Update on Strategic Research Clusters
Space Robotics

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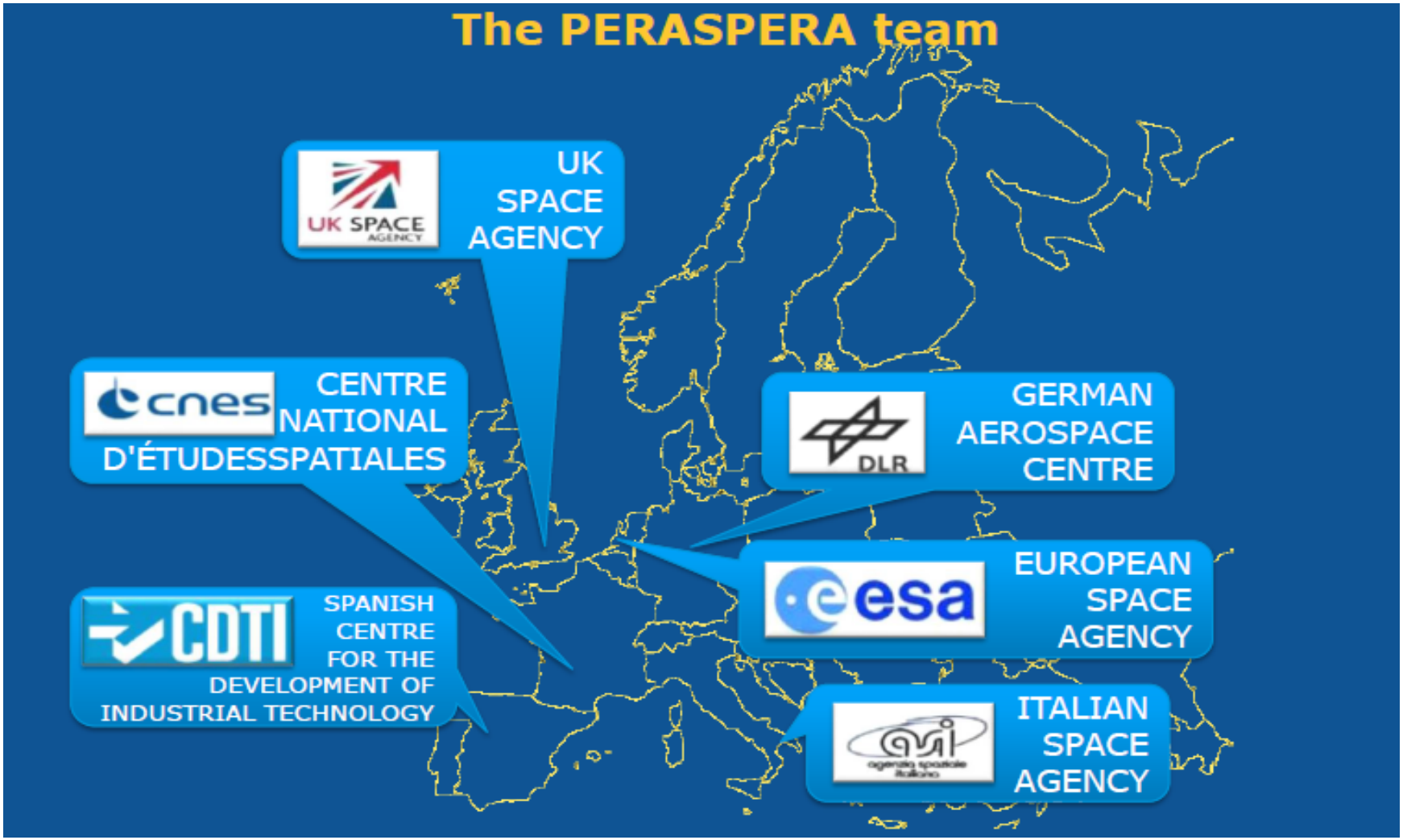
PERASPERA – Project and Team



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PERASPERA - Goals

SCOPE

The overall objective of the SRC is to deliver, within the 2023/2024 framework, key enabling technologies and demonstrate autonomous robotic systems at a significant scale as key elements for on-orbit satellite servicing and planetary exploration.

