

Keynotes by Arianespace, DLR, EADS  
Astrium, ESA, European Commission,  
OHB-System, Thales Alenia Space

  
**AIRTEC**  
INTERNATIONAL AEROSPACE  
SUPPLY FAIR

# 1<sup>st</sup> International **SPACE World** Conference & Exhibition

From vision to commercial applications

**November 2 – 4, 2010**

Exhibition Centre Frankfurt / Main Germany



## Conference Programme

Early Bird: Until August 31, 2010



# 1<sup>st</sup> International SPACE World Conference & Exhibition

November 2 – 4, 2010, Frankfurt/Main, Germany

## INVITATION TO ATTEND



We are very glad to present to you the 1<sup>st</sup> International SPACE World conference and exhibition "From vision to commercial applications", from November 2 – 4, 2010 at

the Exhibition Centre Frankfurt, Germany. Together with the Chairman of the conference and the Scientific and Technical Committee, we cordially invite you to attend SPACE World 2010. This conference and exhibition is kindly supported by the European Space Agency, ESA (Darmstadt, Germany) and is held as part of the International Aerospace Supply Fair - AIRTEC 2010.

SPACE World is an important future-oriented meeting place for space technology suppliers and users. SPACE World not only serves as a conference and exhibition but also as a competence-, communication- and contact platform and as an ideal marketing- and sales tool.

As organizers we are very proud to present you a conference programme with renowned speakers from leading companies, universities and institutions from various nations.

**We are looking forward to welcoming all attendees at SPACE World 2010 and we wish you a fruitful exchange of experiences, new ideas and aspects in space technology and applications. With the very best wishes for a successful and pleasant stay in Frankfurt.**

**Diana Schnabel**

Exhibition Management  
AIRTEC 2010  
CEO / President  
airtec GmbH & Co. KG

**Volker Schulze**

Exhibition Management  
AIRTEC 2010  
Managing Director  
airtec GmbH & Co. KG



The fascination of space exploration and the fast developing business opportunities – in particular in communications, navigation and Earth observation – recommend the SPACE WORLD exhibition as an excellent complement to the well established AIRTEC fair, addressing mainly the aircraft sector. Thus the full range of Aerospace technologies and applications is covered by these two parallel events.

This first international SPACE WORLD attracted very prominent keynote speakers covering the worldwide recent activities related to the SPACE World lead topic "From vision to commercial applications". This very interesting mix of contributions from space organizations, industry and academia covers the current state of space technology by 48 presentations from 10 countries in

- **Space Business Opportunities**
- **Satellite Design**
- **Launchers**
- **Testing**

- **Spacecraft Operations**
- **Human Spaceflight**
- **Solar and Planetary Exploration**
- **Technology Transfer**
- **Applications**

This should provide together with the related fair an excellent platform for professional visitors to identify new business opportunities and to exchange information on technology innovations. Thus Space World should be an interesting place for specialists in research, engineering, project management, procurement and business development.

**We are excited to welcome you at this promising Space World event, and wish you an interesting and inspiring stay in the beautiful city Frankfurt.**

**Prof. Dr. Klaus Schilling**

Scientific Chair of the SPACE World conference  
University Würzburg and  
CEO of the company Center for Telematics (ZfT)

- 09.00**     **Check-in and coffee**
- 09.15**     **Welcome Address of the Organizer**  
Diana Schnabel / Volker Schulze  
Exhibition Management, AIRTEC 2010
- Welcome Address of the Conference Chairman**  
Klaus Schilling, University of Würzburg, Germany

### Space Business / Terrestrial Applications

- 09.30**     **How to do Business with ESA?**  
**Keynote:** Gaelle Winters, ESA Director of Operations and Infrastructure and Head of the European Space Operations Centre (ESOC) in Darmstadt, Germany
- 10.00**     **EU Space Policy after the Lisbon Treaty – Opportunity and Challenges**  
**Keynote:** Johann Friedrich Colman, Member of the Cabinet of Vice-President Tajani, European Commission, Brussels, Belgium
- 10.30**     **Earth Observation Satellites for European Citizens and Policy Makers**  
**Keynote:** Rolf Densing, Director Space Programs of DLR-Space Agency, Bonn, Germany
- 11.00**     **The Satellite Industry's Challenge in a Changing Marketplace**  
**Keynote:** Christophe Wilhelm, Senior Vice-President Strategy & Marketing of Thales Alenia Space, Paris, France
- 11.30**     **Application of Space Technologies in Earth Observation and Navigation**  
**Keynote:** Fritz Merkle, Member of the Executive Board of OHB-System AG in Bremen, Germany
- 12.00**     **Earth Observation and Space Science – added Value for Global Growth**  
**Keynote:** Eckard Settlemeyer, Director Earth Observation & Science, EADS Astrium, Friedrichshafen, Germany
- 12.30**     **Access to Space: The European Model**  
**Keynote:** Jean-Yves Le Gall, Arianespace Chairman and CEO, Evry-Courcouronnes, France
- 13.00**     **Lunch in the Exhibition Area**

