

# SAMPE Europe

SETEC 09



SAMPE EUROPE Technical Conference  
and «Table-Top» Exhibition

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Mansion TORTWORTH COURT  
Four Pillars Hotel  
FILTON / Bristol, UK  
September 17<sup>th</sup> – 18<sup>th</sup> 2009

## High Performance Composites for a Changing World



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A-350 XWB

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Website [www.sampe-europe.org](http://www.sampe-europe.org)  
E-Mail [sebo@sampe-europe.org](mailto:sebo@sampe-europe.org)

General Time - Table SETEC 09 – Programme at a Glance

WEDNESDAY, Sept. 16 <sup>th</sup> 09		THURSDAY, Sept. 17 <sup>th</sup> 09		FRIDAY, Sept. 18 <sup>th</sup> 09	
10.00 – 17.00	Table Top building up	09.00 – 15.00	<b>Registration</b>	08.00 – 16.00	<b>Registration</b>
17.00 – 19.00	<b>Registration</b>	09.00 – 15.20	Table Top Exhibition	09.00 – 10.30	<b>Session 1</b> Sandwich Structures <i>Chairman: Klaus Drechsler</i>
18.00 – 19.30	<b>Welcome reception</b> Table Top Exhibition Area	09.00 – 09.30	Welcome Coffee & Tea		Paper N° 7
		09.30 – 10.00	SETEC 09 Opening		Paper N° 12
			<b>Key-Note 1</b> Iain Gray <i>Chairman: Luigi Torre</i>	10.30 – 11.00	Paper N° 24
		10.00 – 12.00	<b>Session 1</b> Advances in Manufacturing Processes <i>Chairman: Andrew Long</i>		<b>Coffee &amp; Tea</b>
			Paper N° 1	11.00 – 13.00	<b>Session 4</b> Novel Applications <i>Chairman: Bruno Beral</i>
			Paper N° 17		Paper N° 5
			Paper N° 31		Paper N° 13
			Paper N° 32		Paper N° 16
		12.00 – 13.00	<b>Lunch</b> Exhibition Area	13.00 – 14.00	Paper N° 27
		13.00 – 15.00	<b>Session 2</b> Developments in Lightweight Materials <i>Chairman: David Phipps</i>		<b>Lunch</b> Exhibition Area
			Paper N° 2	14.00 – 14.30	<b>Key-Note 2</b> Bob John <i>Chairman: Leslie Cohen</i>
			Paper N° 3		<b>Session 5</b>
			Paper N° 15		Out of Autoclave Processing <i>Chairman: Roy McCarthy</i>
			Paper N° 22		Paper N° 25
		15.00 – 18.00	<b>AIRBUS Filton Visit</b>		Paper N° 28
		19.30	<b>SETEC 09 Dinner</b> Tortworth Court Hotel		Paper N° 29
				14.30 – 16.30	Paper N° 35
					<b>Closure SETEC 09</b> <i>Chairman: Andrew Long, Head UK Organizing Committee</i>



## **SAMPE Europe SETEC 09 FILTON Technical Conference & Table Top Exhibition**



### **Dear Attendees, Guests & SAMPE Members**

Welcome in Filton, in this amazing location, to attend our forth SAMPE Europe Technical Conference and Table Top Exhibition SETEC 09

Also this year, the Organizing Committee has made a great effort to set up a very interesting program, with presentations and papers on the most advanced applications of high performances composites. I really think, and hope, that you will enjoy the program and the activities which will have as main theme “High Performance Composites for a Changing world”.

This year, has been a very hard year. The worldwide financial crisis has had bad consequences for all the sectors, and of course advanced composites could not be immune. In order to overcome these bare wires, competitiveness, high technology level, and creation of new markets are of fundamental importance. Composites and advanced material possess all these characteristics.

Composites still keep the great potential they had at the beginning of their introduction, and the aim of conferences like this on is to show the most recent advances and to stimulate people to innovation.

