**Registration conference access**

All attendees must register upon arrival and receive a conference badge which will be requested to access all ERTS² 2012 events. The registration desk opening hours are as follows:

- Wednesday 1 February: 08:00 - 18:00
- Thursday 2 February: 08:30 - 18:30
- Friday 3 February: 08:30 - 16:30

**Conference proceedings**

All conference attendees will receive a conference Folder including the programme, proceedings on credit card usb key and Book of Abstracts. Proceedings will be also available for download on the website after the conference.

Additional Conference proceedings may be purchased via the Registration Desk for 100 €.

**Exhibition**

A major exhibition is run in parallel to ERTS² 2012, covering a wide range of products and services in the field of embedded software and systems. The exhibition is located in the room Concorde, Level -1.

- Wednesday 1 February: 09:00 - 20:00
- Thursday 2 February: 08:30 - 19:00
- Friday 3 February: 08:30 - 16:00

**Coffee Breaks**

Coffee breaks will take place in the Exhibition Hall, Room Concorde, Level -1.

- Wednesday 1 February: from 10:30 to 11:00 and from 16:10 to 16:40
- Thursday 2 February: from 10:00 to 10:30 and from 15:30 to 16:00
- Friday 3 February: from 10:00 to 10:30

**Conference Meals**

Lunches from Wednesday 1 February to Friday 3 February are included in the Registration fees.

Lunches will be served in room Caravelle, Level 0, from 13:00 to 14:00 on Wednesday, from 12:30 to 13:30 on Thursday and Friday.

**Internet Access**

A WiFi system will be provided, giving free internet access to all ERTS² 2012 Conference delegates.

**Luggage room**

A cloakroom is at the delegates’ disposal at the Conference centre, in front of the Registration desk, Level 0.

**Social Events**

- Welcome Reception on Wednesday 1 February- from 18:40 to 19:40
  Exhibition Hall, Room Concorde, Level -1
- Gala Evening on Thursday 2 February - from 19:30 to 23:00
  Invitation ticket requested at the main entrance (given at the badge withdrawal)
ERTS$^2$ 2012 will be held at the Pierre Baudis Congress Center, located in the centre of Toulouse.

**Address:**
Centre de Congrès Pierre Baudis  
11, esplanade Compan Caffarelli  
31000 Toulouse

**Access:**
By Metro  
Compan Caffarelli (Line B) Station

By bus  
The congress centre is served by bus lines:  
N°1 N°70 & N°71 (Bus stop Compan Caffarelli),  
N°16 (Bus stop Jeanne d’Arc)

From/To Airport  
A shuttle bus every 20 minutes with a station in front of the Pierre Baudis Congress Center (Compan Caffarelli)

Taxi Company  
A Station is available just in front of the entrance of the Hotel Mercure Atria, Boulevard Lascrosse  
To call a taxi: +33 (0)5 61 20 90 00
# ERTS² 2012 Programme At-A-Glance

## Wednesday 1 February 2012

### Opening Session

**Joseph SIFAKIS** - Verimag & Congress General and Programme Committee Chair - France  
**Jean BOTTI** - EADS France & Congress General Chair - France  
**Louis Claude VRIGNAUD** - Continental Automotive - France

### Keynote Address

**Embedded Systems in Automotive Industry - Trends and Challenges**  
**Klaus GRIMM**, Daimler AG and ARTEMIS Industry Association, Germany

### Exhibition Visit / Refreshment Break

### Session 1A

#### Multi-Domain Safety Assurance

### Session 1B

#### Timing Challenges in Communication Systems

### Session 1C

#### AUTOSAR Deployment Status

### Session 1D

#### Verification & Validation I

### Exhibition Visit / Lunch

### Panel Multi-core

**Session Chair: Joseph SIFAKIS**, Verimag - France  
**Panelists: Ralph MADER**, Continental Corporation - Germany  
**Frédéric ASPRO**, Airbus - France  
**Vincent LEFFTZ**, Astrium Satellites - France  
**Benoit DINECHIN**, Kalray - France

### Session 2A

#### Model Based Safety

### Session 2B

#### Case Studies (Systems)

### Session 2C

#### Human Factors

### Session 2D

#### Verification & Validation II

### Exhibition Visit / Refreshment Break

### Session 3A

#### IMA, Partitioning

### Session 3B

#### Timing Analysis

### Session 3C

#### Engineering Frameworks I

### Welcome Reception
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<th>Time</th>
<th>Session A</th>
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<th>Session C</th>
<th>Session D</th>
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<tbody>
<tr>
<td>09:00-10:00</td>
<td><strong>Keynote address</strong></td>
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<tr>
<td></td>
<td><em>Taming Dr. Frankenstein: Designing Distributed Systems</em></td>
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<td></td>
<td>Alberto SANGIOVANNI-VINCENTELLI, UC Berkeley, USA</td>
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<td>10:00-10:30</td>
<td>EXHIBITION VISIT / REFRESHMENT BREAK</td>
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<tr>
<td>10:30-12:30</td>
<td><strong>Session 4A</strong> Engineering Frameworks II</td>
<td><strong>Session 4B</strong> Hardware/Software Co-design</td>
<td><strong>Session 4C</strong> Partitioning</td>
<td><strong>Session 4D</strong> Safety Process</td>
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<tr>
<td>12:30-13:30</td>
<td>EXHIBITION VISIT / LUNCH</td>
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<tr>
<td>13:30-15:30</td>
<td><strong>Session 5A</strong> Requirements Engineering</td>
<td><strong>Session 5B</strong> SysML in Use</td>
<td><strong>Session 5C</strong> Formal Code Analysis</td>
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<tr>
<td>15:30-16:00</td>
<td>EXHIBITION VISIT / REFRESHMENT BREAK</td>
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<tr>
<td>16:00-17:00</td>
<td><strong>Session 6A</strong> Open Source Business Models</td>
<td><strong>Session 6B</strong> Case Studies in Model Based Engineering</td>
<td><strong>Session 6C</strong> Reuse and Product Lines</td>
<td><strong>Session 6D</strong> Software Qualimetry</td>
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<tr>
<td>17:10-18:10</td>
<td><strong>Session Tool A</strong> Model Based Approach</td>
<td><strong>Session Tool B</strong> System &amp; Safety Engineering</td>
<td><strong>Session Tool C</strong> Automotive Functional Safety ISO26262</td>
<td><strong>Session Tool D</strong> Operating System &amp; Implementation</td>
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<tr>
<td>19:00-23:00</td>
<td>GALA EVENING - PIERRE BAUDIS CONGRESS CENTER</td>
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**THURSDAY 2 FEBRUARY 2012**

