

Space working party meeting

1

HORIZON 2020 - INTERIM EVALUATION

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ASD-EUROSPACE
The Space group in ASD

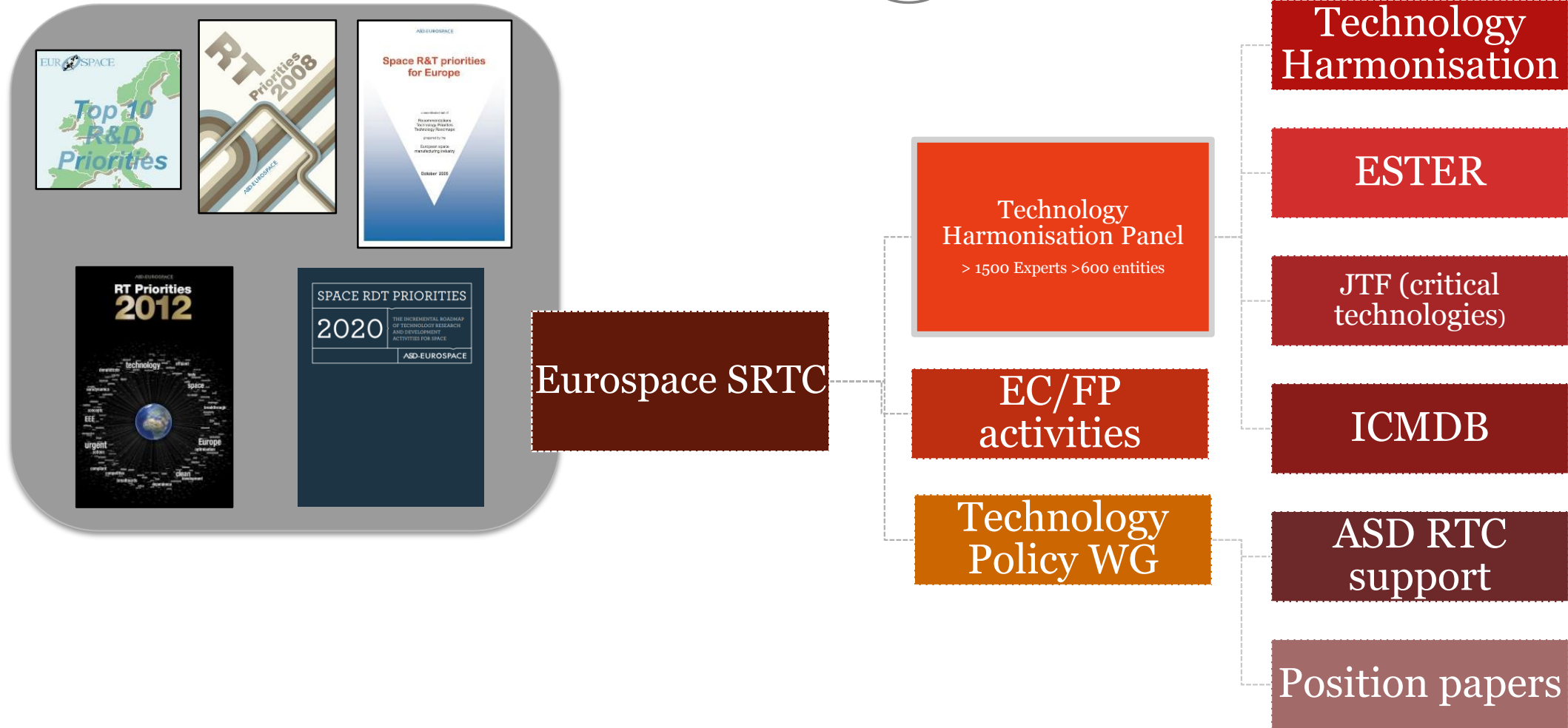
What is Eurospace?

2

- Created in 1961
- The association of Space Manufacturing Industry (i.e. the 'upstream' segment)
 - Membership is mainly composed of large companies
 - ✦ Membership is open to all stakeholders involved in the design, development, manufacturing, test and validation of space systems (or relevant parts) in Europe. This includes Research establishments (e.g. NLR and TNO are members) trade associations and SMEs
 - ✦ Eurospace members represent an estimate of >90% of space industry workforce
- Eurospace activities are performed by permanent personnel (the Executive)
 - Paris Office: 5 persons, in charge of management & administration, technology strategy and standardisation, statistics and databases, relationship with ESA and **formalised consultations with industry**
 - Brussels Office: 2 persons, in charge of space policy, relationship with EU institutions
- At all levels of its action Eurospace aims at achieving the **broadest level of consensus** with all parties involved and with the largest possible representation of relevant stakeholders

