Supply Chains

Steinborn, Jenny; Walther, Grit; Spengler, Thomas · TU Braunschweig, Department of Economics and Business Administration, Institute of Production and Logistics Management, Braunschweig, Germany
Herrmann, Christoph; Luger, Tobias · TU Braunschweig, Institute of Machine Tools and Production Technology, Braunschweig, Germany

Environmental Contribution by the Advanced Batteries

Tominaga, Noboru · Quality and Environmental Promotion Center, Matsushita Battery Industrial Co., Ltd., Moriguchi, Osaka, Japan
Matsuda, Hiromu · Corporate R&D and Manufacturing Planning Group, Matsushita Battery Industrial Co., Ltd., Moriguchi, Osaka, Japan
Wada, Seiiji; Noya, Shigeto; Ogino, Keiji · Dry Battery Business Unit, Matsushita Battery Industrial Co., Ltd., Moriguchi, Osaka, Japan

Environmental Friendly FR Solutions Based on Intumescent Systems

Wermter, Hendrik; Futterer, Thomas · Chemische Fabrik Budenheim KG, Germany

Feasibility of a Voluntary Standard for Used Computer Products and Refurbishment Processes

Heunen, Frank; Peet, Dirk-Jan · Delft University of Technology, Technology and Policy Analysis, Technology Dynamics & Sustainable Development, Delft, The Netherlands
Huisman, Jaco · United Nations University, Zero Emissions Forum, Bonn, Germany
van Loon, Joep · Flection International B.V., Culemborg, The Netherlands

Green Products and Unfair Competition

Hofmann, Lothar · Attorney-at-Law, Vienna, Austria / New York, USA

High Tech Performance and Zero GWP for Ar/N₂/F₂ Chamber Clean Gas

Riva, Marcello; Pittroff, Michael; Schwarze, Thomas; Oshinowo, John · Solvay Fluor GmbH, Hannover, Germany
Steinberger, Hartmut; Wieland, Robert · Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration (IZM), Munich, Germany

IEC TC111 RoHS Sampling Standard

ten Houten, Maarten · Philips Lighting/ IEC, Eindhoven, The Netherlands

IEEE, Sustainability and Public Visibility

Wiesner, Peter · IEEE Technical Activities, NJ, USA

Industrial Fuse Recycling: The Benelux Approach

van Kasteren, Johannes M. N. · Eindhoven University of Technology, Eindhoven, The Netherlands

Influence of Lead-Free PCB Coatings on Voids Presence in Solder Joints

Sitek, Janusz; Bukat, Krystyna; Koscielski, Marek · Tele and Radio Research Institute, Warsaw, Poland

Life Cycle Simulation in Design for Environment

Zhao, Xin · Guangzhou Electric Apparatus Research Institute, Guangdong, China
Huang, Haihong · Hefei University of Technology, Hefei, China
Fu, Yonggao; Hu, Jiaqi; Wang, Ling · Guangzhou Electric Apparatus Research Institute, Guangdong, China

New Developments in Non-Halogen Flame Retarded Engineering Polymers

Kirchner, Olaf N. · Du Pont de Nemours International S.A., Geneva, Switzerland
Ue, Narumi; Saga, Yuji · DuPont Japan Ltd., Utsunomiya, Japan
Conrad, Stefanie · Du Pont de Nemours (Deutschland) GmbH, Bad Homburg, Deutschland

Power Management of Company Computers – A Dell Case Study

Taylor, Jay; Stutz, Markus · Dell Inc., Environmental Affairs, Austin, TX, USA
Lancaster, Ben · 1E, TX, USA

Practical Problems with Homogeneous Material Definition in EU RoHS – Limitations on RoHS Compliance Testing in the Case of the Small and Complex Components

Koskinen, Kaisa-Reeta; Terho, Markus · Nokia Corporation, Espoo, Finland

Reduction of Organic Solvents in Semiconductor Device Manufacturing by Oxidation - An Ecological Assessment

