

Next Generation Space Policy

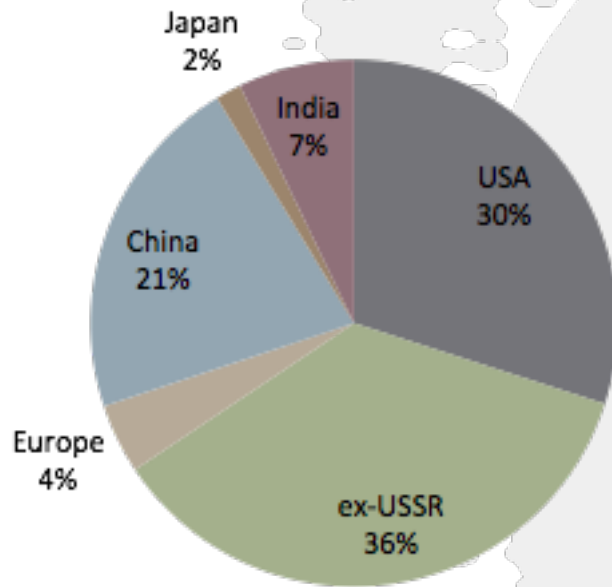
*How can European Strategy for Space cope
with Newspace challenges?*

*Jean-Jacques Tortora
Director of the European Space Policy Institute*

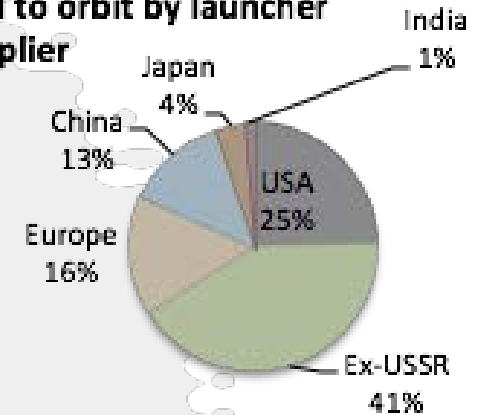
Space Industry Workforce About 700.000 Persons worldwide

Space Industry Output (Last 5 years)

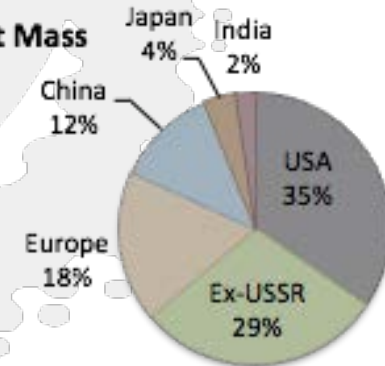
Employment in the space manufacturing sector worldwide (est.)



