



Introduction to the UK Space Agency:

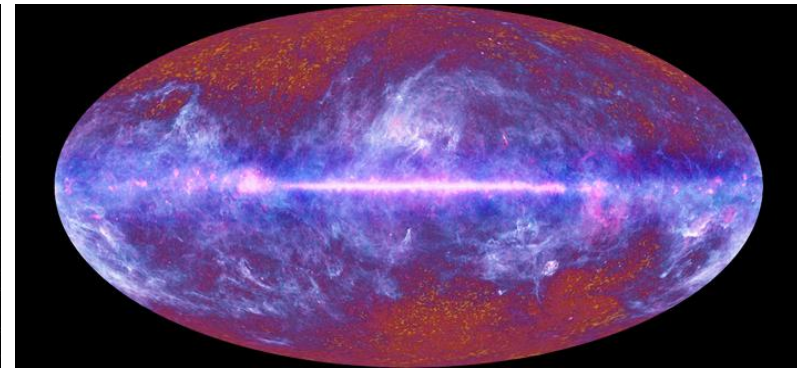
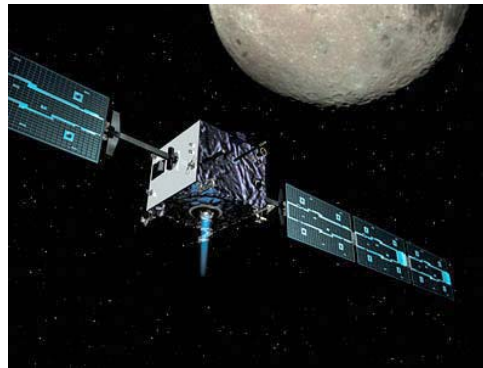
<http://www.bis.gov.uk/ukspaceagency>

RAS meeting
London, 13th Sept 2011



Purpose of UK Space Agency

- To meet national needs, the Agency is responsible for ensuring that the UK retains and grows a strategic capability in space-based systems, technologies, science and applications.
- The UK Space Agency will therefore enable sustained economic growth, scientific excellence and societal benefits from the UK civil space sector.



Our strategy ‘*To lead and sustain the growth of the UK Space Sector*’

Growth through exports

- Winning a larger share of the global market

Growth through innovation

- New technologies and applications of space

Growth through exploiting new opportunities

- New uses of space such as climate change services

Growth through smarter government

- Using space across the public sector to deliver more efficient services

Education for growth

- Education for space (the skills the industry needs to grow) and space for education (using space to attract young people into STEM)

Science as an enabler of growth

- Exploring space to gain new knowledge, train the next generation and create new technology

***14 week Public Consultation
1 April – 8 July 2011***



A solid foundation to build on...

The world's most profitable global mobile satcoms operator

The world's first public-private partnership for secure military communications

The builder of the world's most advanced mobile satcom technology

World-leading businesses in software, satellite control and ground segment technology

Outstanding achievements in space-based astronomy, planetary science and solar physics

Excellence in Earth observation for science and business use

The world's leading small sat company and through it, the global Disaster Monitoring Constellation, DMC



