

bavAIRia e.V.

Cluster Aerospace, Oberpfaffenhofen, D

Nereus: Bavaria

-> Bavarian State Ministry for
Economic Affairs & Media, Energy & Technology




Jürgen Vogel

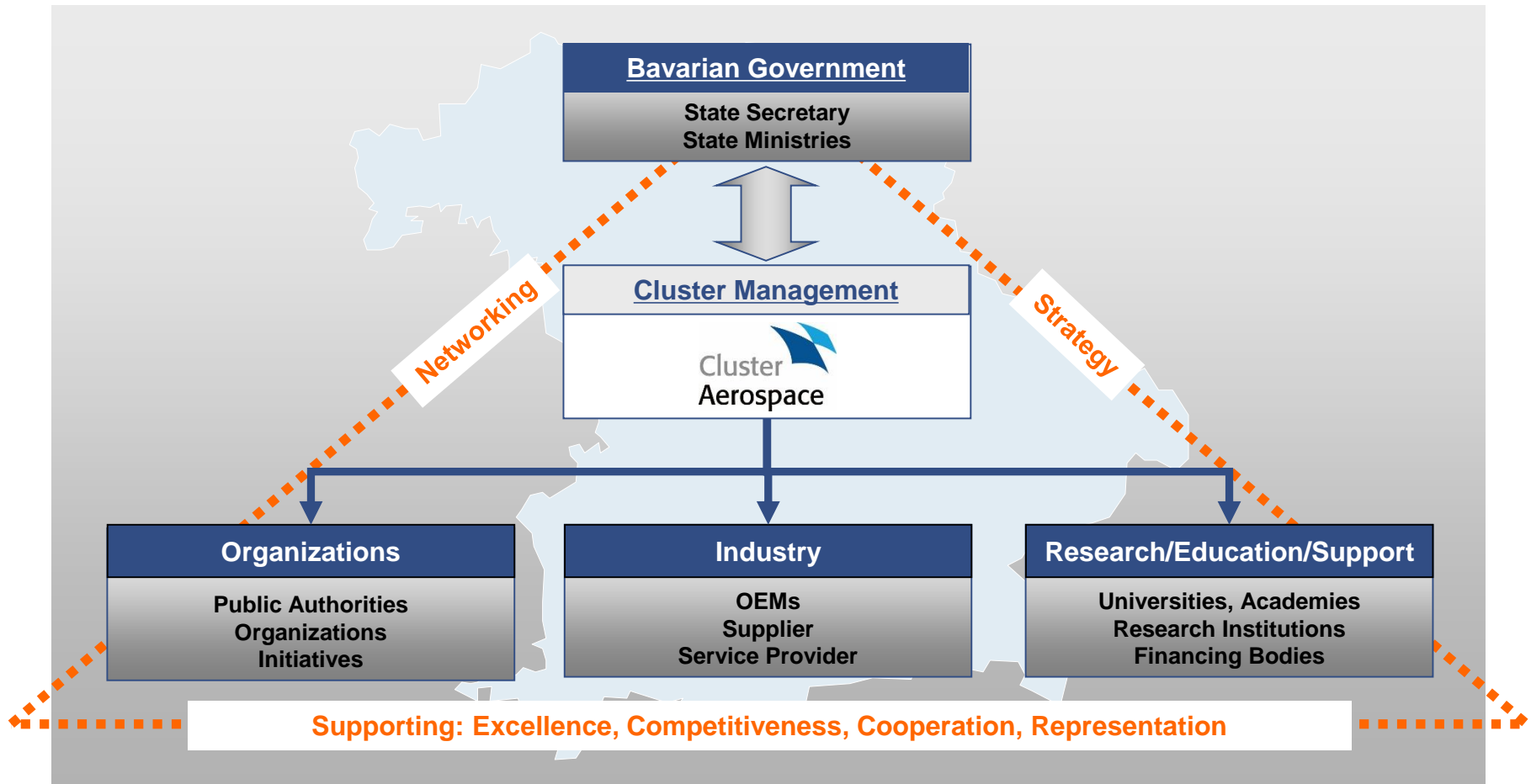
Co-ordinator International Programmes

Regional Good Practice: Stenghtening interaction between politics,
research & industry

