



© copyright

UK Space Agency Update

20 March 2013

March 2013

Outline

- Reminder of Agency Strategy
- Key pieces of work
 - Overarching policy framework
 - IGS – Accelerating Space Enabled Growth
 - Harwell – harnessing UK capability
 - National Programmes – NSTP, NSAP
 - Galileo PRS
- Conclusions

© copyright



Growth through innovation

Growth through exports

Science as an enabler of growth



Growth through exploiting new opportunities

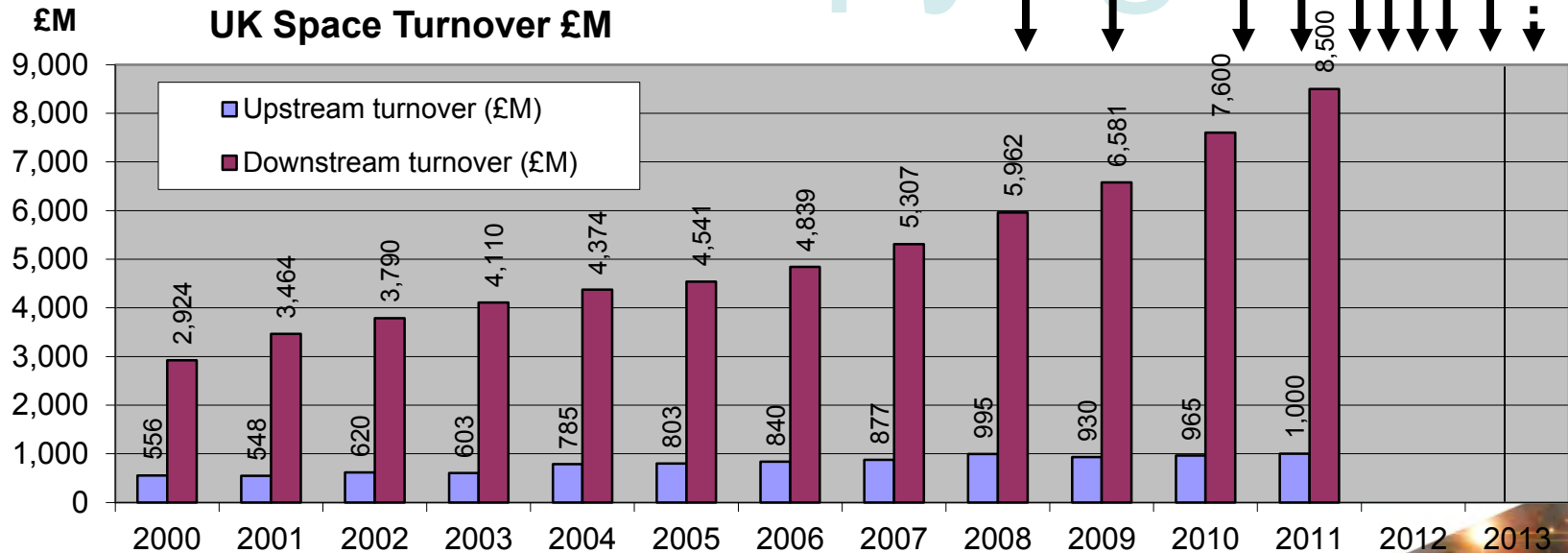
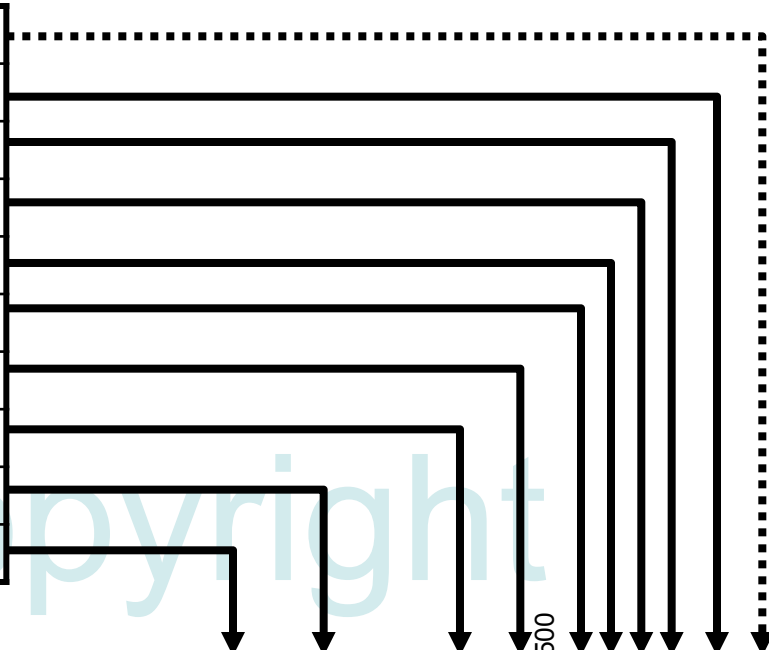
Education for growth