**FRIDAY 3 FEBRUARY 2012**

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<thead>
<tr>
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<tbody>
<tr>
<td>09:00-10:00</td>
<td><strong>Keynote address</strong></td>
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<td></td>
<td><em>Towards a greener and more eco efficient aerospace industry</em></td>
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<td>Denis CHAPUIS, VP Research and Technology of EADS, France</td>
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<td>10:00-10:30</td>
<td>EXHIBITION VISIT / REFRESHMENT BREAK</td>
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<td>10:30-12:30</td>
<td>EXHIBITION VISIT / LUNCH</td>
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<td>13:30-14:30</td>
<td><strong>Panel Smart energy management</strong></td>
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<td><strong>Session Chair: Louis Claude VRIGNAUD</strong>, Continental Automotive- France</td>
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<td></td>
<td><strong>Panelists: Jean-Luc MATÉ</strong>, Continental automotive - France / Etienne FOCH, Airbus - France / Jean-Luc DORMOY, EDF Group - France</td>
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<tr>
<td>14:40-16:10</td>
<td><strong>Session 8A</strong> Safety &amp; Security</td>
<td><strong>Session 8B</strong> Model Based Testing</td>
<td><strong>Session 8C</strong> Diagnosis &amp; Prognosis</td>
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<td>16:20-16:50</td>
<td><strong>Closing session</strong></td>
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<td>Christel SEGUIN, SEE/ONERA &amp; Organising General Co-Chair</td>
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<td>Francis GUIMERA, 3AF Midi-Pyrénées &amp; Organising General Co-Chair</td>
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<td>Time</td>
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</table>
| 09:00-09:30  | Opening Session | Room Auditorium St Exupéry | Opening Session
Joseph SIFAKIS - Verimag & Congress General and Programme Committee Chair - France
Jean BOTTI - EADS France & Congress General Chair - France
Louis Claude VRIGNAUD - Continental Automotive - France |
| 09:30-10:30  | Keynote address | Room Auditorium St Exupéry | Keynote address
Embedded Systems in Automotive Industry - Trends and Challenges
Klaus GRIMM, Daimler AG and ARTEMIS Industry Association, Germany |
| 10:30-11:00  | EXHIBITION VISIT / REFRESHMENT BREAK | Room Concorde | EXHIBITION VISIT / REFRESHMENT BREAK |
| 11:00-13:00  | Session 1A  | Room Auditorium St Exupéry | Session 1A
Multi-Domain Safety Assurance
1A.1 - Criticality categories across safety standards in different domains
Jean-Paul Blanquart - Astrium Satellites, France / Jean-Marc Astruc - Continental, France / Philippe Baufreton, Bertrand Ricque - Sagem Défense Sécurité, France / Jean-Louis Boulanger - CERTIFER, France / Hervé Delseny - Airbus, France / Jean Gassino - IRSN, France / Gérard Ladier - Aerospace Valley, France / Emmanuel Ledinot - Dassault Aviation, France / Michel Leeman - Valeo, France / Joseph Machrouh - Thales, France / Philippe Quéré - Renault, France |
| 11:00-11:30  | Session 1B  | Room Guillaumet | Session 1B
Timing Challenges in Communication Systems
1B.1 - Identifying Source of Pessimism in the Trajectory Approach with FIFO Scheduling
Sara Medlej - LRI-EDF, France
Steven Martin - LRI, France
Jean-Marie Cottin - EDF, France |
| 11:00-13:00  | Session 1C  | Room Ariane 1 | Session 1C
AUTOSAR Deployment Status
1C.1 - AUTOSAR: Achievements, roll-out, perspectives
Alain Gilberg - PSA PEUGEOT CITROEN, France
Steffen Lupp - Bosch, Germany
Simon Fuerst - BMW, Germany
Demetrio Aiello - Continental, Germany
Stefan Schmerler - Daimler, Germany
Frank Kirschke Biller - Ford, United States
Robert Rimkus - GM, United States
Kenji Nishikawa - TMC, Japan
Andreas Titze - Volkswagen, Germany |
| 11:00-13:00  | Session 1D  | Room Ariane 2 | Session 1D
Verification & Validation I
1D.1 - First steps toward a Verification and validation ontology
Mounira Kezadri, Marc Pantel - IRIT, Université de Toulouse, France |
<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>11:30-12:00</td>
<td>1A.2</td>
<td>Cross domain comparison of System Assurance</td>
<td>Joseph Machrouh - Thales, France / Jean-Paul Blanquart - ASTRIUM, France / Philippe Baufreton, Bertrand Ricque - Sagem, France / Jean-Louis Boulanger - CERTIFER, France / Hervé Delseny - Airbus, France / Jean Gassino - IRSN, France / Gérard Ladier - Aerospace Valley, France / Emmanuel Ledinot - Dassault Aviation, France / Michel Leeman - Valeo, France / Jean-Marc Astruc - Continental, France / Philippe Quéré - Renault, France / Gilles Deleuze - EDF R&amp;D, France</td>
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<tr>
<td>11:30-12:00</td>
<td>1B.2</td>
<td>Fine-grained Simulation in the Design of Automotive Communication Systems</td>
<td>Aurelien Monot - PSA Peugeot Citroën/LORIA, France / Bernard Bavoux - PSA Peugeot Citroën, France / Nicolas Navet - INRIA / RTaW, France</td>
</tr>
<tr>
<td>11:30-12:00</td>
<td>1C.2</td>
<td>DESTAR - AUTOSAR Standard Deployment</td>
<td>Emmanuel Coutenceau - Valeo, France / Olivier Guetta - Renault, France / Aldric Loyer - PSA Peugeot Citroën, France</td>
</tr>
<tr>
<td>11:30-12:00</td>
<td>1D.2</td>
<td>Component-based Design and Verification in X-MAN</td>
<td>Nannan He, Daniel Kroening, Thomas Wahl - Oxford University, United Kingdom / Lau Kung-Kiu, Faris Taweel, Tran Cuong M - Manchester University, United Kingdom / Rueemmer Philipp - Uppsala University, Sweden / Sharma Sanjiv S. - Airbus Operations Limited, United Kingdom</td>
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<tr>
<td>12:00-12:30</td>
<td>1A.3</td>
<td>A cross-domain comparison of software development assurance</td>
<td>Emmanuel Ledinot - DASSAULT AVIATION, France / Jean Gassino - IRSN, France / Jean-Paul Blanquart - Astrium Satellites, France / Jean-Louis Boulanger - CERTIFER, France / Philippe Quéré - Renault, France / Bertrand Ricque - Sagem Défense Sécurité, France</td>