Schottler, Martin · M+W Zander FE GmbH, Stuttgart, Germany
Hottenroth, Heidi; Schmidt, Mario · Pforzheim University, Pforzheim, Germany

Results of Accelerated Reliability Tests on Lead-Free Soldered Joints

Drozd, Zdzislaw; Szwech, Marcin · Warsaw University of Technology, Warszawa, Poland

Technical Tour – Working with Handicapped People in E-Waste Recycling

Blechs Schmidt, Petra · Petra Blechs Schmidt Projektmanagement, Berlin, Germany
Glatzel, Hans-Georg · VICUR GmbH, Berlin, Germany

Technological Substitution and its End-of-Life Impact

Deepali, Sinha Khetriwal · University of St.Gallen, Switzerland / EMPA, St.Gallen, Switzerland

The Home-Use Fuel Cell Co-Generation System in Japan and Panasonic's Activities

Kawaguri, Masaaki; Ryouzou, Kuribayashi; Yasumasa, Kurosaki · Matsushita Home Appliances Company, Matsushita Electric Industrial Co., Ltd. Kusatsu City, Shiga, Japan

The Study of WEEE in a Representative Range in China

Hu, Jiaqi; Fu, Yonggao; Zhao, Xin; Wang, Ling · Guangzhou Electric Apparatus Research Institute, Guangdong, China

Why Pre-Sorting Small Waste Appliances Would Increase Resource Recovery

Chanceler, Perrine; Rotter, Vera Susanne · Technische Universität Berlin, Institute of Environmental Technology, Chair for Solid Waste Management, Berlin, Germany

SUNDAY, Sept. 7, 18:00 – 22:00

GET TOGETHER

This time the EGG Get-Together on Sunday September 7th will be extended as an free evening introduction to the conference with a panel discussion "Policy options for sustainability – role and responsibility of the IT industry"

18.00 Get-Together (jointly with WRF attendees)

19.00 Pre-conference evening panel discussion

"Policy options for sustainability – role and responsibility of the IT industry"

20.00 Reception

Panelists: Rosalinde van der Vlies · EU Commission, Deputy Head of Unit, DG ENV-Unit G4-Sustainable Production & Consumption;
Emily Farnworth · Director of Corporate Engagement, The Climate Group;
Prof. Dr. Matthias Finkbeiner · TU Berlin, Dept. of Environmental Technology;
Philipp Rühle · Oekom, Analyst IT;
Tod Arbogast · Director Sustainable Business, Dell Inc.

Moderator: Uli Ries · Intelletech, Munich, Germany

The panel will focus on options for policy in the context of a wide sustainability framework, not just energy or hazardous substances. What role can the IT industry play? What framework is planned by policy makers? How is this assessed by both environmental NGOs and rating agencies? Expect some exciting discussions with a high level panel! Before the panel discussion and afterwards at the reception you will have the opportunity for networking with your international colleagues. Be sure to include this valuable evening event in your travel plans.

MONDAY, Sept. 8, 19:00 – 23:00

EGG 2008+ RECEPTION

The welcome reception will lead you into the historic "Academy Building" situated at "Gendarmen Markt", a main cultural attraction in the center of former East-Berlin. This place is famous for the "Konzerthaus", a concert hall designed by Friedrich Schinkel, which is flanked by the German and the French Dome. Opposite these architectural monuments stands the historic Academy Building. All conference participants are cordially invited to join us for a pleasant evening in this historical setting.

Conference Events

Events

At the reception the "Electronics Goes Green 2008+ Award" will be presented to **Yoshiaki Ichikawa, IEC TC 111; Hitachi, Tokyo, Japan;** **Detlev Müller, IMM-Group, Mittweida, Germany and** **Robert Pfahl, iNEMI, Herndon, VA, USA** for their commitment to environmental protection and inspiring ideas concerning sustainable development in technology and business solutions.

Attention: For entrance, special invitation cards will be handed out together with the conference package.

