

La programmation des projets spatiaux en Europe

Philippe Masson
Université Paris-Sud

Colloque du Centre d'Alembert
5-6 mai 2010

Les principaux acteurs de la politique spatiale en Europe

- Commission européenne
- Conseil Espace (ESA, EC)
- Agence spatiale européenne (ESA)
- Agences spatiales nationales
(CNES, DLR, ASI, UKSA ...)
- *European Space Science Committee (ESF)*

European Space Policy

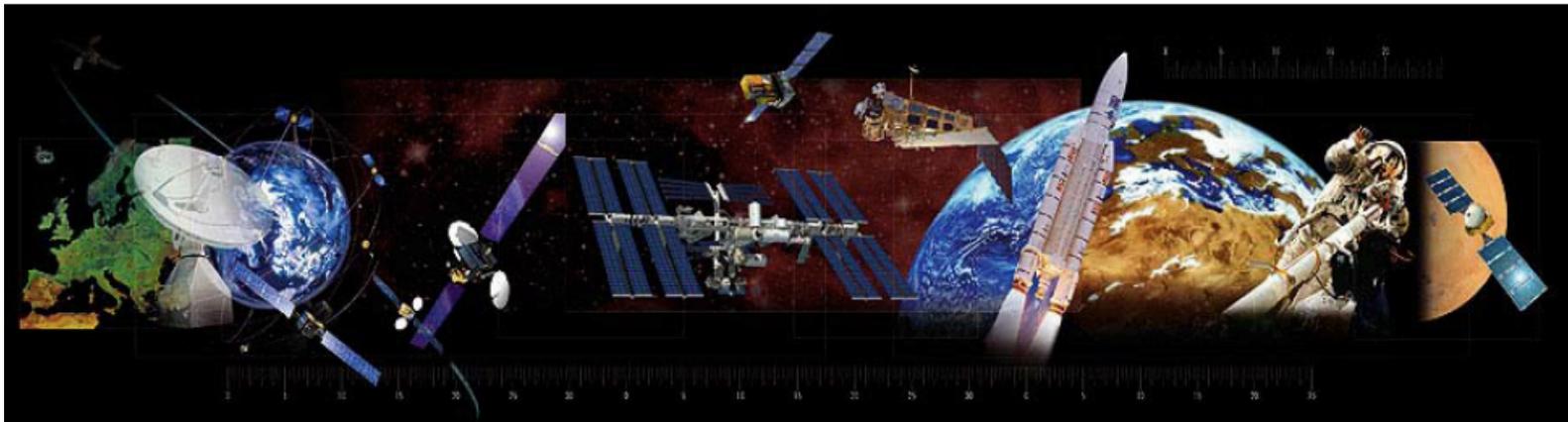
- European Commission (7^e PC)
- ESA Space Council + EU Ministers :
 - 29 European countries (2007)
- Objectives :
 - Strategy for the Space Sector
 - Security and Defence
 - Access to Space and Exploration
 - Earth Observation (GMES)
 - Satellite Navigation (Galileo)
 - Satellite Communications
 - ISS and Solar System Exploration

ACTIVITIES



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

- Space science
- Human spaceflight
- Exploration
- Earth observation
- Launchers
- Navigation
- Telecommunications
- Technology
- Operations



Colloque du Centre d'Alembert
5-6 mai 2010

18 MEMBER STATES



- Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Norway, the Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

- Canada takes part in some projects under a Cooperation Agreement.

- Hungary, Romania and Poland are European Cooperating States.

- Cyprus, Slovenia, Estonia and Latvia have recently signed Cooperation Agreements with ESA.



All Member States participate (on a GNP basis) in activities related to space science and a common set of programmes (**Mandatory** programmes).

In addition, Member States choose their level of participation in **Optional** programmes.