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<tr>
<td>12:00-12:30</td>
<td>1B.3</td>
<td>Experimental assessment of timing verification techniques for AFDX</td>
<td>Marc Boyer - ONERA, France / Nicolas Navet - INRIA / RTaW, France / Marc Fumey - Thales Avionics, France</td>
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<tr>
<td>12:00-12:30</td>
<td>1C.3</td>
<td>Safety-relevant development by adaptation of standardized safety concepts in AUTOSAR 4.0</td>
<td>Michael Niklas - Continental Engineering Services GmbH, Germany / Stefan Voget - Continental Automotive GmbH, Germany / Jürgen Mottok - University of Applied Sciences Regensburg, Germany</td>
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<tr>
<td>12:00-12:30</td>
<td>1D.3</td>
<td>Context Aware Model Exploration with OBP tool to Improve Model-Checking</td>
<td>Philippe Dhaussey, Jean-Charles Roger, Luka Leroux - ENSTA Bretagne, France / Fredéric Boniol - ONERA, France</td>
</tr>
<tr>
<td>12:30-13:00</td>
<td>1A.4</td>
<td>A multi-domain platform of safety process methods and tools for critical embedded systems</td>
<td>Jean-Paul Blanquart - Astrium Satellites, France / Eric Armengaud - AVL, Austria / Philippe Baufreton - Sagem Défense Sécurité, France / Quentin Bourrouilh - AVL, Austria / Joseph Machrouh - Thales, France / Thomas Peikenkamp, Markus Oertel - Offis, Germany / Tormod Wien - ABB, Norway / Andreas Mitschke - EADS, Germany</td>
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<tr>
<td>12:30-13:00</td>
<td>1B.4</td>
<td>Mastering Timing Challenges for the Design of Multi-Mode Applications on Multi-Core Real-Time Embedded Systems</td>
<td>Mircea Negrean, Rolf Ernst - IDA, TU Braunschweig, Germany / Simon Schliecker - Syntvision GmbH, Germany</td>
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<tr>
<td>12:30-13:00</td>
<td>1C.4</td>
<td>AUTOSAR BSW in real life, A summary of the last years starting and putting projects into production on AR</td>
<td>Matthieu Courrier - Continental Automotive, France</td>
</tr>
<tr>
<td>12:30-13:00</td>
<td>1D.4</td>
<td>Verification and Validation According to ISO 26262- A Work-flow to Facilitate the Development of High-Integrity Software</td>
<td>Mirko Conrad - The mathWorks, Inc., United States</td>
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<tr>
<td>Time</td>
<td>Session 1A</td>
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<td>13:00-14:00</td>
<td>EXHIBITION VISIT / Room Concorde</td>
<td>LUNCH / Room Caravelle</td>
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<td>14:00-15:00</td>
<td><strong>Panel Multi-core</strong>&lt;br&gt;<strong>Session Chair: Joseph SIFAKIS</strong>, Verimag - France&lt;br&gt;<strong>Panelists: Ralph MADER</strong>, Continental corportion - Germany / <strong>Frédéric ASPRO</strong>, Airbus - France&lt;br&gt;<strong>Vincent LEFFTZ</strong>, Astrium Satellites - France / <strong>Benoit DINECHIN</strong>, Kalray - France</td>
<td>Room Auditorium St Exupéry</td>
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<td>15:10-16:10</td>
<td><strong>Session 2A</strong>&lt;br&gt;<em>Model Based Safety</em>&lt;br&gt;Room Auditorium St Exupéry</td>
<td><strong>Session 2B</strong>&lt;br&gt;<em>Case Studies (systems)</em>&lt;br&gt;Room Guillaumet</td>
<td><strong>Session 2C</strong>&lt;br&gt;<em>Human Factors</em>&lt;br&gt;Room Ariane 1</td>
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<tr>
<td>15:40-16:10</td>
<td>2A.2 - A COTS-based Safe Design Method for Train Control Systems&lt;br&gt;Salam Hajjar, Emil Dumitrescu, Eric Niel - INSA de Lyon, France</td>
<td>2B.2 - Flight Test Engineer Station for A350 aircraft&lt;br&gt;Yves Marcet, Guillaume Monserrat, Olivier Gallot, Jean-Francois Dausse - Airbus France, France</td>
<td>2C.2 - Interactive Cockpits Applications: Specification, Prototyping and Validation using a Petri-nets based Formalism&lt;br&gt;Eric Barboni, Arnaud Hamon, Célia Martinie, David Navarre, Philippe Palanque - ICS-IRIT University Toulouse 3, France&lt;br&gt;Adrienne Tankeu-Choitat - ICS-IRIT University Toulouse 3, Cameroon</td>
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16:10-16:40  | EXHIBITION VISIT / REFRESHMENT BREAK / Room Concorde |
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<tr>
<td>16:40-18:40</td>
<td>IMA, Partitioning</td>
<td>Timing Analysis</td>
<td>Engineering Frameworks I</td>
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<tr>
<td>Room Auditorium St Exupéry</td>
<td>Room Guillaumet</td>
<td>Room Ariane 1</td>
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<tr>
<td>17:10-17:40</td>
<td><strong>3A.3 - Specific certification issues about Integrated Modular Architectures</strong> &lt;br&gt; Jean François Sicard, Ghilaine Martinez - French Ministry of Defense, France</td>
<td><strong>3B.3 - From Model-Based to Real-Time Execution of Safety-Critical Applications: Coupling Scade with OASIS</strong> &lt;br&gt; Florian Many - DGA Aeronautical techniques, France</td>
<td><strong>3C.3 - TASTE An open-source toolchain for embedded software development</strong> &lt;br&gt; Maxime Perrotin, Julien Delange - European Space Agency, Netherlands / Eric Conquet - European Space Agency, France / Thanassis Tsiodras - Semantix, Greece</td>
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<tr>
<td>17:40-18:10</td>
<td><strong>3A.4 - Reconfigurable IMA platform: from safety assessment to test scenarios on the Scarlett demonstrator</strong> &lt;br&gt; Pierre Bieber, Julien Brunel, Kushal Gupta, Eric Noulard, Claire Pagetti - ONERA, France</td>
<td><strong>3B.4 - ChronVAL/ChronSIM: A Tool Suite for Timing Analysis of Automotive Applications</strong> &lt;br&gt; Thierry Planche - Airbus, France</td>
<td><strong>3C.4 - A UML Profile for the Development of IEC 61508 Compliant Embedded Software</strong> &lt;br&gt; François Vialard - Aeroconseil, France</td>
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**Welcome Reception** / Room Concorde
### PROGRAMME, THURSDAY 2 FEBRUARY 2012