Total mass launched to orbit by launcher supplier

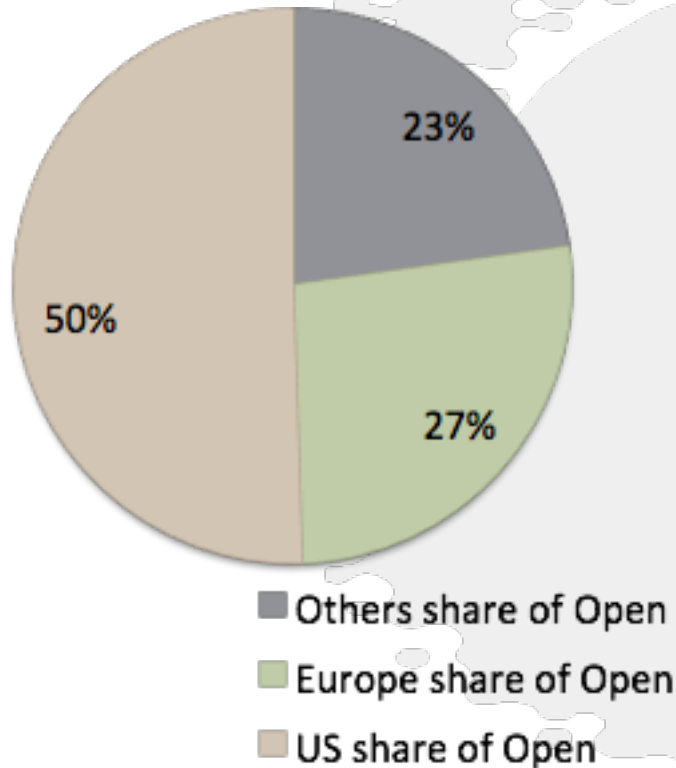


Total Spacecraft Mass

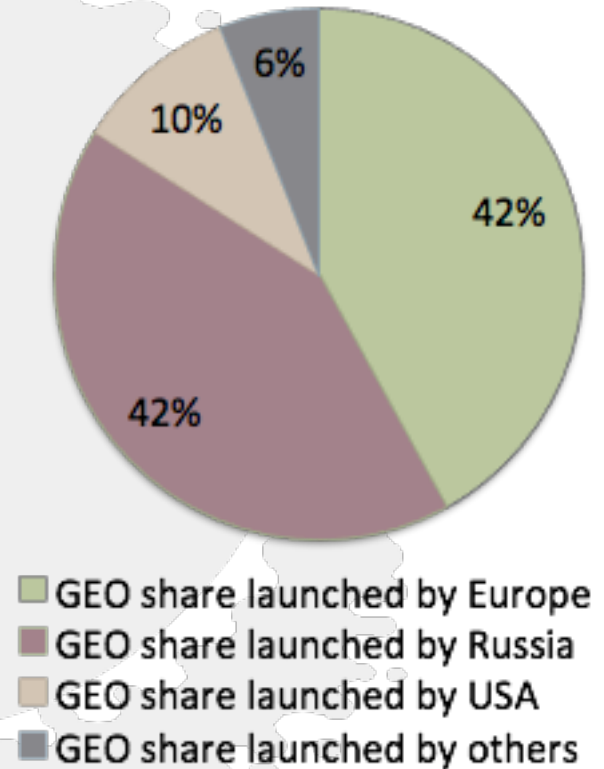


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**Satellite Open Market (in mass)
2012-2016**



**GEO Commercial Launch Market
2012-2016**



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An area of excellence for Europe

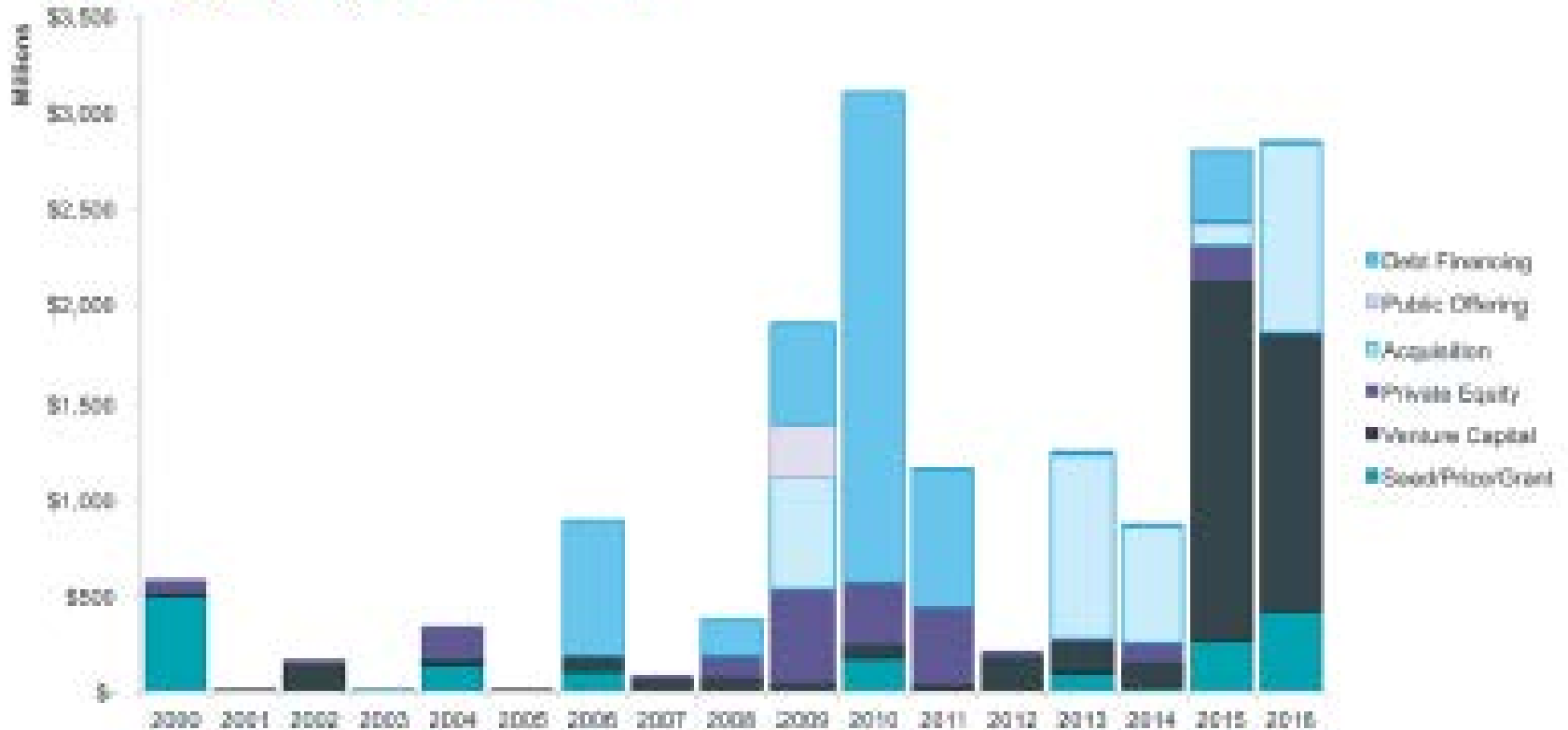
- **From a quantitative Standpoint**
 - On commercial markets
- **From a qualitative standpoint**
 - Space and Earth science
 - Galileo/Copernicus
 - *Contribute to many public policies*
 - *UN Sustainable Development Goals*
- **To date European Space industry is doing good**
 - Fruit of decades of consistent public investment
 - Achieved at very effective budgetary conditions

