AUSTRIA IN SPACE

COPUOS Scientific and Technical Subcommittee
55th Session

29 January 2018
Space as an integral part of Austria's national innovation system

- **Political Value**: international cooperation and contribution to a European strategic interest ("infrastructure of the 21st century")
- **Scientific and Technical Value**: competence in a high tech sector and international visibility
- **Economic Value**: industrial competitiveness, opportunities for SMEs, employment growth
- **Humanitarian Value**: benefit for the society
- **Educational Value**: inspiring young generations and attracting best talents
AUSTRIAN SPACE ACTIVITIES: 3 PILLARS

Austrian Space Applications Programme
- annual calls
- 16 years ASAP

ESA
- Optional Programmes
- Mandatory Programme

EU
- COPERNICUS
- GALILEO
- Space Surveillance and Tracking
AUSTRIAN SPACE BUDGET 2018

Total 2018: M€ 67,06
Technology - Telecommunications
Material Testing (ALM), Radiation Hardening, Components for Ariane (Feedlines), Microthrusters, Electric Propulsion Pointing Mechanisms, Quantum Technology for Space, Satcom for Air Traffic Management
European Space Infrastructure (1)
GALILEO
Thermal Insulation, EGSE,
CPU Interface Electronics
European Space Infrastructure (2)
Copernicus
POD GPS/GNSS Receivers, MLI,
On-Board Computer, EGSE

Services

Sentinels

Contributing missions

...added-value products

in-situ

Source: European Commission
Space for Economic Growth
ESA BUSINESS INCUBATION CENTRES -
ESA BIC AUSTRIA

Start-up Support, Transfer of
Space Technology
Space for the Benefit of Society

Contribution to UN Sustainable Development Goals

Building up the infrastructure of the 21st century and providing services to the citizens

- Environment
- Water and Air Quality
- Land Usage
- Climate Change
- Health Services
- Education
- Innovation
- Partnerships
Earth Observation Cluster
Earth Observation Data Centre on Water Resources Monitoring
Data Intelligence Austria
EODC is a public-private partnership founded in 2014

- Establish, manage and operate a joint IT infrastructure offering Big EO Data storage
- Global soil moisture monitoring as part of Copernicus Climate Change Service

DriDanube Drought Risk in the Danube Region

Proactive drought management → Increased culture of preparedness
Earth Observation for Humanitarian Actions:
EO4HumEn+

Population monitoring

- EO-based camp monitoring
- EO-based method for population estimation in urban areas
- Methods to detect displaced people in (urban) settlements

Users:
Red Cross, Doctors without Borders

Follow-up Project:

X3D4POP
SUITABILITY OF MIXED-SATELLITE-SENSOR DERIVED 3D DATA FOR RAPID URBAN POPULATION ESTIMATION IN CRISIS SITUATIONS

Dedicated stereo satellite image pairs for 3D models
Space Situational Awareness
Space Weather

Austria contributes to Expert Service Centres within ESA’s SSA Programme
Protection of Space Environment and Space Assets

Austria plays an active role!

Satellite Laser Ranging for Space Debris Monitoring
CubeSats made in Austria
AUSTRIAN CUBESAT INITIATIVE, TUGSAT-1, UniBRITE, PEGASUS/QB50, OPS-SAT, PRETTY
CubeSat History in Austria:

- TUGSAT-1 and UniBrite-1 launched on 25 February 2013
- Nano-Satellite Pegasus as part of QB-50 Constellation
- OPS-SAT: Validation of new operational concepts
- PRETTY: Measurements of oceanic wave movements and glacier ices

CubeSats have scientific, technical, environmental and educational merits
European Space Education Resource Office

ESERO Austria (since mid 2016)

CANSAT Competition in Austria in April 2018
Summer School Alpbach 2018:
Sample Return from Small Solar System Bodies

July 17-26, Alpbach/Tyrol
Space Policy Hub Vienna
UNOOSA and ESPI

Space 2030 and Space 4.0: Synergies for capacity building in the XXI century
Save the Date: 3 February 2018, ESPI Vienna

ESPI BRIEF 19. REIGNITING EUROPE’S LEADERSHIP IN DEBRIS MITIGATION EFFORTS

12 January 2018. In the past decade, the count of trackable debris fragments has more than doubled, driven by collisions in space, several high-profile ASAT tests, the proliferation of cubicals and growing number of upper stages left in orbit. Additional European leadership will be needed to fully respond to the emerging space traffic challenges presented by various trends including the incoming LEO mega-constellations and increased risk of collisions.

The ESPI Brief 19 provides an overview of the growing concern of orbital debris, Europe’s efforts in this domain, and proposes a way to break the international deadlock in debris mitigation efforts. Download the ESPI Brief 19 here.
The Austrian Space Law specifically requires compliance with internationally recognised Space Debris Mitigation Guidelines.
Thank you for your attention!

Austria looks forward to a continued excellent cooperation with COPUOS and its Member States and to a successful UNISPACE+50!