**Room Auditorium Saint Exupéry**

**Keynote address:** Taming Dr. Frankenstein: Designing Distributed Systems  
Alberto SANGIOVANNI-VINCENTELLI - UC Berkeley, USA

**EXHIBITION VISIT / REFRESHMENT BREAK**  
**Room Concorde**

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<th>Time</th>
<th>Session 4A: Engineering Frameworks II</th>
<th>Session 4B: Hardware/Software Co-design</th>
<th>Session 4C: Partitioning</th>
<th>Session 4D: Safety Process</th>
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<tr>
<td>10:00-10:30</td>
<td>Room Auditorium St Exupéry</td>
<td>Room Guillaumet</td>
<td>Room Ariane 1</td>
<td>Room Ariane 2</td>
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</table>
| 10:30-11:00   | 4A.1 - SCADE System, a comprehensive toolset for smooth transition from Model-Based System Engineering to certified embedded control and display software  
Thierry Le Sergent, Alain Le Guennec - Esterel Technologies, France / François Terrier, Sébastien Gérard, Yann Tanguy - CEA, France / Kara Gremillion - Esterel Technologies, United States  
4B.1 - Component-based technologies for HW/SW co-design  
Ana Rodríguez, Francisco Ferrero - GMV, Spain  
4C.1 - Building a Generic (cross-domains) Basic Software on top of the XtratuM hypervisor  
Jean-Jacques Metge, Julien Galizzi, Paul Arberet - CNES, France / Bernard Sanchez, Jonathan Paty - Continental Engineering Services, France / Gilles Saint-Aubin, Mikael Deschamps - Intertechique / Zodiac Aerospace, France  
4D.1 - Safety Standards and WCET Analysis Tools  
Daniel Kästner, Christian Ferdinand - AbsInt GmbH, Germany |
| 11:00-11:30   | 4A.2 - TOPCASED Results and Benefits  
Pierre Gaufillet, Patrick Farail - Airbus Operations SAS, France  
4B.2 - Improving architecture efficiency of SoftCore processors  
Bertrand Le Gal, Christophe Jego - IMS Laboratory - UMR CNRS 5218, France  
4C.2 - LVCUGEN (TSP-based solution) and first porting feedback  
Julien Galizzi - CNES, France  
4D.2 - Interoperability between Risk Assessment and System Design for Railway Safety Critical Signalling System Development  
Marielle Doche-Petit - Systerel, France / Frédéric Thomas - Obeo, France / Fabien Belmonte - Alstom Transport, France |
| 11:30-12:00   | 4A.3 - The Assert Set of Tools for Engineering (TASTE): Demonstrator, HW/SW Codesign, and Future  
Marc Pollina, Yann Leclerc - M3Systems, France  
Eric Conquet, Maxime Perrotin - ESA - ESTEC, France  
Guy Bois, Laurent Moss - Space Codesign Systems, Canada  
4B.3 - A Simulator based on QEMU and SystemC for Robustness Testing of a Networked Linux-based Fire Detection and Alarm System  
Massimiliano D’Angelo, Alberto Ferrari, Alessandro Ulisse - ALES S.r.l., Italy / Ommund Ogaard - Autronica Fire and Security, Norway / Claudio Pinello - United Technologies Research Center, United States  
4C.3 - IO Virtualisation in a Partitioned System  
Miguel Masmano, Salva Peiró, Jordi Sánchez, Jose Simó, Alfons Crespo - Universidad Politécnica de Valencia, Spain  
4D.3 - Human-robot interactions: model-based risk analysis and safety case  
Quynh Anh Do Hoang, Jérémie Guiochet, David Powell, Mohamed Kaaniche - LAAS-CNRS, France |
| 12:00-12:30   | 4A.4 - The CESAR RTP as Product Line: The Configuration of an Integrated Tool Chain  
Peter Graubmann, Michael C. Jaeger, Reiner Schmid - Siemens AG, Germany  
4B.4 - SoCKET: A HW/SW Co-Design Flow: Presentation & feedbacks from aeronautical and space application domains  
Vincent Lefftz - Astrum SAS, France  
Pierre Moreau - Airbus Operations SAS, France  
4C.4 - Applying the AUTOSAR timing protection to build safe and efficient ISO 26262 mixed-criticality systems  
Christoph Ficek, Nico Feiertag, Kai Richter, Marek Jersak - Symtavision GmbH, Germany  
4D.4 - Elicitation of Executable Safety Rules for Critical Autonomous Systems  
Amina Mekki Mokhtar, Jérémie Guiochet, David Powell, Matthieu Roy - LAAS-CNRS, France  
Jean-Paul Blanquart - EADS ASTRIUM, France |
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<th>Time</th>
<th>Session 5A Requirements Engineering</th>
<th>Session 5B SysML in Use</th>
<th>Session 5C Formal Code Analysis</th>
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<td>13:30-15:30</td>
<td>Room Auditorium St Exupéry</td>
<td>Room Guillaumet</td>
<td>Room Ariane 1</td>
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| 13:30-14:00  | 5A.1 - Improving Requirements Engineering within the European Space Industry  
Silvia Mazzini, John Favaro - INTECS, Italy  
Rudolf Schreiner, Ulrich Lang - ObjectSecurity Ltd., United Kingdom  
H-P De Koning - European Space Agency, Netherlands  
5B.1 - DesyreML: a SysML profile for heterogeneous embedded systems  
Alberto Ferrari, Leonardo Mangeruca - ALES S.r.l., Italy  