Mandatory

- General Budget: Future studies, technological research, education, common investments (facilities, laboratories, basic infrastructure)
- Science: Solar System science, astronomy and fundamental physics

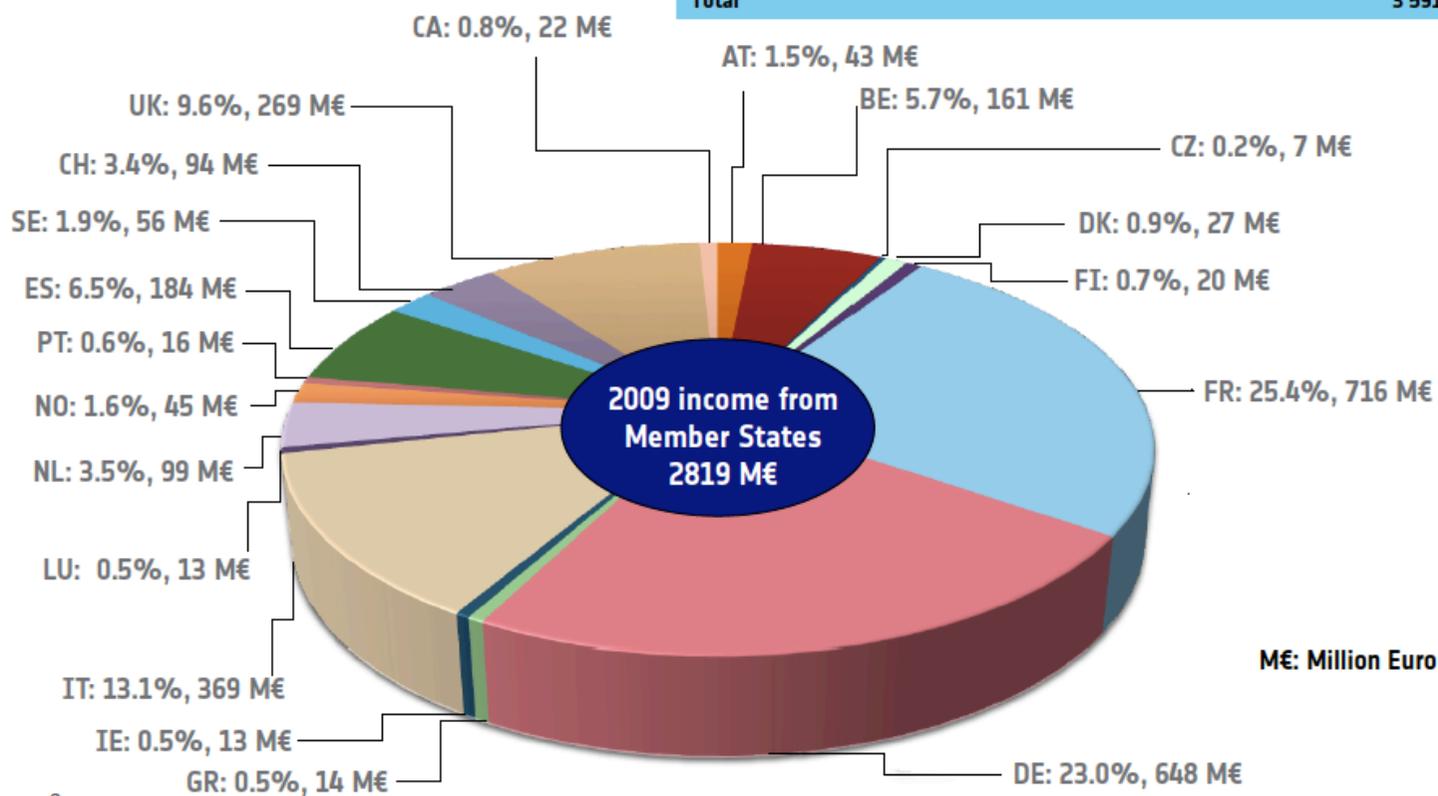
Optional

- Human spaceflight
- Telecommunications
- Earth observation
- Launchers
- Navigation
- Robotic exploration
- Space Situational Awareness

ESA BUDGET FOR 2009



Income from Member States and other states	2819 M€
Income from Member States, previous years	352 M€
Other income	420 M€
Total	3 591 M€