The PERASPERA goal is to define the roadmap and action plan and suggest the Operational Grants (OG) needed to tackle the technological challenges.

TIMEFRAME

PERASPERA PSA will operate for 5 years as the COM consultancy unit for Space Robotics

ACTIVITIES

- ❑ Evaluation on the state of the art and needs of stakeholders
- ❑ Definition and refinement of common conspicuous results
- ❑ Planning of SRC activities
- ❑ Evaluation and integration of intermediate SRC deliverables
- ❑ Dissemination and education activities

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FEATURES AND RULES

- Work Programmes are launched by the COM not by PERASPERA
- Proposals for OG must be complete as there is no negotiation phase
- REA will drive the independent evaluation process
- H2020 rules apply (minimum 3 partners from 3 different countries)
- Members of PERASPERA cannot be beneficiary of Operational Grants

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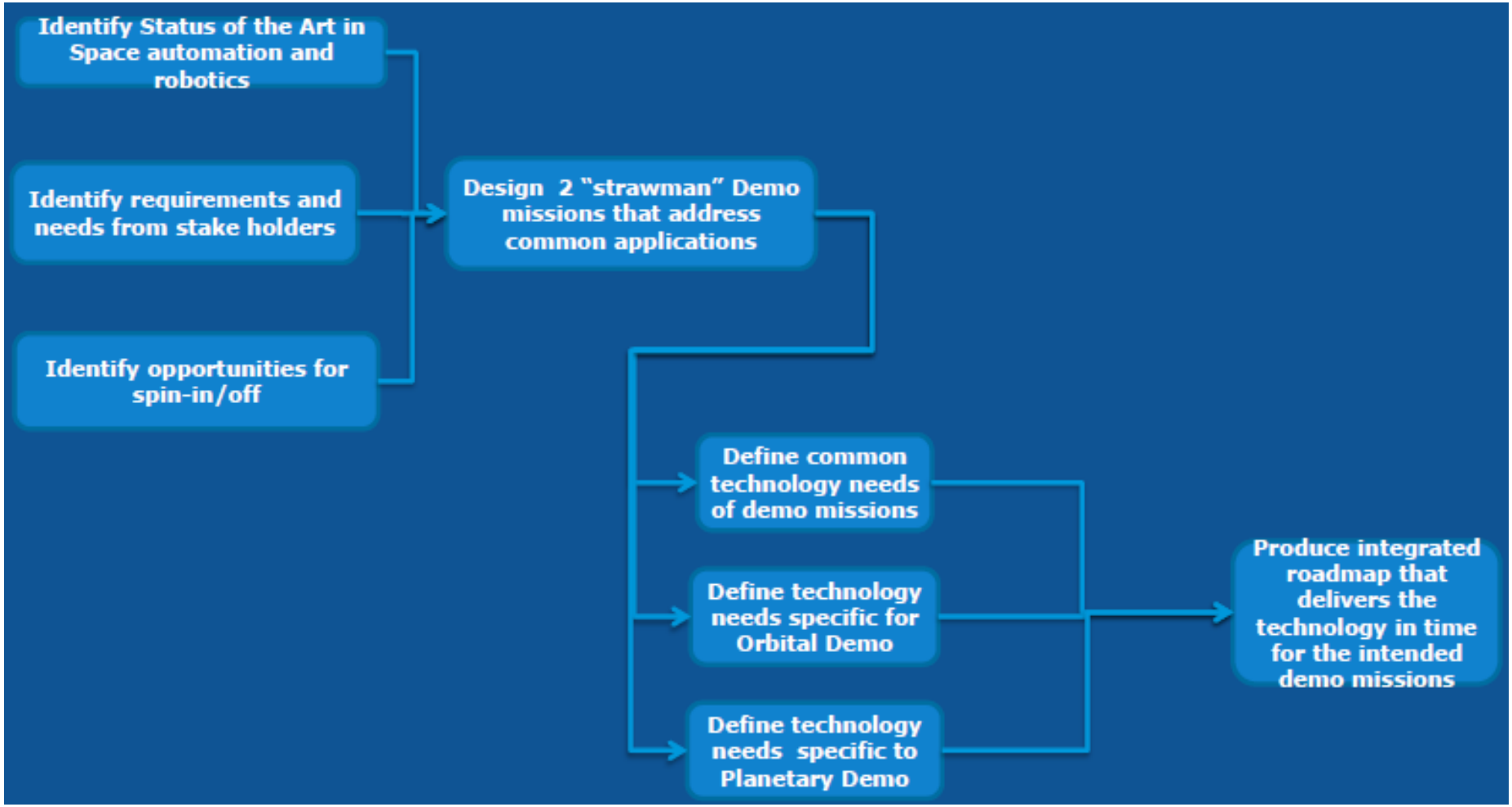
PERASPERA - Work Logic