The main mission of SAMPE and SAMPE EUROPE is to promote and diffuse the “culture of advanced materials” and to be a reference for the advanced materials and composite community. When we say composite community, we mean all the people that work with it, scientist, engineers, sellers dealers, academic and students. This conference is aimed to all this people, which I am sure will enjoy the quality of the papers and the possibility of networking.

The Table top exhibition, which will run in parallel, and in the same area of the conference, will give you the possibility to be in touch with dealers, sellers and producers of composites, composites technologies, and accessories. The friendly environment that we have created will help to build up new relations and business.

As usual we are going to have a tour to a plant in this case you will have the possibility to visit AIRBUS Filton.

Finally I would like to thank the Sponsors. SAMPE Europe express his gratitude to Airbus, Hitco Carbon Composite, Xperion, CKN Aerospace Toho Tenax. Thank for your contribution to the realization of this event.

I wish you a pleasant and fruitful stay in Filton

Prof. Luigi Torre  
President SAMPE Europe

## FINAL PROGRAMME

### Wednesday, September 16<sup>th</sup> 2009 **Table Top Building-Up – Welcome Reception**

10.00 – 17.00	TABLE TOP building up
17.00 – 19.00	SETEC 09 REGISTRATION
18.00 – 19.30	WELCOME RECEPTION For Attendees and Table Top Exhibitors

### Thursday, September 17<sup>th</sup> 2009

09.00 – 15.00	REGISTRATION
09.00 – 09.30	<b>Welcome Coffee &amp; Tea</b>
09.00 – 15.00	Table Top Exhibition
09.30 – 10.00	<b>Plenary Conference Auditorium</b> <b>SETEC 09 Opening &amp; Welcome Address</b> Chairman: Luigi Torre, President SAMPE Europe
	<b>Key-Note Address I: The Business of shaping the Future High Performance Composite Industry</b> Speaker: Iain Gray, UK Technology Strategy Board
10.00 – 12.00	<b>SESSION I – Advances in Manufacturing Processes</b> Chairman: Andrew Long
<i>Paper 1)</i>	<b>Machining of Composites with Abrasive Waterjets</b> Speaker & Author: Ralf Moeller, Flow Corp. D-Bretten
<i>Paper 17)</i>	<b>Carbon Fibre Materials, Design and Processing for Low Cost Damage Resistant Wing Structures for UAVs</b> Authors: A.R. Mills, J. Hurley, J.A. Jones Speaker: Andrew R. Mills, Grand Field University
<i>Paper 31)</i>	<b>Novel One-Shot Manufacturing Concept for Composite Box Structures</b> Author & Speaker: Tim Fell, EDISRB, AIRBUS UK
<i>Paper 32)</i>	<b>Opportunities for Automation within the Manufacture of Future Commercial Aircraft Structures</b> Speaker & Author: John Cornforth, GKN Aerospace, CRC, East Cowes, UK
12.00 – 13.00	<b>LUNCH at Table Top Exhibition Area</b>
13.00 – 15.00	<b>SESSION 2 – Developments in Lightweight Materials</b>
09.00 – 15.20	Chairman: David Phipps
<i>Paper 2)</i>	<b>Next Generation Carbon Fibre</b> Speaker & Author: Julian Lowe, Toho Tenax Europe, D-Wuppertal
<i>Paper 3)</i>	<b>Simulation of Thermoplastic Forming Process</b> Speaker & Author: Josef Krena, Latecoere, CZ-Praha

*Paper 15)*      **Advanced Damage Tolerance of CFRP Laminates using in-Situ Polymerised Thermoplastics**  
 Authors: A. Erber, D. Gittel, O. Geiger, K. Drechsler, F. Henning  
 Speaker: A. Erber, Institute for Aircraft Design, University Stuttgart

*Paper 22)*      **Experimental and numerical parameter studies of foldcores**  
 Authors: S. Fischer, Marc Grzeschik, K. Drechsler  
 Speaker: S. Fischer, Institute for Aircraft Design, University Stuttgart

