

# SAMPE Europe

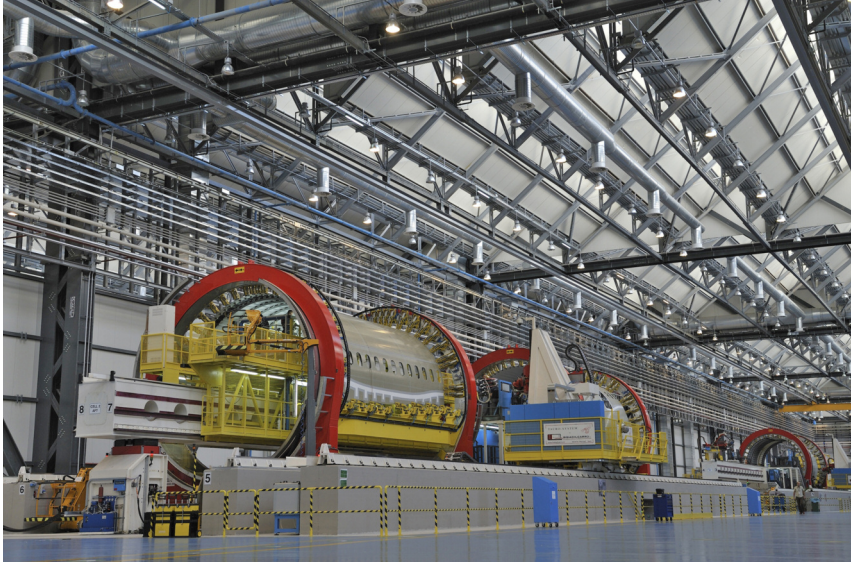
## SETEC 10 BRINDISI



SAMPE EUROPE Technical Conference  
and «Table-Top» Exhibition

CETMA Cittadella Ricerca  
BRINDISI, South Italy  
September 16<sup>th</sup> – 17<sup>th</sup> 2010

**Advanced Composites,  
The Driver for high Performance Return**



Fueselage section of B-787 in AFP Technology

By courtesy of Alenia

FINAL PROGRAMME

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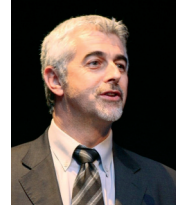
## SETEC 10 BRINDISI – Conference Programme Time Table at a Glance

<b>WEDNESDAY, Sept. 15<sup>th</sup> 2010</b>	13.00 – 14.00	<b>Lunch at Table Top Area</b>	13.00 – 14.00	<b>Lunch at Table Top Area</b>
10.00 – 17.00	14.30 – 17.30	<b>3 individual Plant Tours</b>	14.00 – 15.40	<b>SESSION 5</b>
17.00 – 19.00	19.30 – 22.30	<b>SETEC 10</b>		“Material Features”
18.00 – 19.30		Conference Dinner		Chairman: Klaus Drechsler
		Table Top Exhibition Area		Paper N° 03
				Paper N° 07
				Paper N° 12
				Paper N° 28
				<b>Coffee Break Table Top Area</b>
<b>THURSDAY, Sept. 16<sup>th</sup> 2010</b>	<b>FRIDAY, Sept. 17<sup>th</sup> 2010</b>			<b>SESSION 6</b>
08.00 – 14.00	08.00 – 16.00	Registration	15.40 – 16.10	“Matrix Characteristics”
08.30 – 09.00	08.30 – 09.00	Coffee	16.10 – 17.25	Chairman: Mark Erath
09.00 – 14.00	09.00 – 16.00	Table Top Exhibition		Paper N° 09
09.00 – 09.10	09.00 – 11.15	<b>SESSION 3</b>		Paper N° 13
SETEC 10 Brindisi Opening		“Processing Technology Improvements”		Paper N° 23
Chairman: Bruno Beral		Chairman: Alfonso Maffezzoli		<b>Closure SETEC 10</b>
President SAMPE Europe		Paper N° 29	17.30 – 17.40	Rocco Rometta & Mark Erath
<b>SESSION 1</b>	<b>Key-Note 2</b>	Paper N° 04		
“Driver for High Performance”		Paper N° 02		
Paper N° 20		Paper N° 15		
Paper N° 05		Paper N° 06		
Paper N° 11		<b>Coffee Break Table Top Area</b>		
Paper N° 21	11.15 – 11.45	<b>SESSION 4</b>		
<b>Coffee Break Table Top Area</b>	11.45 – 13.00	“Nano- & Thermoplast Advantages”		
<b>SESSION 2</b>		Chairman: Luigi Torre		
“Design Aspects”		Paper N° 08		
Chairman: Rocco Rometta		Paper N° 27		
Paper N° 10		Paper N° 19		
Paper N° 18		Paper N° 26		
Paper N° 22				
Paper N° 02				
Paper N° 16				



