

SMART PLASTICS

2nd INTERNATIONAL
C O N G R E S S
10/11 JUNE 2013

L I N Z , A U S T R I A

Connecting Senses



ENGEL

MARTIN BERGSMANN

SPEAKER OF SMART PLASTICS UPPER AUSTRIA



Welcome to the second international Smart Plastics Congress in Upper Austria. Smart Plastics connect the key competences electronics, polymers and design to the most important creation tool of the next decades. Using this tool, we will be able to give devices a skin through which they can interact with us and between themselves like intelligent assistants. Connecting natural and artificial senses to a powerful network will be one of the future development challenges – and the title of this year's congress! We look forward to an intensive dialogue about the connection of senses.

GEORG STEINBICHLER

CONGRESS PROGRAM CHAIR



There are many organisations around the world whose research and engineering activities focus on bringing wider and smarter functionality to plastic components and new product design. A multidisciplinary approach allows to access and combine diverse technologies. This leads to innovations at the intersections of electronics, polymers and design, triggering the creation of novel application solutions. A challenge within smart plastics is that the combined technologies, manufacturing techniques and created product designs have the potential to disrupt existing value chains and markets. Therefore the smart plastic platform of technologies can be used to create completely new designed products, or to enable disruptive improvements to existing products for example in areas like sensing surfaces, rapid diagnostic or for embedding novel optical or electrical features in 3D plastic products.

The main goal of the Congress is to inform about smart plastic techniques and solutions to generate ideas for new applications and products.

Connecting senses

The creation of sensory networking

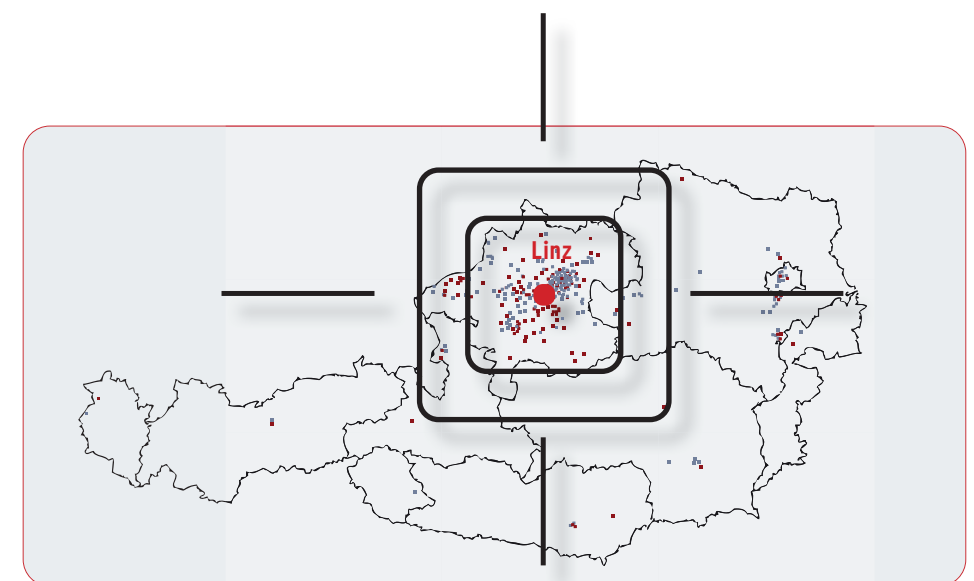
Machines, devices and plastic components of every type are receiving a second skin. Via sensors they are learning to interact with people and mediate between the world and us as intelligent assistants. This is creating a fundamental change in the quality of our perception, as we can thus amplify our senses by leaps and bounds to a previously unknown extent.

The omnipresence of computers, which has become a matter of course, in tandem with their networking, forms the infrastructure for this purpose. In the future, calculation capacity will no longer be the prime consideration, but rather the quality of physical interfaces. Smart Plastics combine the three key components comprised by electronics, plastics and design to create one of the most significant constitutive instruments for the coming decade.

For some time, we have been linked with another via the web and Smart Plastics mean that we will be increasingly involved with the things that surround us. Almost casually they will register our real activities and provide value added for us individually and collectively from the data generated.

Experience and interact with the environment. Anywhere and in real time. With the pushing back of the limits at the interfaces between humans and machines, our possibilities will multiply in an exponential manner.

Learn more about developments in the threshold area formed by plastics, electronics and design at the 2nd Smart Plastics Congress.



