A sectorial industrial approach: the case of Space

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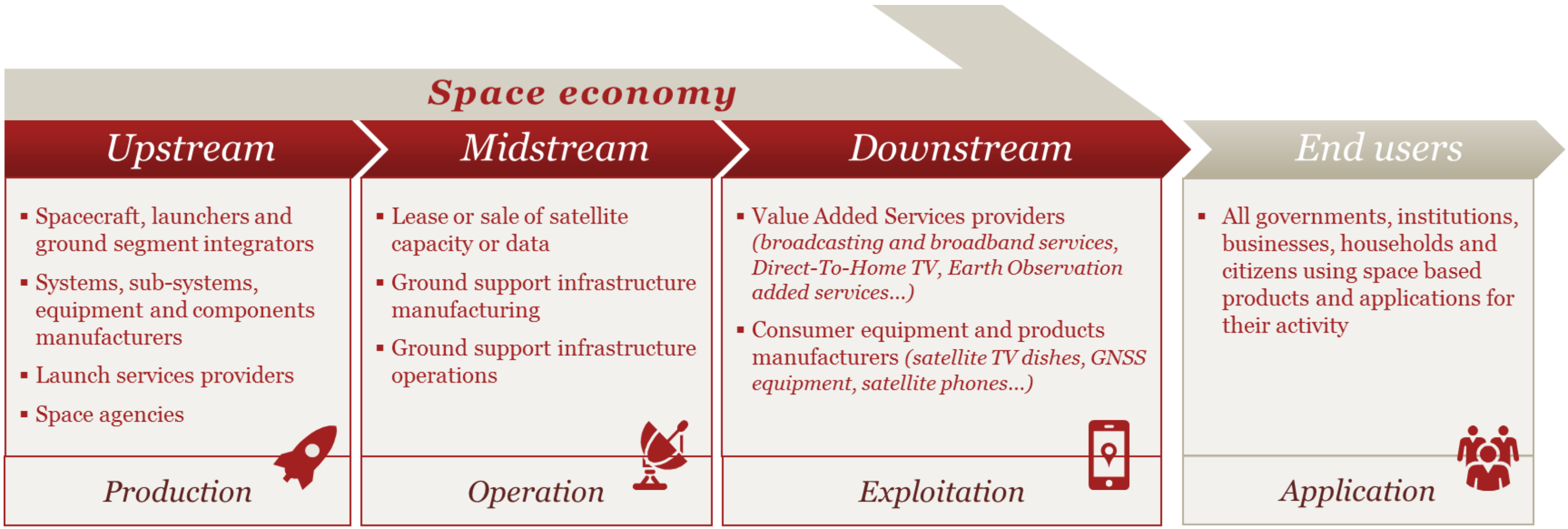
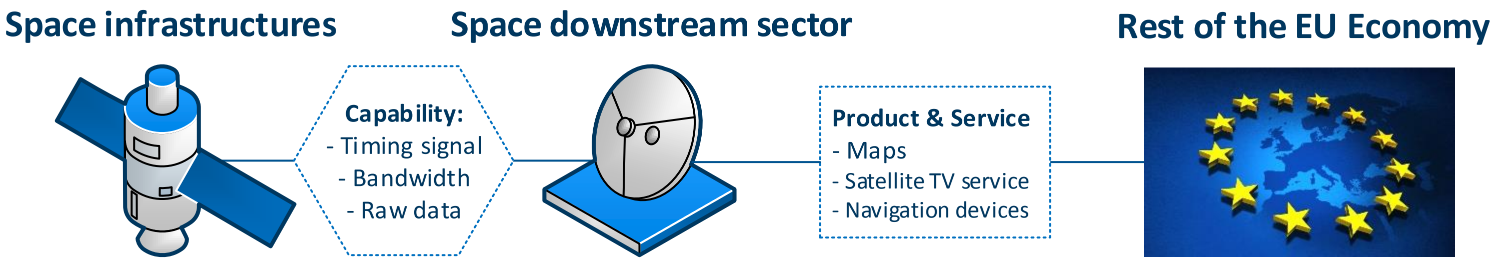
Space economics: value chain and key metrics



- **Global space economy (2014 est.):** 215-249 B€ (+15% between 2012 and 2014)
- **European space economy (2014 est.):** 45-54 B€ (21% of the global economy)

Source: PwC report for the European Commission

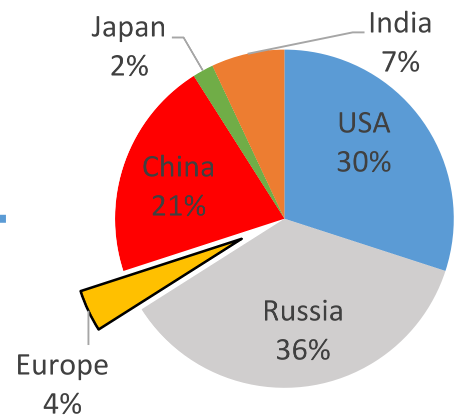
A flagship sector for Europe socio-economic development