# SETEC 10

## SAMPE Europe 5<sup>th</sup> Technical Conference and Table Top Exhibition



**Dear Attendees, Dear SAMPE Members**

- Benvenuti a tutti I partecipanti della Conferenza e al “Table Top Exhibition” del SETEC 10 di Brindisi!
- Welcome to all attendees of SETEC 10 Conference and Table Top Exhibition in Brindisi!
- Herzlich willkommen an alle Teilnehmer der SETEC 10 Konferenz und “Table Top” Ausstellung!
- Soyez les bienvenus aux Conférences SETEC 10 et «Table Top Exhibition» à Brindisi!
- Bienvenida a todos los asistentes a las Conferencias y a la Exposición de Paneles y Empresas del SETEC 10 de Brindisi!
- Добро пожаловать в Бриндиси на конференцию SETEC 10 и выставочные стенды!

SAMPE Europe is pleased to present you the Final Programme of SETEC 10, the 5<sup>th</sup>. International Technical Conference and Table Top Exhibition, organized at CETMA Cittadella della Ricerca, Brindisi.

Guided by SETEC 10 headline “Advanced Composites, The Driver for High Performance Return” – 24 state-of-the-art papers have been selected for presentation in 6 sessions at CETMA’s Auditorium. On Thursday, Sept. 16th., afternoon, 3 Plant Visit Tours have been organized in Brindisi and Grottaglie-Monteiasi, providing access to five companies being known for their leading activities in the field of Aerospace Material Science, Engineering, Processing and Manufacturing. For the realization of the Plant Visit Tours, SAMPE Europe is expressing its gratitude towards ALLENIA Aeronautica, AgustaWestland, SALVER, I.A.S. and Technologycom.

At the Table Top Exhibition over 20 exhibitors from Europe and overseas will present their latest results in research and testing, developments in material science, engineering and processing. Please take profit from their presence and discuss with them your needs and wishes for your future goals to achieve.

SAMPE Europe is expressing its gratitude and thanks to the 10 honorable Sponsors, showing their logo on the last page of the programme, for their support in setting up and for the realization of SETEC 10 Brindisi Conference and Table Top Exhibition.

SAMPE Europe is wishing you a successful and pleasant stay at SETEC 10 Brindisi.

Bruno Beral  
*President SAMPE Europe*

## FINAL PROGRAMME

### Wednesday, September 15<sup>th</sup> 2010

- 10.00 – 17.00h Building up TABLE TOP Exhibition  
 17.00 – 19.00h SETEC 10 REGISTRATION  
 18.00 – 19.30h WELCOME RECEPTION – Table Top Area  
 For all Conference Attendees and Table Top Exhibitors