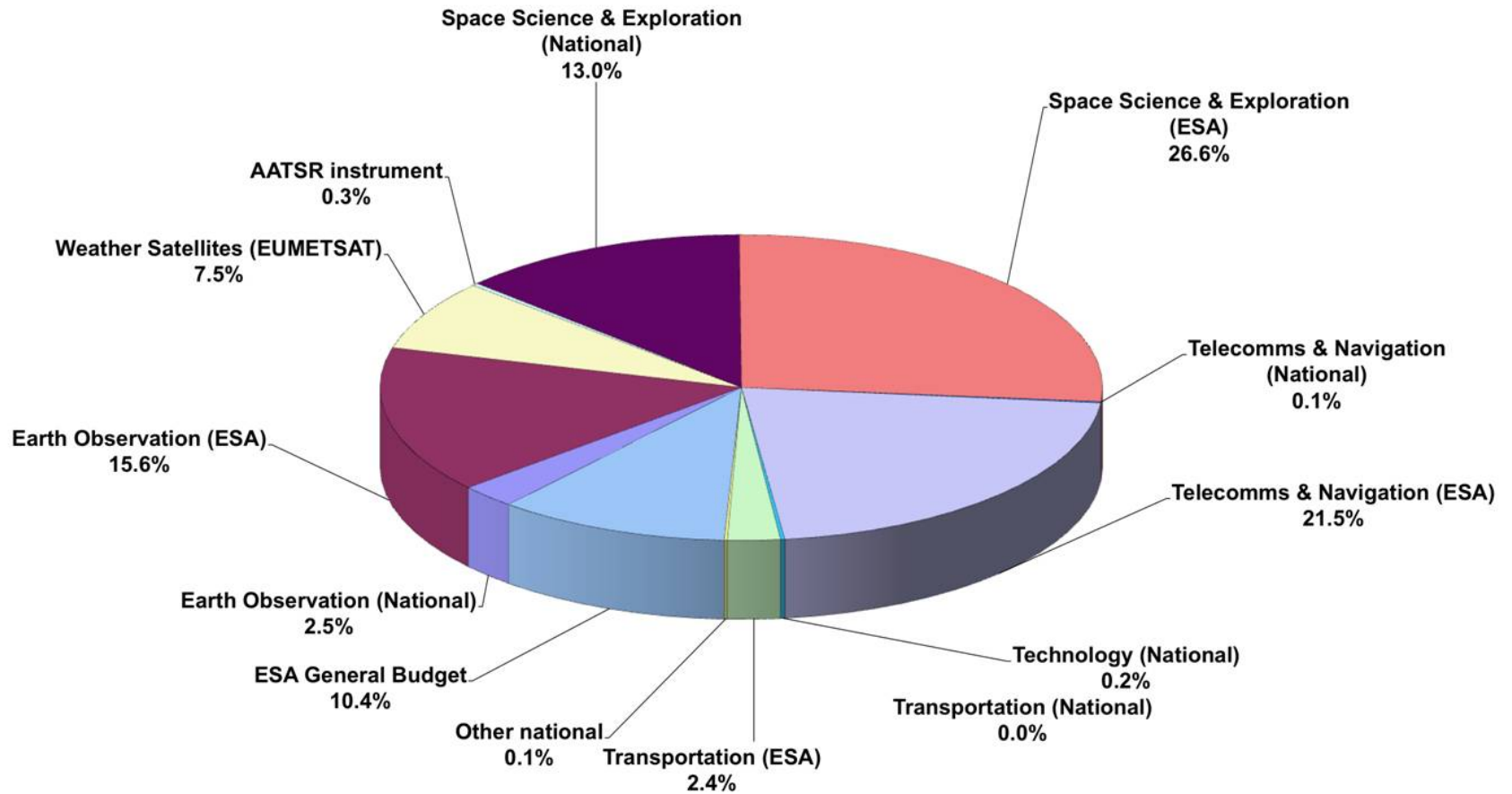
The UK space sector has changed

- ✓ Formation of UK Space Agency
- ✓ Industry-led strategy to grow the sector over ten years ('Space IGS')
 - Goal to win 10% of £400B market in 2030
- ✓ Establishment of an ESA presence in the UK
- ✓ Creation of the International Space Innovation Centre at Harwell
- ✓ New businesses exploiting space