Urgency to reduce efforts?

- **A shared concern**
 - By all European Space policy makers
- **Difficult to set objectives**
 - Needs to be relentlessly improved
- **Difficult to assess**
 - Assumptions
 - Closely related to industrial organisation
 - Internal/External factors
- **The European Way**
 - Better than the Chinese, cheaper than the Americans
 - *Chinese are getting better*
 - *Americans are getting cheaper*

Immobility is not an option...

Magnitude of Investment, Including Debt, Acquisitions, and Offerings by Type (2000-2016)



Source Bryce Space and Technology

- **Strong will of the US federal administration**
 - Faster/Cheaper
- **Radical industrial optimisation: Cost effectiveness as unique driver**
 - Supply chain rationalisation
 - Vertical integration
 - Proven-technologies re-use
 - Economies of scale
 - Automation and digitisation
- **What has been demonstrated**
 - Capacity of private actors to handle complex developments
 - Confidence of investors
- **What still needs to be demonstrated**
 - Ability to make money
- **New kind of Customer/Provider relationship**
 - Redefinition of the role of public actors
 - From “all-mighty customer” to “consumer”
 - Procurement of off -the-shelf services
 - Long Term Commitments

- **Ensure Unrestricted Access to the state of the art**
 - Basic condition to public and private customers
 - In all technological domains
 - At affordable and risk mitigated conditions
 - Knowledge of the markets: Joint Technology Initiative
- **Critical technologies**
 - Definition
- **Appropriate maturity**
 - High TRL: Usually not a feature of public RDT programmes
 - Innovation: Turning technology into qualified product
 - Implies careful selection of priorities
- **Time to market: A Critical Path**
 - Has a lot to do with public programmes processes
- **Sustainable Supply Chains**
 - Limited possibilities for public support to production

Need more effective ways to support market uptake...

Limited domestic market

- **Promote use of Public Infrastructures**
 - Proven or certified level of Performance
 - Long Term Availability
 - Security of infrastructures
- **European Institutions on the offer side**
 - Paradoxical situation
 - Provide a fertile eco-system
 - *Confidence of private investors*
 - New Procurement schemes for Space-Based services
 - *Implementation of public policies*
 - *Long Term Commitments*