



HORIZON 2020

SPACE

DG GROW - Internal Market, Industry Entrepreneurship and SMEs
Space Policy and Research (GROW/I1)

EPIC workshop, London, 15 october 2018

Jean-Michel Monthiller

In-orbit Demonstration/Validation (IOD/IOV)

Summary



1. Introduction
2. Policy context
3. H2020 Work Programme 2018 – 2020
4. IOD/IOV service overview
5. State of play and next steps

- ✓ IOD/IOV is a recurring concern for space technologies
 - *Need of demonstration /validation in real conditions and environment of new products / concepts = de-risking*
 - *New technologies, products, concepts can be required for unique or recurrent, institutional and/or commercial missions*
 - *Difficulty to find opportunity in Europe at affordable cost, in the required timeframe and, for secondary payload, at an acceptable risk for the main mission*
 - *Need for regular IOD/IOV to improve competitiveness (large companies) and/or demonstrate capability (SMEs) (« Flight Heritage »)*
 - *IOD/IOV to improve European non-dependence*

➡ **to shape solutions for H2020 and onward**



H2020 and Space Strategy

✓ **Council decision establishing the specific programme implementing Horizon 2020, § 1.6.1.1:**

*"the objective is the development of research base by providing continuity in space research and innovation programmes, for example by a **sequence of smaller and more frequent in-space demonstration projects**. This will allow Europe to develop its industrial base and space research and technological development community, thereby contributing to advancing beyond the current state of the art and to its non-dependence from imports of critical technologies."*

✓ **Commission Communication (2016)705: Space Strategy for Europe**

"The Commission will further complement the efforts of Member States, ESA and industry in addressing long-term research and innovation needs, including providing regular opportunities for European in-orbit validation services for new technologies and products to be used in space."

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2018 - 2020

Other actions	Type of Action	Indicative budget (€ million)		
		2018	2019	2020
Activity 1 – ESA engineering support	Contribution agreement with an implementing entity ***	6.0	-	-
Activity 4 – In-orbit demonstration/ validation – launch services	Contribution agreement with an implementing entity ***	39.0	-	-
Activity 14 – In-orbit demonstration/ validation – Mission design, integration and implementation	Contribution agreement with an implementing entity ***	-	20.0	18.0

*** To be delegated to ESA.

IOD/IOV: In Orbit Demonstration / Validation



experiments developments

Flight models ready

Development (new technologies, products, concepts, operation techniques)

**Call for Expression of Interest
IOD/IOV Experiments**

Actions selection

Mission Preparation
and integration

Call for projects

Experiments delivery

Flight preparation

Flight

In orbit operations and data provision

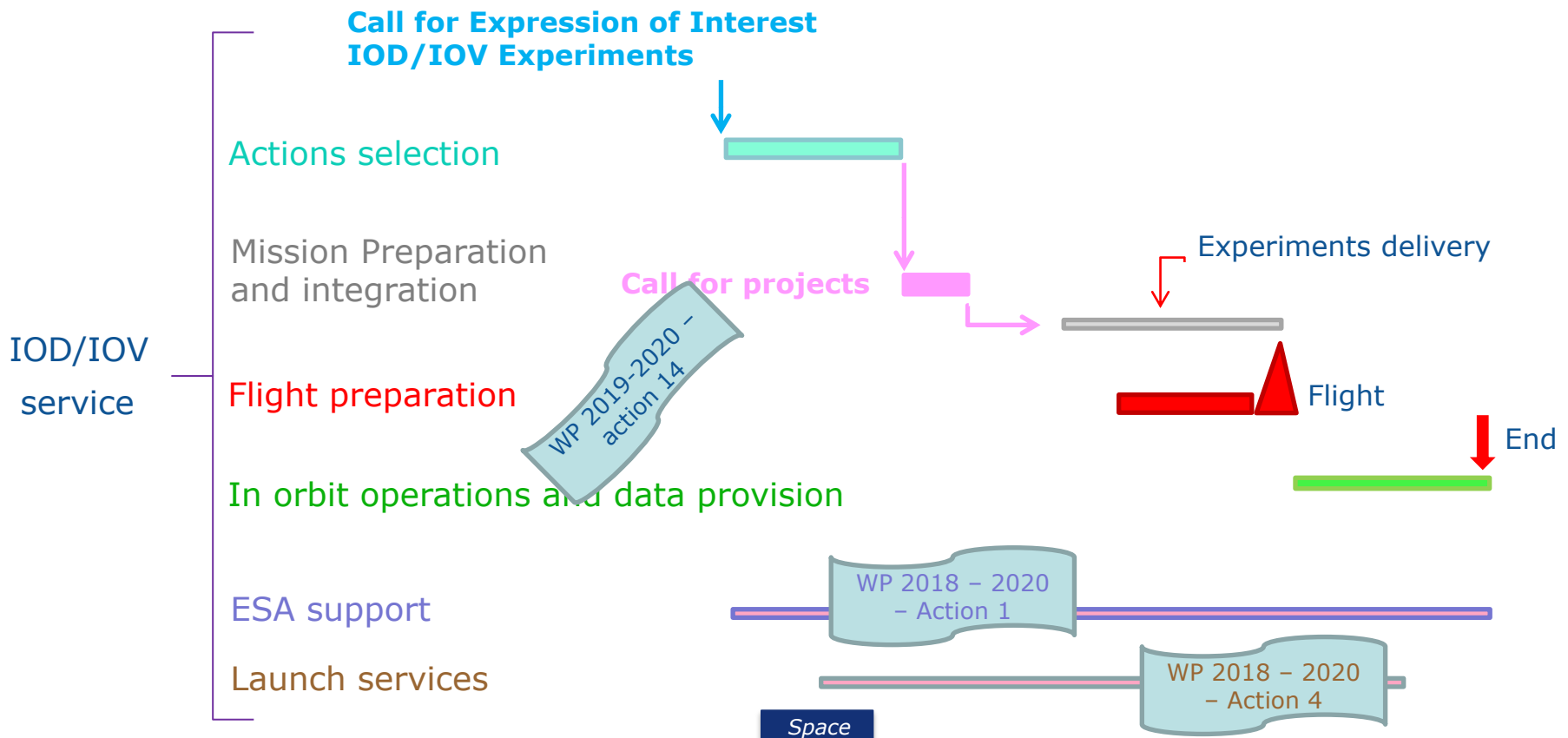
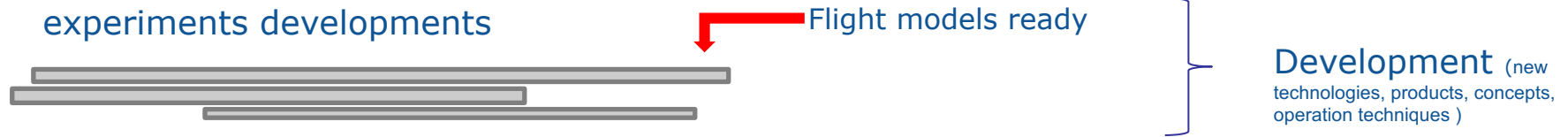
End