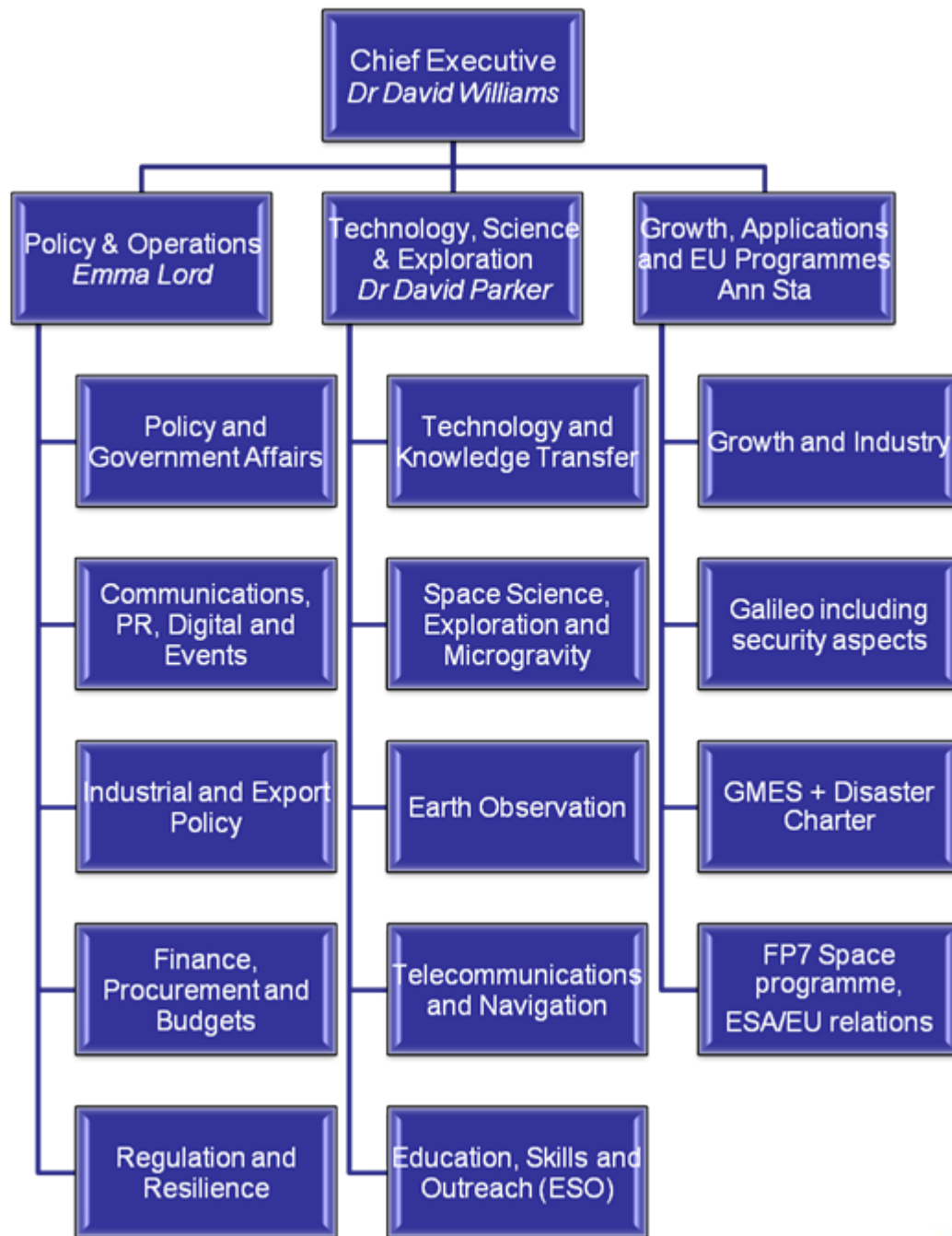
...but where does science fit in ?



