2nd Symposium on Automation in Composite Technology

Neue Messe München

AUTOMATICA

INNOVATION AND SOLUTIONS

5th International Trade Fair for Automation and Mechatronics

24th May - 25th May, 2012

Website: www.sampe-europe.org
E-Mail: sebo@sampe-europe.org
## SAMPE EUORPE 2nd International Symposium SEMAT 12 Munich

### At a Glance

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### Thursday, May 24th

- **08.00 – 16.30** Registration
- **09.00 – 17.30** Sessions
- **09.00 – 09.30** Opening & Key-Note
  - **Opening SEMAT 12, K. Drechsler**
  - **Past-President SAMPE Europe**
  - **Key-Note** Paper 13 Actual Status of Automation for Advanced Composites and outlook for complementary developments
  - **Speaker:** Otto Kellenberger, KUKA Augsburg
- **09.30 – 10.00** Coffee Break
- **10.00 – 12.00** Session 1
  - **Session 1 – Automation Technology for Car Industry**
    - **Chairman:** K. Drechsler
    - **P 04, Speaker:** Reinier van Dijk, TU Delft
    - **P 05, Speaker:** Stefan Carosella, UNI Stuttgart
    - **P 06, Speaker:** Christian Sorg, BMW Group
    - **P 01, Speaker:** Karl-Otto Strömberg, FlexProp AB
- **12.00 – 13.00** Lunch
- **13.00 – 15.00** Session 2
  - **Session 2 – Fibreplacement & Preform Application**
    - **Chairman:** t.b.a.
    - **P 02, Speaker:** Timo Driessen, BROETJE Automation
    - **P 12, Speaker:** Felix Fröhlich, TU Munich
    - **P 15, Speaker:** Henning Wagner, KIT Karlsruhe
    - **P 11, Speaker:** Andreas Glück, IWB Augsburg
- **15.00 – 15.30** Coffee Break
- **15.30 – 17.00** Session 3
  - **Session 3 – Advancements in Robotics**
    - **Chairman:** t.b.a.
    - **P 10, Speaker:** Michael Muser, Ingersoll
    - **P 17, Speaker:** Guido Jaeger, KSL, Lorsch
    - **P 18, Speaker:** Johannes Treiber, Coriolis
    - **P 27, Speaker:** Anders Brodsjo, AIRBORNE

### Friday, May 25th

- **08.30 – 10.00** Session 4
  - **Session 4A – Automation Technology for Aerospace Industry**
    - **Chairman:** t.b.a.
    - **P 07, Speaker:** Andreas Strobel, Eurocopter Ottobrunn
    - **P 03, Speaker:** Stefan van der Elst, KE-works BV
    - **P 08, Speaker:** Ulrich Ebert, Eurocopter Ottobrunn
- **10.30 – 12.30** Session 5
  - **Session 5 – Material & Modelling Aspects**
    - **Chairman:** R. Ziegmann
    - **P 23, Speaker:** Massimilano Moruzzi, CYTEC
    - **P 16, Speaker:** Michael Kupke, DLR
    - **P 26, Speaker:** Olaf Leonhardt, SCA Schucker GmbH
    - **P 24, Speaker:** Samuel Hill, CYTEC
- **12.30 – 14.00** Lunch
- **14.00 – 15.30** Session 6
  - **Session 6 – Novel Aspects for Automation**
    - **Chairman:** Mark Erath
    - **P 20, Speaker:** Martin Styer, Manz Tübingen GmbH
    - **P 22, Speaker:** Stefan Thumfart, Profactor GmbH
    - **P 25, Speaker:** Adriano Di Pietro, Quickstep Technologies Pty Ltd.
- **15.30 – 15.45** Closing SEMAT 12
- **15.45 – 16.15** Coffee Break

### 17.30 – 22.30 SETEC Dinner integrated in AUTOMATICA Bavarian Evening
Dear Attendee and dear SAMPE Member,

We are pleased to welcome you to attend SEMAT 12 Munich Symposium focusing on requirement and progress of automation in different industrial market-segment.

The aim of the Symposium is to provide to its attendee in deep going information on the constant changing requirements in regard of innovation, automation and progress to achieve to provide to the industry involved the required advantage in technology – ecology and commercial success in the market segment involved by means for an ongoing process to define and achieve complementary target of automation under sustainable conditions.

The AUTOMATICA –Exhibition provides a very extended spectrum of the technology engaged in today’s Automation and offers therefore to each SEMAT attendee the possibility to find possibly any answer to any question from the exhibitors present at SEMAT 12.

The structure of the papers to be presented at SEMAT 12 foresees that for each presentation the respective speakers saves a 5 minutes time-block to answer questions from the audience. Please take an advantage form this possibility to get a good information basis for your interests or projects.