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PERASPERA – Work done

PROJECT KICK-OFF (2nd of October 2014)

FIRST RESULTS (30th of January 2015)

BACKGROUND INFORMATION

Collection and analysis of background information for a draft roadmap

DRAFTING THE ROADMAP

The draft initial stage of the roadmap has used a mechanism of implicit consultation: status of the art, stakeholder needs and spin-in/off opportunities have been derived from existing reports/declarations/ statements/reviews

- D2.1-State of the art in Space Automation and Robotics Technologies
- D2.3-Stakeholders needs for Space Automation and Robotics Technologies
- D2.5-Spin out-over assessment
- D2.8-Space Automation and Robotics Dossier for Europe
- D2.9-Orbital Study report
- D2.10-Planetary Study report

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PERASPERA – Consultation process

NL / 11-12 February 2015

CONSULTATION WORKSHOP

The draft roadmap for **Space Robotics Technology** was presented and got reviews and comments from:

a) The European Space Technology Harmonisation Advisory Group (ESA)
b) The PERASPERA advisory board
c) Public @ consultation workshop @ NL 11-12 of February

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PERASPERA – Outcome

DEFINED TRACKS

- Common building blocks track
- Orbital robotics track
- Planetary robotics track

ACTION PLAN and OPERATIONAL GRANTS

- PERASPERA will present COM the action plan for next 5 years
- PERASPERA will draft project ideas for Operational Grants (OG) on space robotics to be included in H2020 Work Programmes
- PERASPERA proposal for next WP2016-2017 Call is to focus on transversal building blocks required by for both tracks
- PERASPERA suggestion for future Calls WP2020 is to go for specific topics on orbital and planetary robotics

DECISION

- The COM and MS will discuss and approve the final version of the WP2016-2017 until July 2015

