

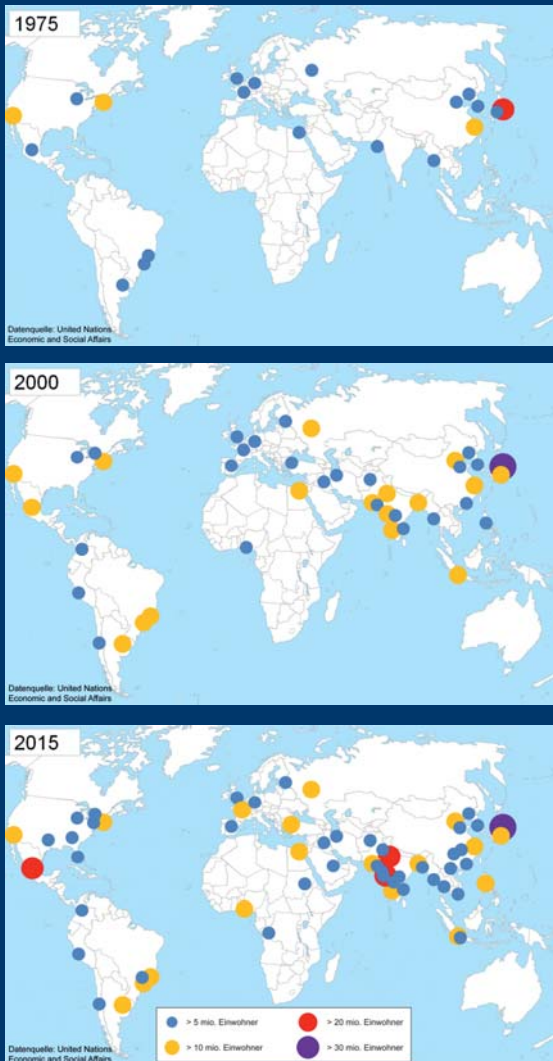
AIRTEC 2018

Aerospace meets Automotive – Innovations in Mobility

The global B2B meeting and technology fair for suppliers in aerospace

October 9 – 11, 2018
Messe / Exhibition Center
Sindelfingen-Stuttgart, Germany

URBAN INNOVATIVE MOBILITY – WHY?



Inhabitants in megacities

Continuous Growth of Megacities in the Future:

- 2030 - 2040: Population in megacities (>10 mio. inhabitants) will grow
- 2050: 82% of Europe's population will live and work in urban areas
- Urban transportation systems in most cities actually are far from ideal



Demanding Traffic Situation:

- Congested roads & traffic jams
- Poor air quality & high CO₂ emissions from transport
- High noise pollution

Challenges:

- Improvement of transportation systems
- Smarter infrastructure required
- Reduction of oil dependence, air and noise pollution

Possible Solutions:

- New innovative urban mobility concepts
- Autonomous driving, Autonomous flying
- Personal Aerial Vehicles (PAV), Autonomous Aerial Vehicles (AAV).

"Adding highway lanes to deal with traffic congestion is like loosening your belt to cure obesity."

(Lewis Mumford, 1955, The Roar Traffic's Boom)

AEROSPACE MEETS AUTOMOTIVE – WHY?



Situation in Automotive Industry:

- Stringent regulations on corporate fuel emission targets (CAFE)
- Car manufacturers had to develop electrically-propelled vehicles
- Increased customer acceptance to purchase electric & hybrid cars
- Significant alterations in automotive industry expected in the next years

Challenges in E-Mobility Industry:

- Electrification technologies for powertrain, batteries and electronics
- Increase in performance of electric & hybrid vehicles
- Price reduction of key components e.g. batteries and structure materials

Synergies between Automotive and Aerospace:

- General strategies of electric and hybrid electrical propulsion
- Concepts of energy generation, storage and distribution
- Appropriate sensors and control electronics for drive / flight control
- Usage of lightweight design, materials and production processes
- Solutions for autonomous operation and active safety-critical systems

Differences between Automotive and Aerospace:

- Low Weight: Important to automotive / Very essential in aerospace
- Low Battery Charge: Annoying in automotive / Dangerous in aerospace
- Regulations: Stringent in automotive / More stringent in aerospace

CHALLENGES IN URBAN INNOVATIVE MOBILITY – AUTONOMOUS DRIVING/FLYING

REGULATORY CHALLENGES

- Status and adaption of *National* and *International Regulations*
- *Safety Standards, Approvals* and *Operating Criteria* especially in case of autonomous operation
- *Flight Control* and *Air-Traffic Control* in urban mobility
- *Liability* in case of accidents
- *Cyber Security* and *Trusted Communication*