This year’s SEMAT Symposium Dinner will be organized on Thursday evening as an integrated element of the AUTOMATICA Exhibitor evening proving to you all the possibility to meet with a very large field of specialist in Automation.

SAMPE Europe wishes you a successful and rewarding stay here in Munich and does express its gratitude for you attendance to SEMAT 12.

Mark Erath
Symposium Manager, Past President
SAMPE Europe – 2nd International SEMAT 12 Symposium Munich

PROGRAMME on Thursday, May 24th 2012

09.00 – 09.30 Opening and Key-Note Presentation

Opening
Welcome address by Prof. Klaus Drechsler, TU Munich
Past-President SAMPE Europe

Key-Note:
Paper 13 – Actual Status of Automation for Advanced Composites and
Outlook for complementary developments
Speaker: Otto Kellenberger, KUKA Augsburg
Authors: O. Michael, O. Kellenberger, KUKA Robotics, Augsburg

09.30 – 10.00 COFFEE BREAK

10.00 – 12.00 Session 1 – Automation Technology for Car Industry
Chairman: K. Drechsler, TU Munich

Paper 04: Intelligent Design Software for a smart Car – Knowledge based
Engineering in the Automotive Industry
Speaker & Author: Reinier van Dijk Technical University Delft, Delft, NL

Paper 05: Tailored Fibre Placement – an option for automated
high volume Preform Production
Speaker & Author: Stefan Carosella, Universität Stuttgart, IFB Institut, Stuttgart

Paper 06: Artificial Intelligence in high-volume Composite Manufacturing
Speaker: Christian Sorg, BMW Group, Landshut
Authors: Markus Kühberger, Christian Sorg, BMW Group, Landshut

Paper 01: Light Weight Production Technology
Speaker & Author: Karl-Otto Strömberg, Flexpro AB., S-302 41 Halmstad

12.00 – 13.00 LUNCH

13.00 – 15.00 Session 2 – Fibreplacement & Preform Application
Chairman: t.b.a.

Paper 02: Dry-Fiber-Placement with a Standard Articulating Robot System
Speaker: Timo Dierssen, BROETJE-Automation GmbH
Authors: Timo Dierssen, Christian Weimer, Eurocopter Deutschland

Paper 12: Automated Manufacturing of Carbon Fiber Preforms
using the Brading Technology
Speaker: Felix Fröhlich, Technical University Munich, Garching
Authors: Olaf Rüger, Felix Fröhlich, Technical University Munich, Garching

Paper 15: Overcoming the challenges of automated performing of semi-finished Textiles
Speaker: Henning Wagner, Karlsruher Institut für Technologie (KIT), Karlsruhe
Authors: H. Wagner, Ing. Brandt, KIT Karlsruhe
**Paper 11:** Automated Process Chain for the Manufacturing of FRP  
**Speaker:** Andreas Glück, iwb Anwendungszentrum Augsburg, Geschäftsfeld Montagetechnik, Technical University Munich, Garching  
**Authors:** Günther Reinhardt, Claudia Ehinger, Andreas Glück, iwb Anwendungszentrum, Augsburg

**15.00 – 15.30**  
**COFFEE BREAK**

**15.30– 17.00**  
**Session 3 – Advancements in Robotic**  
**Chairman:** t.b.a.

**Paper 10:** Overall Cost Reduction by selection of the right Fiber Placement  
**Speaker & Author:** Michael Muser, Ingersoll Machine Tools Inc., USA

**Paper 17:** 3D Application for technical Textiles  
**Speaker:** Guido Jaeger, KSL Sondermaschinenbau, D-64653 Lorsch  
**Authors:** Robert Keilmann, Guido Jaeger, KSL Sondermaschinenbau, Lorsch

**Paper 18:** Recent advances in robotic automated deposition of different materials  
**Speaker & Author:** Johannes Treiber, Coriolis Composites GmbH., D-86159 Augsburg

**Paper 27:** A Composite Manufacturer’s perspective on automation: Low-Cost, Product-Dedicated and in house developed  
**Speaker:** Anders Brodsjo, AIRBORNE Technology, NL-2497 GB Den Haag  
**Authors:** Menno Verkade, Marcus Kremers, Anders Brodsjo, AIRBORNE Technology, Den Haag

**17.30 – 22.30**  
**SEMAT DINNER integrated at AUTOMATICA BAVERIAN Evening at the AUTOMATICA ICM – Foyer 1 – next to the Entrance Gate West**

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**PROGRAMME on Friday, May 25th 2012**

**08.30 – 10.00**  
**Session 4 – Automation Technology for Aerospace Industry**  
**Chairman:** t.b.a.

**Paper 07**  
Automated Assembly and Bonding Technologies for Advanced Helicopters  
**Speaker:** Andreas Strobl, Eurocopter Deutschland, Ottobrunn  
**Authors:** Christian Weimer, Helmut Wehlan & Andreas Strobl, Eurocopter Deutschland, Ottobrunn