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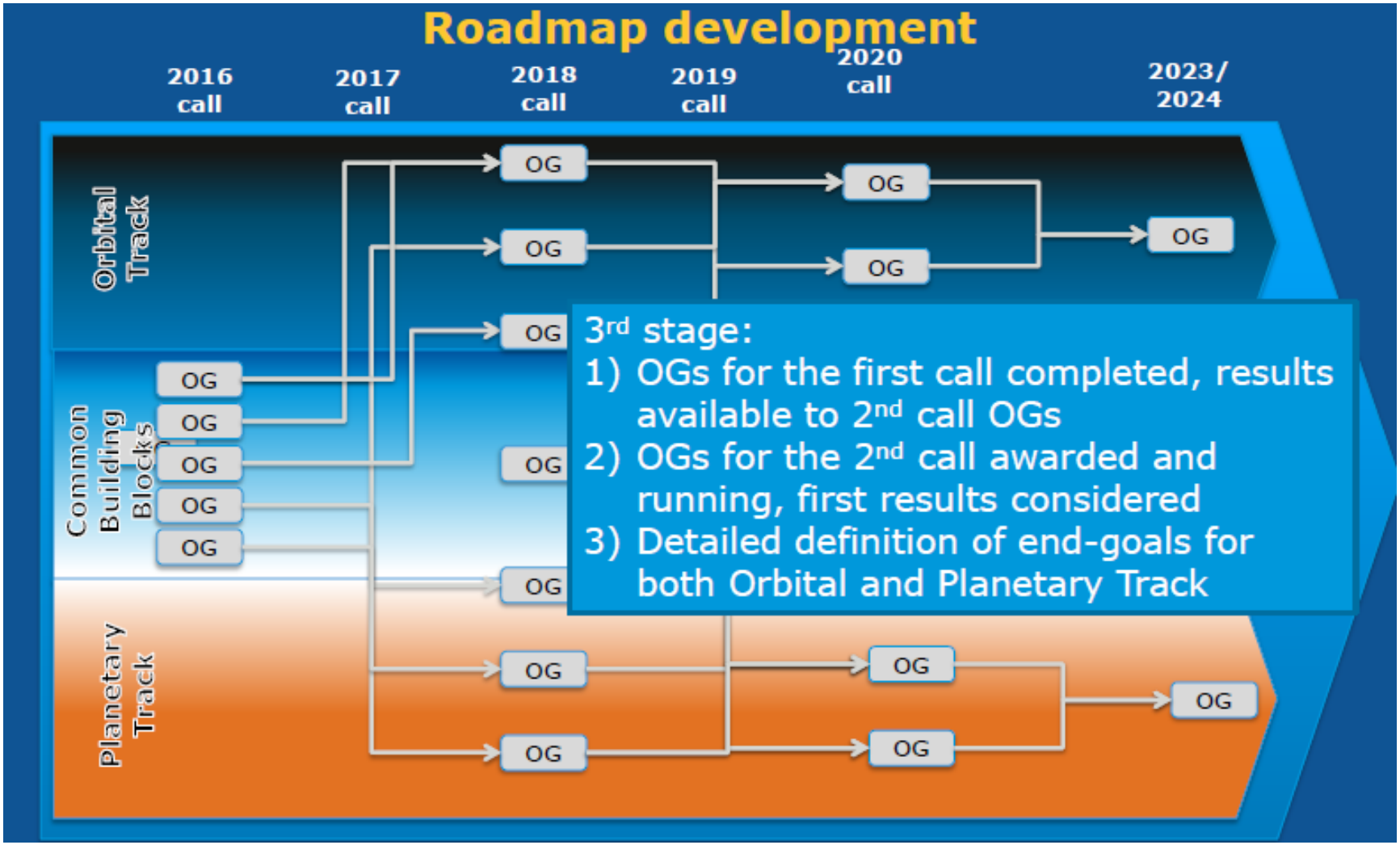
PERASPERA – Action Plan Development