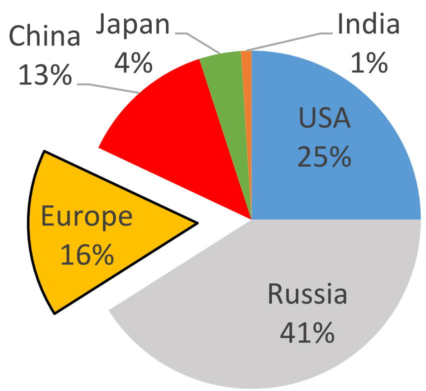
- **Space-based solutions are a driver of EU economy and society development**
  - >7% of EU GDP depends on space infrastructures / >14 Million jobs (conservative est.)
  - Economic benefits >50B€ (est. GVA impact) / 400.000 to 1 Million jobs (conservative est.)
  - Instrumental for EU policies implementation: CAP, CFP, Energy Union, Digital Agenda,...
  - Integral component of future technologies and infrastructures: 5G, Smart Cities, Autonomous Vehicles, Precision Agriculture & Forestry...
- **Top European high-tech sector**
  - State-of-the-art technologies
  - Efficient industrial base
  - Key competitive players
  - Nested in European cooperation

The European space upstream industry: a success story

Employment in the upstream space sector worldwide (est. 700.000 FTE)

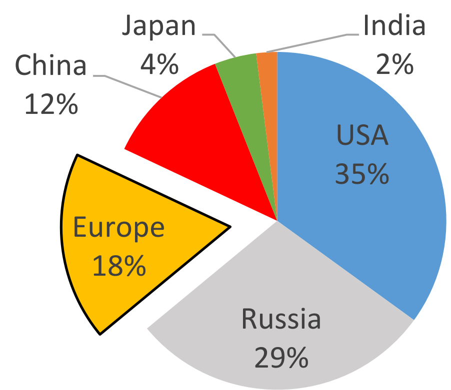


Launch service industry output:



*Mass launched to orbit by launch service supplier

Satellite manufacturing industry output:



*Satellite mass by prime manufacturer

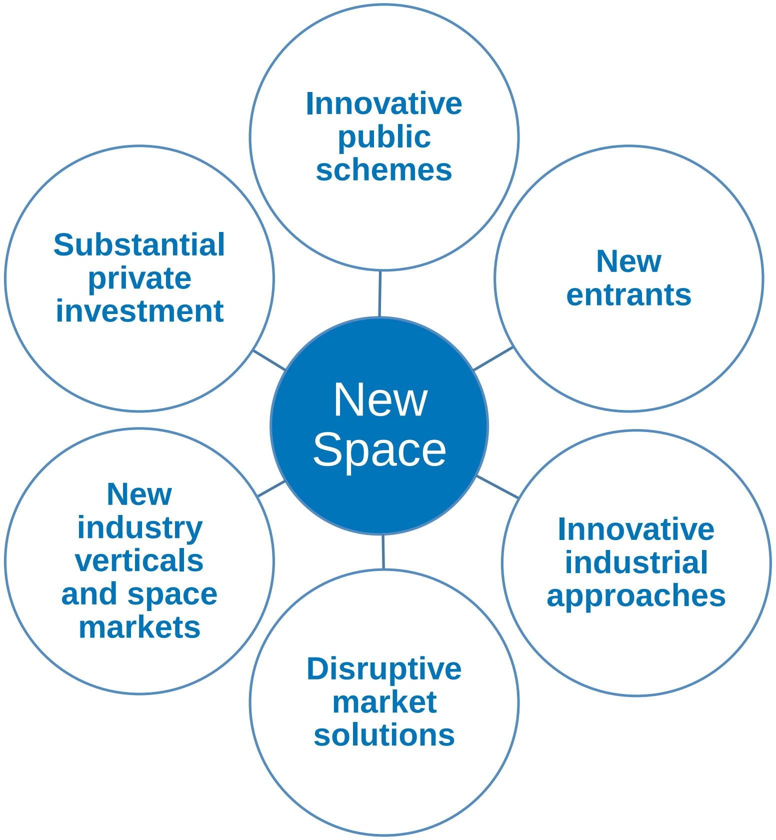
Source: Pierre Lionnet, ASD-Eurospace - ©Copyright

An area of excellence for Europe

- **Competitiveness of the European space industry**
  - Shared concern among all European space policy makers
  - Internal & External factors
  - Complex to assess and to set objectives
- **To date the European space industry is doing good**
  - Accounts for more than 20% of the global space economy
  - Upstream: European industry captures 42% of GEO commercial launch market / 27% of satellite manufacturing open markets
  - Downstream: Leading satellite operators, Top European NAV & EO systems, Fertile ecosystem for the development and adoption of space-based solutions
- **Achieved at very effective budgetary conditions**
  - European public space budget around 10% (7 B€) of the global space budget
  - US and Russia public space budgets represent 0.25% of their GDP / Europe spends less than 0.05%
  - In 2014, space represented: 0,1% of European public budgets and about 12,5€ per EU citizen