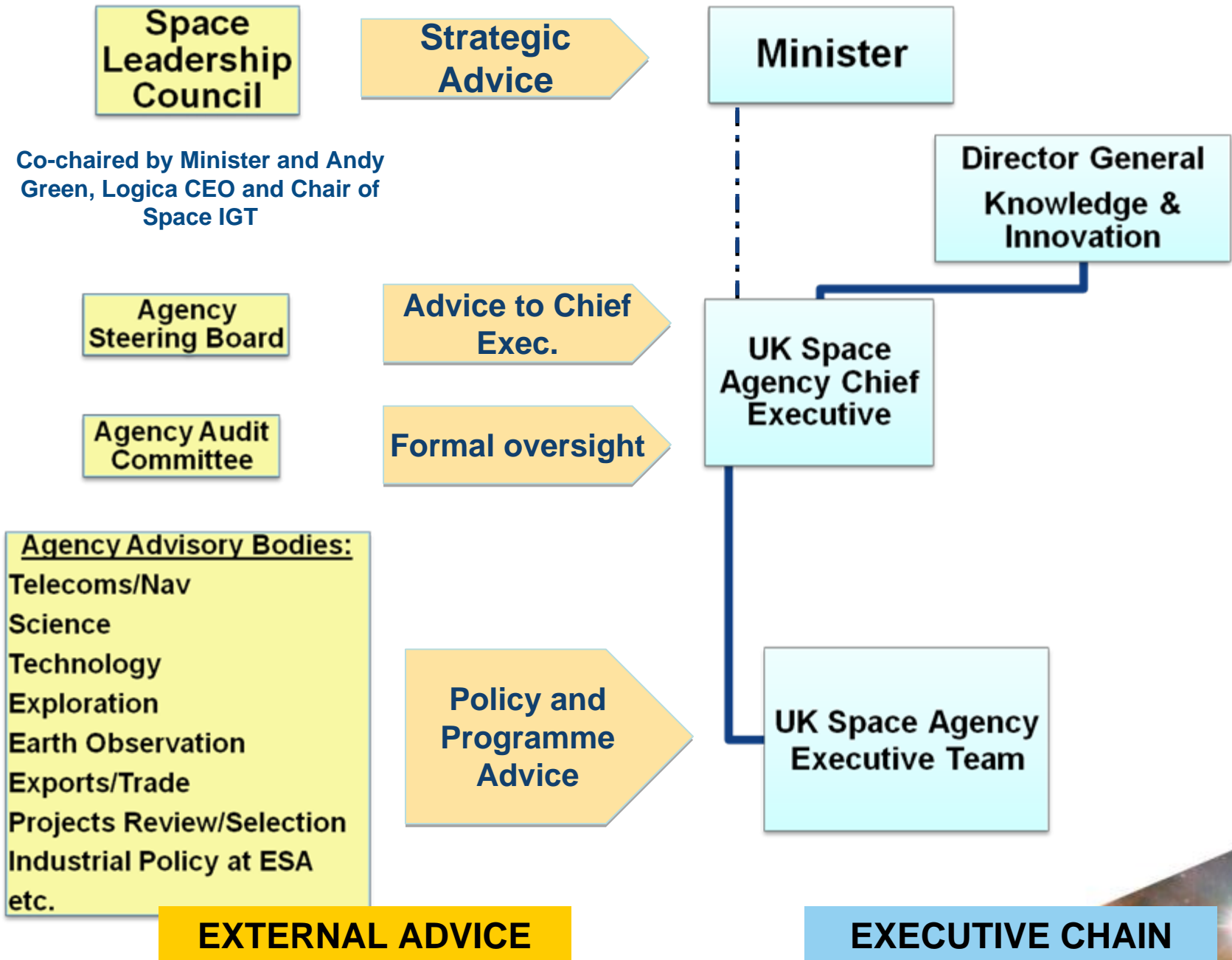


Government civil space expenditure (£270M in 2009/10)