ESA support

Launch services

Space

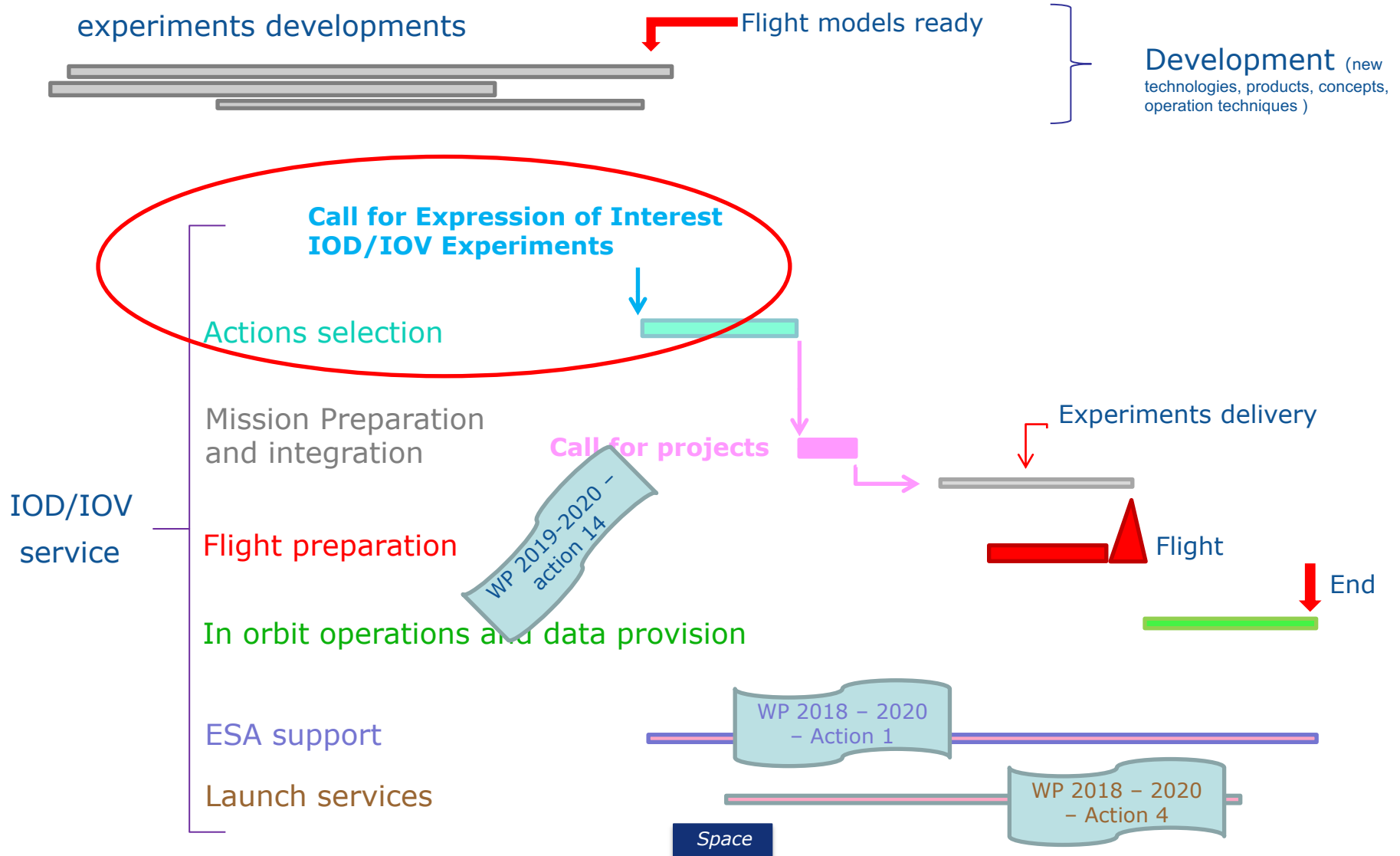
IOD/IOV
service



Summary



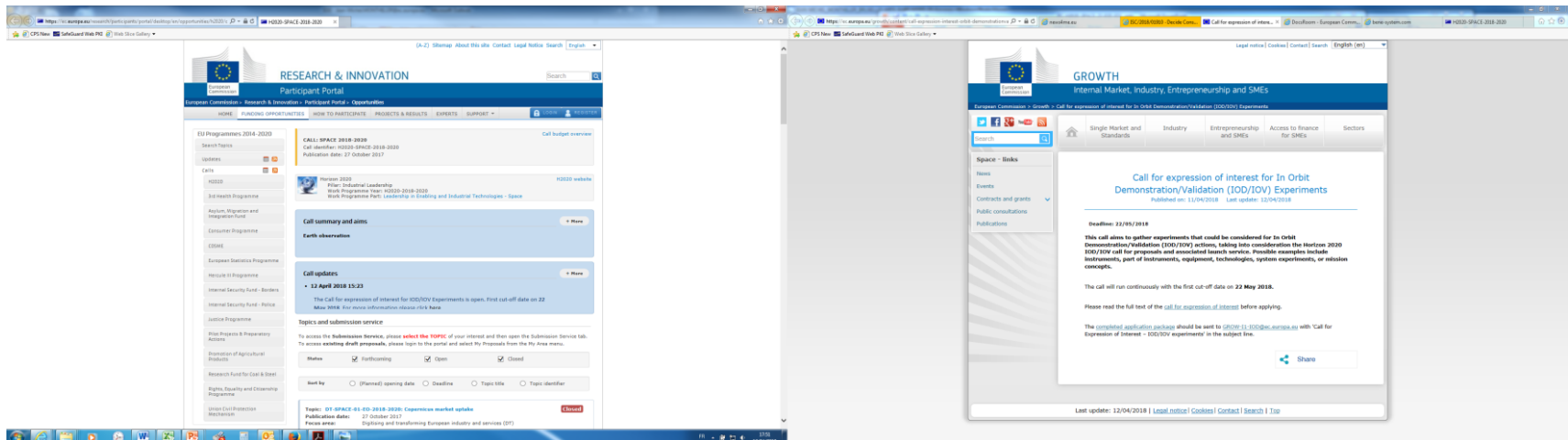
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Call for expression of interest for IOD/IOV Experiments (1/3)

- Published on :
 - ✓ [Horizon 2020 Participant Portal](#) *and*
 - ✓ [DG GROW's website](#)
- 1st cut-off date: **22 May 2018 – 17:00 (GMT)**





Call for expression of interest for IOD/IOV Experiments (2/3)

- Continuous call, 1st cut-off 22 May
- Gather feasible experiments candidates for IOD/IOV
- Application form including detailed description of the experiment and interface, compliance matrix, commitments, letter of support
- Description of analysis criteria:
 1. Technical fit
 2. Policy relevance
 3. Programmatic fit
 4. Complementarity



Call for expression of interest for IOD/IOV Experiments (3/3)

- ✓ **Analysis of applications** (by independent + ESA experts)
 - list of retained applications for feasibility studies
 - complementary elements requested to applicants

- **Feasibility studies** in progress
 - Aggregates of experiments
 - Launch solutions for aggregates + complete systems



Next steps

- ❑ Finalisation of the feasibility studies
- ❑ Finalisation of the contribution agreement with ESA for the implementation of projects and associated launch services
- ❑ Call for projects (preparation of space missions with all retained and feasible experiments)



HORIZON 2020

**Thank you
for your attention**

Find out more:

http://ec.europa.eu/growth/sectors/space/research/horizon-2020/index_en.htm