### Terrestrial Applications / Spacecraft Operations

- 14.00**     **Towards a Satellite-based Voice Communication, Service for Air Traffic Management**  
Wolfgang Kampichler, Johannes Prinz, Frequentis AG, Austria
- 14.30**     **SpaceNet, Space Operations Monitoring**  
Martin Libessart, EADS Astrium Space Transportation, France
- 15.00**     **Coffee break in the Exhibition Area**

- 15.30 Ground Station Network for Efficient Small Satellite Operations**  
Marco Schmidt, Klaus Schilling, Universität Würzburg, Germany
- 16.00 HeidelSat Ground Station for GENSO Network**  
Mathieu Chadelain, Clément Mallet, Loic Todisco, Achim Gottscheber, SRH University of Applied Sciences Heidelberg, Germany
- 16.30 Orbit and Drift Analysis for Swarms of Picosatellites**  
Karthik Ravandoor, Maximilian Drentschew, Marco Schmidt, Klaus Schilling, Uni Würzburg, Germany
- 17.00 One Year in Orbit for the Herschel Satellite – a Dedicated Mission Data Management and Analysis Solution**  
Aurelian Tomescu, Gabriel Mihail, ESA – LSE Space AG, ESA/ESOC, Germany

**DAY 2, November 3, 2010 – Session B**

**2, November 3, 2010 – Session C**

**Human Spaceflight**

**Solar and Planetary Exploration**

**Parallel Session**

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| <p><b>09.00 Check-in and coffee</b></p> <p><b>09.30 The International Space Station – Milestones and Prospects</b><br/><b>Keynote:</b> Thomas Reiter, Member of the Executive Board of DLR in Köln, Germany and former ESA Astronaut</p> <p><b>10.00 Filling the Gap between Ground and the International Space Station</b><br/>Christophe Chavagnac, EADS Astrium, France</p> <p><b>10.30 Advanced Closed-Loop System for Accommodation on the ISS</b><br/>Klaus Bockstahler, Helmut Funke, Karlheinz Brodt, Joachim Lucas, EADS Astrium, Germany</p> <p><b>11.00 ISS 2020 - New horizons for Industrial and Commercial Utilisation on the International Space Station</b><br/>Peter Bütferring, European Space Innovation AG, Germany</p> | <p><b>09.30 Check-in and coffee</b></p> <p><b>10.00 Aspects of Designing a Long Term Operations Polar Lunar Base</b><br/>Omar Qaise, Eumetsat, Germany<br/>Juergen Schlutz, Institute of Space Systems (IRS), University of Stuttgart, Germany</p> <p><b>10:30 Vented Airbags: A New Promising Technology for Mars Landers</b><br/>Giacomo Giovangrossi, Aero Sekur S.p.A., Italy</p> <p><b>11.00 New EDLS architecture for small Mars Landers</b><br/>Giacomo Giovangrossi, Aero Sekur S.p.A., Italy</p> <p><b>11.30 Astronaut Navigation Approach for Future Mars Exploration Missions</b><br/>Hamza Benzerrouk, Alexander Nebylov, Gennady Yatsevitch, Russia</p> |
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**11.30 Propulsion Needs for ESA's Exploration and Human Space Flight Missions**  
Hartwig Ellerbrock, EADS Astrium ST, Ottobrunn, Germany, Norbert Henn, DLR-Agency HSF & Exploration Directorate, Bonn-Oberkassel, Germany, Gerald Hagemann, EADS Astrium ST, Ottobrunn, Germany, Mark Kinnersley, EADS Astrium ST, Bremen, Germany

**12.00 The Feared Event Control Method in Non-redundant Launcher Avionics**  
Ernesto Garcia Perez, EADS Astrium Crisa, Spain

**12.30 Lunch in the Exhibition Area**

**14.00 Falcon 9 – First Flight Results**  
Hans Koenigsmann, Brian Bjelde, SpaceX, CA., USA

**14.30 Re-entry Footprint Prediction**  
Catherine Poincheval, Romain Letouzey, F. Schmitt, Martin Libessart, EADS Astrium Space Transportation, France