Source: Clusterland Oberösterreich GmbH

Legend: ■ Plastics ■ Mechatronics

OUR SPEAKERS

Panel discussion:



MARIO AIWASIAN

CTO, Development, aiwasian.com, St. Andrä Wördern, Austria
mario@aiwasian.com | www.aiwasian.com

“Smart Piano”, rewire new synapses

What increases creativity of pianists/keyboardists?
By open up a new dimension, a third dimension. To help recognize the finger position on the key, we are using smart plastics.



ALOIS FERSCHA

Head of Department, Institute for Pervasive Computing,
Johannes Kepler University Linz, Austria
alois.ferscha@jku.at | www.pervasive.jku.at

Plastic Electronics for Wearable Computing

Plastic electronics and advanced fibers converging into wearable textiles (e-textiles) have stimulated a new prospect for wearable and mobile computing platforms towards intelligent every-day clothing. Among the potentials of e-textiles are flexible displays, low power lighting and very light weight sensors.



GERFRIED STOCKER

Artistic Director, Ars Electronica Center GmbH, Linz, Austria
gerfried.stocker@aec.at | www.aec.at

The digital revolution will become interesting if the devices are no longer square and stiff, but may have shapes and surfaces that are intuitive and natural for humans.

photo: rubra



PHILIPP WEISSEL

CEO, plastic electronic GmbH, Linz, Austria
philipp.weissel@plastic-electronic.com | www.plastic-electronic.com

“Open Innovation” is like a championship at which all the players are winners

Smart Plastics require novel networks for development and production. How “Open Innovation” contributes to networking.



SIEGFRIED BAUER

Head of Department, Soft Matter Physics, Johannes Kepler University Linz, Austria
sbauer@jku.at | www.somap.jku.at

Going soft: From ultraflexible and stretchable electronics to soft robots and energy generators

Imagine an electronic integrated circuit lighter than a feather or an autumn leaf, floating through air when falling down. Such circuits are practically unbreakable and imperceptible, and may be intimately integrated in our daily life. Such circuits are possible by employing soft materials, which also form the base of soft robots and energy harvesters from renewable sources.



OLIVIER DHEZ

R&D project manager, ISORG, Grenoble, France
olivier.dhez@isorg.fr | www.isorg.fr

Organic printed optical sensor: applications and usage

ISORG is producing organic printed optical sensor. We will show the possible application and capabilities of this type of device.



OLEG FEYGENSON

Senior Principle and Chief Researcher, Algorithm Technology Research Centre (Subsidiary of GEN3 Partner, Inc), Saint Petersburg, Russia
oleg.feygenson@gen3.com | www.gen3partners.com

From invention to innovation - applying TRIZ to capitalizing on technology

TRIZ is a well known systematic approach to analyze and solve complex engineering problems. This presentation will demonstrate how TRIZ can also be employed to identify new areas of application for Smart Plastics.



STEFAN GENSER

Project Manager, PolyIC GmbH & Co. KG, Fürth, Germany
stefan.genser@polyic.com | www.polyic.com

PolyTC® Solutions Based on Transparent and Conductive Films

Transparent conductive PolyTC® films enable a multitude of applications such as touch sensor, EMI shielding, transparent heating or electrode solutions. In many ways it is the ideal substitute for the current ITO technology.



JUKKA HAST

Research Professor, VTT Technical Research Centre of Finland, Oulu, Finland
jukka.hast@vtt.fi | www.vtt.fi, www.vttprintedintelligence.fi

New hybrid integration manufacturing technologies combining printed electronics and microelectronics towards new applications and 3D electronics

New manufacturing concepts combining different printing processes, hybrid integration and injection moulding are discussed. Application demonstrators combining printing, assembled microelectronics and 3D electronics will be presented.



MARTIN KALTENBRUNNER

Researcher, Professor, Interface Culture Lab, University of Art, Linz, Austria
martin.kaltenbrunner@ufg.ac.at | <http://interface.ufg.ac.at/>

Beyond Touchscreen

In recent years can observe a tendency towards virtualization in man machine interaction, often though touchscreens or even touchless interfaces. While this may seem a desirable improvement in some scenarios, it also leads to a reduction in physical interaction and haptic feedback. Tangible User Interfaces instead allow the seamless integration of digital information into our physical environment.



