

Complementarity between European and national space programmes

United Space in Europe

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European Space Agency



Motivation... Legitimation...

intrinsic / extrinsic



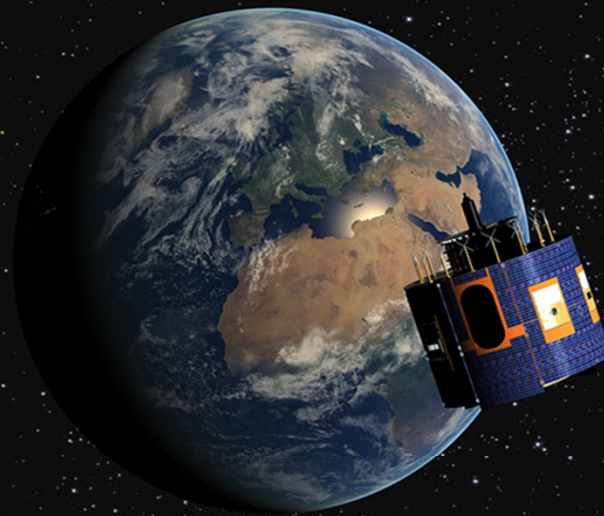
worry disadvantages
 fears
concerns
responsibility

curiosity fascination
 happiness
enthusiasm business
 prosperity



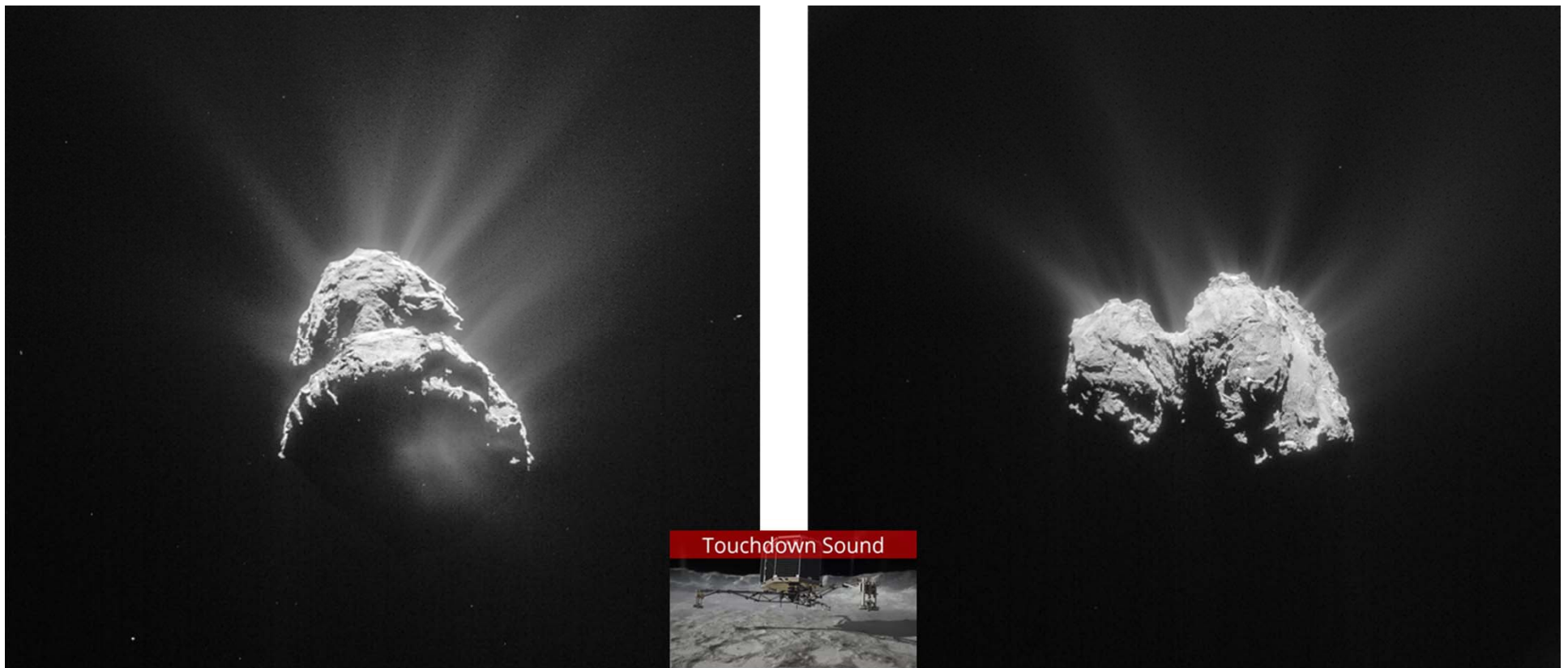
Worries

Meteosat Second Generation – 4 (MSG-4) launch on 15 July