The Bavarian Cluster Initiative: five areas / seventeen clusters

Mobility	Materials	Health	Digitalization	Energy
1 Automotive 2 Railway technologies 3 Aerospace  bavAIRia	4 New Materials 5 Chemical industries 6 Nanotechnology 7 Forestry & Wood 8 MAI Carbon	9 Biotechnologies 10 Medical technologies 11 Food industries	12 IT & Communication 13 Power electronics 14 Mechatronic & Automation 15 Sensor technologies	16 Energy 17 Environment

Clusters integrate economy, research, education & politics

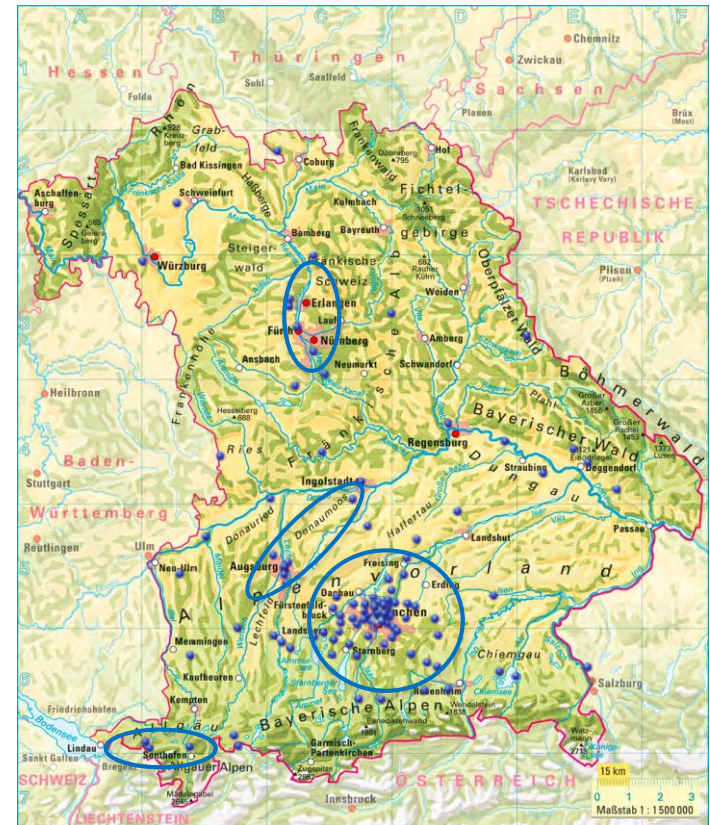


Bavaria's aerospace companies: active over entire value chain

The Bavarian Cluster

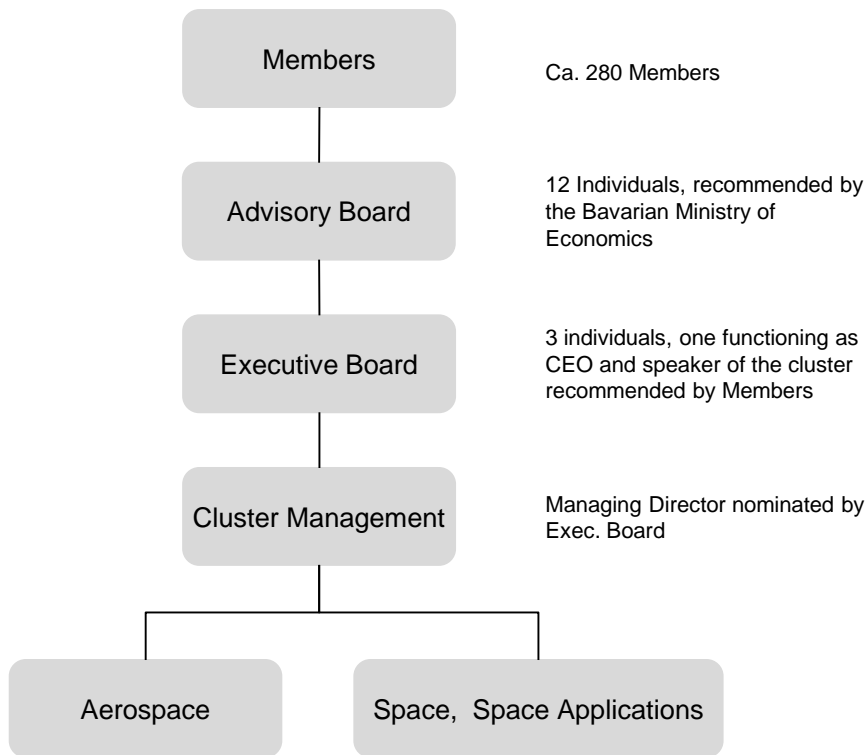
- **Bavarian Aerospace Area consists of**
 - ~ **65,000** employees (incl. airlines & airports) of which **38,000** employees in the industrial sector
 - ~ **550** companies (90% SME)
 - ~ **10 billion €** turnover

located in the Munich/Augsburg metropolitan region
- **Prime contractors** Airbus (Defence & Space, Helicopters), MTU Aero Engines; RUAG Aviation, Grob Aircraft, EMT
- **First tier suppliers** e.g. Diehl, Liebherr, PAG, RUAG; MT Aerospace
- **Important suppliers/service providers** e.g. Aircraft Phillip, Leistriz, FAG Aerospace, AOA, P3 Voith
- **Supporting force** Small & Medium Size Companies up to 500 employees with a wide spread expertise
- **8 universities & 6 research Institutes** (TUM, DLR, IABG, Fraunhofer- & Max-Planck institutes)
- **World class infrastructures** (GCC, GSOC, GATE, Airports, ESA BIC)