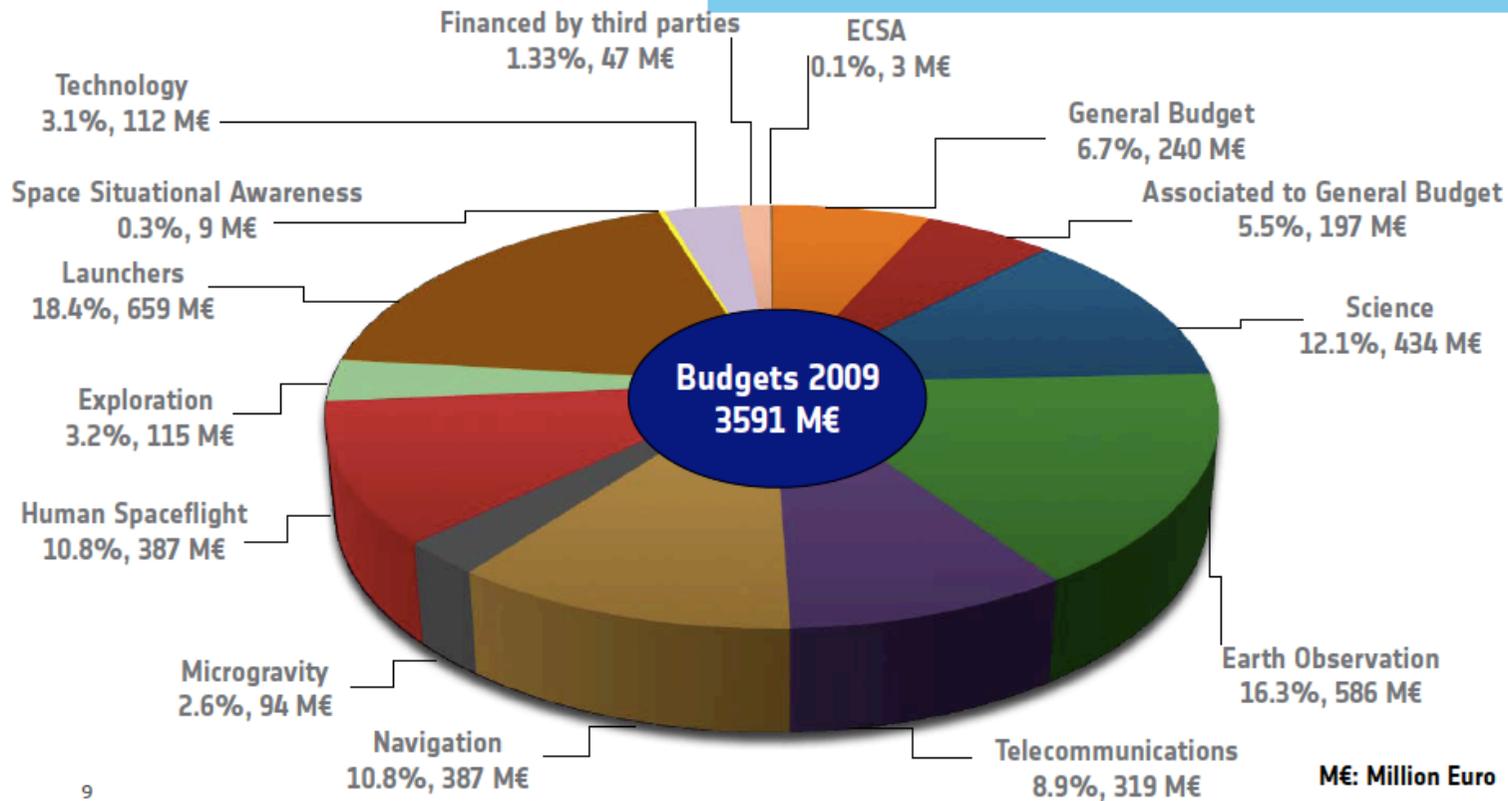
8

Colloque du Centre d'Alembert
5-6 mai 2010

ESA BUDGET BY PROGRAMME (2009)



Approved programmes	3 541 M€
Programmes financed by third parties	47 M€
European cooperating states agreement	3 M€
Total	3 591 M€



Gestation des projets spatiaux

- Propositions de la communauté scientifique (Coll. Prospective CNES, ...)
- Appels à projets (ESA)
- Présélection et études de faisabilité (ESA)
- Sélection par ESA Advisory Groups (AWG, SSEWG, FPAG ...)
- Sélection par ESA Advisory Committees (SSAC, HESAC, ESAC ...)
- Choix et recommandations (SPC, Conseil)

Réalisation d'un projet

- ESA : lanceur, véhicule, opérations
- Agences nationales :
 - soutien aux expériences scientifiques
 - sous-systèmes
- Laboratoires :
 - expériences scientifiques
 - exploitation scientifique

Supports nationaux

- Agences spatiales (CNES, DLR ...)
 - Organismes scientifiques (CNRS-INSU, MPI, Helmholtz Alliance ...)
-
- Laboratoires spatiaux (IAS ...)
 - Equipes scientifiques (PI, Col)