New Space: opportunities and challenges

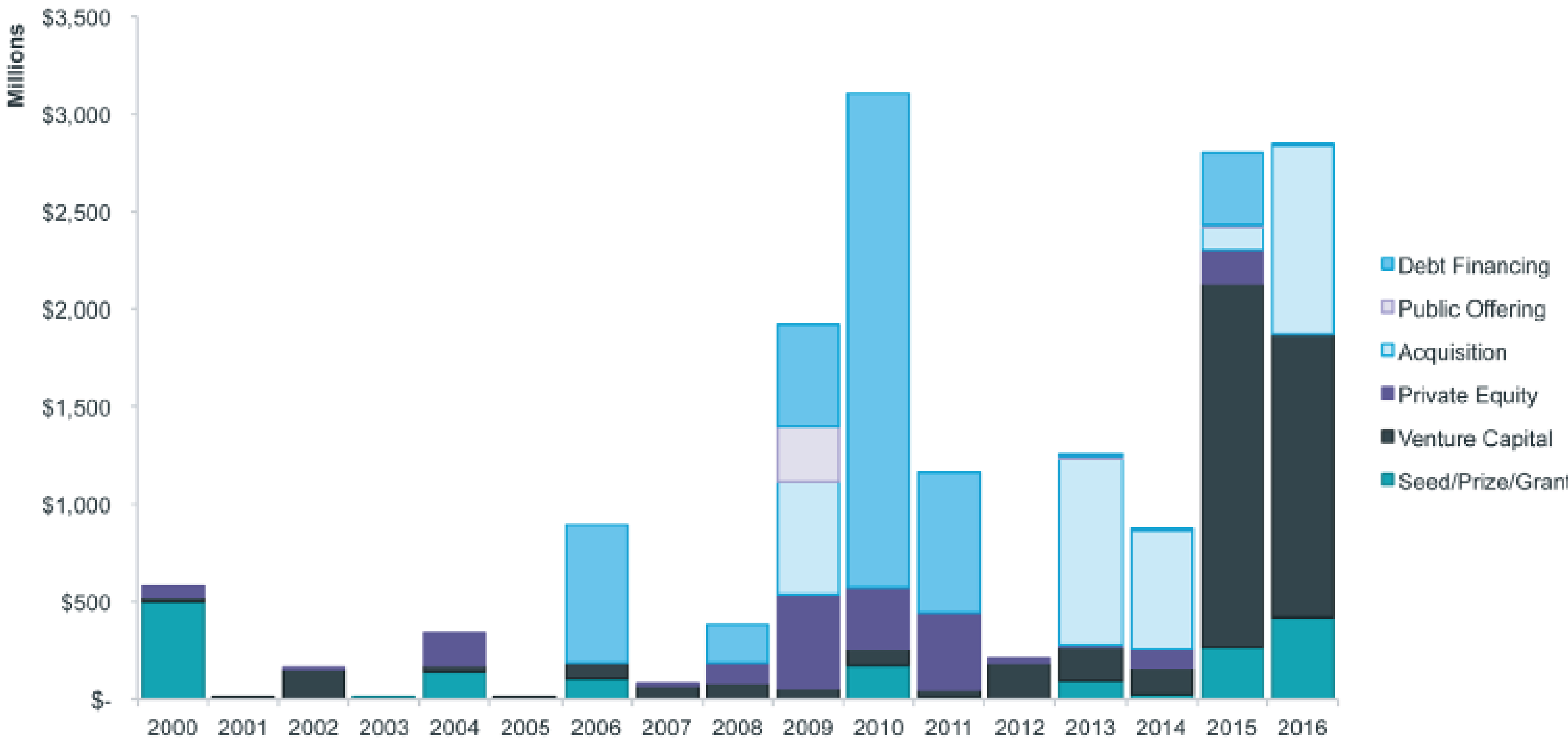
ESPI vision: New Space is a disruptive sectorial dynamic featuring various end-to-end efficiency-driven concepts driving the space sector towards a more business- and service-oriented step.



- US public policies were instrumental in the emergence of New Space:
  - Regulatory framework enabling commercial activities and fostering investment
  - New procurement schemes enabling radical optimisation of industrial organisation
  - Public demand creating sustainable markets for businesses and building investors confidence
- The future of New Space cannot be disassociated from public strategies
  - Redefinition of the role of public actors
  - “All-mighty customer” to “consumer”
  - Procurement of off-the-shelf services
  - Long-term Commitments

The opportunity and challenge of private investment

Magnitude of investment incl. Debt, acquisitions and offerings 2000-2016



Source: Bryce Space and Technology, Start-Up Space 2017

A promising future ahead

1. Global space economy growth

- New entrants and new investors
- More prominent role of private industry
- New space markets and industry verticals
- Amplifying effect: Business development will build confidence of investors
- Key question: What will be the European market share?

2. Growing importance of space-based solutions

- Increasing use of space services and products in a wide range of sectors
- More applications / Lower barriers of adoption (awareness, price, simplicity)
- Space capabilities will move from *complementary* to *integral* component
- Users adoption will move from *good-to-have* to *business-as-usual*

Thank you

The European Space Policy Institute (ESPI) provides decision-makers with an informed view on mid- to long-term issues relevant to Europe's space activities. In this context, ESPI acts as an independent platform for developing positions and strategies.