Orlando Ferrante - ALES S.r.l. & University of Rome La Sapienza, Italy  
Alessandro Mignogna - ALES S.r.l. & Scuola Superiore Sant’Anna, Italy  
5C.1 - Transferring Stability Proof Obligations from Model Level to Code Level  
Michael Dierkes - Rockwell Collins France, France  
Daniel Kästner - AbsInt GmbH, Germany  
| 14:00-14:30 | 5A.2 - Model-based specification of the flight software of an autonomous satellite  
Jérémie Pouly - CNES, France  
Sylvain Jouanneau - ALTEN SO, France  
5B.2 - MADES: A SysML/MARTE high level methodology for real-time and embedded systems  
Imran Rafiq Quadri, Andrey Sadovykh - Softeam, France  
Leandro Soares Indrusiak - University of York, United Kingdom  
5C.2 - The B method takes up floating-point numbers  
Jean-Louis Dufour - Sagem, groupe SAFRAN, France  
Lilian Burdy, Thierry Lecomte - Clearsys, France  
| 14:30-15:00 | 5A.3 - Integrated tool chain for improving traceability during the development of automotive systems  
Eric Armengaud, Alfred Wallner - AVL, Austria/ Matthias Biehl - KTH, Sweden / Quentin Bourrouilh - AVL List GmbH, Austria / Michael Breunig - Infineon, Austria / Stefan Farfeleder - TU Vienna, Austria / Christian Hein - Fraunhofer Fokus, Germany / Markus Oertel - OFFIS, Germany / Markus Zoier - ViF, Austria  
5B.3 - Combining SysML and AADL for the Design, Validation and Implementation of Critical Systems  
Pierre De Saqui-Sannes - LAAS/ISAE, France  
Jerome Hugues - ISAE, France  
5C.3 - Fan-C, a Frama-C plug-in for data flow verification  
David Delmas - Airbus Operations SAS, France  
Pascal Cuq - CEA LIST, France  
Victoria Moya Lamiel, Stéphane Duprat - Atos Origin, France  
| 15:00-15:30 | 5A.4 - Efficient Methodology from Requirements to Design Models for an Automotive Application  
Adedjouma Morayo - DELPHI, France  
Machnik Wojciech - DELPHI, Poland  
Dubois Hubert, Terrier François - CEA LIST, France  
5B.4 - SysML for embedded automotive Systems: lessons learned  
Jean-Denis Piques - VALEO - Powertrain Systems Business Group – Electric, France  
Eric Andrianarison - VALEO - Group Electronic Expertise and Development Services, France  
5C.4 - Formally verified optimizing compilation in ACG-based flight control software  
Ricardo B. França, Marc Pantel - IRIT, Université de Toulouse, France / Sandrine Blazy - IRISA, Université de Rennes 1, France / Denis Favre-Felix, Jean Sourris - AIRBUS Operations SAS, France / Xavier Leroy - INRIA Rocquencourt, France  
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<th>Session 6A: Open Source Business Models</th>
<th>Session 6B: Case Studies in Model Based Engineering</th>
<th>Session 6C: Reuse and Product Lines</th>
<th>Session 6D: Software Qualimetry</th>
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<td>15:30-16:00</td>
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<td>16:00-17:00</td>
<td>6A.1 - Collaboration in Automotive: The Eclipse Automotive Industry Working Group Graf Andreas - itemis Gmbh, Germany / Ralph Mueller - Eclipse Foundation, Germany / Ignacio Garro, Stefan Vogel - Continental, Germany / Harald Mackamul - Robert Bosch GmbH, Germany</td>
<td>6B.1 - Modeling and Validation of a Data Process Unit Control for Space Applications Hai Wan, Congdi Huang, Yuhui Wang, Fei He, Ming Gu - Key Lab of ISS of MOE, TNList, School of Software, Tsinghua, China / Marius Bozga - Verimag/CNRS, France</td>
<td>6C.1 - SAVOIR: Reusing specifications to improve the way we deliver avionics Jean-Loup Terraillon - European Space Agency, Netherlands Savoir Advisory Group - SAVOIR group represented by the European Space Agency, Netherlands</td>
<td>6D.1 - Software Qualimetry at Schneider Electric: a field background Hervé Dondey - Schneider Electric, France Christophe Peron - Squoring Technologies, France</td>
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<td>16:00-16:30</td>
<td>6A.2 - Polarsys, new generation of Open Source organization, targets long-term availability of engineering tools for Embedded Systems Gael Blondelle - Obeo, France / Paul Arberet - CNES, France / Alain Rossignol - EADS Astrium, France / Christian Labezin - Xipp, France / Romain Berrendonner - Adacore, France / Pierre Gaufillet - Airbus, France / Raphaël Faubou - Atos Origin, France / Benoît Langlois - Thales, France / Luc Maisonnebe, Eric Bonnafous - CS, France / Pierre Moro - EADS Space Transportation, France / Jorge Rodriguez - Indra, Spain / José Manuel Puerta - TCP SI, Spain / Björn Lundell - University of Skövde, Sweden / Ralph Mueller - Eclipse Foundation, Germany</td>