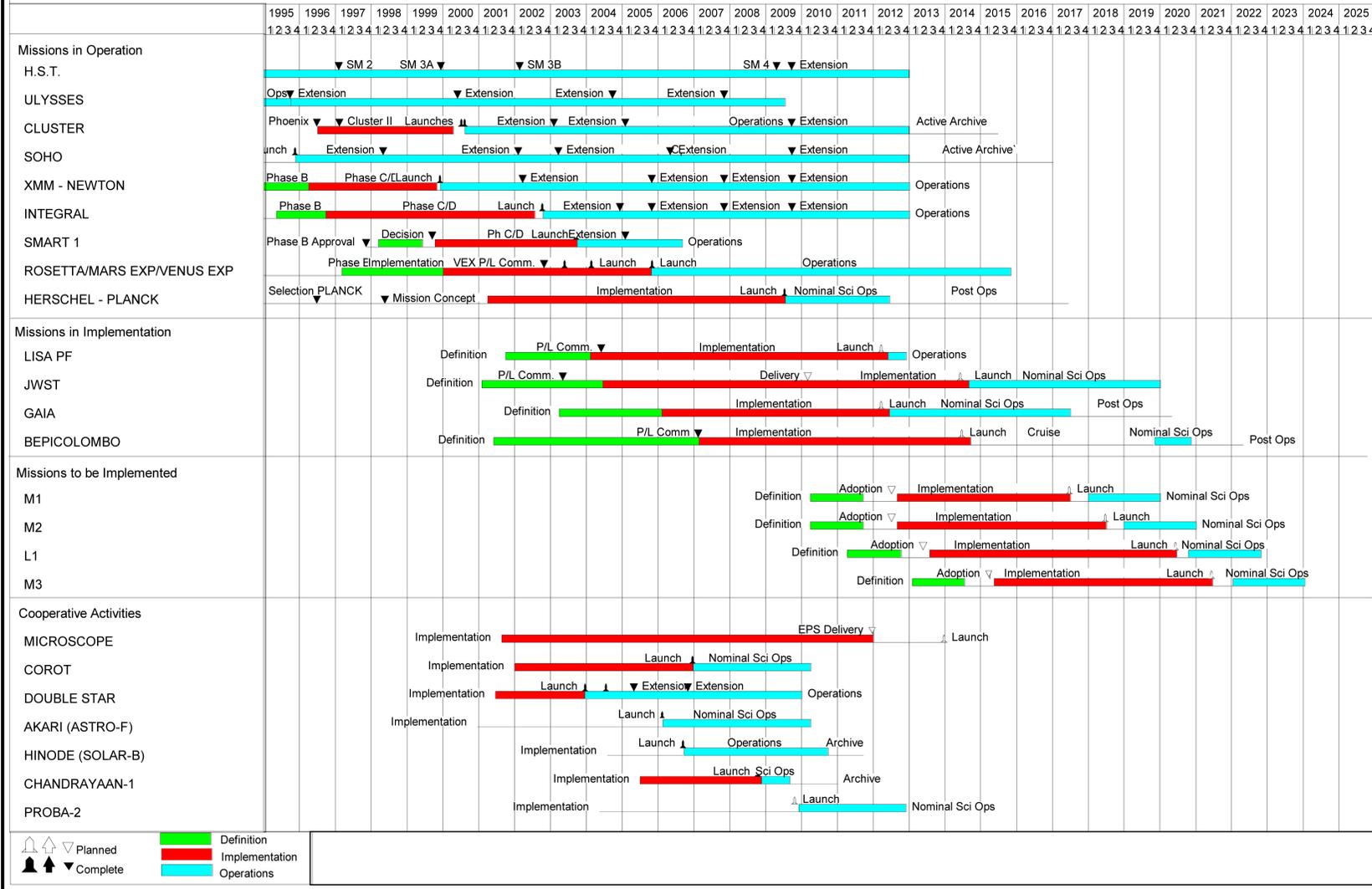
Cadre de réalisation

- International ou inter-agences :
ESA-NASA, ESA-NASDA, ESA-RSA, NASA-ESA-ASI ...
- National : CNES ...
- Bilatéral : CNES-RSA ...



COSMIC VISION

Status as of: 23 Oct 2009
Schedule by: SRE-M



Conclusion

- Programmation des projets spatiaux :
 - Processus « Bottom Up »
 - Equilibre entre différentes communautés scientifiques
 - Maturation des projets ≥ 10 ans environ