Location: Berlin-Brandenburgische Akademie der Wissenschaften
Gendarmenmarkt, Markgrafenstraße 28, 10117 Berlin
Shuttle from the Conference Center at 18:30
Shuttle from the Best Western Hotel at 18:40
Underground Stop: Stadtmitte (route U2, U6) or Hausvogteiplatz (route U2)

TUESDAY, **Sept. 9**, 19.00 – 23.00

BOAT TOUR "BERLIN BY NIGHT"

On a night-time boat trip down the channels and rivers of Berlin you will be able to see Berlin's city in an entirely different light. A buffet with typical Berlin specialties will be waiting for the guests on the boat.

Attention: For entrance, special invitation cards will be handed out together with the conference package.

Starting Point: Schlossbrücke Charlottenburg, 10589 Berlin-Charlottenburg
Shuttle from the Conference Center at 18:30
Shuttle from the Best Western Hotel at 18:40
Underground Stop: Richard-Wagner-Platz (route U7)

WEDNESDAY, **Sept. 10**, 18:30 – 20:00

GUIDED TOUR IN THE REICHSTAG BUILDING

Participants of this tour must have registered before August 26! If you are not yet registered, you cannot join this tour!

For registered participants: PLEASE NOTE THAT YOU WILL NOT BE ALLOWED TO ENTER THE BUILDING WITHOUT A VALID PASSPORT OR ID-CARD!

Events

This 90 min English guided tour takes you to the Reichstag building. It was inaugurated in 1894 to house the German parliament. The building was burnt down in 1933 in the beginning of the Nazi regime, and it was heavily destroyed during World War II. It was only after the German reunification that the German Parliament moved back into the Reichstag building, although it had been part of West-Berlin during the Cold War. The Reichstag building in its nowadays' appearance reflects the glorious as well as the darkest times in German history and the hopes for a better, peaceful future.

If you wish, you may close the visit with a dinner in the restaurant on top of the Reichstag building on your own expense.

Location: Platz der Republik, 11011 Berlin-Tiergarten

Shuttle from the Conference Center at 17.30

Shuttle from the Best Western Hotel at 17.40

Underground Stops: Unter den Linden (route S1, S2) or Bus 100

Meeting point: At 18:10 pm LATEST at the north entry (back side of the Reichstag building), Paul-Löbe-Allee

THURSDAY, **Sept. 11**, 8:30 – 19:30

TECHNICAL TOURS

Participants of the conference are invited to visit research, production and recycling sites in the Berlin area.

Choose between three different technical tours in and around Berlin:

■ Tour 1: **Future of Fossil Energies**

Visit one of the largest mining sites for lignite south of Berlin. Experience the former overburden conveyor bridge F60: an 11,000 t steel giant, 502 m long, 202 m wide, 80 m high. This monument documents the past and the present of mining in the area. It gives you an impression of how mining impacts the landscape. Experience the controversially debated future of Carbon Capture and Storage (CCS) when visiting the power plant at "Schwarze Pumpe", where Vattenfall it currently setting up a pilot plant.

Guided Tour by bus

8.30 Departure from hotel Estrel

8.40 Departure from Best Western Hotel

approx. 19.30 Arrival at hotel Estrel

■ Tour 2: **High Tech in Berlin**

Visit high tech institutions in Berlin, among them the Technische Universität and Fraunhofer IZM. Gain insights in latest technology developments regarding micro systems technology, advanced packaging and grain-sized electronics. At the Ferdinand Braun Institute for High Frequency Technology cutting-edge technologies for innovative applications in the fields of microwaves and optoelectronics are explored. As a centre of competence for III-V compound semiconductors, FBH is part of a worldwide network for advancing the international state-of-the-art.