<td>6B.2 - Customization principles of an aeronautics SLM environment and an illustration on aeronautics use cases: the doors management system and the flight control system Philippe Baufreton, Fabien Paganelli - SAGEM, France Gérard Cristau - THALES R&amp;T, France Odile Laurent - AIRBUS FRANCE, France Nikolaos Priggouris - HAI, Greece Ivo Viglietti - ALENIA SIA, Italy Stéphane Bonnet - CNRS, France</td>
<td>6C.2 - The product-line engineering approach in a model-driven process Hubert Dubois, Patricia Mouy - CEA-LIST, France Vincent Ibanez, Nicolas Meledo - THALES AVIONICS, France Joseph Machrouh - THALES R&amp;T, France A Silva - Franhofer ISE, Germany Cristina Lopez - Tecnalia, Spain</td>
<td>6D.2 - Model Quality Assessment in Practice: How to Measure and Assess the Quality of Software Models During the Embedded Software Development Process Ingo Stuermer, Hartmut Pohlheim - Model Engineering Solutions GmbH, Germany</td>
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<td>16:30-17:00</td>
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<td>Time</td>
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<td>17:10-18:10</td>
<td><strong>Model Based Approach</strong>&lt;br&gt;<strong>Room Auditorium St Exupéry</strong></td>
<td><strong>System &amp; Safety Engineering</strong>&lt;br&gt;<strong>Room Guillaumet</strong></td>
<td><strong>Automotive Functional Safety, ISO26262</strong>&lt;br&gt;<strong>Room Ariane 1</strong></td>
<td><strong>Operating System &amp; Implementation</strong>&lt;br&gt;<strong>Room Ariane 2</strong></td>
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<td>17:40-17:55</td>
<td>Tool A.3 - Requirements and Test Case Tracing&lt;br&gt;Dr. Joachim Wegener, Ute Herold - Berner &amp; Mattner Sytemtechnik GmbH, Germany</td>
<td>Tool B.3 - Systems Engineering for Cyber-Physical Products&lt;br&gt;Bernard Clark - Dassault Systemes, United Kingdom</td>
<td>Tool C.3 - Reduce Cost of ISO 26262 Compliance while Driving Productivity Gains&lt;br&gt;Mark Richardson, Mark James - LDRA, United Kingdom</td>
<td>Tool D.3 Evaluation of a modeling and automatic C code generation toolset as an open source alternative solution&lt;br&gt;William Fotso Kom, Xavier Querol - ESG Automotive France, France</td>
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<td>17:55-18:10</td>
<td>Tool A.4 - A new UML tool-based Methodology for the Software Requirements Analysis&lt;br&gt;Thomas Weyrath, Franz Schöttl - Elektroniksystem - und Logistik-GmbH (ESG), Germany / Herbert Schreyer - Eurocopter Deutschland, Germany / Berthold Schinnerl - German armed forces, Germany</td>
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<td>19:00-23:00</td>
<td><strong>GALA EVENING, PIERRE BAUDIS CONGRESS CENTER,</strong>&lt;br&gt;<strong>/ Room Caravelle</strong></td>
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<td>Time</td>
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<td>09:00-10:00</td>
<td><strong>Keynote address: Towards a greener and more eco efficient aerospace industry</strong> Denis CHAPUIS - VP Research and Technology of EADS, France</td>
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<td>10:00-10:30</td>
<td>EXHIBITION VISIT / REFRESHMENT BREAK / Room Concorde</td>
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<td>10:30-12:30</td>
<td><strong>Session 7A</strong></td>
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<td>10:30-11:00</td>
<td><strong>7A.1 - Integrating Formal Program Verification with Testing</strong></td>
<td><strong>7B.1 - Increasing intersystem functionalities validations efficiency thanks to Model Based Design</strong></td>
<td><strong>7C.1 - Deterministic Execution Sequence in Component Based Multi-Contributor Powertrain Control Systems</strong></td>
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<td>Cyrille Comar, Johannes Kanig, Yannick Moy - AdaCore, France</td>
<td>Pedro Moreno-Lahore, Yves Touzeau, Olivier Guetta - RENAULT, France</td>
<td>Denis Claraz - Continental Automotive S.A.S, Toulouse, France / Stefan Kuntz, Gerhard Wirrer - Continental Automotive GmbH, Regensburg, Germany / Ulrich Margull, 1 mal 1 Software GmbH - Germany / Michael Niemetz - University of Applied Sciences Regensburg, Germany</td>
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<td>11:00-11:30</td>
<td><strong>7A.2 - Compilation of Heterogeneous Models: Motivations and Challenges</strong></td>
<td><strong>7B.2 - Model-Based Engineering approach for system architecture exploration</strong></td>
<td><strong>7C.2 - Beyond Mutexes, Semaphores, and Critical Sections</strong></td>
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<td>Matteo Bordin - AdaCore, France</td>
<td>Julien Delange, Christophe Honvault, James Windsor - European Space Agency, Netherlands</td>
<td>Serge Plagnol - Green Hills Software, France</td>