TECHNICAL CHALLENGES

- **Materials, Structures, Components and Processes**
 - Implementation of *Bionic Design*
 - Standardization and quality assurance of processes and parts in *Additive Manufacturing*
 - *Carbon Fiber Reinforced Polymers (CFRP)* and *Structural Health Monitoring (SHM)*
 - Prospective usage of *Hybrid Materials*
- **Energy Supply and Propulsion Technologies**
 - Weight, energy density and safety of *Li-Ion Batteries*
 - Design of lightweight, high power density *Fuel Cells*
 - Optimum conditions in *Hybrid Propulsion Systems*
 - Development of efficient *High Power Electronics*
 - Light and efficient high power *Motors* and *Generators*
- **Operations, Control Electronics and Sensors**
 - Development of adequate and reliable *Sensors, Software* and *Hardware* for autonomous operation
 - *Vehicle-2-X Communication* and *Swarm Intelligence*

WHY AIRTEC 2018? – IT DIFFERS FROM THE OTHER EVENTS

AIRTEC 2018 is a synergetic interaction of

1 a 3-day international conference with exclusively selected speakers from aerospace and automotive industry, strategically focusing on the actual challenges of innovative mobility and depicting the opportunities for market entrance relating to concepts, products and technologies; The participants can get into direct contact with relevant decision makers who are interested in fathom the strategic orientation of their companies based on the conference topics;

2 a 3-day international exhibition with more than 250 companies demonstrating their aerospace and automotive products and services; Technical experts and lateral thinkers who are involved in challenging questions of innovative mobility as well as purchasers and supply chain managers interested in getting into fruitful supplier contacts will benefit from the exhibition;

3 exclusive VIP contacts to strategic purchasers / buyers of OEMs and primes as well as to selected top managers in R&D, global sourcing and supply chain to present your products, services or concepts;

moderated and guided by a powerful **B2B-Portal** with which you can get in direct contact with all AIRTEC participants and network with each other.

THE UNIQUE AIRTEC CONCEPT

network, match and make new business with each other

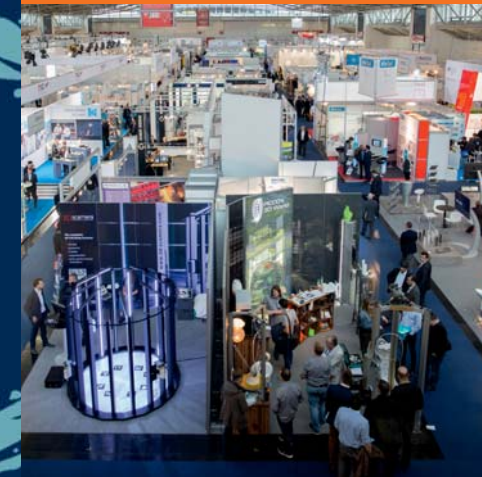
Conference



B2B Meetings



Exhibition



Innovations in Mobility Conference

Opening & Key Lectures

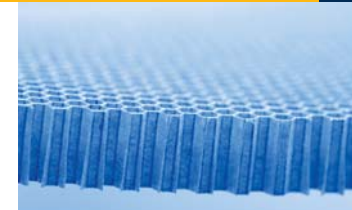
Urban Mobility

Concepts in
Innovative Mobility



Mobility Technologies

Lightweight
Materials & Processes



Power Supply
& Electronics



Avionics,
Sensors & Operation



Supply Chain
Management



B2B Meetings

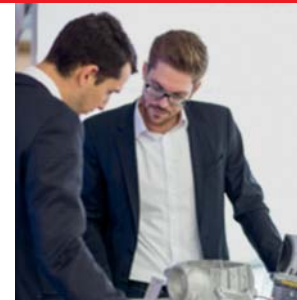


Before AIRTEC

Pre-arrange B2B
meetings
in advance

At AIRTEC

Nonstop 30-minutes
business talks



VIP Support

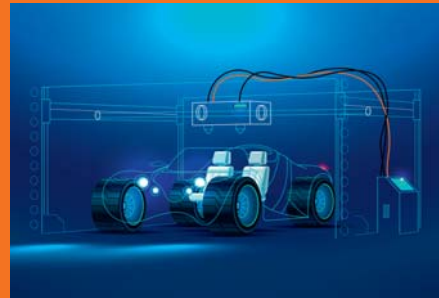
- OEMs
- Primes
- Procurement/Buyers
- Technical Experts
- Global Sourcing
- Supply Chain Manager
- R&D Manager
- Developers