Structure of bavAIRia

Organization



Facts & Figures

Lifecycle



Aircraft – fixed and rotary wing, UAS

Launch Systems

Propulsion Systems

Systems/
Components

Parts/Material

Services

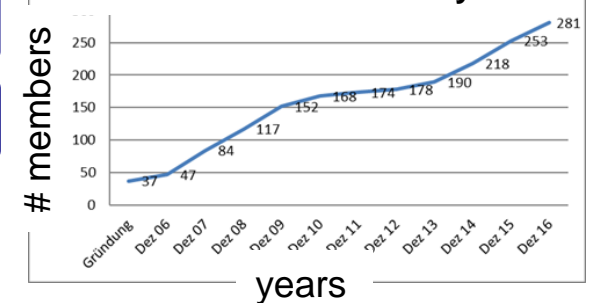
Airports

Products/Services

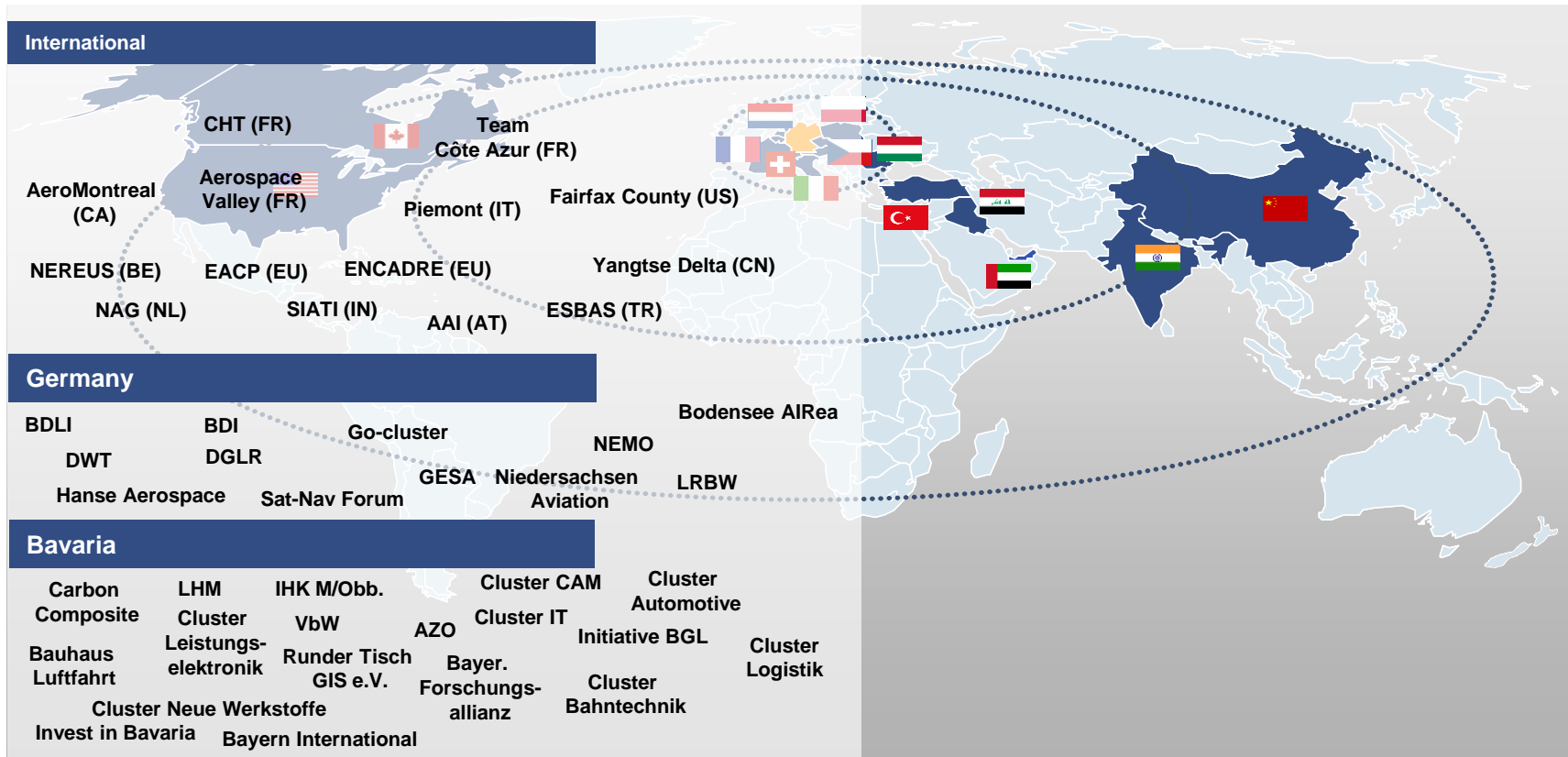
ca. 280 Members

- Companies: 90% small and medium size with up to 500 employees
- Business Distribution: Aviation 55%, Space 15%, SatNav 10%, Others 20%
- Representing: approx. 30.000 employees, approx. € 8B turnover

members bavAIRia over years



bavAIRia is a cooperation partner for clusters in Europe and around the globe (examples)



bavAIRia Cluster activities

Member network

- Participation in Trade Shows
- Hosting of day seminars
- Hosting of networking events
- Hosting of user forums



Projects

- EU Projects (participation/coordination)
- Bavarian and Federal projects, coordination and participation
- Dissemination of project calls within member network



Politics

- Representation of aerospace industry at political level, state & federal
- Creation of aerospace strategies at state level
- Coordination of state-run aerospace organisations



The Sector is leading in Military Aerospace Systems,...