Guided Tour by bus

8.30 Departure from hotel Estrel

8.40 Departure from Best Western Hotel

- Fraunhofer IZM and Research Center for Microperipherics,

Technische Universität Berlin

- FBH - Ferdinand Braun Institute for High Frequency Technology

- IKZ - Leibnitz Institute for Crystal Growth (Leibnitz-Institut für Kristallzüchtung)

approx. 18.00 Arrival at hotel Estrel

■ Tour 3: **Advanced Recycling**

Visit VfJ, an electronic recycler next to the ESTREL hotel. This social enterprise is experienced in dismantling and in display recycling. You will be introduced to the Reuse Computer network. You have the option to do this tour by bicycle, which the Reuse Velo project will provide. After the company visit return directly to the ESTREL or join a guided bicycle tour to test the refurbished bikes and enjoy less touristic parts of Berlin.

Guided Tour, the company is in walking distance or you can take a bicycle

8.30 Departure from hotel Estrel

approx. 12.00 end of the company visit and walk back to the hotel Estrel or

ride by a refurbished bicycle to the bakery "Märkisches Landbrot", visit this

special company, take a snack there and go back to the hotel Estrel by bicycle

(approx. arrival 15.00)

Please, book your bicycle, latest on Monday 7 September at the conference registration desk.

Exhibitors

Balver Zinn

Balver Zinn Josef Jost GmbH & Co. KG is one of the leading manufacturers of solders and high-quality anodes as well as specialist wires. The company's core area of expertise includes the manufacture of lead-free products for the electronics industry.

Balver Zinn Josef Jost GmbH & Co. KG

Blintroper Weg 11
D-58802 Balve
Phone: +49.23 75.9 15-150
Fax: +49.23 75.9 15-114
Contact: Paolo Corviseri
Email: paolo.corviseri@balverzinn.com
URL: www.BalverZinn.com

BITKOM

With more than 950 subscribers the BITKOM Guarantee System is the market leader for insolvency-proof guarantees. From October Bitkom will also offer special conditions for the disposal of WEEE and a notification service for the registration at EAR.

Bitkom Servicegesellschaft mbH

Albrechtstr. 10
D-10117 Berlin
Phone: +49.30.94 40 02-13
Fax: +49.30.94 40 02-77
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Email: d.dittberner@bitkom-service.de
URL: www.bitkom-service.de

Bundesministerium für Wirtschaft und Technologie

The Ministry's legislative and administrative work, e.g. in competition policy, regional policy, SME policy, energy policy, and international economic policy, aims at shaping conditions to foster successful economic activity on the basis of personal and entrepreneurial freedom, competition and stability.

Bundesministerium für Wirtschaft und Technologie

Scharnhorststr. 34-37
D-10115 Berlin
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Email: achim.scheiler@bmwi.bund.de
URL: www.bmwi.de

CODDE, a part of Bureau Veritas

CODDE is a recognized competence centre on Eco-Design and Life Cycle Assessment (LCA) working with electrical and electronics industries. CODDE has been involved as an industry expert in several EU studies on the Energy-using Products Directive (EuP).

CODDE

170 rue de Chatagnon (ZI Centr'Alp)
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Fax: +33.4.76 37 44 30
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Email: llescuyer@codde.fr
URL: www.codde.fr

DATASERV

DATASERV protects its customers from the administrative, environmental, security and legislative liabilities associated with the recycling and remarketing of redundant IT equipment and turns liabilities into a positive benefit in 12 facilities across EMEA.

DATASERV GROUP LTD

Hawthorne Road
Staines
UK-Middlesex TW18 3AY
Phone: +44.17 84.46 33 43
Fax: +49.17 84.44 93 19
Contact: Thomas Holberg
Email: tholberg@dataserv-group.com
URL: www.dataserv-group.com

DELL

Dell listens to customers and delivers innovative technology and services they trust and value. Uniquely enabled by its direct business model, Dell is a leading global systems and services company and No. 34 on the Fortune 500. For more information, visit www.dell.com.

Dell GmbH

Main Airport Center
Unterschweinstiege 10
D-60549 Frankfurt
Phone: +49.69.97 92-56 76
Fax: +49.69.3 48 24-56 76
Contact: Markus Stutz
Email: markus_stutz@dell.com
URL: www.dell.de

ECOP

The Ecological Performance Partners (ECOP) are a cooperation of three independent partners – Intertek, Intertek and Petersen and PE International. Due to the complementary skills, ECOP can accompany customers on their whole way towards EuP compliance and provide them with legal, technical, management and certification expertise.

