

MODENA FIERE EXHIBITION CENTRE - WEDNESDAY 13th OCTOBER 2010 - THIRD EDITION

Congress focusing on composite material technologies, based on various matrices for the following sectors: AERONAUTICS

09,30 **Registration**

09,45 Presentation by Octima Association and Modena Fiere:
Chairman: **Alberto Cimadoro**

The meeting will focus on designing, use of high tech and low environmental impact materials, manufacturing processes and testing/inspection of materials-processes-products.

10,00 **The importance of certification in the Construction Process** – Luciano Maestrelli/Ancpp

The construction process certification should be planned, monitored and controlled so as to allow the proper development of the manufacturing steps, thus guaranteeing a steady high quality product over time, to be competitive on the International markets.

10,20 **Chemical welding: development tips and opportunities for composite product assembly**
Alberto Cimadoro/Vaber

New technologies and raw materials for the formulation of structural adhesives can guarantee a chemical welding operation for the assembly process of composite materials which can pass successfully any test, giving highly safety results.

10,40 **Amber Composite/Axson Italy: high performance composites for the Automotive sector** - Jed Illsley/Amber

The company introduces the Axson and Amber partnership and the related production by Amber Composite, mainly for the automotive sector, as well as the new products which are currently developed.

11,00 **High-pressure thermoforming manufacturing process of structural items by Skintec: a high throughput case study** - Gigi Creonti/Structura

Skintec, a composite laminate which is already well-known due to its capability of being turned into light and competitive structural items, compared with metal. A case study is presented, together with the actual time-planning manufacturing data and related costs.

11,20 **The mechanical fixing of components, based on various matrix composite materials**
Andrea Sanua/Specialinsert

Four different mechanical fixing systems for components based on composite materials. An innovative fastening system for carbon moulds is introduced too.

11,40 **Tooling processes for milling and drilling composite materials based on carbon fibres and others for the vehicle sector** - Nereo Santin/Dormer

New coatings and geometries of hard metal tools to improve the milling and drilling performance on composite materials. Complex tooling of aircraft components such as airframes, landing gear and engine, but also for automotive ones such as seats, chassis and car bodies. Case study presentation related to some Italian industrial sectors.

12,00 **Designing, simulation, composite materials manufacturing process: a complete and integrated solution by Dassault Systemes** - Domenico Berardi/Dassault Systemes

In the current economic context, the softwares which have been especially designed for composite materials give huge opportunities to meet the technical innovation requirements of the market, without neglecting the financial factors which guarantee an adequate investment yield rate.

12,20 **Liquid Injection way** - Henri Hiblot/Isojet

A brand new, totally automatized and computer assisted RTM system is used successfully in the aircraft sector in France, Germany, Japan, as well as in the marine and automotive sectors in Italy. The injection is carried out directly in a tempered and ground steel equipment through the internal crosslinking device.

12,40 **Lunch time**

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14,00 The TEMPEST Technology for the safeguard and safety of company's database - Matteo Lopez/Sigint

Every hardware releases magnetic waves which can be detected by hackers, with dramatic consequences for the company. The Tempest technology could represent a valid solution.

14,20 Composite structures from polymer matrix materials for the aerospace sector

Kiryll Alekseev/University of Kazan

Sandwich constructions are commonly used for modern aircrafts. Some benefits offered by the sandwich constructions are mentioned, including the high stability of the base lay-up and the flexural strength of the construction. These solutions can find application in the automotive and marine sectors.

14,40 Matrix requirements – the composite materials used to construct gliders and small aircrafts - Holger Giese/Sika

The use of composites for the construction of small aircrafts and Ulm is based on various requirements. An overview of current solutions which are based on epoxy, polyurethane resins and others is presented and discussed according to the various requirements of modern type-approval procedures of gliders, aircrafts and business jets.

15,00 Optical systems for Reverse... a breakthrough in the quality control

Antonio Giogoli, Simona Tavernari/Agiatech

A real breakthrough in the world of quality control, mainly in the vehicle sector: a few years ago, we witnessed the shift of the world of design from two-dimensions to three-dimensions. On the contrary, as far as the dimension control is concerned, we are still at the 2D level: it is nonsense to design by 3D and control by 2D!

15,20 Multifunctional composite materials – smart materials - Rocco Rametta/Cetma

By "smart materials" it is meant those materials which not only show the usual mechanical and/or structural performances, but also the self-monitoring, control and operation ones. Particularly, composite materials are ideal to embody devices, sensors and/or special textile textures, and, due to their multifunctional property, they are the ideal solution to various needs in different sectors: automotive, marine, aerospace, railway and construction.

15,40 Idra: a carbon fibre single-seater for low consumption racing events

Massimiliana Carello, Andrea Airale, Alessandro Ferraris/Politecnico di Torino

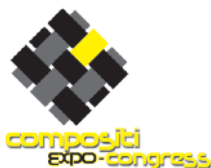
IDRA is a carbon fibre single-seater, designed by Team H2politO for low consumption racing events (equal to 1538 Km per gasoline litre). The vehicle has three wheels, a hydrogen Fuel Cell-supplied electric engine and the monocoque body is completely based on carbon fibre.

16,00 Innovative materials for a technological transfer: the latest news in the composite field

Eva Tenan/Matech

Currently available innovative materials are introduced, which can be used in various industrial sectors. A range of samplings are displayed as well as practical examples to be seen with one's own eyes during the event.

16,20 Conclusions and Debate



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MODENA EXHIBITION FAIRS
WEDNESDAY 13th OCTOBER 2010 - HOUR 9.00-17.00 P.M.
**3RD CONGRESS OF INNOVATIVE MANUFACTURING
TECHNOLOGIES AND PROCESSES**
organized by:

associazione
octima



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NB: The organisation committee Octima kindly asks the participants to communicate any possible future cancellations.

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