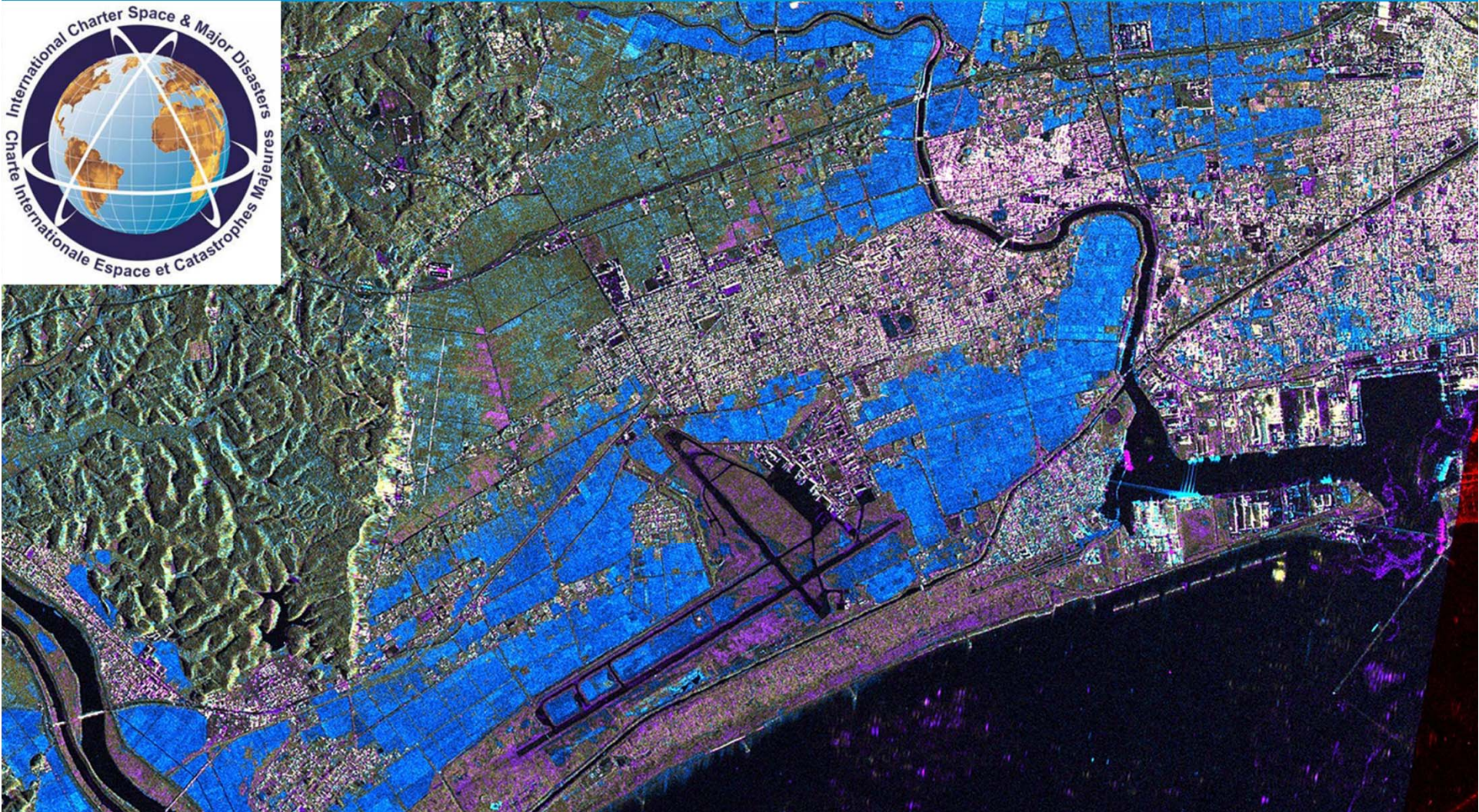
The Rosetta mission

13 August 2015: Rosetta at the closest to the Sun



Responsibility

Tsunami in Japan in March 2011





- climatic change
- migration
- mobility
- communication
- energy
- shortage of resources
- demographic development
- conflicts and catastrophes
- health
- ...curiosity



society

politics



SPACE

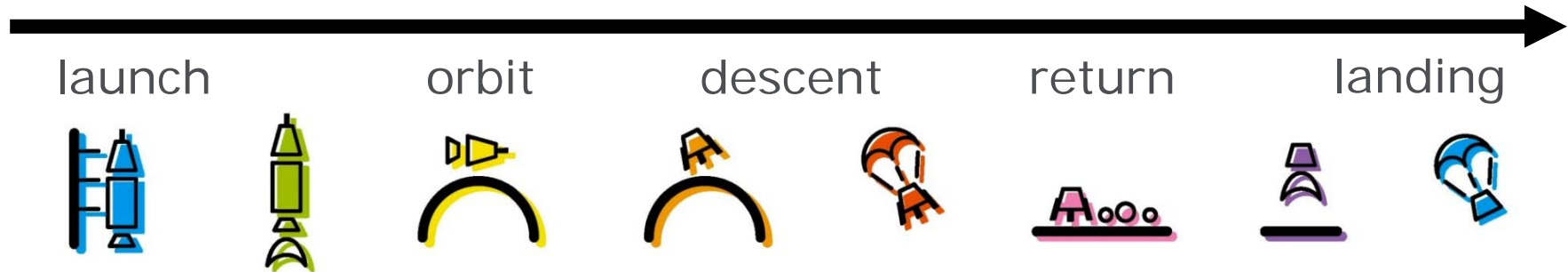


science

industry



Seamless chain of space activities



European Activities?
European Priorities?



Some open questions



- What about the role of space in the future?
- Who will be the main actors with which responsibilities?
- Which areas will be shifted towards private sector?
- How to get support from the taxpayer?
- Is there still the necessity of space agencies?
- What about the interaction of national space agencies, European Commission and ESA?

No magic formula!



HoDs: Why are you in ESA?