15.00 – 18.00

**Visit AIRBUS Filton Plant  
 including A-400M Wing Assembly Line**

19.30 – 23.00

**SETEC 09 CONFERENCE DINNER**  
 Mansion TORTWORTH COURT Four Pillars Hotel

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**Friday, September 18<sup>th</sup> 2009**

08.00 – 16.00      REGISTRATION

08.30 – 16.00      Table Top Exhibition

09.00 – 10.30      **SESSION 3 – Sandwich Structures**  
 Chairman: Klaus Drechsler

*Paper 7)*      **Approaches to automating the Manufacture of Complex Sandwich Panels**  
 Speaker & Author: Kewin Potter, University of Bristol

*Paper 12)*      **Design, Manufacture and Testing of a Regional Jet Composite Auxiliary Fuel Tank**  
 Authors: T. Bertenshow, G. Kenworthy, J. Lee, M. Royle, N. Savage  
 Speaker: James Lee, Cobhoun Composites Technology

*Paper 24)*      **Potential of High Performance Foldcores made out of PEEK**  
 Authors: M. Grzeschik, K. Drechsler, S. Fischer  
 Speaker: Rainer Kehrle, Institute for Aircraft Design, University Stuttgart

10.30 – 11.00      **Coffee & Tea at Table Top Area**

11.00 – 13.00      **SESSION 4 – Novel Applications**  
 Chairman: Bruno Beral

*Paper 5)*      **Using Composites and Modelling Tools to achieve lighter AFVs**  
 Author & Speaker: Mark French, QinetiQ, Farnborough, UK

*Paper 13)*      **The Technical and Political Problems of Making Structural Composites for the Automotive Industry**  
 Author & Speaker: Bevis Musk, Dymac Racing UK LTD., Wiltshire

*Paper 16)*      **A Revolution in Hybrid Manufacture**  
 Author & Speaker: Jonathan Meyer, EADS AIRBUS UK

*Paper 27)*      **Composite Wing Spar Development for A-350 XWB**  
 Author & Speaker: Paolo Lage, AIRBUS UK

- 13.00 – 14.00 **LUNCH at Table Top Exhibition Area**
- 14.00 – 14.30 **Key-Note Address 2:  
A Perspective on the future on Non-Aerospace High Performance Composites**  
Chairman: Leslie Cohen  
Author & Speaker: Bob John, TWI National Composites Network
- 14.30 – 16.30 **SESSION 5 – Out-of-Autoclave Processing**  
Chairman: Roy Mc.Carthy
- Paper 25) **Automated Liquid Resin Moulding**  
Speaker & Author: Henri Hiblot, ISOJET, Lyon, France
- Paper 28) **No Pressure!**  
Author & Speaker: Ebby Shaihide, Advanced Composites Group Heanor, Derbys, UK
- Paper 29) **Manufacturing Process Simulation TOOLS for faster Industrialisation of Composites Parts**  
Authors: C. Weimer, F. Dumont  
Speaker: Christian Weimer, Eurocopter, D-Donauwörth
- Paper 35) **Automatic application of Liquid Mould Agents in an Aerospace Environment**  
Authors & Speaker: Fernando Casteo, Zyvac Europe, E-Valencia
- 16.00 – 18.00 Dismantle Table Top Exhibition
- 16.30 – 16.40 **Closing SETEC 09**  
Chairman: Andrew Long,  
Co-Chairman: SETEC 09 Organizing Committee

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## SETEC 09 TABLE TOP EXHIBITORS