Military Systems



Military Aircraft



Aero Engines



Space Systems



Missiles



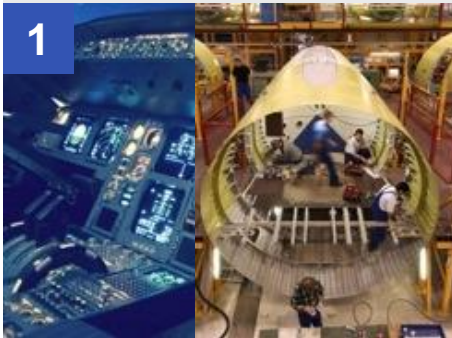
Helicopter



UAV

...Commercial Aerospace Systems...

Civil Aerospace



Aero Structures & Avionics



Helicopters



Space Systems



Aircraft

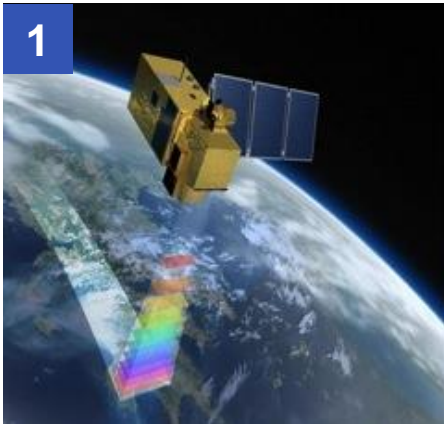


Aero Engines



Airport Systems

...and Space Applications for all Customer Groups.



1

Earth Observation (EO)

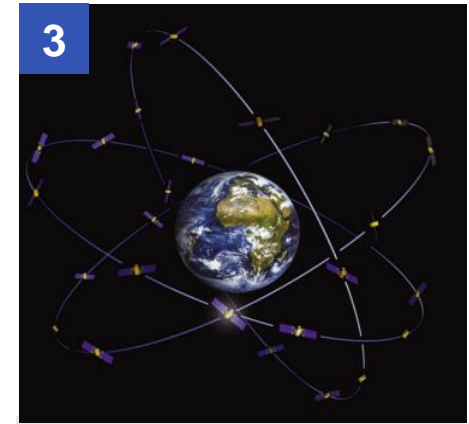
Detection, provision, processing and value adding of geo data acquired by satellite and airborne based sources



2

Satellite Communication

Bi-directional exchange and transmission of information via satellite-based comm. systems