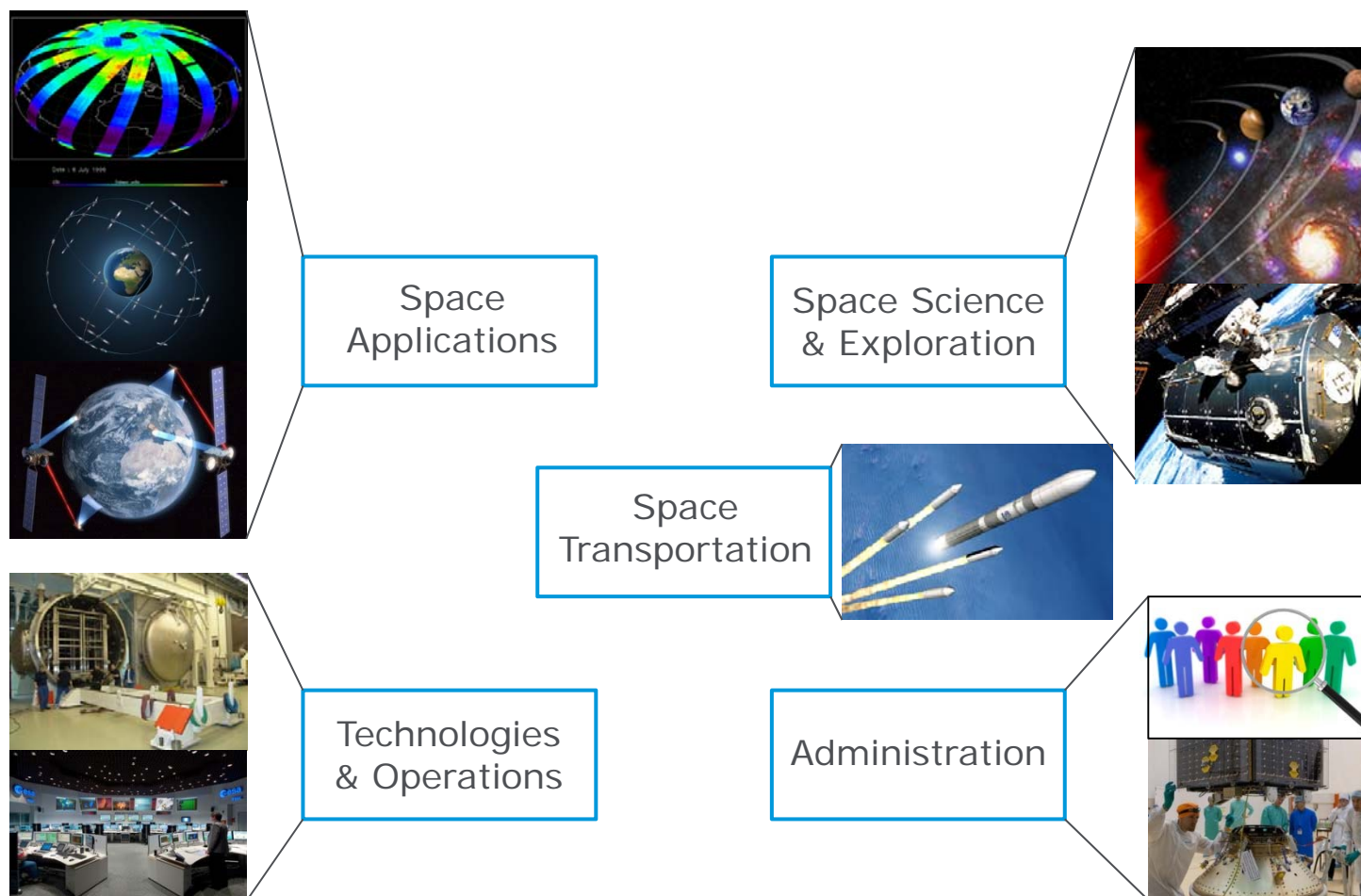
HoDs: Why are you in ESA?



- All Setting the European space agenda
- 32 „Big projects“
- 27 Support of authorities
- 25 Competitiveness of industry
- 19 Enabler of new ideas
- 18 Science
- 8 STEM, mobility, education
- 5 Commercial appl. up- and downstream
- 3 Cross fertilisation
- 2 European spirit
- 1 Enabler of national projects