ROBIN KRÜGER

Chemist/R&D, LPKF Laser & Electronics AG, Garbsen, Germany
robin.krueger@lpkf.com | <http://www.lpkf.com>

The LPKF-LDS Process: A reliable, fast and easy method to manufacture circuits on 3D- substrates

A molded interconnect device (MID) is an injection-molded plastic part with integrated electronic circuits. This presentation will give an overview of the production process and the capabilities of our patented laser-direct-structuring (LDS) process. The LPKF-LDS process is one of the most used methods for the mass production of MIDs.



BARBARA STADLOBER

Head of department, JOANNEUM RESEARCH Forschungsgesellschaft mbH, Institute for Surface Technologies & Photonics, Weiz, Austria
barbara.stadlober@joanneum.at | www.joanneum.at

PyzoFlex™ – An all-printed sensor network for human-machine interfaces, dynamic pressure mapping and piezoelectric energy harvesting

PyzoFlex™ is an all-printed sensor technology composed of a matrix of capacitive sensor devices based on very robust ferroelectric polymers and printable electrode materials. It captivates with its high sensitivity, the fast reaction times, the unlimited scalability, the self-sufficient operation, the high lateral resolution and the excellent environmental stability. Applications range from human-machine interfaces over square meter piezoelectric sensor films to energy harvesting systems.



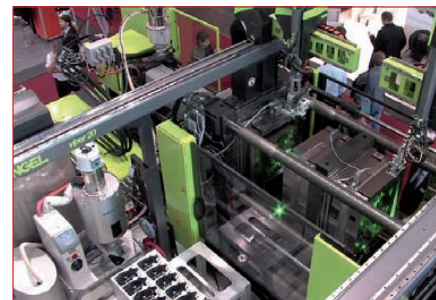
NORMAN STARKE

Managing Director, Proof Technologies, Munich, Germany
norman.starke@proof-technologies.de | www.proof-drives-innovation.com

Design Concepts for Future Vehicles, New Rules in Automotive Design through Material Oriented Integration of Functions

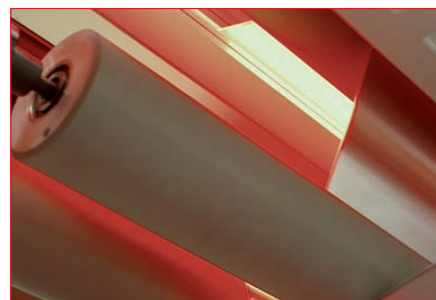
Newly defined customer expectations, the wish to adopt renewable energies, the realisation of electrical and hybrid vehicle drive-train technologies and the discussion on CO2 attribute a high value to the integration of additional functions into parts of the vehicle surface. Thanks to new methods, light-weight materials such as high-end plastics nowadays allow for the integration of various and multiple functions.

ENGEL



The world of ENGEL. Efficient. Innovative. Reliable. We always look to the future. As the world market leader, we offer our customers injection moulding technologies, machines and automated production cells for new and innovative smart plastic products.

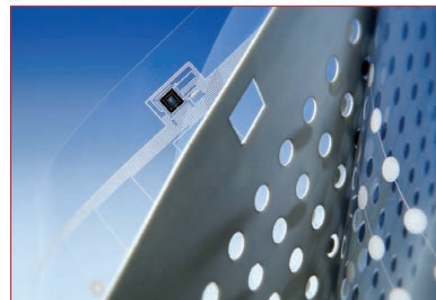
www.engelglobal.com



HUECK FOLIEN offers tailor-made solutions for innovative label stock, premium surface laminates and high security features. Our functional films give various products a smart surface to interact with others.

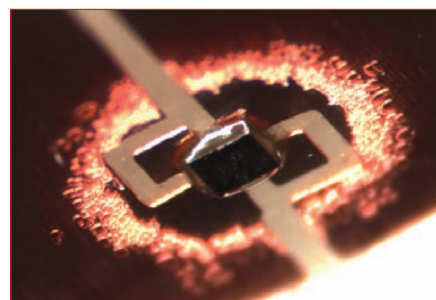
www.hueck-folien.at

plastic^{electronic}



plastic^{electronic} is an internationally networked technology company which develops, produces and markets intelligent multi-layer plastic films. These **multiskin** films are individually designed in order to meet specific requirements of particular processing and applications. The several layers of **multiskin** films – protection layers, functional layers