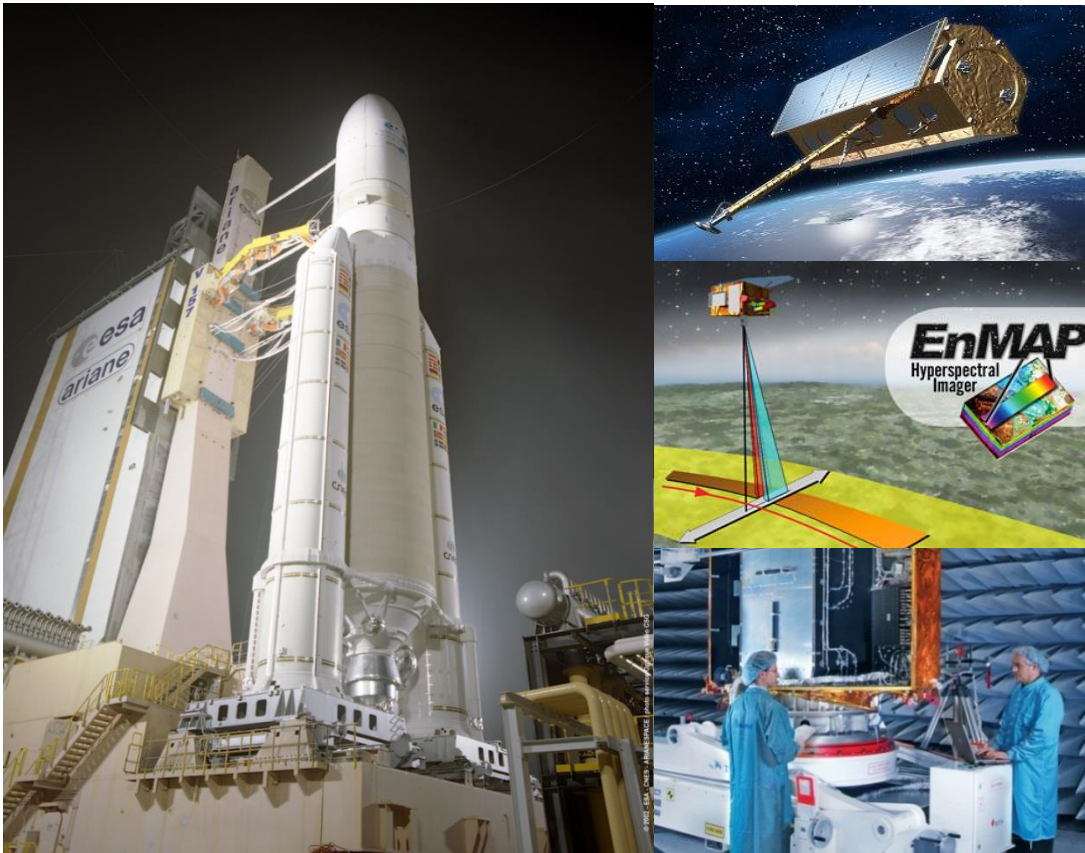


3

Satellite Navigation

Positioning and navigation via satellite and ground based navigation systems

Space Systems



Military Aerospace Systems



BAYERN-CHEMIE
an **MBDA** company



ROHDE & SCHWARZ
Rohde & Schwarz Messgerätebau GmbH Memmingen

Together
ahead. **RUAG**

Commercial Aerospace & Aviation



Allgäu Airport
Memmingen

328
A subsidiary of SNC

EMPIC-EAP®
The Standard Software
for Aviation Regulators
Everywhere

GDC
ENGINEERING

GROB
AEROSPACE

HMS GROUP

M

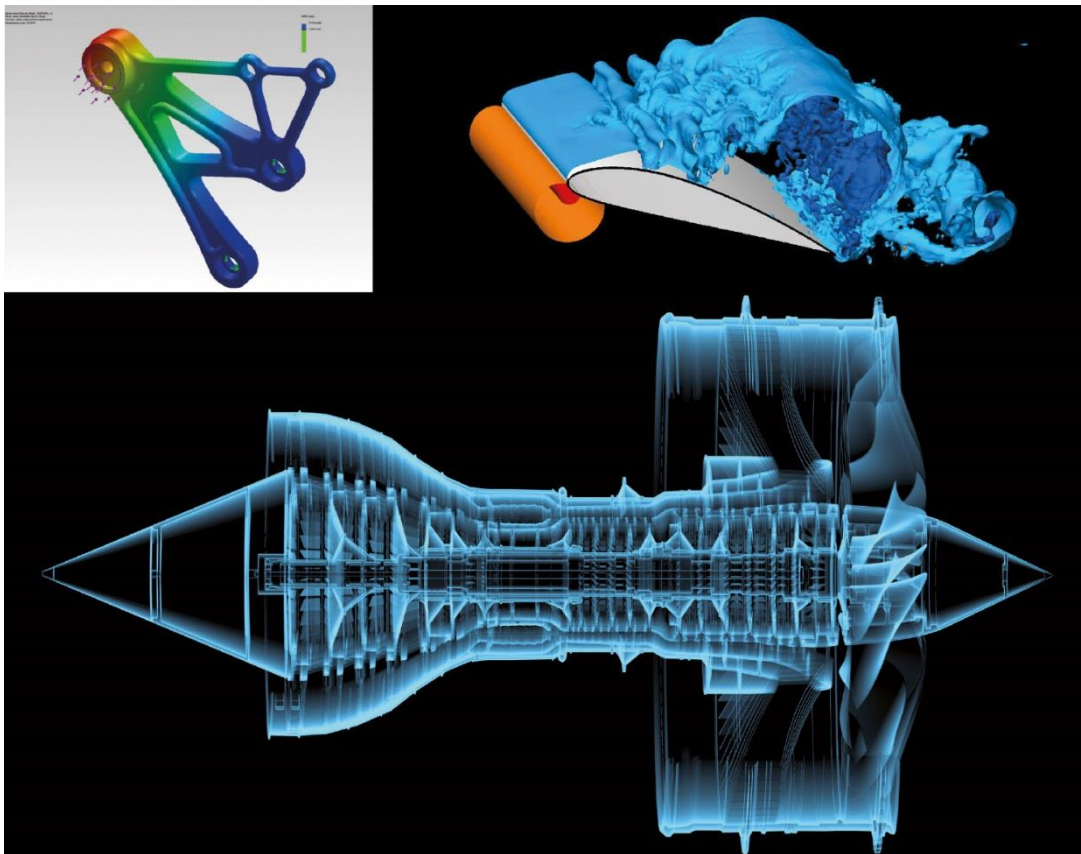
Telair
INTERNATIONAL
An AAR Company

Together
ahead. RUAG

Aerospace Suppliers



Aerospace Service Providers



AERO - Bildung
Luftfahrtbildungszentrum



axceqor

B BERNSENGINEERS GMBH

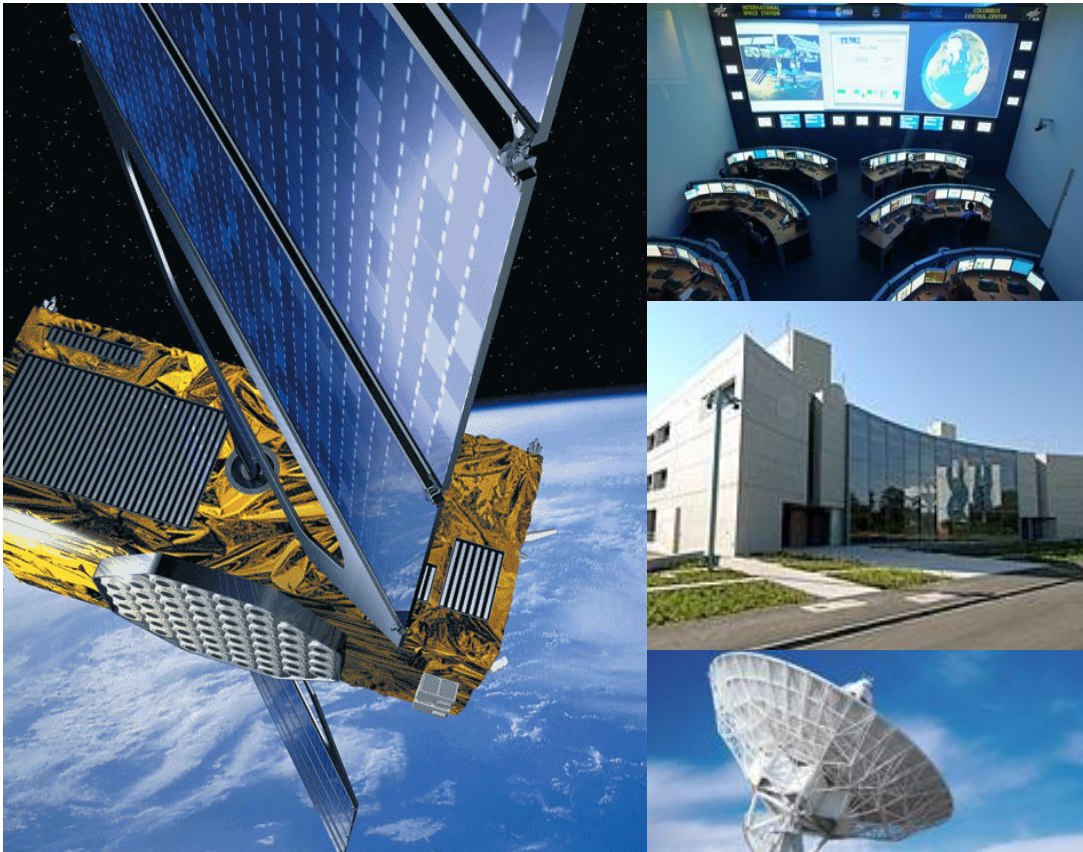
h&Z Beratung mit
Hirn, Herz und Hand

MACON
MOTION UNDER CONTROL

p3 VOITH
aerospace

redlogix

Space Service & Infrastructure Provider



Good Practice examples

Aviation

- **Bavarian Aviation Strategy**
- **Supply Chain Excellence**

Space applications

- **User Forums (transport, tourism, health & environm., forest & agricult,)**
- **User Forum Tourism**
- **Working Group on Copernicus**

Bavarian Aviation Strategy 2030