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|--|--|
| 1 Simulay LTD., Woking, GU24 8NX, GB                 | 16 A G Y, NL-4617 GB Bergen-up-Zoom                  |
| 2 Weiss Gallenkamp, Longborough, LI1 3GE, GB         | 17 Technical University of Athens, GR-15780 Zografou |
| 3 Componeering Inc. / IDAC LTD, Helsinki, Finland    | 18 Xperion GmbH., D - 88090 Immenstaad               |
| 4 SENSITECH BV., NL-2153 PM Nieuw-Vennep             | 19 TYGAVAC Advanced Materials, Rochdale, OU6 5LX, GB |
| 5 Mettler-Toledo LTD., Beaumont LE4 1AW, GB          | 20 ISOJET Equipment, F-69960 (Lyon)                  |
| 6 aktins ltd., Almondsbury, BS32 4RZ, GB             | 21 FLOW UK, Hickley LE10 1YG, GB                     |
| 7 SAMPE Europe                                       | 22 CLICK BOND INC., Neston CH64 3TF, GB              |
| 8 ESI Group UK, Oxford OX4 4GA, GB                   | 23 JEC PARIS, F-75016 Paris                          |
| 9 TEN CATE Advanced Composites, NL-7443 PV Nijverdal | 24 BENETEC LTD., Rugby CV21 1PB, GB                  |
| 10 RDR AEROSPACE / ZYVAX, Huntingdon, PE29 6EB, GB   | 25 NETZSCH Instruments, Aldridge WS9 8UG, GB         |
| 11 GERBER TECHNOLOGY LTD., Manchester M50 2UE, GB    | 26 free  |
| 12 COEXPAIR SA., B - 5190 SPY, Belgium               | 27 GRANTA DESIGN, Cambridge CBI 7EG                  |
| 13 free  | 28 A C P, Bradley Stoke, Bristol, BS32 4JT, GB       |
| 14 Tejima GmbH., D - 72674 Winterlingen              | 29 AIRBORNE COMPOSITES BV., NL-2497 The Hague        |
| 15 C2 COMPOSITES ltd., Newton Abbot, TQ12 4PB, GB    |  |



SETEC 09

**Sponsor of SETEC 09 Conference & Table Top Exhibition**

SAMPE Europe and SAMPE UK & Ireland Chapter are very pleased to have gained the support and sponsorship of the five leading companies named here below.

**SAMPE Europe greatly appreciates the honorable sponsorship from the following Organisations and Companies:**



HITCO CARBON COMPOSITES, INC.

xperion



GKN AEROSPACE



**SETEC 09 BRISTOL AIRPORT – TORTWORTH COURT FOUR PILLARS HOTEL  
TAXI SHUTTLE SERVICE ON ARRIVAL AND DEPARTURE**

For all attendees arriving at BRISTOL International Airport a Taxi Shuttle Service is available from the Airport to the Conference Hotel and vice-versa by **Checker Cars Taxi**.

Please book your transportation needs ahead of arrival and departure on the WEBSITE of Checker Cars Bristol Airport: <http://checkercars.com/Bristol%20Airport%20Taxi.html>

On arrival, when leaving the Terminal, follow the Taxi signs to **Checker Cars**, turn left into a covered walkway to the Checker Office located a short way down on the left hand side.

At the Checker Office, based on your pre-booking you will be allocated to a Taxi to bring you to the Conference Hotel. Ad-hoc booking is also possible but electronic booking is recommended.

The payment can be made either at the time of electronic booking by debiting to your credit-card or **in cash to the driver**.

Prices for 1 Taxi with up to 4 passengers is £ 54.00 (€ 63.00) each way. Therefore if you can share the trip with 3 other attendees of SETEC 09 – the fare per head will become £ 13.50 (€ 16.00)

Prices for 1 Taxi with up to 6 passengers is £ 68.00 (€ 80.00) each way. Therefore if you can share the Trip with 5 other attendees of SETEC 09 – the fare per head becomes £ 11.50 (€ 13.50)

**Arrivals:** When arriving at the Checker Car Office to get your Taxi allocated – ask other passenger if they go to Tortworth Court Four Pillars Hotel – to create a “Taxi-Community” for the same destination with the advantage to share the fare.

**Departures:** Confirm to the Registration Desk of Tortworth Court Four Pillars Hotel **at least 3 hours ahead of your departure** – the time when have to leave from the Hotel for Bristol Airport. The Hotel will try to assemble a “Taxi-Community” to share the fare among all passengers. The prices are the same as for the trip Airport to the Hotel. Payment to be made to the Driver – unless you have paid ahead by debiting to your Credit Card.