Growth through smarter government

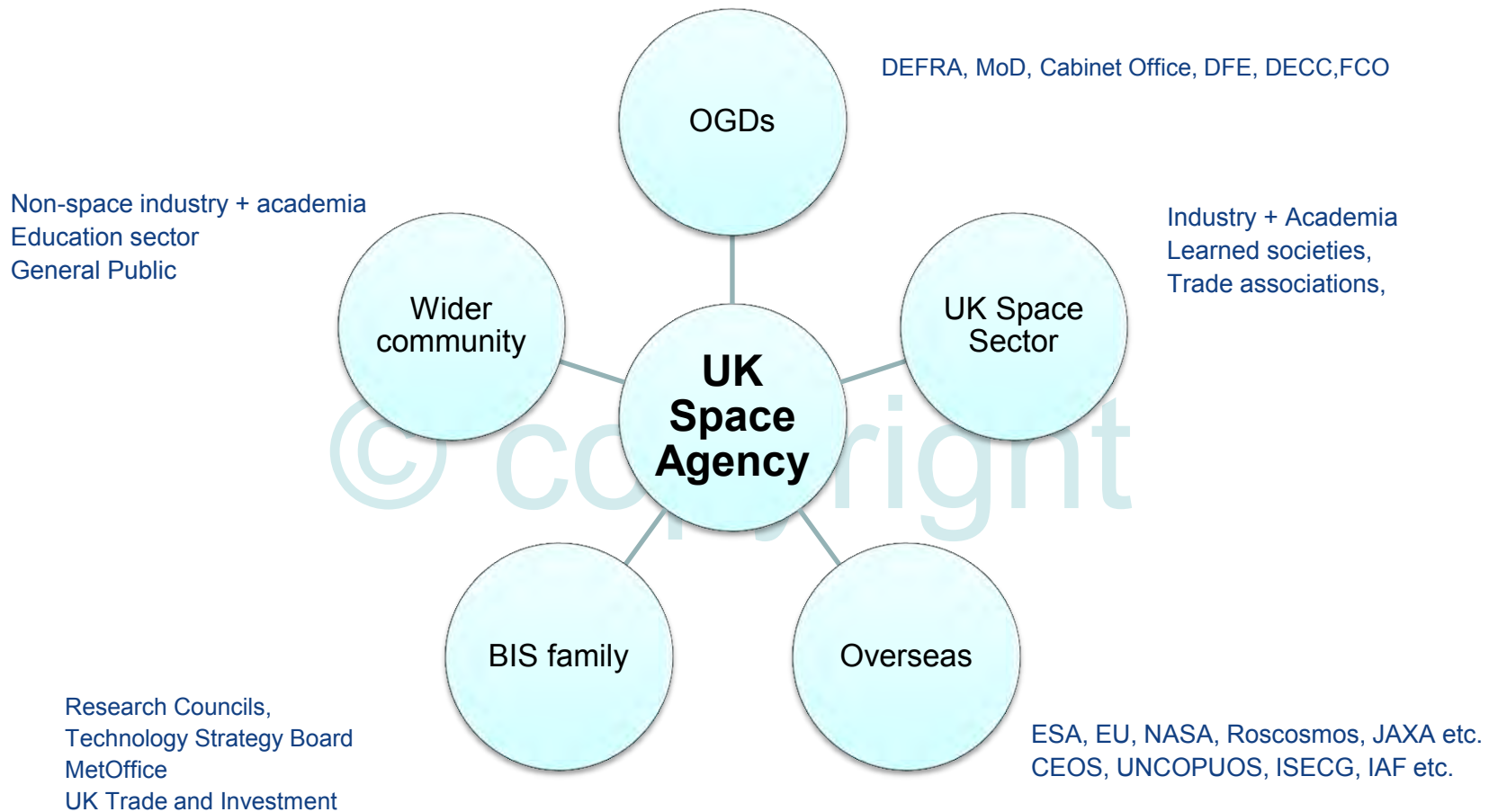


UK Momentum in Space is accelerating ...

Space Innovation & Growth Restack
NSTP – phase 2
Satellite Applications Catapult operational
ESA Ministerial Council 2012
NovaSAR
Growth Review / NSTP
UK Space Agency
Space IGS report / ISIC Established
ESA Harwell Established
Case for Space



Partnerships are Key



A Key Policy Action in 2013

→ Overarching National Space Policy that defines roles of all actors

Partnerships have created...



The world's most profitable global mobile satcoms operator



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



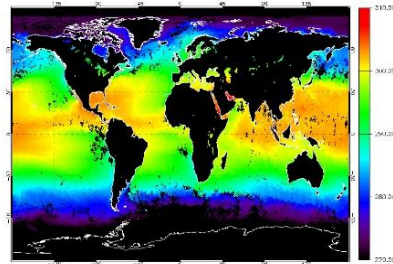
The builder of the world's most advanced satellite telecommunication systems (Astrium Ltd.)



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



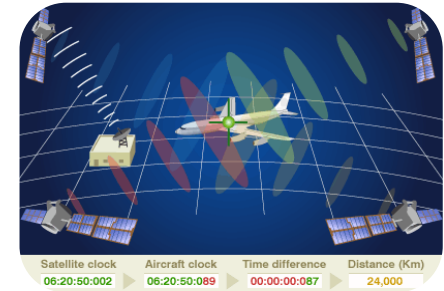
Outstanding achievements in space-based astronomy, planetary science and solar physics



Excellence in Earth science for climate and environment monitoring and its use in business



The world's leading small satellite company (SSTL) and through it, the global Disaster Monitoring Constellation, DMC



A strong UK role in Galileo, Europe's global navigation system

Strategy – Europe and beyond

The European space scene in 2020 will be fundamentally different from the situation in 2000

- Major role of European Union in setting space policy
 - Requirements
 - As a user
 - Industrial policy
- Major space infrastructures (Galileo, GMES, SSA...) enabling new service businesses
- Much increased competition from BRIC countries
- Many more users of space
- New applications that today cannot be envisaged