### Thursday, September 16<sup>th</sup> 2010

- 08.00 – 14.00h Registration  
 08.30 – 09.00h Coffee  
 09.00 – 14.00h Table Top Exhibition  
 09.00 **SESSION 1 – Plenary Conference Auditorium**  
**SETEC 10 Opening & Welcome Address**  
 Chairman: Bruno Beral, President SAMPE Europe  
 09.00 – 09.10h **SESSION 1 “Driver for High Performance”**  
**Key-Note Address 1: Future Perspectives for Thermoplastic based Composites in Aeronautics**  
 Speaker: M. Iannone, Alenia Aeronautica  
 Paper 05) **State of the Art Insulation for Commercial Airplanes and potential Advancements**  
 Speaker: D. Tappert  
 Authors: W. Bremeyer, H-J. Rennecke, M. Schouten, D. Tappert  
 Paper 11) **Design and Energy Transmission for an Electronic controlled Lace Bobbin**  
 Speaker: T. von Reden, Universität Stuttgart, IFB Institut  
 Authors: S. Becker, K. Drechsler, T. von Reden  
 Paper 21) **Development of full Composite Propulsion System for UAV's Taking off**  
 Speaker: F. Fracasso, SEPMA SrL.,  
 Authors: S. Fracasso, A. Sponziello, D. Petronio, M. Manca, F. Fracasso  
 10.45 – 11.15h **Coffee Break at Table Top Exhibition Area**  
 11.15 – 13.00h **SESSION 2 – Design Aspects**  
 Chairman: Rocco Rametta  
 Paper 10) **Methodes of step-by-step reduction of Structural Mass of large-size payload Fairings by applying Advanced Composite Materials**  
 Speaker: V.P. Polinovski, Federal State Unitary Enterprise, Moscow  
 Authors: Yu.O. Bakhvalov, S.A. Petrokovsky, V.P. Molochev, Khrunichev State Research & Production Space Center, Moscow, V.P. Polinovski  
 Paper 18) **Analitical Simulation Study of the application of bonded Joints in Aircraft Structures made of Composite Materials**  
 Speaker: A. Diaz, CT Ingenieros, Toulouse  
 Authors: D. Quast, A. Dias, CT Ingenieros, España  
 Paper 22) **Manufacturing oriented Design Optimization of layered Composite Structures**  
 Speaker: M. Perillo, EnginSoft Spa., I-72023 Mesagne (BR)  
 Authors: A. Mönicke, H. Katajisto, Componeering Inc., Helsinki  
 M. Perillo, EnginSoft SpA.

- Paper 16)* **Characterization of cured-induced Residual Stress in Composite Structures T300/914: Measurements and Prediction of Angular Variations**  
 Speaker: O. Klinkova, ENSIE, F-42100 Saint-Etienne  
 Authors: S. Drapier, Ecole des Mines, Saint Etienne, J.-M. Bergheau  
 O. Klinkova, ENSIE, Saint Etienne
- 13.00 – 14.00h **Lunch in the Table Top Exhibition Area**
- 14.30 – 17.30h **Three individual Plant Visit Tours**  
**Tour 1) ALENIA Aeronautica, Grottaglie-Monteiasi, B-787 Fueselage Section manufacturing in AFP Technology**  
**Tour 2) SALVER Brindisi, Advanced A/C Component and Structure manufacturing technology - & TechnologyCom, Brindisi, state-of-the-art Hot-Melt Prepreg-Plant**  
**Tour 3) AgustaWestland, Brindisi, Helicopter Structures and Components manufacturing - & I.A.S. Brindisi, UAV Design & Developments**
- 19.30 – 22.30h **SETEC 10 CONFERENCE DINNER**  
 Hotel **Masseria Marziale**, Contrada Mitrano 1, Brindisi
- 19.30 – 20.00h Aperitif
- 20.00 – 22.30h Dinner
- Friday, September 17<sup>th</sup> 2010**
- 08.00 – 16.00h Registration
- 08.30 – 09.00h Coffee
- 09.00 – 16.00h Table Top Exhibition
- 09.00 – 11.15h **SESSION 3 – Processing Technology Improvements**  
 Chairman: Alfonso Maffezzoli
- Paper 29)* **Highly integrated Structures manufactured in one shot using automated process with Prepreg Unidirectional Tape**  
 Speaker: C. De Roover, S.A.B.C.A., Bruxelles  
 Authors: B. Vaneghem, C. De Roover
- Paper 04)* **Processing Technology for the rapid Production of Advanced Composites**  
 Speaker: A. Sharpe, Surface Generation LTD., Lydon, Oakham, UK  
 Authors: B. Halford, A. Nott, A. Sharpe, Surface Generation LTD.
- Paper 02)* **Machining of CFRP with abrasive Water-Jets in Aerospace Industry**  
 Speaker & Author: R. Moeller, Flow Corporation, Bretten, Germany
- Paper 15)* **Applied Process Monitoring and Control of CFRP Production**  
 Speaker: N. G. Pantelelis, National Technical University of Athens  
 Authors: E. Bistkos, Synthesites Innovative Technology LTD.,  
 GR-16122 Kaisariani, N.G. Pantelelis
- Paper 06)* **Accuracy and Stiffness Improvement of Robots (AFPM)**  
 Speaker: V. Dukovski, Institut for Advanced Composites and Robotics,  
 7500 Prilep, Macedonia  
 Authors: B. Samakoski, S. Samak, D. Veljanoski, V. Dukovski
- 11.15 – 11.45h **Coffee Break at the Table Top Exhibition Area**