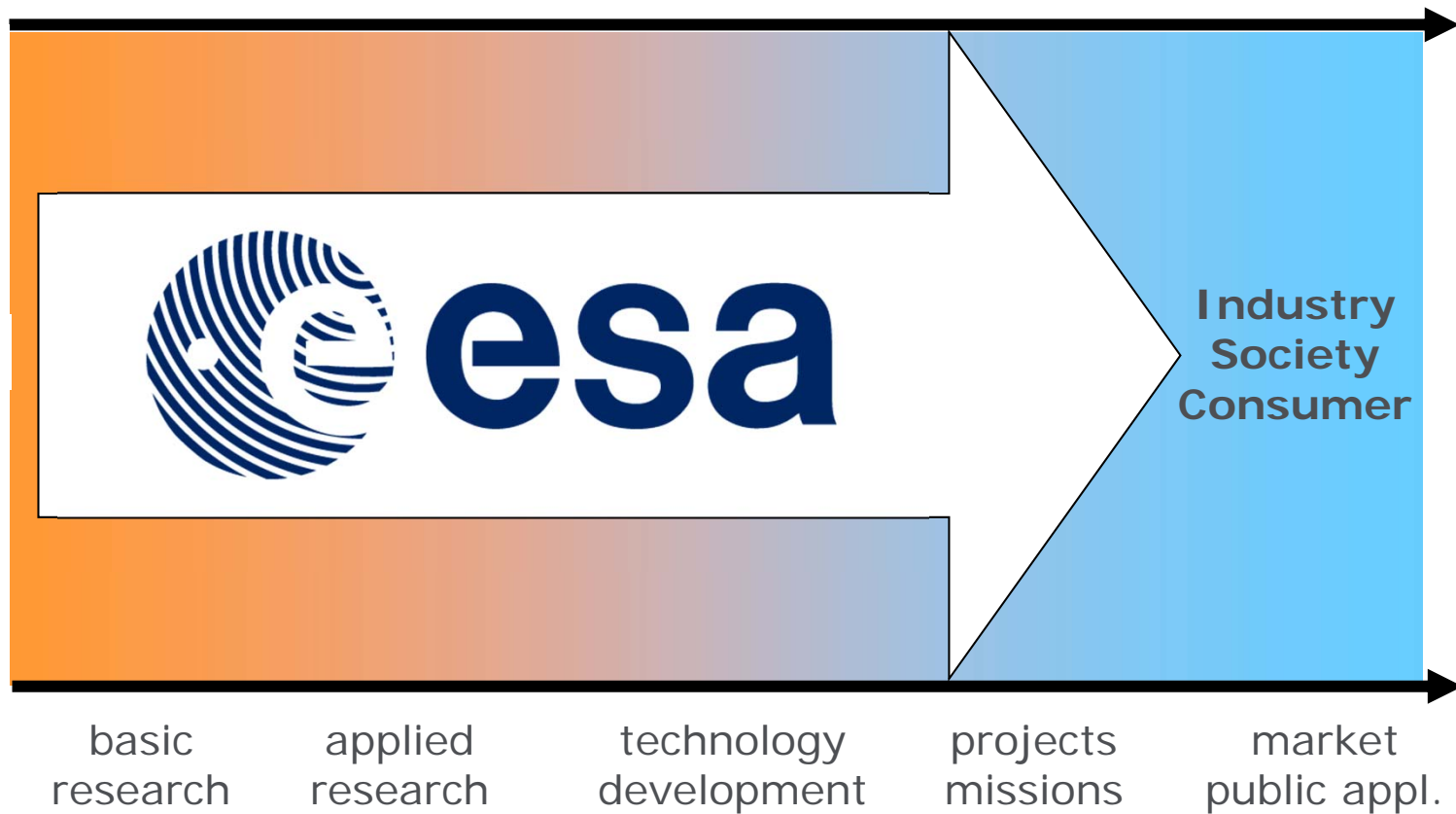
Teams of Directorates



Seamless chain of innovation



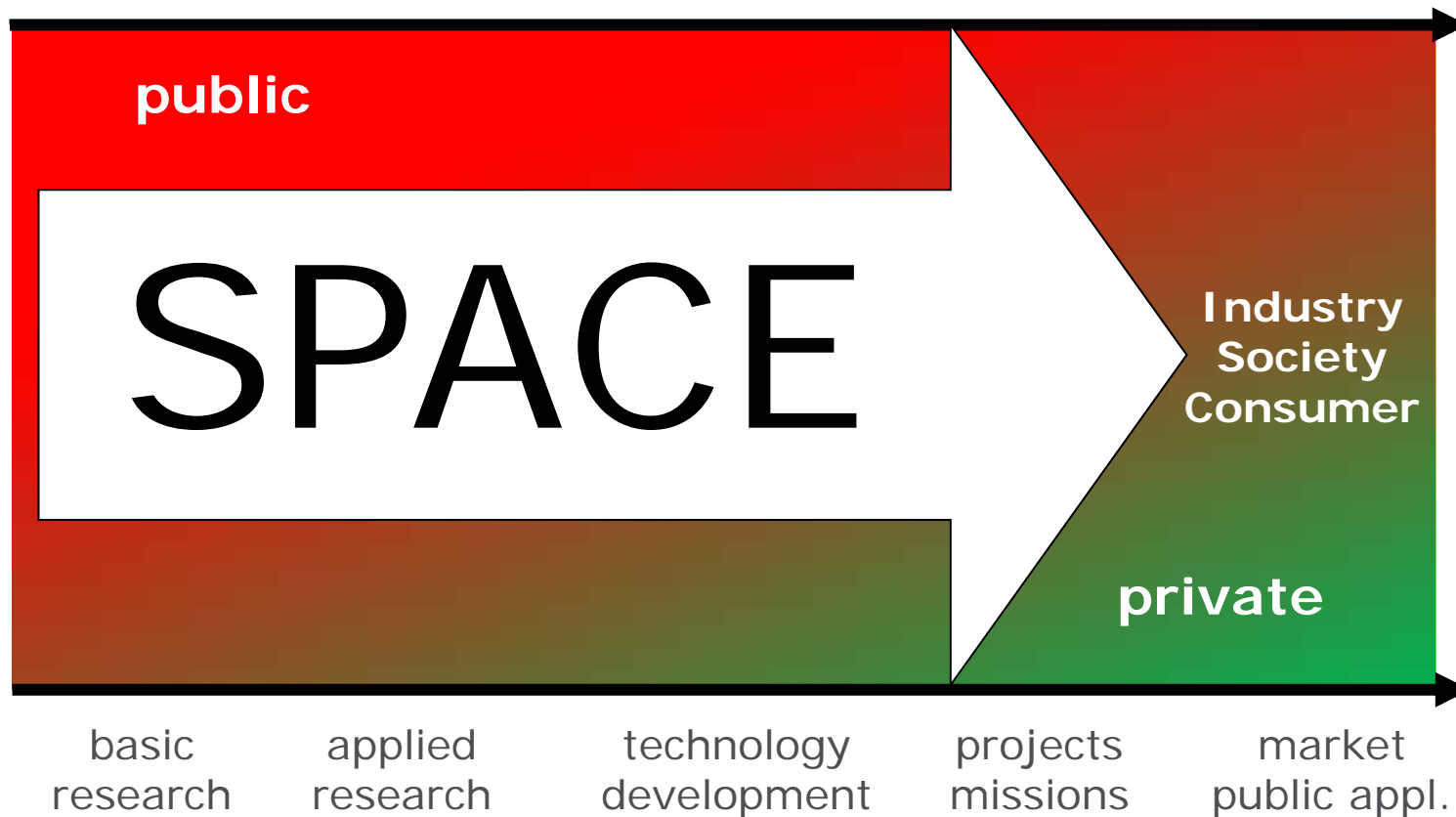
Invention → Missions → Innovation



Seamless chain of innovation



Invention → Missions → Innovation



Broker, mediator and enabler of
global cooperation





Institution
areas

European **Commission**

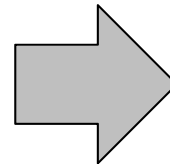
European Space **Agency**

European Space Policy

Function

Prog. of EC

prog. authority
- high level
requirements
- budget
- calendar



Space prog. of ESA & EC

agency
- system architect
- prog. manager
incl. technical and
contractual authority