© copyright

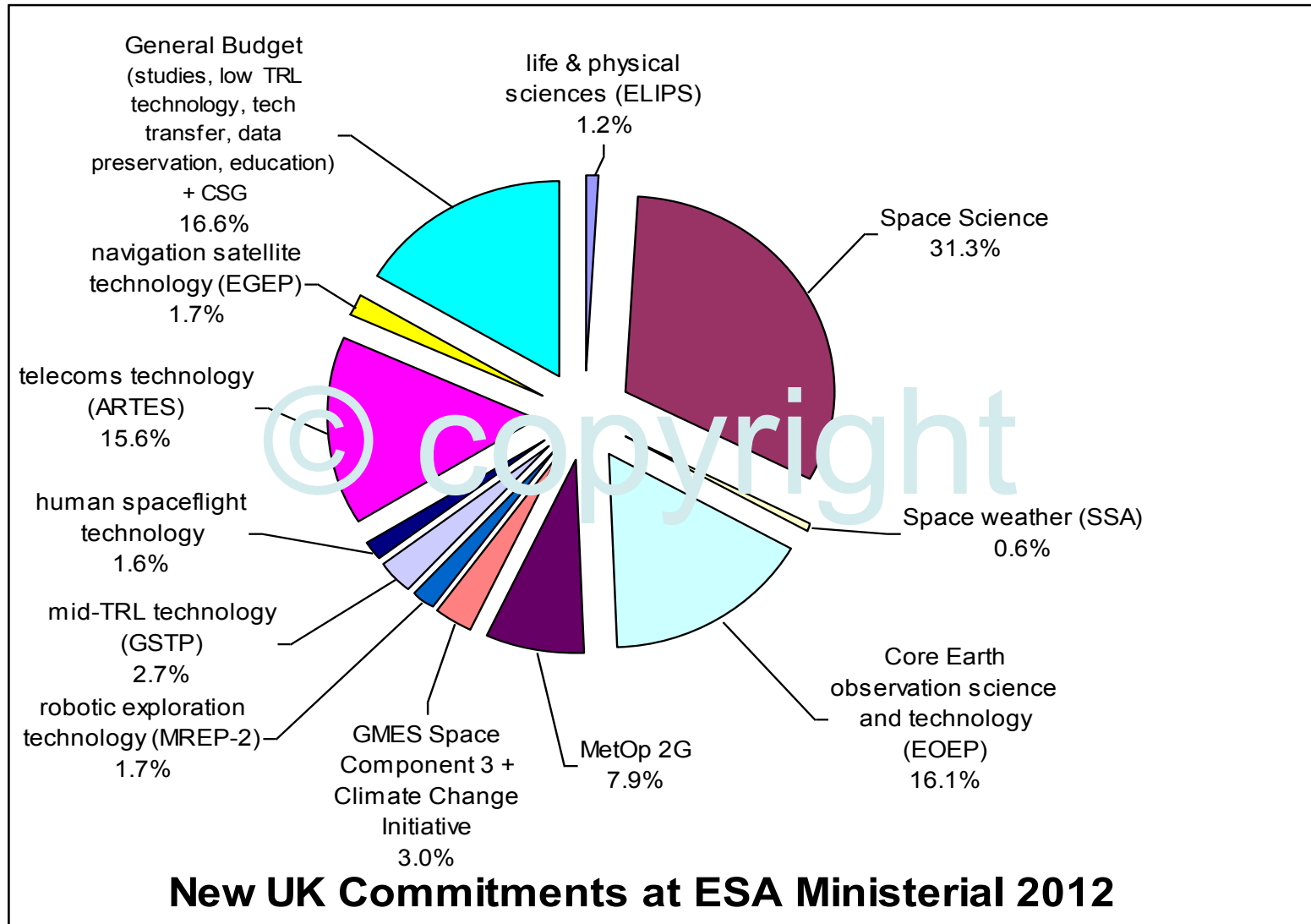


The role of ESA: UK Strategic Analysis

- Most UK space business is outside of ESA (70% of upstream, 100% of downstream)
- Most growth outside of ESA
- Most growth in applications enabled by new technology ...
- ... And in exports based on competitive advantage
- To be successful, the UK space sector must be connected to wider innovation platforms and the world of business
- **BUT** ESA has a vital role as an R&D agency to enable growth