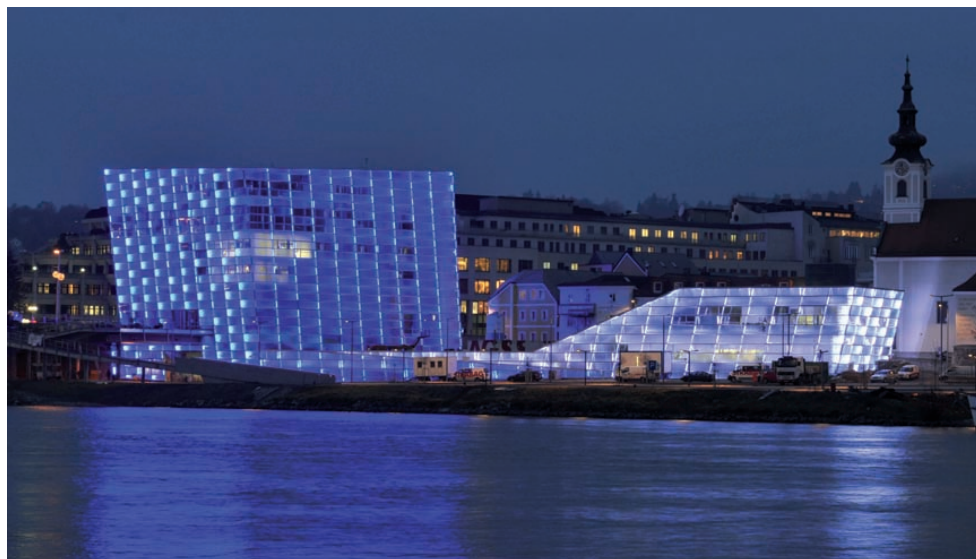
and décor layers – give products like **touchskin** and **storeskin** a functional, smart-looking and resistant surface. www.plastic-electronic.com



The integration of operating functions and premium surfaces in injection moldings is part of our business. In order to combine competence we engage ourselves in technical cooperations with leading companies.

www.schoefer.at

LOCATION/PROGRAM



Quelle: Stadtkommunikation Linz

LOCATION: ARS ELECTRONICA CENTER (AEC)

Since 1979, Ars Electronica has been investigating the consequences of the Digital Revolution – an upheaval that has morphed constantly over the years without the slightest diminishment of its dynamic power. Quite the contrary. A place just perfect for the 2nd international Smart Plastics Congress.

PROGRAM: 1ST CONGRESS-DAY

MONDAY, JUNE 10, 2013

15:00 - 17:00

Registration

16:00 - 17:00

Guided Tour Ars Electronica Center (optional)

17:00 - 17:30

Martin Bergsmann

CEO Hueck Folien GmbH, Speaker of Smart Plastics Upper Austria
Welcome to the 2nd Smart Plastics Congress

17:30 - 18:30

PANEL DISCUSSION

Hosted by Dietmar Mascher, Chief editor economic bureau OÖ Nachrichten

Mario Aiwasian

Alois Ferscha

Gerfried Stocker

Philipp Weissel

19:00 - 21:30

Congress Dinner

The CUBUS restaurant, located in the AEC upper floor will be an adequate location to get together

PROGRAM: 2ND CONGRESS-DAY

TUESDAY, JUNE 11, 2013

Registration

OPENING OF THE CONGRESS

Georg Steinbichler

Program Chair of Smart Plastics Congress
ENGEL Austria GmbH, Johannes Kepler University Linz

Ekkehard Redhammer

Honorary Consul of France
Welcome of the French participants, connected via live-stream

Jukka Hast

New hybrid integration manufacturing technologies combining printed electronics and microelectronics towards new applications and 3D electronics

Siegfried Bauer

Going soft: From ultraflexible and stretchable electronics to soft robots and energy generators

Coffee Break

Stefan Genser

PolyTC® Solutions Based on Transparent and Conductive Films

Martin Kaltenbrunner

Beyond Touchscreen

Lunch

Oleg Feygenson

From invention to innovation - applying TRIZ to capitalizing on technology

Norman Starke

Design Concepts for Future Vehicles. New Rules in Automotive Design through Material Oriented Integration of Functions

Barbara Stadlober

PyzoFlex™ – An all-printed sensor network for human-machine interfaces, dynamic pressure mapping and piezoelectric energy harvesting