**15.00 Coffee break in the Exhibition Area**

**15.30 Space Tourism – Delivering on the Dream**  
Dave Salt, VEGA Deutschland GmbH, Darmstadt, Germany

**16.00 The Space Liner Concept for Future Ultra Fast Passenger Transport**  
Martin Sippel, DLR, Germany

**16.30 Riding to Space : The Suborbital Spaceplane Project of EADS Astrium**  
Christophe Chavagnac, EADS Astrium, France

**17.00 XCOR Aerospace: Commercial Reusable Launch Vehicle Development and Status**  
Andrew Nelson, USA

**12.00 Rover NANOKHOD and SOLERO**  
Hanna von Hoerner, von Hoerner & Sulger, Raumfahrt, Forschung, Industrie, Germany

**12.30 Development of Diode-Pumped Solid-State Lasers for Planetary Exploration Missions**  
Christian Kolleck, Dietmar Kracht, Jörg Neumann, Laser Zentrum Hannover e.V, Germany

**13.00 Lunch in the Exhibition Area**

**DAY 2, November 3, 2010 – Session D**

**Space Technologies:  
Testing & Technology Transfer**

**Parallel Session**

**14:00 A Space Environment Simulator for Picosatellites**  
Martin Kerstner, Stephan Busch, Klaus Schilling, Frank Hemberger, University of Würzburg, Germany

**14.30 Improving Tests Processes for the Benefit of Small Scientific Missions**  
F. Rover, INTESPACE, France

**15.00 Space Test Campaign Optimization in Vibration and Thermal Domains**  
Etienne Cavro, INTESPACE, France

**15.30 Coffee in the Exhibition Area**

**16.00 Downstream Applications and Technologies**  
Frank M. Salzgeber, Technology Transfer Programme, ESA / ESTEC, Netherlands

**16.30 Advanced Smart E. Fashion – High Tech Garments Expressions**  
Alexandra Fede, Atelier Alexandra Fede, Italy

Space Technologies

- 09.00**     **Check-in and coffee**
- 09.30**     **Pico- and Nano-Satellite Based Mobile Ad-hoc Networks**  
Maximilian Drentschew, Michael Marszalek, Florian Zeiger, Markus Sauer, Marco Schmidt, Klaus Schilling, Zentrum für Telematik e.V., Germany
- 10.00**     **A Modular and Flexible Design for a Picosatellite Bus**  
Stephan Busch, Klaus Schilling, University of Würzburg, Germany
- 10.30**     **Power Supply Design for HeidelSat**  
Jerome Euziere, Alexander Elbrecht, Achim Gottscheber, SRH University of Applied Sciences Heidelberg, Germany
- 11.00**     **Nonlinear Power Flow Control Design for Autonomous Satellite Rendezvous and Docking Applications**  
David G. Wilson, Rush D. Robinett III, Sandia National Laboratories, USA
- 11.30**     **Flywheel Energy Storage Control for Satellites Power Supply Subsystems**  
Noha El -Gohary, A. Mahfouz, Thanaa El-Shater, National Authority for Remote Sensing and Space Sciences (NARSS), Egypt
- 12.30**     **Lunch in the Exhibition Area**
- 13.30**     **Smart Reaction Wheels – Capabilities and Advantages**  
Stephan Stoltz, Astro- und Feinwerktechnik Adlershof GmbH, Germany
- 14.00**     **CMG 15-45S: Control Momentum Gyroscope Solution for Small Agile Satellites**  
Laurent Vecco, Philippe Faucheux, EADS Astrium Satellites, France
- 14.30**     **Astrix 3M2 - A competitive Fibre Optic Gyro For Space**  
Xavier Calmet, EADS Astrium Satellites, France
- 15.00**     **Navigation Receivers for Space Applications**  
Peter A. Krauss, Christopher Kühl, Jens Heim, Eveline Gottzein, EADS Astrium, Germany
- 15.30**     **Coffee break in the Exhibition Area**
- 16.00**     **A solution for Ultimate Integration of Standard Onboard Computer**  
Mathieu Vandenbossche, EADS Astrium Satellites, France
- 16.30**     **Next Generation Reconfigurable Payload Processing Module**  
Florian Dittmann, TWT GmbH Science & Innovation, Germany
- 17:00**     **High Capacity Mass Memory for Space: Flying COTS Flash Technology**  
Arnaud Wagner, EADS Astrium Satellites, France

# Registration Form

Return by fax: + 49 (0) 69 27 40 03 44

# „SPACE World“

1<sup>st</sup> International Conference | November 02 – 04, 2010

airtec GmbH & Co. KG, P.O.BOX 70 01 64, 60551 Frankfurt / Main, Germany



## Please register the following delegate:

Title, First name	
Surname	Job Title
Company/Organisation	
Department/Division	
Email	Web Site
Address	
Town	
Post Code	Country
Direct Telephone	Direct Fax
Mobile	