£1.2B Investment in ESA 2013 -16



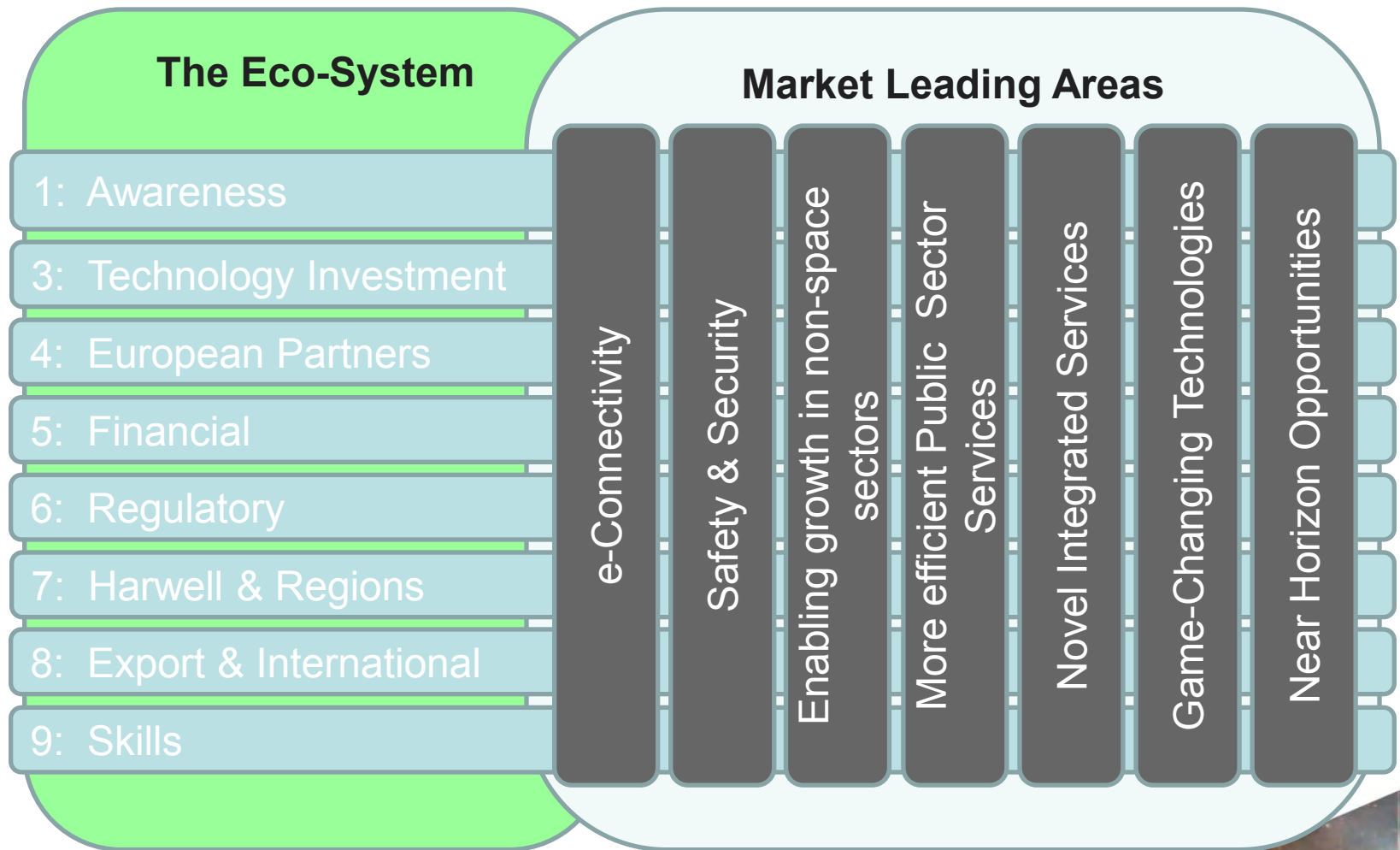
Space IGS „Accelerating Space Enabled Growth

- Space IGS published 2010 – now 3 years on:
 - re-affirm ambition to grow, sustain momentum, consolidate success
- Continuity of vision
 - 10% of global space economy by 2030
 - 100,000 new jobs
 - £40 billion UK space turnover by 2030
- What will be new?
 - Space IGS (2010) focussed on fundamental structures
 - Restack will focus on engagement with the broader economy & the ‘**eco-system**’ to drive growth
- Aim to set out the credibility of our growth story
 - evidence base
 - identify high growth markets / activities
- presented at 2nd UK Space Conference, Glasgow 16 July

© copyright



Activities to address markets & eco-system.



Harwell – Harnessing whole UK Capability

- Firmly rooted in ambition for economic growth set out in the UK Civil Space Strategy and the metrics in the Space Innovation and Growth Strategy – aspiration shared by whole community
 - Selling the UK as the best place for space – downstream, upstream, science, education, innovation, financing, etc etc.
 - Harwell Space Cluster (or whatever we call it) as the gateway to world class national, European and international facilities and collaboration
 - You can do it in Harwell or you can do it through Harwell
- 

What might it look like in 2020?