**Paper 03**  
Implementing Knowledge based Engineering in Industry: Automated Electrical Wire Harness Design in Aircraft  
**Speaker:** Stefan van der Elst, KE-works BV., NL-2629 JD, Delft  
**Authors:** Jochen Berends, Jacques Wildemast, Stefan van der Elst, KE-works BV.,

**Paper 08**  
Innovations for the manufacturing of Composite Helicopter Structures  
**Speaker & Author:** Ulrich Eberth, Eurocopter Deutschland, Ottobrunn
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<td>Paper 23:</td>
<td>Modeling Material Kinematics Behaviour during Manufacturing Layup Processes</td>
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<tr>
<td>Speaker:</td>
<td>Massimiliano Moruzzi, CYTEC UK</td>
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<tr>
<td>Authors:</td>
<td>Robert Blackburn, Massimiliano Moruzzi, CYTEC UK</td>
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<tr>
<td>Paper 16:</td>
<td>Development of an automated production with integrated Quality Management</td>
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<td>Speaker &amp; Author:</td>
<td>Michael Kupke, DLR</td>
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<td>Paper 26:</td>
<td>Metering Technology – The Way to automated Composite Production</td>
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<tr>
<td>Speaker:</td>
<td>Olaf Leonhardt, SCA Schucker GmbH &amp; Co. KG., D-75015 Bretten</td>
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<tr>
<td>Authors:</td>
<td>Thomas Schmidt, Olaf Leonhardt, SCA Schucker GmbH &amp; Co. KG.,</td>
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<td>Paper 24:</td>
<td>Material Advances for Automation in Resin Infusion</td>
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<tr>
<td>Speaker &amp; Author:</td>
<td>Samuel Hill, CYTEC UK</td>
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<td>12.30 – 14.00</td>
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<td>Chairman: M. Erath, ACMC Consulting</td>
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<td>Paper 20:</td>
<td>Fiber Patch Preforming highly efficient Process for Preform Production</td>
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<tr>
<td>Speaker:</td>
<td>Martin Steyer, Manz Tübingen GmbH., Tübingen</td>
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<tr>
<td>Authors:</td>
<td>Christoph Breu, EADS Innovation Works, Martin Steyer, Manz Tübingen</td>
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<td>Paper 22:</td>
<td>Vision based Sensors enabling automated production of Composite Material</td>
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<tr>
<td>Speaker:</td>
<td>Stefan Thumfart, Profactor GmbH., A-4407 Steyr-Gleink</td>
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<tr>
<td>Authors:</td>
<td>Werner Palfinger, Christian Eitzinger, Stefan Thumfahrt, Profactor GmbH.,</td>
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<td>Paper 25:</td>
<td>RST – A Cost Effective Technology for High Quality Automotive Panels</td>
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<tr>
<td>Speaker:</td>
<td>Adriano Di Pietro, Quickstep Technologies Pty Ltd., Bankstown Airport, NSW 2200, Australia</td>
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<tr>
<td>Author:</td>
<td>Jens Schlimbach, Quickstep GmbH., D-85521 Ottobrunn</td>
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Invitation to become a member of SAMPE Europe

SAMPE Europe with now 14 National and Regional Organisations and Chapters are providing to each of the more than 1200 members a rewarding network on local, national, European and worldwide contacts through meetings, seminars, symposiums and conferences with the latest information and presentation of state-of-the-art Research Work, Development, Testing and Application references from Industry.

The SAMPE Journal with its six issues per year is circulated free of charge to all the SAMPE members worldwide, providing in each edition reports on selected technical Topics and the latest news and opinions of Advanced Composite Technology and reference the sources and origins.

The worldwide network of SAMPE covers more than 5000 members which provides an outstanding return to each individual member, compared to the annual membership fee of only € 80.00 per year.

If you are interested to subscribe for a membership please refer to the registration-desk where application forms are available – or visit the SAMPE Europe homepage under www.sampe-europe.org where detailed information and the application form is available.

SAMPE members get a significant reduction of registration fees applied for all SAMPE Europe Conference and Symposium!

SAMPE Europe will be very pleased to welcome you soon as a new member!

For further contacts visit the SAMPE Europe homepage under www.sampe-europe.org or contact the Membership-Service of SAMPE Europe under its e-mail Address: hm8461@bluewin.ch
Sponsor support to organize SEMAT 12

SAMPE Europe, acting in all its activities as a volunteer organisation greatly appreciates the very generous Sponsorship from the following 10 Organisations and Companies for the setting-up and realization of the SEMAT 12 Symposium:

To become a Sponsor of the coming events of SAMPE Europe: SEMAT 12 Lucerne Conference & Table Top Exhibition – SEICO 13 Conference Paris – please do contact SAMPE Europe via e-mail: sebo@sampe-europe.org