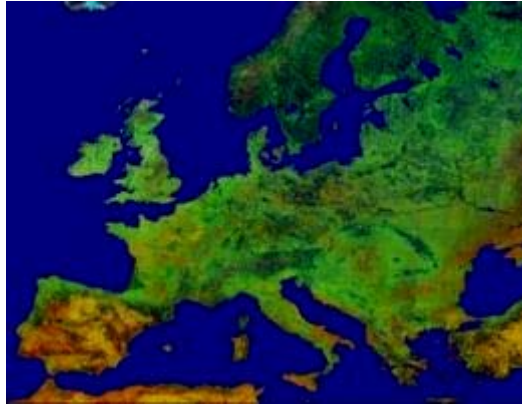


Governance and Advice

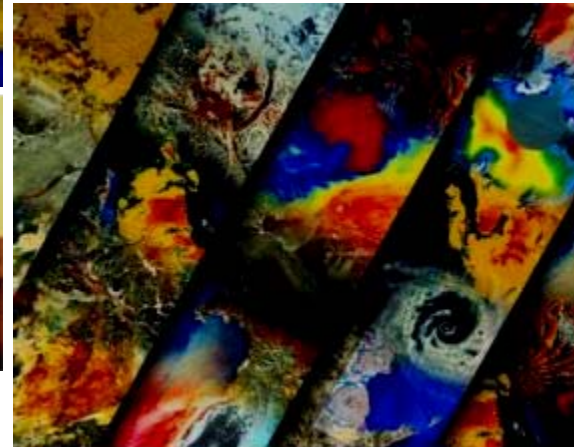


Policy and Programme priorities

- European space policy
- Global partnerships
- Technology
- Education, Skills & Outreach



- Telecoms and navigation
- New applications for Government and business



- ESA's Cosmic Vision
- Mars exploration for science, technology and inspiration
- UK in a global framework

- science using Earth observation techniques
- Global Monitoring for Environment and Security (GMES)



Budgets and Planning

- Detailed reviews of cost of ongoing and possible new projects in 2010/11
- Extensive work by SPAC and AurAC to assess priorities and shape programme
- Agency overall programme budget for SR period announced in December 2009
 - Broadly sufficient to cover existing commitments over the 4 year SR period
 - £773.5M resource + £76M capital = £850M total
 - No margin for 2012 ESA Ministerial commitments



What this does not allow

1. Funding for the KuaFu solar/terrestrial mission with China
2. Any UK instruments for ExoMars Trace Gas Orbiter
3. Funding for ESA 'missions of opportunity' such as SPICA
4. Funding for new bilateral science missions



What this does allow (1/2)

1. Continued operation of:
Herschel, Planck, STEREO, Hinode, Swift, Rosetta
and run out of SOHO
2. Completion, launch and operation of:
LISA Pathfinder LTP, JWST MIRI, Bepi Colombo
MIXS, GAIA
3. Adequate funding for ESA M1 and M2
4. 'Keep-alive' funding for ESA Large missions
until situation becomes clearer
5. Assessment phase support for M3 candidate
missions



What this does allow (2/2)

6. 2 PI and 2 Co-I instruments for ExoMars rover
7. Science team (Co-I) involvement in ExoMars Trace Gas Orbiter
8. Aurora national programme elements including current spin out programme; CREST 2 and science community & exploitation work
9. An annual cubesat technology demonstration mission – Hope to announce early next year
10. Adequate community support e.g. to COSPAR, Alpbach summer school, ESF-ESSC, SPAN and similar activities



A reminder of who does what



ESA subscriptions

**Generic space technology
R&D**

Mission-specific instruments*

**Operation of UK instruments*
(PLS)**

**Aurora integrated national
programme**



**Early R&D for space science
(non-mission specific)**

Studentships/fellowships

**Scientific exploitation of
missions**

**Extensive coordination ('dual key' for grants; cross
representation on advisory panels etc.)**

* Includes mission data systems such as GAIA DPAC

Technology - Existing National Programmes



National Space Technology Programme

A set of National Space Technology Roadmaps issued on April 8th 2011

Will inform a new National Space Technology Programme (new funding announced in March 2011)