Developing the Cluster

- Clearly recognised global brand (probably not Harwell)
 - Home of vibrant business community – SMEs and larger businesses
 - International Space Agency presence – ESA, UK Space Agency, NASA, Roscosmos etc.
 - Strong business support offering - financing, business support, facilities, data etc.
 - Focused inward investment in return for access to world leading facilities and expertise and the vibrant space community and easy global and European access
 - Levering entire national capabilities – data, research base, industrial base, government etc etc
 - UK led global offering on space education; on site or distance learning
 - Facilities supporting EU programmes – Galileo PRS service centre, EU space weather programme etc. Etc.
 - Agglomeration effect – allied clusters at Harwell sharing facilities
 - What else?
- 

What will the UK Space Agency do?

- Drive the vision – consult on the vision
- Link with the work on the IGS
- Maintain the political buy in – Government, minister, key international institutions, etc.
- Align the government players nationally
- Lead strategic investment thinking
- Act as programme director – focal point for a consensual governance



National Space Technology Programme

Five technology roadmaps

- 1 *Telecommunications*
- 2 *Sensing*
- 3 *Position, Navigation & Timing*
- 4 *Exploration and Robotics*
- 5 *Access to Space*

A £10M new National Space Technology Programme launched in 2011

Programme is matched with industrial funding

Partnership with Technology Strategy Board, the Research Councils and DSTL

Leading to Phase 1 total investment of £27M (32M€/42M)

Phase 2 starts in April 2013

© copyright



National Space Application Programme

Applications are central to the growth agenda:

- 1 *Telecommunications*
- 2 *Earth observation*
- 3 *Position, Navigation & Timing*
- 4 *Integrated applications of space + terrestrial data*

**NSAP
launching in
2013**

**Developing
national and
international
policy to
assist
growth of
space
applications**

**Investing in
national
ground
segment
and facilities
for data
exploitation**

**Sign-posting
of expertise
and support
programmes**
- national
- ESA
- EU

**Promoting
use of space
data by
public
sector by
brokering
private
sector**



Applications

- Opportunities in Europe will be defined by paradigm shift in availability of data and signals from space:
 - Copernicus = at least 10-fold increase in data volumes; assurance of data continuity
 - Galileo = secure Public Regulated Service; potential for high accuracy commercial service



The UK Space Agency and Applications

The UK Space Agency:

- Oversees, as owner of civil space strategy
- Puts in place space and ground infrastructure
- Develops policy, including data policy
- Advises all stakeholders on delivery paths
- Supports government uptake of space-enabled data and services



National Space Applications Programme

- UK Space Agency intends to launch this new programme in Q2/3 this year
- Focus will be on assisting government departments with uptake of space by acting as neutral broker between users and providers
- Will also signpost all applications development opportunities in UK and internationally for broad stakeholders