ECOP

Dorfackerstraße 26
D-72074 Tübingen
Phone: +49.7071.25 70 00-0
Fax: +49.7071.25 70 00-9
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Email: info@ecop-services.com
URL: www.ecop-services.com

ENHESA

ENHESA is a global environmental, health and safety consultancy, providing EHS regulatory compliance support. We help our clients with all aspects of EHS compliance, from identifying new regulatory requirements to evaluating and ensuring compliance with existing ones to forecasting future trends.

ENHESA, Environmental Policy Centre (EPC)

Rue du Mail 15
B-1050 Brussels
Phone: +32.2.7 75 97 94
Fax: +32.2.7 75 97 99
Contact: Dae-Young Park
E-mail: dp@enhesa.com
URL: www.enhesa.com

Exhibitors

ENVIRON

Free guide to REACH requirements for component suppliers and equipment manufacturers. Produced with the leading European trade association COCIR, the Guide explains how the BOMcheck substances declarations web database enables suppliers to manage compliance with their REACH obligations.

ENVIRON UK Ltd.

Box House, Box
UK - Wiltshire SN13 8AA
Phone: +44.12 25.74 84 20
Fax: +44.12 25.74 84 21
Contact: Dr. Aidan Turnbull
Email: aturnbull@uk.environcorp.com
URL: www.environcorp.com

Fraunhofer IZM

Fraunhofer IZM is one of the leading institutes for product-oriented development of advanced packaging technologies for microelectronics and microsystems worldwide. We support our customers in their efforts to develop competitive electronic innovations with high ecological, economical as well as social benefits.

Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration IZM

Gustav-Meyer-Allee 25
D-13355 Berlin
Phone: +49.30.4 64 03-100
Fax: +49.30.4 64 03-111
Contact: Georg Weigelt
Email: georg.weigelt@izm.fraunhofer.de
URL: www.izm.fraunhofer.de

Fujitsu Siemens Computers

Fujitsu Siemens Computers is the leading European IT infrastructure provider with a strategic focus on next-generation mobility and dynamic data center products, services and solutions. The company is a pioneer in providing environmentally conscious technology and processes, throughout the lifecycle of each product.

Fujitsu Siemens Computers GmbH

Domagkstr. 28
D-80807 Munich
Phone: +49.89.32 22 18 95
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Email: juergen.heidegger@fujitsu-siemens.com
URL: www.fujitsu-siemens.com

Halogen-free Flame Retardants

By invitation of the Karlsruhe Institute of Technology (KIT), five European producers of halogen-free flame retardants meet to communicate the chemical and technical properties of environmentally friendly flame retardants. These products are already used in electric and electronic applications and represent a fast growing niche.

Budenheim

Budenheim Iberica Extramuros
E-S/N-50784 La Zaida/Zaragoza
Phone: +34.976.17 84 12
Fax: +34.976.17 87 51
Email: budenheim@budenheim.es
URL: www.budenheim.es

Ciba Specialty Chemicals Inc.

CH-4002 Basel
Phone: +41.61.636 40 00
Fax: +41.61.636 72 20
Email: melapur@ciba.com
URL: www.ciba.com

Clariant International Ltd.

MS Flame Retardants
CH-4132 Muttenz 1
Phone: +41.61.469 79 74
Fax: +41.61.469 75 77
Email: adrian.beard@clariant.com
URL: www.exolit.com

Karlsruhe Institute of Technology

Institute for Technical Chemistry, PO-Box 3640
D-76021 Karlsruhe
Phone: +49.72 47.82 43 85
Fax: +49.72 47.82 22 44
Email: manfred.doering@itc-cpv.fzk.de
URL: www.katalyseundmaterialien.de

LANXESS Deutschland GmbH

BU Functional Chemicals
D-41538 Dormagen
Phone: +49.21 33.512 37 88
Fax: +49.21 33.51 23 23
URL: www.phosphorous-chemicals.com

Nabaltec AG

Alustr. 50 – 52
D-92421 Schwandorf
Phone: +49.94 31.53-458/-462
Fax: +49.94 31.61-557
Email: fillers@nabaltec.de
URL: www.nabaltec.de

Intel

Intel has a passion for innovation and managing our environmental impact; from Environmental Conscious Design, Semiconductor Manufacturing to Alternate Computing models. For more info drop by the Intel booth or <http://www.intel.com/intel/environment/>.