Coffee Break

Olivier Dhez

Organic printed optical sensor: applications and usage

Robin Krüger

The LPKF-LDS Process: A reliable, fast and easy method to manufacture circuits on 3D- substrates

Georg Steinbichler

Summary and end of congress

8:30 - 9:00

9:00 - 9:20

9:20 - 9:55

9:55 - 10:30

11:00 - 11:35

11:35 - 12:10

13:20 - 13:55

13:55 - 14:30

14:30 - 15:05

15:30 - 16:05

16:05 - 16:40

16:40 - 17:00

DATA AND REGISTRATION

Board of the Smart Plastics Initiative:



Speaker:
Martin Bergmann
Hueck Folien GmbH



Vice Speaker:
Gerald Schöfer
Schöfer GmbH

<p>Georg Steinbichler ENGEL AUSTRIA GmbH</p>	<p>Peter Kügl KEBA AG</p>	<p>Martin Bergmann Hueck Folien GmbH</p>	<p>Gerald Schöfer Schöfer GmbH</p>
<p>Philipp Weissel plastic electronic GmbH</p>	<p>Mario Zeppetbauer formquadrat GmbH</p>	<p>Hermann Mittermair Brands and Friends GmbH</p>	<p>Franz Padinger Botest Printed Sensors GmbH</p>
<p>Barabara Stadlober JOANNEUM RESEARCH Forschungsgesellschaft mbH</p>	<p>Andreas Persch SApro Handels GmbH</p>	<p>Harald Bader Niebling GmbH</p>	<p>Manfred Haiberger haratech Manfred Haiberger</p>
<p>Wolfgang Auer MKW electronics GmbH</p>	<p>Ekkehard Redlhammer Dynaxity Consulting GmbH</p>		

Contact:

Initiative Smart Plastics
Clusterland Oberösterreich GmbH
Jürgen Dienstl
Hafenstrasse 47-51, A-4020 Linz
Tel.: +43 732 79810-5111
Fax: +43 732 79810-5110
office@smart-plastics.com
www.smart-plastics.com

Imprint: The Initiative Smart Plastics is part of activities of Clusterland Oberösterreich GmbH, Hafenstrasse 47-51, A-4020 Linz, info@clusterland.at, www.clusterland.at
All data and information on this folder is, despite careful editing, without guarantee. Liability is excluded.



Organisation

Congress language: English

Conference fees:

June, 10-11, 2013 incl. evening reception **750 €**
Early booking discount until 17th of May **650 €**

Live streaming on congress day (June 11 only)
incl. presentation download afterwards **200 €**

For cluster members (AC, KC, MC, Cluster New Materials Bavaria) a discount of 10% will be given. For every additional person from the same company a 20% reduction will be given.

Fees excl. 20% VAT

The respective conference fees include evening reception on the 1st day, coffee and lunch breaks and presentation download afterwards.

Terms of application:

Following written registration, a confirmation will be provided. Registration can be cancelled in writing up to 10 calendar days prior to the event free of charge. Otherwise, if the registered person fails to attend, another person may replace the registered attendee. The entire amount is to be paid after this date. Please transfer the full amount immediately upon receipt of our invoice after the event.

Exception: Access to live-stream link will be granted only upon receipt of payment prior to the event.

Registration:

Please register by enclosed fax template, e-mail to congress@smart-plastics.com or use our electronic registration form www.smart-plastics.com/registration

Accommodation:

For further information on accommodation in Linz please contact Linz City Tourist Board, Hauptplatz, 4020 Linz, tel. +43 732 7070 2009 , fax: +43 732 7070 54 2009
tourist.info@linz.at, www.linz.at/tourismus

Congress Partner Hotels: Booking Code „Smart Plastics Congress“

Spitz Hotel

Fiedlerstrasse 6, A-4040 Linz
Tel.: +43 732 733 733
reservation@spitzhotel.at
www.spitzhotel.at

SPITZ HOTEL

Landgraf Hotel & Loft

Hauptstrasse 12, A-4040 Linz
Tel.: +43 732 700 712
info@hotellandgraf.com
www.hotellandgraf.com

HOTEL & LOFT
LANDGRAF

presented by



Location:

Ars Electronica Linz GmbH
Ars-Electronica-Straße 1
4040 Linz, Austria
www.aec.at



Connecting Senses

www.smart-plastics.com



CLUSTERLAND
OBERÖSTERREICH GmbH



Media Partner

Kunststoffe
www.kunststoffe.de