Eurospace RT strategy processes

3



Eurospace RT strategy processes

4

Some milestones

Since 1998

Eurospace publishes the space Strategic Research Agenda every 4 years

Since 1999

Eurospace has promoted the ESA-coordinated harmonisation process

Since 2006

Eurospace has established an industry- EC dialogue for the elaboration of the space work programmes

Since 2012

Creation of the Technology Harmonisation Panel (THP): largest instance of consultation gathering space experts in Europe

Feedback on H2020 Space – General considerations

5

- Space-specific line under H2020: positively welcomed by industry
- H2020 regulation's objectives: a positive perception from industry
- From the regulation's objectives to the WP's architecture: between satisfaction and consistency shortfalls

Feedback on H2020 Space (2014 to 2017)

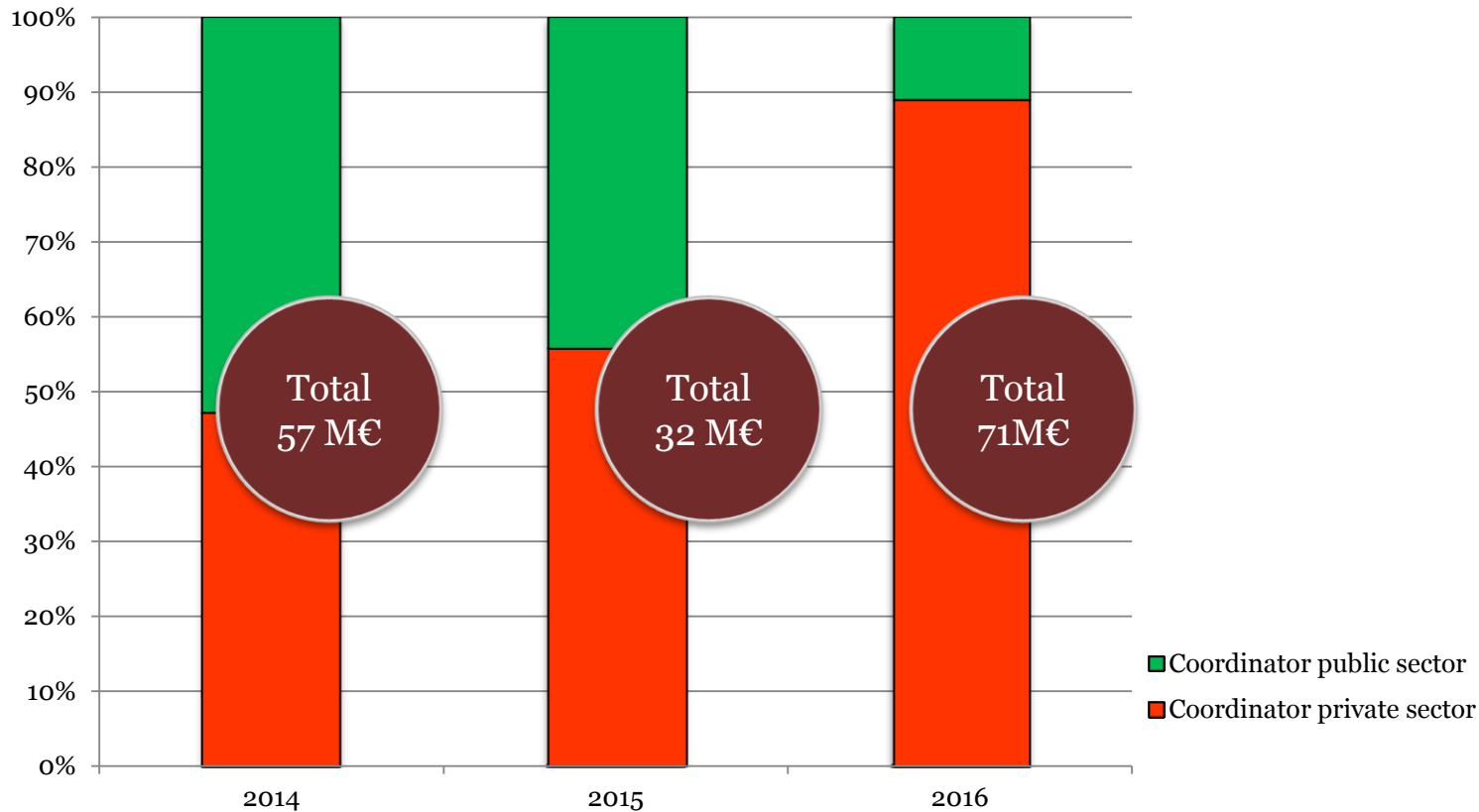
6

Type of concern	Associated feedback/ proposed remediation
Techno. readiness for next steps of Copernicus	Need to be prepared with appropriate RDT activities on payload and data handling/processing. (like GNSS >EGEP) <i>E.g: Carbon monitoring solutions to be found</i>
Budget envelope for COMPET calls	Shall be increased to ensure appropriate coverage of all critical areas, particularly with regard to dependence reduction where in each call only 2/5 activities are funded only.
Content/topics of COMPET calls	<ul style="list-style-type: none"> • Shall be appropriately focused in terms of contents (in coordination with industry and based on the Space R&T priorities) and maturity • Targeted technologies to present high potential for industry competitiveness
“Granularity” of space calls	<ul style="list-style-type: none"> • Often too generic, and lacking appropriate technological guidelines, produce results with limited added value • Establishment of precise requirements in technical annexes for each call is recommended (as established in the EPIC calls, or in the JTF related calls)
Maturity level targets	<ul style="list-style-type: none"> • Need to be stepped up – in particular on COMPET calls • Most activities to be focused on TRL 6 targets (including IOD/IOV real/actual opportunities).
Size of projects	Needs to be increased in specific areas where: <ul style="list-style-type: none"> • The whole functional chain needs to be addressed • Programme continuity is required

Feedback on H2020 Space (2014 to 2017)

7

Considerations on COMPET calls



Observations

- Space industry share of COMPET funding has improved in 2016
- The 2016-2017 COMPET Work programme is better aligned with industry expectations than in 2014-2015, also supported by the SRC approach: positive trend
- Financial size of work packages remained very low, around 2M€: fragmentation issue

Status of COMPET selected projects 2014-2016

Feedback on H2020 Space (2014 to 2017)

8

Considerations on COMPET calls

Considering the relatively limited funding available for space technology development in Europe...

- Question of **effectiveness** is absolutely crucial: **developments** should be appropriately targeted and correctly performed, **avoiding duplications** whenever possible.