Intel GmbH

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Fax: +49.89.9 91 43-240
Contact: Kevin O'Donovan
E-mail: kevin.o'donovan@intel.com

Exhibitors

M+W Zander

M+W Zander is a global leader in high tech facility engineering services. Core activities cover the electronics industry, as semiconductor, solar cell and flat panel production with a strong presence in Asia. The group employs about 2,400 people.

M+W Zander FE GmbH

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Email: peter.csatory@mw-zander.com
URL: www.mw-zander.com

Panasonic

Best known by the Panasonic brand, Osaka-based Matsushita Electric Industrial Co., Ltd. is a worldwide leader in the development and manufacture of electronic products for a wide range of consumer, business, and industrial needs. For more information, visit their website at <http://www.panasonic.net>.

Panasonic Europe Ltd.

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Fax: +49.611.235-212
Contact: Markus Reichling
Email: markus.reichling@eu.panasonic.com
URL: www.panasonic-europe.com

PE INTERNATIONAL

Sustainability awareness is the road to long-term corporate operation and a preserved environment. PE INTERNATIONAL has been steadily guiding companies all over the world along this road since 1989. Today, we are the international market leader in strategic consultancy, software solutions and extensive services in the field of sustainability.

PE INTERNATIONAL GmbH

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Fax: +49.711.34.18.17-25
Contact: Claudia Meder
Email: info@pe-international.com
URL: www.pe-international.com

Philips Lighting

As a world leader in healthcare, lifestyle and lighting, Philips combines technologies and design, based on the brand promise of "sense and simplicity". On sustainability, we help combat global challenges by offering business solutions that reduce our ecological footprint and enhance social equity.

Philips Lighting

Mathildelaan 1, EDW 232
NL-5611BD Eindhoven
Phone: +31.40.275.51.95
Fax: +31.40.275.85.86
Contact: Maarten ten Houten
Email: maarten.ten.houten@philips.com
URL: www.philips.com

PRé Consultants

PRé Consultants show SimaPro 7.1, the leading LCA software used in over 60 countries, with the new electronics data of the ecoinvent v2 database. Together, SimaPro and ecoinvent data provide easy modeling and unparalleled transparency of results.

PRé Consultants bv

Printerweg 18
NL-3821 AD Amersfoort
Phone: +31.33.455.50.22
Fax: +31.33.455.50.24
Contact: Sipke Durksz
E-mail: support@pre.nl
URL: www.pre.nl

TechniData

TechniData AG is the leading provider of solutions in the areas of product, chemical, environmental, and health & safety compliance. TechniData is a strategic development partner for SAP. More information is available at <http://www.technidata.com/>.

TechniData AG

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URL: www.technidata.de

Thermo Scientific NITON Analyzers

Handheld Thermo Fisher Scientific NITON Analyzers are internationally recognized as the world's leading portable non-destructive elemental analysis instruments. With the pull of a trigger, they provide fast, accurate performance – in typically less than 2 seconds.

NITON Europe GmbH

Joseph-Dollinger-Bogen 9
D-80807 München
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Email: olaf.haupt@thermofisher.com
URL: www.thermo.com/niton

ZEVAC

ZEVAC develops and produces equipment for interconnection and assembly technologies with a focus on rework systems and automated production systems. Our equipment is very well suited for the processing of lead-free assemblies.