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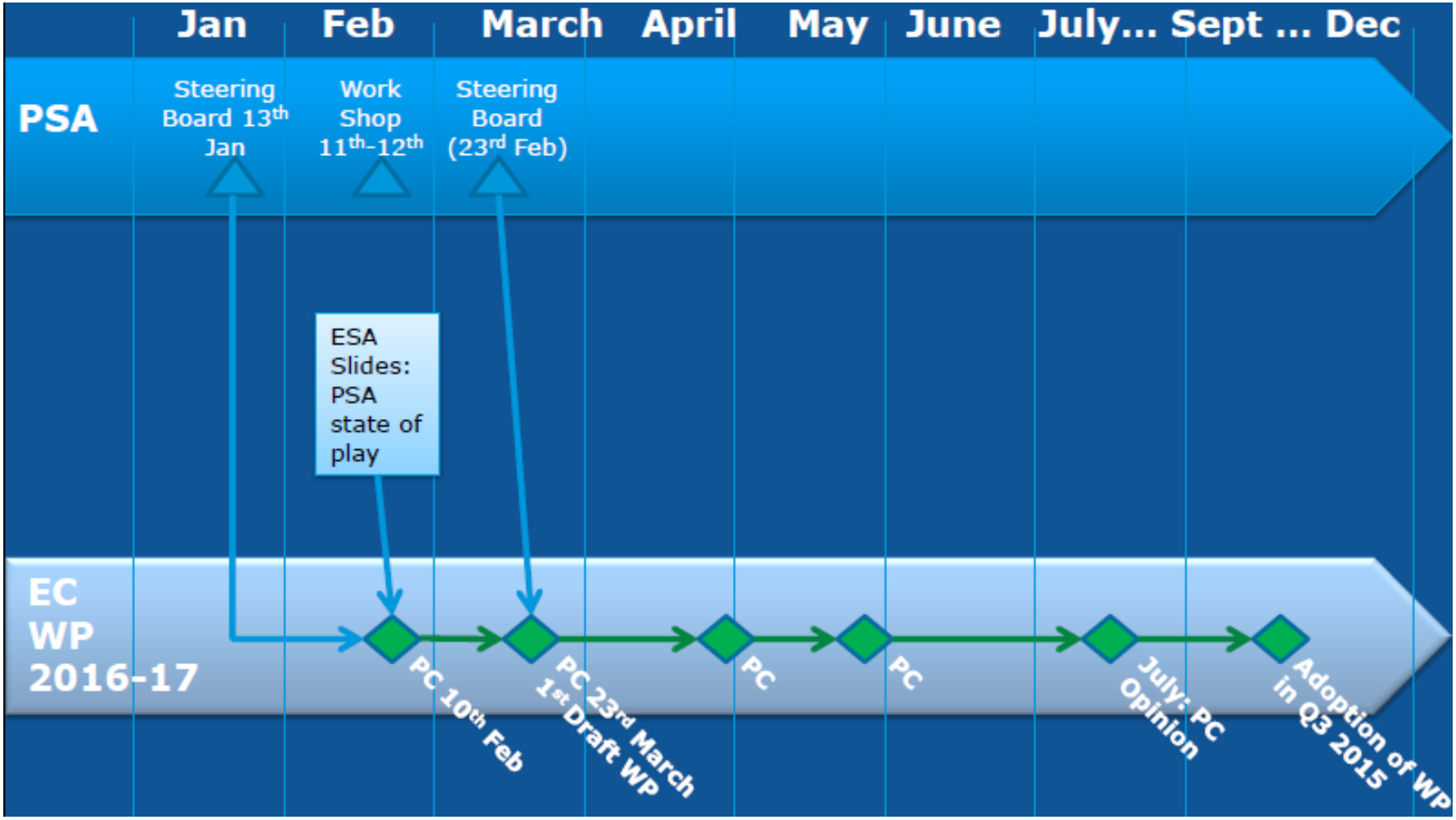
PERASPERA - Next Steps



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WP2016-2017 – High priority topics for transversal BUILDING BLOCKS

TERRESTRIAL SUPPORT EQUIPMENT (HIGHEST PRIORITY)

- ❑ Earth analogues sites (mandatory for rovers, mission control and operators)
- ❑ physical robot test beds (interfaces and performances in less conventional scenarios).

BASIC SOFTWARE

- ❑ Robotic control of operational systems (orbital or planetary)
- ❑ Dynamic SW architecture, modular design, verification and validation
- ❑ Protocols for space robotics

SENSOR SUITES

- ❑ Smart integration of sensors for robotic exploration

ROBOT AUTONOMY

- ❑ Building blocks for increasing autonomy
- ❑ Long range robotic mobility and autonomy

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Thank you for your attention

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