Exhibition



Design & Engineering

- CAD/CAM, CAE & DMU
- FEM & Simulation
- Engineering Services
- Qualification & Testing
- Requirements Engineering
- Employment Services



Materials & Processes

- Bionic design
- Lightweight construction
- Additive manufacturing
- Lightweight metals/superalloys
- Hybrid materials
- Carbon fiber reinforced plastics (CFRP)



Mechanics & Structures

- Fuselage components
- Wings, flaps & ailerons
- Landing gear & hydraulics
- Engine & Auxiliary Power Units
- Precision casting products
- Fasteners, screws & fittings



Components & Systems

- Electronics/EEE Components
- Avionics & Sensors
- COTS Components
- Power Generation & Conversion
- Printed Circuit Boards
- Connectors & Cable Harnesses



Connectivity & Autonomy

- Vehicle-2-x communication
- Air traffic control ATC
- IT Security & Encryption
- Functional Safety
- Digitalisation & Big Data
- Industrie 4.0



Innovative Mobility

- e-Aircraft & e-Vehicles
- Personal Air Vehicles
- Urban Mobility
- Unmanned Aerial Systems/UAS
- Small Satellites/CubeSat
- Electrification



Supply Chain Management

- Supply Chain Transformation Support
- Manufacturing Optimization Solutions
- Product Lifecycle Management (PLM)
- Inspections (FAI), source, incoming
- Aerospace Logistics
- Warehouse Management

CONFERENCE TOPICS

Slot 1

Concepts in Innovative Mobility

Urban Mobility Concepts for the Future
Unmanned Tomorrow
Personal Air Vehicles (PAV)
e-Aircraft
Electrical & Hybrid Vehicles
Space Innovation: CubeSat-Usage



Slot 2

Lightweight Materials & Processes

Additive Manufacturing (Metals & Polymers)
Bionic Structures & Simulation
Carbon Fiber Reinforced Plastics (CFRP)
Hybrid Materials
Light-Weight Metals vs. Polymers

Power Supply & Electronics

Li-Ion Batteries in Aerospace & Automotive
Status Quo & Challenges in Fuel Cell Technology
Hybrid Propulsion Concepts
Electrical Aircraft Engines
Challenges in E-Mobility Power Electronics

Avionics, Sensors & Operation

ECU/Avionic concepts for Innovative Mobility
Sensors in Innovative Mobility (Visual, Radar, IR)
Automated and Connected Driving & Flying
Big Data Processing & Neural Networks
Car-2-x Communication & Swarm Intelligence

Supply Chain Management

Supply Chain Challenges in Innovative Mobility
Logistic Trends in the Aerospace Supply Chain Industry 4.0
Digitalization Aspects
SC-Tools - LEAN, 6-SIGMA & SCOR

BE ONE OF OUR EXPERTS – CALL FOR ABSTRACTS



You can participate in the creation of AIRTEC 2018 by becoming a speaker at the Innovations in Mobility conference. The AIRTEC Program Committee welcomes your abstract submissions for oral presentations, and scientific posters. The submission deadline June 30, 2018. Abstracts will be peer-reviewed by the AIRTEC Program Committee which reserves the right to accept or refuse submission and has final decision on the method of presentation.

TARGET GROUP & AUDIENCE

- The AIRTEC 2018 is directed at an international audience of board members, technical directors, senior managers, project heads, R&D managers, purchasers as well as sales & marketing representatives from aerospace and automotive industries.
- Technical experts and lateral thinkers who are involved in challenging questions of innovative mobility will benefit from the intersectoral cross selling potential of AIRTEC 2018.
- AIRTEC 2018 offers lead purchasers / buyers of primes, OEMs and TIER1s the possibility to get into direct contact with innovative suppliers at the international exhibition demonstrating their products, services and concepts.
- Over the B2B portal all registered AIRTEC 2018 participants can initiate TechTalks to communicate with technological orientated target groups like e.g. engineers and developers or BusinessTalks with purchasers / buyers.

AIRTEC BOARD 2018



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Managing Partner
cobago GmbH



Dipl.-Ing. Christoph Geissler
Business Incubator
HENSOLDT Ventures

CONTACT

IGF

Innovative Global Fairs GmbH

Stresemannallee 31 • 60596 Frankfurt/Main • Germany

T: +49 (0) 69 27 40 03 54 • M: +49 (0) 174 6 14 81 31

claudia.dannehl@airtec.aero • www.airtec.aero