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<td>Tonu Naks, Andres Toom - IB Krates, Estonia</td>
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<td>Marc Pantel - IRIT-ENSEEIHT, Université de Toulouse, France</td>
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<td>11:30-12:00</td>
<td><strong>7A.3 - Formalization and Comparison of MCDC and Object Branch Coverage Criteria</strong></td>
<td><strong>7B.3 - Use of modelling methods and tools in an industrial embedded system project : works and feedback</strong></td>
<td><strong>7C.3 - A lightweight, code generated and fast IPC framework for C++ based applications</strong></td>
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<td>Cyrille Comar, Jérôme Guitton, Olivier Hainque, Thomas Quinot - Adacore, France</td>
<td>Anthony Fernandes Pires, Stéphane Duprat, Tristan Faure, Jack Beringuier, Jean-François Rolland - Atos, France</td>
<td>Martin Kalisch, Peter Reitinger, Stefan Bitzer - Continental Automotive Villingen, Germany / Valentin Uriteșcu - Continental Automotive Timisoara, Romania</td>
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<td>Cédrik Besseyre - Airbus, France</td>
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<tr>
<td>12:00-12:30</td>
<td><strong>7A.4 - Agility &amp; Lean for Avionic Software</strong></td>
<td><strong>7B.4 - Formal Model Driven Engineering for Space Onboard Software</strong></td>
<td><strong>7C.4 - An ASN.1 compiler for embedded/space systems</strong></td>
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<td>12:30-13:30</td>
<td>EXHIBITION VISIT / LUNCH / Room Caravelle</td>
<td>Panel Smart energy management</td>
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Session Chair: Louis Claude VRIGNAUD, Continental Automotive - France  
Panelists: Jean-Luc MATÉ, Continental Automotive - France / Etienne FOCH, Airbus - France  
Jean-Luc DORMOY, EDF Group - France | Room Auditorium St Exupéry |
| 13:30-14:30  |  
**Session 8A**  
Safety & Security  
Room Auditorium St Exupéry | **Session 8B**  
Model Based Testing  
Room Guillaumet | **Session 8C**  
Diagnosis & Prognosis  
Room Ariane 1 |
| 14:40-16:10  |  
**8A.1 - Security and Safety Assurance for Aerospace Embedded Systems**  
Pierre Bieber - Onera, France / Jean-Paul Blanquart - Astrium, France / Gilles Descargues, Gabrielle Sarouille - Thales, France / Michael Dulucq - SERMA Technologies, France / Yannick Fourastier - EADS France, France / Eric Hazane - EADS Cassidian Apsys, France / Mathias Julien - Altran, France / Laurent Léonardon - Rockwell-Collins Collins France |  
**8B.1 - ISO 26262 Compliant Automatic Requirements-Based Testing for TargetLink models and generated code**  
Udo Brockmeyer, Adrian Valea - BTC Embedded Systems AG, Germany  
Markus Gros - dSPACE SARL, France |  
**8C.1 - Online model adaptation for aircraft operational reliability assessment**  
Kossi Tiassou, Karama Kanoun, Mohamed Kaaniche - LAAS-CNRS, France  
Christel Seguin - ONERA, France  
Chris Papadopoulos - AIRBUS Operations Ltd, United Kingdom |
| 14:40-15:10  |  
**8A.2 - Similarities and dissimilarities between safety levels and security levels**  
Jean-Paul Blanquart - Astrium Satellites, France / Pierre Bieber - Onera, France / Gilles Descargues - Thales DAE, France / Eric Hazane - EADS APSYS, France / Mathias Julien - Altran, France / Laurent Léonardon - Rockwell-Collins France |  
**8B.2 - DIVERSITY-TG: Automatic Test Case Generation from Matlab/Simulink models**  
Diane Bahrami, Alain Faivre, Arnault Lapitre - CEA, LIST, LISE Laboratory, France |  
**8C.2 - Hybrid Causal Model Based Diagnosis. Application to Automotive Embedded Functions**  
Renaud Pons, Audine Subias, Louise Travé-Massuyès - LAAS-CNRS, France |
| 15:10-15:40  |  
**8A.3 - Secure architecture for information systems in avionics**  
Maxime Lastera, Eric Alata, Jean Arlat, Yves Deswarte, David Powell - CNRS ; LAAS, France / Bertrand Leconte - AIRBUS Operations SAS, France / Cristina Simache - ALTRAN SUD OUEST, France |  
**8B.3 - Application of Model-Based Testing on a Railway Project**  
Mathieu Steiner, Anthony Faucogney, Valerie Bouquet - ALL4TEC, France |  
| 15:40-16:10  |  
**8A.4 - Similarities and dissimilarities between safety levels and security levels**  
Jean-Paul Blanquart - Astrium Satellites, France / Pierre Bieber - Onera, France / Gilles Descargues - Thales DAE, France / Eric Hazane - EADS APSYS, France / Mathias Julien - Altran, France / Laurent Léonardon - Rockwell-Collins France |  
**8B.4 - DIVERSITY-TG: Automatic Test Case Generation from Matlab/Simulink models**  
Diane Bahrami, Alain Faivre, Arnault Lapitre - CEA, LIST, LISE Laboratory, France |  
| 16:20-16:50  |  
**Closing session**  
Room Auditorium St Exupéry |  