11.45 – 13.00h

**SESSION 4 – Nano- & Thermoplast Advantages**

Chairman: Luigi Torre

Paper 08)

**Advantages of Thermoplastic Laminates manufactured in automated continuous Compression Moulding (CCM) for Aerospace Applications**

Speaker &amp; Author: L. De La Ossa, Xperion Aerospace GmbH, D-88090 Immenstaad

Paper 27)

**Consolidation Mechanisms of Thermoplastic commingled Fabrics**

Speaker: A. Maffezzoli, University of Salento, Dept. Engineering for Innovation, I-73100 Lecce

Paper 19)

**The optimum Role of Nanofibers within Aerospace Nanotechnology**

Speaker: M.A. Canas, FIDAMC-EADS Innovation Works

Authors: F.J. Fernández, N. Fanegas, M.A. Canas, FIDAMC-EADS Innovation Works, E-28906 Getafe (Madrid), C. Merino, J.L. González, Grupo Antolin Ingenera, Burgos, G. Morales, J.M. Gómez, Universidad Complutense\_Madrid, CC. de Materiales e Ing. Metalúrgica, Facultad de CC. Químicas

Paper 26)

**Hybride multiscale Composite Reinforcement based on Carbon Nanostructures**

Speaker: R. Giorgi, ENEA C.R., I-00123 S. Maria di Galeria (Roma)

Authors: E. Salernitano, Th. Dikonimos, N. Lisi, R. Giorni, ENEA, S. Maria di Galeria (Roma), M.F. De Riccardis, V. Martina, D. Carbone, ENEA, I-72100 Brindisi

13.00 – 14.00h

**Lunch in the Table Top Exhibition Area**

14.00 – 15.40h

**SESSION 5 – Material Features**

Chairman: Klaus Drechsler

Paper 03)

**Modelling long term moisture sorption in Honeycomb-Core Sandwich Panels**

Speaker: G. Mensitieri, University of Naples, Dept. Material and Production Engineering, I-80125 Napoli

Authors: D. Larobina, A. Aldi, L. Nicolais, National Research Council, Institute for Composite &amp; Biomedical Materials, I-80055 Portici (Napoli) – E. Calvi, M. Iannone, ALENIA Aeronautica SpA., I-80038 Pomigliano d'Arco (Napoli) – G. Mensitieri, L. Nicolais, University of Naples

Paper 07)

**High Performance Foam Cores for Omega Profile stiffened monolithic Structures in Aircraft Application**

Author &amp; Speaker: Uwe Lang, Evonik-Röhme GmbH., Darmstadt

Paper 12)

**New thermographic Technique for Assessment of Residual Stress In Titanium Components**

Speaker: D. Palumbo, Politecnico di Bari, Dept. Ingegneria Meccanica

Authors: U. Galietti, D. Palumbo, Politecnico di Bari, I-70100 Bari

Paper 28)

**Simulated Lightning Tests on Aeronautic Composite Structures Enclosing Fuel Vapors**

Speaker: F. Cano Pérez, AIRBUS Military, E-28906 Getafe (Madrid)

Authors: F. Sequeros Murciano, V. Queros Lopez, F. Cano Pérez AIRBUS Military, E-28906 Getafe – J. Vazquez, Universidad Carlos III de Madrid, Dpto. Tecnología Electrónica, E-28911 Leganes (Madrid)

15.40 – 16.10h

**Coffee Break in the Table Top Exhibition Area**

16.10 – 17.25h

**SESSION 6 – Matrix Characteristics**

Chairman: Mark Erath

Paper 09)

**High Temperature and Flame retardant Cyanate Ester Resins for Aerospace Applications**

Speaker: G. Ladelfa, LONZA AG., CH-3920 Visp

Authors: W. Voigt, LONZA AG., CH-4002 Basel, M. Abgottspon, G. La Delfa, LONZA AG., CH-3920 Visp