### Registration Fees Conference

	3 Days	2 Days	1 Day	1/2 Day
<b>Quick Bird</b> <sup>1</sup> Non-Exhibitors	€ 520,-	€ 440,-	€ 280,-	€ 200,-
<b>Early Bird</b> <sup>2</sup> Non-Exhibitors	€ 700,-	€ 590,-	€ 380,-	€ 260,-
<b>Standard</b> Non-Exhibitors	€ 870,-	€ 740,-	€ 470,-	€ 330,-
<b>Quick Bird</b> <sup>1</sup> Exhibitors <sup>3</sup>	€ 470,-	€ 360,-	€ 230,-	€ 160,-
<b>Early Bird</b> <sup>2</sup> Exhibitors	€ 630,-	€ 480,-	€ 310,-	€ 220,-
<b>Standard</b> Exhibitors	€ 790,-	€ 600,-	€ 390,-	€ 270,-
<b>Speakers</b>	€ 440,-	€ 330,-	€ 200,-	€ 130,-

Students €100,-

**1/2 Day, 1 Day and 2 Day Registration:** Please indicate day of attendance  
 Tuesday  Wednesday  Thursday

All prices include VAT

#### Delegate information:

The registration fee includes admission to the conference and to the exhibition, conference documentation, CD and refreshments. 1 day, 2 day, 3 day registration includes also lunch and a reception following the last lecture on the first conference day.

<sup>1</sup> Registration until June 31<sup>st</sup>, 2010

<sup>2</sup> Registration until August 31<sup>st</sup>, 2010

<sup>3</sup> Your company must be an exhibitor at AIRTEC 2010 to qualify for the exhibitor registration rate

Full registration fee is due prior to the start of the conference.

Cancellations: All cancellations must be made in writing to the above mentioned address. Cancellations received 4 weeks prior to the start of the event will be refunded in full. For cancellations received after this time or for failure to attend, no refunds will be given. The organizers reserve the right to change the programme. I agree to be bound to the General Terms and Conditions of airtec GmbH & Co. KG

Signature:	Date:
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## Sponsorship Order Form

There are many opportunities to present your company at the conference as sponsor. We would be pleased to discuss additional individual sponsorship opportunities with you. Please call us at +49 (0) 69 27 40 03-15 or send an E-Mail: [conferences.airtec2010@demat.com](mailto:conferences.airtec2010@demat.com)

### Overview sponsorship opportunities

**Conference Lunch:** including company name or logo in the lunch area, in the conference programme and manual and on our website.  
 Per day: € 4,500  All three days: € 12,000

**Conference Coffee Breaks:** including company name or logo in the coffee break area, in the conference programme and manual and on our website.  
 Per day: € 3,000  All three days: € 10,000

**Conference Reception:** including company name or logo in the reception area, in the conference programme and manual and on our website.  
 € 6,500

**Conference Folder with pen and writing pad:** including company name or logo in the conference programme, and manual and on our website. It is possible to insert a booklet.  
 € 4,500 (Plus manufacturing costs)

Requirements on the Conference Folders: The conference folders should be suitable for DIN A4 print material. The sponsor logo as well as the AIRTEC logo will be placed on the cover.

All prices are stated plus VAT (19%).

More branding opportunities are possible in agreement with the organiser. All additional costs for logo presentation and advertising material will be assumed by the sponsor.

Desired Sponsorship		
Company Name		
Address		
Town	Post Code	Country
Phone	Fax	
Email	Homepage	
Authorized Person		
Company name exactly as it should appear on the promotional materials		

Sponsorship offerings and prices are subject to change. airtec GmbH & Co. KG reserves the right to develop additional sponsorship opportunities. No cancellation of refunds once sponsorship has been confirmed. Same sponsorship opportunity request: First-come first-served rules apply (submissions will be dated upon receipt). I agree to be bound to the General Terms and Conditions of airtec GmbH & Co. KG

Signature:	Date:
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### Payments:

Please invoice my company.

Attached is my cheque: Payable to airtec GmbH & Co. KG

Please charge my credit card  Visa  Mastercard

Card No.: \_\_\_\_\_ Card Security No.: \_\_\_\_\_

Expiry Date: \_\_\_\_\_ Amount: \_\_\_\_\_

Card Holder's Name: \_\_\_\_\_

Card Holder's Signature: \_\_\_\_\_



**AIRTEC**  
INTERNATIONAL AEROSPACE  
SUPPLY FAIR

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