Programme will be augmented by industrial funding

Plus partnership with Technology Strategy Board and the Research Councils

ISIC will be a key delivery mechanism

Five NSTP Roadmaps

Telecommunications

Sensing

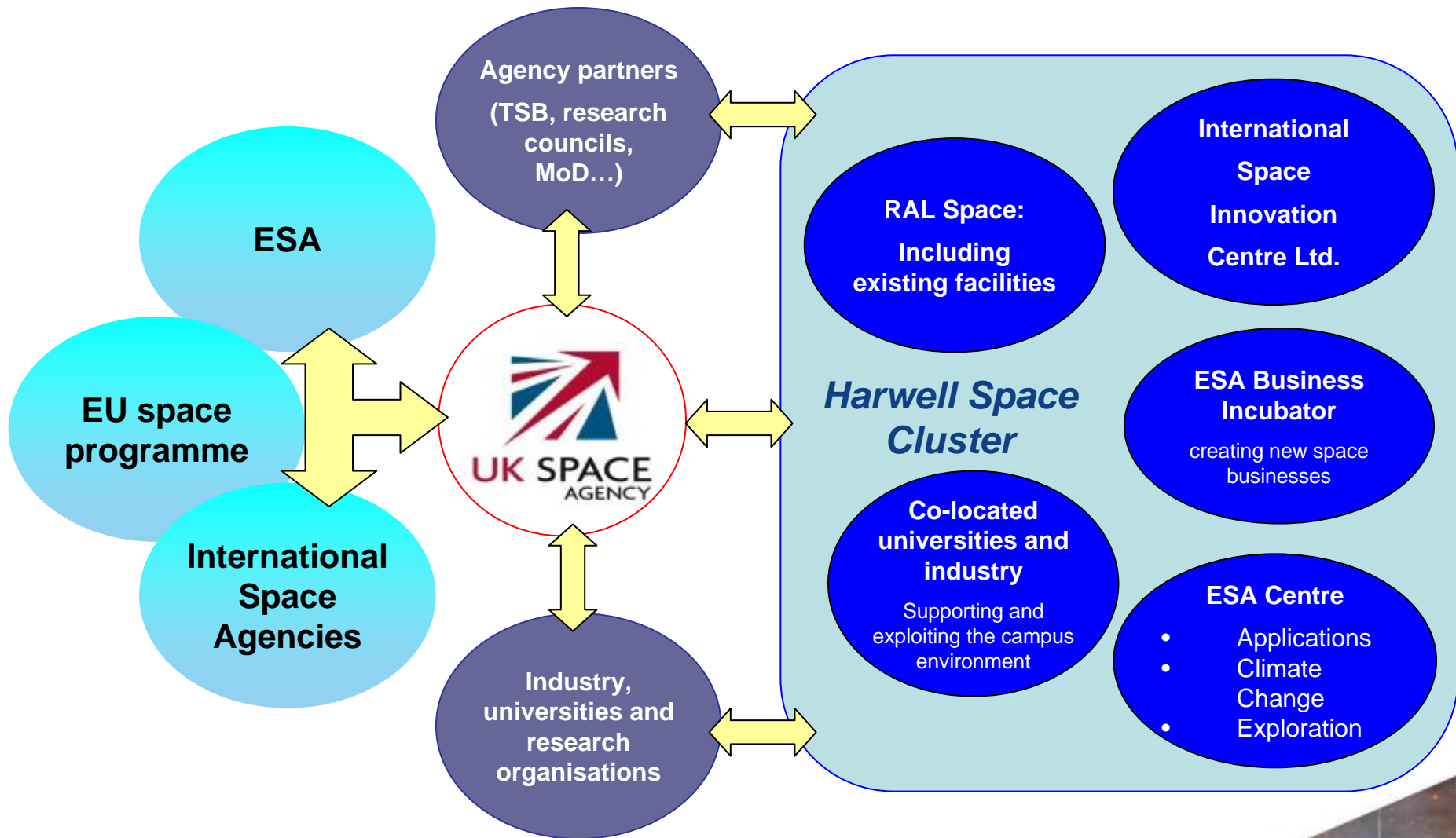
Position, Navigation & Timing

Exploration and Robotics

Access to Space



Harwell and the wider UK space sector



ESA at Harwell



The establishment of ESA Harwell (opened in July 2009) was the consequence of an explicit political decision:

- **To anchor ESA in the UK**
- **To anchor the UK in ESA**

Our Vision for ESA Harwell

1. Home of ESA **'Innovation and Applications Centre'** working on telecoms, navigation and EO applications as well as IAP
2. Home of Climate Change Initiative programme
3. Home of space exploration facilities and competences not available elsewhere in ESA
4. Infrastructure and tools to promote innovation across ESA



In summary



We manage the UK civil programme to explore and exploit space.

We provide international representation

We invest in the UK space industry.

The UK's approach to space is lean, agile and commercial

Harwell is a new focus for delivering our goals.