Paper 13)

**Phenolic Resins in Fiber Reinforced Composites**

Speaker &amp; Author: Louis Pilato, Pilato Consulting, NJ 08805 Bound Brook, USA

Paper 23)

**Development of innovative Epoxy Prepregs using Bio-based Curing Agents**

Speaker: Daniele D'Amico, Cimteclab SpA., I-73010 Soletto (LE)

Authors: P. Campagner, Cimteclab, I-34012 Trieste, L. Longo, C. Stefani, A. Tarzia, D. D'Amico, Cimteclab, I-73010 Soletto (LE)–F.Innocente, A. Fasillo, M. Dervishi, Technologycom SrL., I-72100 Brindisi (BR)

17.30 – 17.40h

**Closure SETEC 10 Brindisi Conference & Table Top Exhibition**

Rocco Rametta – Mark Erath

**Venue of SETEC 10 Brindisi**

The Conference and Table Top Exhibition will be held at the **Consorzio CETMA**, a well known centre of Research, Testing and Teaching in the field of Advanced Composites and applied Technologies, linked to the Università del Salento. **CETMA** is located at the complex of “Cittadella della Ricerca” about 4 km outside Brindisi, along the Highway S.S.7 in direction of TARANTO at km 706.03. Use Exit N° 2 (see below pictogramme)

**SETEC 10 TABLE TOP EXHIBITION**

The Table Top Exhibition takes place in the Atrium of Hotel “Forsteria dei Congressi”, located in the CETMA Complex, 30 meters from the Conference Auditorium. The Exhibitor’s List is enclosed on a separate sheet. On Wednesday, Sept. 15<sup>th</sup>, 2010, a Welcome Reception will be given for all Conference Attendees and Exhibitors from 18.00 – 19.30h pm. During the two conference days, Coffee Break and

Lunch will be served at the Table Top Exhibition Area to provide an excellent Communication platform for all attendees and exhibitors.

### Hotel Accomodation

Shuttle Bus service will be provided for Conference Attendees and Exhibitors in the morning and after closure of the last session between Hotel **Grande Albergo Internazionale, Hotel Nettuno, Hotel Colonna and Hotel Masseria Marziale to CETMA and vice-versa**. Departure from Hotels on Thursday & Friday morning: at **08.15h**. Return to Hotels on Thursday Evening after closure of the SETEC 10 Dinner at approx. 23.00h pm. On Friday afternoon the Shuttle Busses will depart at **18.00h** from CETMA either to the hotel, the FS Railway Station or to Brindisi Airport. For making the journey 30 – 45 minutes have to be taken in account!

### SETEC 10 PLANT TOURS

There will be three Busses leaving on Thursday at **14.15h pm** in front of Hotel Foresteria dei Congressi, at the CETMA Complex going to the following destinations: **Bus N°1: ALENIA** Plant in Grottaglie-Monteiasi – **Bus N° 2 SALVER & Technologycom** Brindisi – **Bus N° 3 Agusta-Westland & I.A.S** Brindisi. To board the bus you have to remit your Plant Tour Voucher to the “Load Master”. Due to clearance aspects it **will not be possible** to change the confirmed Plant Tour participation when boarding! Thank you for your understanding.

### SETEC 10 CONFERENCE DINNER

The SETEC 10 Conference Dinner will be held at the Restaurant of Hotel “Masseria Marziale”. This Restaurant offers the possibility to enjoy Aperitif and Dinner under “open-air” conditions if the weather will be favourable. The 3 busses engaged for your Plant Tour participation will bring you there directly. After closure of the dinner at approx. 23.00h the transfer to your hotel will be done by bus for three destinations: **Bus N° 1: Hotel Foresteria dei Congressi, CETMA Complex, Bus N°2: Grande Albergo Internazionale & Hotel Colonna, Bus N°3: Hotel Nettuno.**

### SETEC 10 SPONSORS

The organization and realization of SETEC 10 Conference and Table Top Exhibition is based on the very strong and very appreciated support of 10 Sponsors, which show their logo here below. SAMPE Europe is very grateful to those organisations and is pleased to express its gratitude for the very substantial help.

#### Thanks to the 10 Sponsors



UNIVERSITÀ DEL SALENTO