Key Priorities for PRS

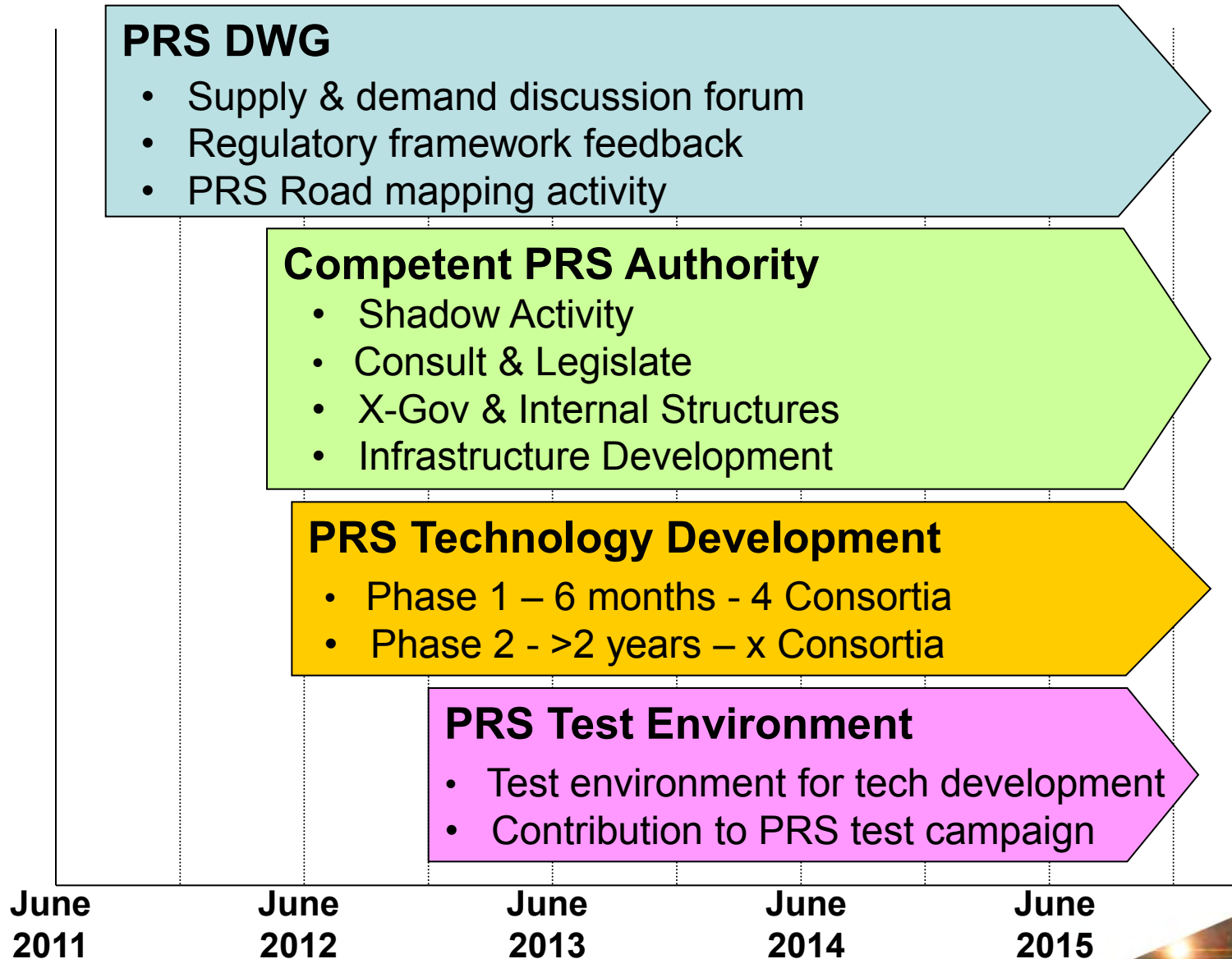
(The difference between success & market failure)

- Security & Integrity
- Simplicity
- Incubating Innovation
- Integration and market penetration


© copyright



UK PRS Activities



UK PRS Pilot – Phase 1 – 6 Months - £1m

- **Selex Galileo**
 - Key distribution via mobile networks & analysis of risks from this approach
 - **Logica**
 - User needs analysis for key distribution & proposed architecture for national PRS infrastructure
 - **Rockwell Collins UK**
 - User needs and key management challenges for GPS interoperable military receivers
 - **Astrium**
 - Authenticated Open Service technologies for low end PRS applications
- 

Competent PRS Authority

- Consultation completed 25/01/2013

Key Questions

- Whether Government should set up a Competent PRS Authority and which of four alternative forms it should take
- Whether a Competent PRS Authority should authorise and oversee manufacturers, users or both
- How “Government Authorised Users” should be defined
- Penalties
- Charging

© copyright



Long Term Ambition for UK Test Facility

- Capability to test / demonstrate range of PRS technologies / applications / services – incl Ph2 pilot demonstrators
- Programme recognition as centre of excellence – potential future PRS accreditation centre
- UK key distribution hub with associated infrastructure – (extension to other MSs?)
- Test possible approaches to CMS implementation
- Long term signal monitoring capability



Phase 1 - Objectives

- Embed crypto management / distribution arrangements
- Finalise initial location / staffing & training arrangements
- Procure / Develop initial test bench capability to ESA / EC timescales
- Obtain keys & operate initial test campaign

© copyright





UK Space Agency

+44 (0)207 215 5000

info@ukspaceagency.bis.gsi.gov.uk

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



copyri



@spacegovuk