Focus on

- International visibility
- Strengthening competitiveness
- Development of new and existing capabilities

& six core competencies

- Aircraft Systems
- Engines
- New Materials
- Sub Systems
- Systems Engineering
- Unmanned Aircraft Systems



Supply Chain Excellence (SCE)

Support competitiveness of German aviation industry

2016/17:

- German regional aviation associations & clusters (14 regions) & related ministries

- > Support & accompany structural changes in aviation industry

- > Coordinate stakeholders, politics, enterprises, industry associations on national & regional level under patronage of BMWi

- > Create stabile & agile supply chain along value creation chain



User Forum: Satellite Navigation / Tourism & Leisure

Since 2006:

12 - 30+ people, four meetings / a

Nov. 2011:

EU project on “Cultural Routes“:

-> Way of St. James + Via Claudia Aug.

Nov. 2013: “Tourismus mobil – Smarter through Bavaria“: 120 people, 15 hands-on

Dec. 2015, Jan. 2017:

- Position paper “Digitalisation of tourism in Bavaria“
- Study on status, analysis, recommendations, Minister of Economy + 800 people

Outlook 2017/18: Digital platform for tourism in Bavaria



DIGITALISIERUNG IM TOURISMUS IN BAYERN

EIN HANDLUNGSLEITFADEN FÜR
TOURISMUSDESTINATIONEN



Guide Book



Business Research Dialogue

April 2017:

“Digital Health meets
Positioning, Navigation & Timing“
(Horizon 2020, EU-GNSS Agency (GSA))

- > High-level business research evening
- > Great location / flying buffet atmosphere
- > Interdisciplinary: e.g. aerospace,
medtech&pharma, biotech
- > Format: 2 key notes
5 interdiscipl. impulse statements
40 participants



Autumn 2017 plans:

- Follow-up hackathon event -> Next subject: Autonomous Mobility

Copernicus Working Group

Since 2006

- GMES Office Bavaria
- Copernicus Relay / DG Grow (2016)

Copernicus Relay



About 3 annual meetings: Stakeholders from ministries, regional agencies, business, research: ca. 35

Support „Collaborative Ground Segm.“ by Bav. Space Program (9 Mio. €/2013-15)



Study by StMWi on „Use of GMES in Public Administrations“

European projects

- EU: „Air quality in European cities“, „Support of organic farm audits via Earth observation“, „Policy learning platform on mobile applications“ (2011-16)
- ESA - Nereus Workshops: Public Agencies -> EU Parliament in 2016

Contact

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