Driving #Space4.0

European Space Agency
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Fascination Space

View from Saturn (Cassini)
900 million miles away

View from Mercury (MESSENGER)
61 million miles away

A day without Space
ESA Facts And Figures

- Over 50 years of experience
- 22 Member States
- Eight sites/facilities in Europe, about 2200 staff
- 4.4 billion Euro budget (2015)
- Over 80 satellites designed, tested and operated in flight
- Over 20 scientific satellites in operation
- Six types of launcher developed
- 200th launch of Ariane celebrated in February 2011
Activities

ESA is one of the few space agencies in the world to combine responsibility in nearly all areas of space activity.

* Space science is a Mandatory programme, all Member States contribute to it according to GNP. All other programmes are Optional, funded ‘a la carte’ by Participating States.
What is Space 4.0?

Space 1.0

Term and concept developed by ESA Director General Jan Woerner

Space 2.0

Space 3.0

Space 4.0

- Composite Materials
- Commercialisation
- 3D Printing
- Digitization

European Space Agency
Space in Europe

- competition in Europe with geo-return
- industrial policy
- driven by Member States

Lisbon Art. 189

„appropriate relations“

Lisbon Art. 4.3

„parallel competence“

Space Council

- open competition
- best prices
- driven by EU-parliament?

Stakeholders

Member States

European States

European Commission

• European Space Agency

European States

- Stakeholders

- Lisbon Art. 4.3

„parallel competence“

- Lisbon Art. 189

„appropriate relations“

- Space Council

- Member States
European identity, spirit and cohesion

Maximise the integration of space into European society and economy

Foster a globally competitive European space sector

Ensure European autonomy in accessing and using space in a safe and secure environment

Excellence in space science and technology
United Space in Europe!
Inspiring and motivating
Challenges to the European space sector

- More space faring nations, more institutional players, more commercial players
- Hidden subventions and diverse regulatory environment
- Changing role of agencies and government
- High risk averseness in Europe
- Increasing reliance of economy on space, its applications and value chains
- Invigorating a “Smart Europe”
- New manufacturing production lines
- New technologies and applications
- Big data and digitalisation available anytime, anywhere
A tool for the economy

- Agriculture
- Energy
- Regional development
- Health
- Maritime and fisheries
- Environment
- Research, technology and industry
Business Incubation Centers

Noordwijk (NL)  Darmstadt (DE)  Cork (IR)  Harwell (UK)  France (FR)

Lazio (IT)  Bavaria (DE)  Barcelona (SP)  Wallonie (BE)

Prague (CZ)  Sweden (SP)  Flanders (BE)  Portugal (PO)
MoonVillage