ZEVAC AG

Zweigniederlassung Deutschland
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Information

OFFSETTING OF GREENHOUSE GAS EMISSIONS FOR THE EGG 2008+ CONFERENCE & OPTIONS FOR OFFSETTING YOUR TRIP TO THE CONFERENCE

In co-operation with PE INTERNATIONAL, the EGG organizing committee will offset the greenhouse gas emissions caused by the conference and exhibition activities. Further on, participants can compensate their personal travel-related climate impacts, which are not included in the conference offsetting.

Offsetting the Impact of Conference-related Greenhouse Gas Emissions (GHG)

For the EGG 2008+, the GHG certificates are sourced from LDEO Biomass Steam and Power Plant in Sabah, Malaysia

- Further information on the project from Michael Spielmann m.spielmann@pe-international.com
- The emission offsetting will result from already verified emission reductions in accordance with UNFCCC accredited auditors.
- The CDM Executive Board of UNFCCC will certify the redemption of emission reduction.

PE INTERNATIONAL will determine the carbon footprint for the conference activities based on the life cycle database GaBi and internationally established emission factors. GHG emissions from the following activities are included:

- Electricity consumption due to lighting and air conditioning/ ventilation
 - Electricity consumption of typical conference equipment: video projector/computer (excluding computers of participants)
 - Provision of Conference Proceedings (Book and memory stick)
 - Provision and shipping of Preliminary Program
- Other, smaller activities will be added in the final package. The offsetting explicitly covers non-CO₂

emissions and the indirect emissions of these activities (such as via fuel provision), too.

Offsetting of Travelling

Participants can offset their travel emissions at the PE INTERNATIONAL booth during the conference where you can buy a certificate. Detailed information on the carbon footprint and its calculation is of course available for all conference participants. Each participant can estimate his personal travel-related greenhouse gas emissions and resulting certification cost using the PE INTERNATIONAL online calculator (<http://www.peinternational.com/english/consulting/carbonfootprint>). The average emissions in kg CO₂-equivalent for car, rail and air transport are calculated based on the life cycle database GaBi and internationally established emission factors. The calculated Carbon Footprint includes

- direct greenhouse gas (GHG) emissions due to travelling and
- indirect GHG emissions due to the supply (exploration, production at refinery and distribution) of the fuel.

Alternatively, participants can calculate and offset their travel-related CO₂-emissions using the following services:

- atmosfair (<http://www.atmosfair.de>)
 - NativeEnergy (<http://www.nativeenergy.com>)
 - climate friendly (<http://www.climatefriendly.com>)
- These offsetting agencies have been selected based on the recommendations by a study from Tufts University (see <http://www.tufts.edu/tie/tci/carbonoffsets/index.htm>). They are in no way associated with or connected to the Electronics Goes Green Conference.

Information

EGG 2008+ CONFERENCE SECRETARIAT

During the conference, the EGG 2008+ Secretariat can be reached at the ESTREL Hotel:

Opening Times

Sunday, Sept. 7: 10.00 – 20.00

Monday, Sept. 8: 07.00 – 19.00

Tuesday, Sept. 9: 08.00 – 19.00

Wednesday, Sept. 10: 08.00 – 19.00

Phone: +49.(0)30.68 31-2 53 01

Fax: +49.(0)30.68 31-2 53 02

(please refer to "EGG 2008+")

Email: egg2008@izm.fhg.de

<http://egg2008.izm.fraunhofer.de/>

CONFERENCE LOCATION

The ESTREL Congress Center is Europe's largest congress and hotel meeting place. It is situated in the southeastern part of Berlin. Full address of the Conference Hotel:

ESTREL Congress Center

Sonnenallee 225

12057 Berlin – Germany

Phone: +49.(0)30.68 31-0

Fax: +49.(0)30.68 31-23 45

CONFERENCE LANGUAGE AND PROCEEDINGS

The official language of all presentations and the proceedings is English. The conference package will be handed out at the registration desk upon check-in.

The organizers express their thanks to the following companies and institutions for their assistance:



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Federal Ministry of Economics and Technology



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World ReUse Forum

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