

PRELIMINARY PROGRAM

Wednesday, December 1

10:30am – 11:30pm **Opening ceremony**

Welcome word

11:30apm – 12:30am **Press conference**

12 :30am – 02hpm *Business Lunch*

Strategic supply chain policies

Marketing: a strategic approach for subcontractors competitiveness

Titanium Laser Beam Welding - A breakthrough technology for next-gen aircrafts

Mr Paolo BUSTI, Aerospace Market Manager, PRIMA INDUSTRIE

The requests for reduction of CO2 emissions, fuel saving and profitability of airlines fleets push the aircraft manufacturer to keep on challenging developing new aircrafts, built with innovative and light materials, such as composite and titanium. New materials call for new production technologies. Titanium Laser Beam Welding reduces the "buy to fly" ratio from 75:1 up to 1,5:1, bringing down production time and costs and material wastages. The workshop presents the effect of the laser beam welding process parameters on the welding characteristics of Titanium alloy for aeronautics applications. Following the experimental approach, Prima Industrie several samples on archetypes of aircraft structure components, using 3D Prima Industrie's laser machines equipped with different laser sources in production environment.

The characteristics of resulting seams, aspect, cross sections and mechanical properties were evaluated using destructive and non destructive inspection methods and then compared to results from nowadays production processes.

CNES presentation

GIFAS presentation

Autodesk presentation

Thursday, December 2

09:00am – 12:35am **USA Seminar : Opportunities in the USA aerospace market**

12:30am – 02:0pm *Business Lunch*

Midi-Pyrénées Expansion workshop

Open source as disruptive innovation in Embedded Systems ; Example of an Open Platform for The Engineering of Embedded Systems

Mr Christian LABEZIN, XIPP CONSULTING (innovation, people, processes)

Since the 80 Open Source licensed software became widely used in many applications instead of proprietary software. This was especially true for business applications, web and social networks. It is also the case in the field of scientific applications of modelling and simulation. They became popular because they proved superior to their competitors on certain key expectations of their customers: the total cost, reliability, robustness, interoperability.

Today open source solutions enter the world of embedded software such as in critical systems or mobility. They initially offered design tools (Topcased) and they spread out in middleware and application layers (Genivi).

This paper shows through the example of the Open Platform for The Engineering of Embedded Systems, how they respond to many users' expectations of embedded systems including some unresolved by proprietary software, the management of sustainability.

Midi-Pyrénées Expansion workshop

“Certification Together” : Unique and Innovative Approach to Federate the Certification-Related Efforts

Mr Gérard LADIER, Innovation manager R&D projects – Software & Embedded Systems
AEROSPACE VALLEY Competitiveness World Cluster, Chairman of the European group in charge of elaborating DO 178C/ED-12C – Mr Lionel BURGAUD, AEROCONSEIL

*Certification Together is an innovative initiative launched by and for the Industry, addressing the Aeronautical Certification in two directions. The first one is to create and animate exchanges about aeronautical certification through collaborative approaches like User Groups. The second one is to provide a **structured and comprehensive offer to help companies to achieve their certification objectives** ; **this includes** training and consulting for all the aspects of certification (system, electronic hardware and software) and for both ground based and airborne systems domains.*

To achieve these goals, Certification Together leverage the expertise of several internationally recognized expert companies in the certification of critical systems.

Our presentation will address Certification Together offer and organization.

Certification Together is recognized by the Aerospace Valley international cluster as its “Centre of Expertise for Certification”.

Midi-Pyrénées Expansion workshop

Presentation of the Midi-Pyrénées region at the heart of the Aerospace Valley, World competitiveness cluster for aeronautics, space and embedded systems.

Mr Philippe BAYLET, Executive Director, Inward Investment, MIDI-PYRENEES EXPANSION

Aerospace Valley is the world competitiveness cluster for aeronautics, space and embedded systems. The cluster embraces more over than 1 600 companies and 120 000 jobs in the above mentioned sectors. Major aircraft manufacturers and prime contractors are located in the Toulouse Midi-Pyrenees région : Airbus, ATR, Daher Socata, Latécoere, Aerolia, Thales Avionics, Rockwell Collins, Liebherr Aerospace, the Safran group and more than 550 companies

Standardization of materials and processes - Towards a simplification of the world supply

Ms Marie DEXET, Project Manager, Safran

As a result of its strategy of international deployment, Safran introduced in 2007 a Group project which has for objective to facilitate the supply in metallic material. It is a question of getting closer to customers, leaving existing monopolies of supply, mastering costs and simplifying the supply chain, and finally anticipating the environmental evolutions such as Reach.

To answer these strategic stakes, this project relies on the development of equivalences of materials and special processes specifications, the use of international standards and the harmonization of the specifications between the companies of the Group.

Supply Chain management & development: a cornerstone & essential expertise.

Mr Maurice PERRAULT, Chairman of SPACE (“Supply chain Progress towards Aeronautical Community Excellence”) and Mr René COLIN, Operating Manager

Textiles Structures for Aeronautic Composite Applications

M. Xavier LEGRAND, Textile Composite Research, ENSAIT

Mechanical properties of Composite Material are directly linked to the textile reinforcement geometry. So, then the textile reinforcement is obtained by 2D structure then mechanical properties of final part are in plane mostly textile properties. That means that into the third direction, mechanical properties are mostly matrix properties.

Because of weight reduce competition, the mechanical properties are improved into the three directions. Composite parts must not be design anymore as metal parts. Indeed, a great interest of composite material is possibility to design mechanical properties for some directions different than others. So, the quasi isotropic behaviors should not every time be needed.

Even if 3D structure means reduction of in-plane mechanical properties, many textiles technologies could improve 2D stack or either 3D preform.

So, after a quick resetting of definitions and dimensions vs. textile structures analysis, a overview of textile solutions for 2D+ and 3D is presented until is visible : accessible for the global community.

What as became for ENSAIT, a class room exercise: Corner fitting is presented. The corner fitting part is a 3D part with 3 orthogonal plans, with a quasi isotropic in-thickness homogeneous behavior.

Besides, the global debriefing of this new technique defined for us a new way to consider textile preforms manufacturing for composite material design: from fiber bobbin (1D) to 3D parts without step of 2D semi product.

Bellows and Innovative Modelisation

Mr Patrick LAUBIE, Executive Manager, ACC La Jonchère

Conseil Général du Tarn presentation

Dassault Systèmes presentation