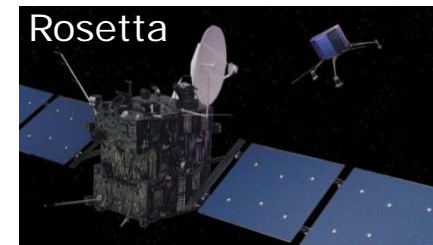
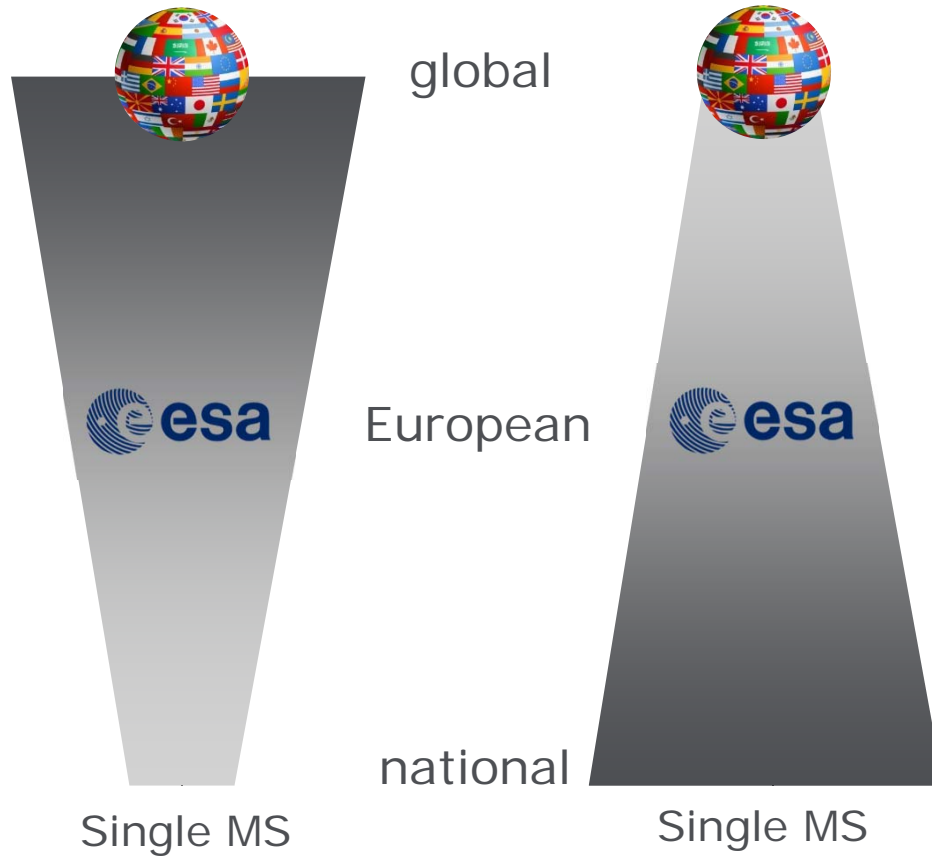


Cascade of Space Activities



size of missions

numbers of projects



A5ME



A64



A62



VEGA





NEWSTICKER USA-RAUMFAHRT-UNTERNEHMEN-LUFTFAHRT 15.04.15

SpaceX scheitert abermals mit Landeversuch

Trägerrakete absolviert Bruchlandung

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by Lee Hutchinson - Apr 16, 2015 11:00pm CEST [Share](#) [Tweet](#) 163





Elon Musk ✓
@elonmusk

+ Folgen

@ID_AA_Carmack Full RUD (rapid unscheduled disassembly) event. Ship is fine minor repairs. Exciting day!