**Christel SEGUIN**, SEE/ONERA & Organising General Co-Chair  
**Francis GUIMERA**, 3AF Midi-Pyrénées & Organising General Co-Chair
## CONGRESS GENERAL CHAIRS

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<td>Joseph SIFAKIS</td>
<td>Verimag, France</td>
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<tr>
<td>Jean BOTTI</td>
<td>EADS, France</td>
<td>France</td>
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## ORGANIZING GENERAL CHAIRS

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<td>Francis GUIMERA</td>
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<td>Christel SEGUIN</td>
<td>SEE /Onera</td>
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- Marie-Line VALENTIN - Airbus Operations, France

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Jean-Luc MATE – Continental Automotive, France
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Pascal TRAVERSE – Airbus, France

*Communication Chair: Laurent Mangane - 3AF, Airbus, France*

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**INCHRON** offers design and test solutions for real-time critical software in embedded systems. The INCHRON Tool-Suite enables users to develop embedded systems in shorter time, at lower cost, achieving higher quality. Developers and architects model, simulate and validate the real-time behavior of networked embedded systems accomplishing early performance analysis. For years, INCHRON's methodologies and tools have been successfully used in numerous projects with major OEMs and suppliers across all industries. The real-time simulator chronSIM improves in-depth understanding of the temporal behavior by highlighting e.g. timing effects on system states and data flow in various diagrams. chronVAL validation software analyzes the best and worst case scenarios based on formal mathematical methods. The combination of simulation and validation gives keen insight into the real-time behavior of embedded systems and networks. Since 2010 INCHRON and IBM are Business Partners. IBM is offering the complete range of INCHRON's tools and services. By integrating INCHRON's solutions with the IBM Rational software development platform, INCHRON and IBM offer customers a unique tool suite for the development of embedded systems. The greatest improvements are with regards to model-based development where timing and performance considerations can now be taken into account at a much earlier stage of the development process.
ALTRAN is the European leader in innovation and high technology consulting. The Group employs 18,000 consultants worldwide (1,700 for ALTRAN Sud-Ouest) who represent the entire range of engineering disciplines, broken down into three major business lines: technology and R&D consulting; organisation and information systems consulting; and strategy and management consulting. ALTRAN works with companies throughout the innovation process, including technology intelligence, applied basic research, management consulting, industrial systems engineering and information systems.
ALTRAN operates in most industries, particularly the automotive, aeronautics, space and telecommunications sectors.
ALTRAN is also involved in research activities and launched ALTRAN Research in January 2009 with the aim of strengthening ALTRAN’s positioning in innovation consulting. Its cross-curricular and transverse research is based on three themes that Altran believes are essential in order to tackle complexity: Sustainable Development (SD), Advanced Products & Solutions (APS) and Management & Performance (M&P).
http://www.altran-so.fr/

The French Space Agency, CNES, was founded in 1961 as a state-owned agency responsible for shaping and implementing French Space policy on national, European and international levels. The agency’s expertise covers every aspect of space technology and its mission is to invent the space systems of the future.
CNES deploys its resources for five types of programme: the Earth and the environment, civil applications, space sciences, security and defence and access to space.
To accomplish its missions, CNES operates four centres which together employ more than 2400 people, engineers, technicians and administrative staff.
The **SEE** (the French Electrical, Electronics, and Information & Communication Technologies Society) is a non-profit-making scientific association, directed to the public benefit. The SEE groups its members into 22 Technical Committees and 12 Regional Groups, creating links between them through its Newsletter and website. SEE’s mission is to promote French science and technology, as well as create within these two fields meeting opportunities for industrialists, research scientists, teachers, students and trainee engineers both from France and abroad. The SEE thereby organises and co-organises events in its particular fields of competence. These professional national colloquia deal with particular topics and prospects, as well as major international Conferences. Other events include technical visits, evening lectures and training courses.

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The **Association Aéronautique et Astronautique de France** is the only French society of the aerospace field. AAAF is member of the International Council of Aeronautics Sciences (ICAS), of the International Astronautics Federation (IAF), of the French Mechanics Society (AFM). The first goal of AAAF is to inform all the members about developments in its sector of activity and to show up and to promote the work of its members. The mission of AAAF can be declined as follow: to bring together members and industrial firms, to create contacts between the members themselves, to serve as a major source of information, to provide members with a possibility to represent the members in several national or international societies, to award medals, scrolls and so on…

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**With the support of Aerospace Valley for the coordination of the congress organization**

The **Aerospace Valley** World Competitiveness Cluster allies the Midi-Pyrenees & Aquitaine regions to constitute Europe’s leading pool of jobs in the field of aeronautics, space and embedded systems. The purpose of the Aerospace Valley cluster is to grow jobs in its regions in the aeronautics, space and embedded systems sectors. 11,000 new jobs have already been created in the last three years (INSEE figures).

**Embedded Systems**

In embedded systems, the cluster’s development priorities focus on:

- the dependability and reliability of embedded systems at all levels (software/hardware)
- performance, modularity and the quality of mechanical, electrical-IT parts and energy development
- systems diagnosis and prognosis
- new modes of human-system interaction and inter-systems communication
- the design of smaller, less expensive and more powerful components in conjunction with Nanoinnoov, a major programme

Embedded systems also offer numerous opportunities for diversification, particularly in the areas of health, energy and home automation.

See Aerospace Valley web site for more information and contact : http://www.aerospace-valley.com/en/