- **More efforts in coordination** to be undertaken:
 - Vision of needs and issues to be clarified to ensure maximum effectiveness of public and private investments in space technology
 - Establishment of focused initiatives (such as the Strategic Research Clusters approach or JTIs) with well identified objectives
 - Room to be left for industry involvement in the definition of development plans
 - These efforts shall also provide for synergetic developments and continuity with opportunity driven (bottom-up) research activities

Principles of Eurospace WP18-20 proposal

9

Competitiveness drivers

Applications and exports

Core technologies

State of the art

No duplication

Consistency with known technology plans

Consensus of proposals

Large consultation base

Open review process

Maturity mix: RIA & IA proposals

Consistent with H2020 scope

Aligned with readiness needs

Way forward calls 2018-2020

10

- Focus on activities with high leverage on sector competitiveness
- Consistent with European space strategy pillars
 - Sector competitiveness
 - Autonomy and safe operations in space
 - Enabling technologies for innovative applications at the service of Society and Economy
 - Commercial & export programmes represent >50% of sector revenues
- Address evolving and new space markets
- Anticipate critical technology evolutions
- Reduce dependence situations
- Implement IOD/IOV

The Goal: high leverage on sector competitiveness

11

- **Telecommunications systems**
 - Competitive Very High Throughput Satellites (towards 1Tbps)
 - Mission and architecture
 - ✦ Flexible payloads
 - ✦ Highly digitalised payloads and secure communications
- **Earth Observation systems**
 - Very High Resolution High Revisit/Persistent Systems and Instruments for Commercial/Export (LEO/GEO)
 - New Instrument Technologies for operational needs: Climate change /Meteo/Copernicus
 - Ground systems with massive processing
- **On Orbit servicing**
 - Advanced technologies: High Power, Autonomous RV & Proximity Operations, Robotics
- **Security of Space Assets**
 - Secure transmissions, resilient systems, debris risk mitigation
- **Space Exploration**
 - Precision landing, GNC
- **Access to Space**
 - Advanced architecture and concepts for
 - ✦ Small launchers
 - ✦ Re-usability approaches
 - Technologies for
 - ✦ Advanced materials & processes, Cryo-technologies, Advanced Avionics and architectures
- **Transversal technologies, building blocks and components**
 - Miniaturisation, low cost technologies for innovative constellations
 - Disruptive Materials & processes technologies
 - Critical on-board functions: Avionics, Power, On-Board data systems, Propulsion
- **Critical dependence reduction**
 - JTF-coordinated actions implemented through H2020

R&T funding post-2020 – Industry preliminary views

12

- Full support to the EC space strategy for Europe and related Council conclusions/ EP own-initiative report
- Report of the independent High Level Group on maximising the impact of EU Research & Innovation Programmes: an interesting food for thought
- Space in FP9 – towards an articulation around a four-fold high level focus ?

