



Electric Propulsion Strategic Research Cluster

HORIZON 2020 SPACE

EPIC Workshop – 15-17 October 2018 – London
Florence Bérourd REA B1 Space Unit



Electric Propulsion Strategic Research Cluster

SRC Activities and Operational Grants

EPIC Workshop

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B1 Space Unit

Strategic Research Cluster in operation

How the SRC tool actually works for Electric Propulsion

- *The actors*
- *OG implementation, lessons learned after 18 months*
- *Impact of Evolutions of the market on the SRC*
- *How the SRC mechanism works and adapts*

The actors of SRCs

A Strategic Research Cluster implements a multiannual strategic agenda in a key research area through a system of interconnected grants:

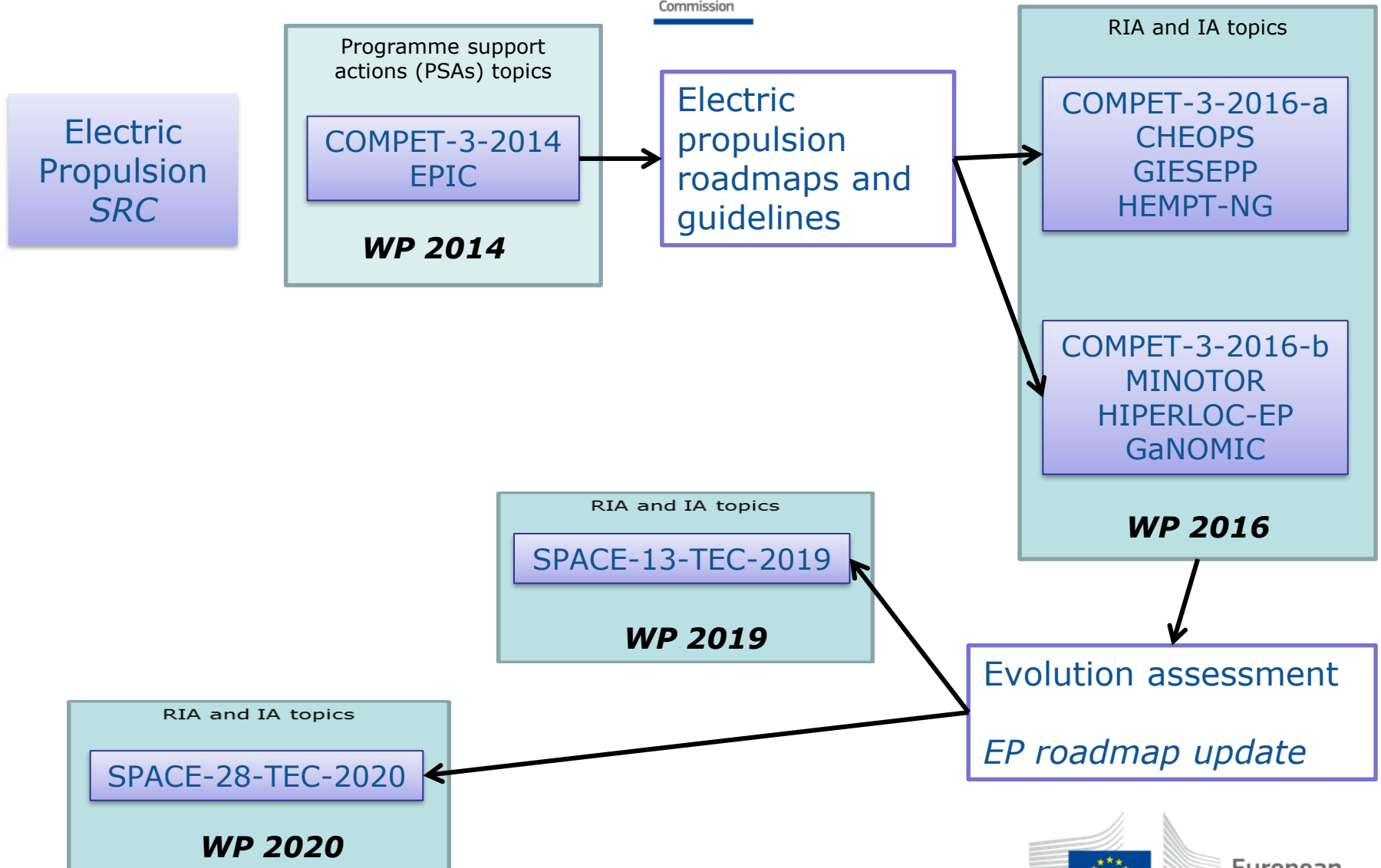
- “Programme Support Activity” (PSA): **EPIC**
 - Prepares a roadmap and implementation plan for the whole SRC
 - Advises the Commission on definition of calls for operational grants
 - Facilitates and supervises the coordination of grants
 - Assesses the evolution of operational grants in the SRC context
 - Advises the REA and EC on technical and programmatic matters
- Several "**operational grants**":
 - Address different technological challenges identified in the roadmap.
 - Separate projects but with obligation to coordinate/cooperate within the cluster
 - The expected results of the individual grants would, when taken together, achieve the overall objective of the SRC.
- An SRC Key feature is the coordination between grants
 - Formalised in a **collaboration agreement** and in the work plans of individual grants
 - Key role of PSA to facilitate and supervise coordination

The actors of SRCs

- **REA** responsibility
 - Proposal evaluation using independent experts
 - Contract preparation
 - Grant monitoring, Administrative and Technical
 - Feedback to the Commission
- **Commission** responsibility : Space Policy
 - Preparation of future calls (based on advice from the PSA and REA)
 - Overall assessment of the SRC instrument



European
Commission



Other on-going H2020 funded projects not in the SRC

- FETOPEN – 1 2016-2017 - **DISCOVERER**

Univ. Manchester + partners – 5,72m€ - 1/1/17 51 months
Air breathing Electric Propulsion for low orbit LEO S/C

- SME Instrument 2017 ENPULSION – **IFM micro thruster**

AMR Propulsion Innovations – 1,17 m€ - 1/7/17 24 months
FEEP nano thruster for cubesats.

- *SME Instrument 2018* **EMBRACE**

ThrustMe – 2,4m€ - 1/8/2018 24 months

Gridded ion technology. Product for MicroSat and SmallSat.

- **SPACE-10-TEC-2018** *Technologies for European non-dependence and competitiveness* - Critical technologies identified by the Commission-ESA-EDA Joint Task Force (JTF) JTF-2018/20-16 Active discrete power components [U14]
Under GAP – European GaN transistor process for Power applications

Implementation of the OGs – LL@M18

- *Incremental OGs follow the milestones of space systems development projects*
 - **Reviews led by OGs, PSA experts & REA part in review panel**
 - **Relevant ECSS and industry standards**
 - **Monitoring of expected impacts wrt SRC objectives**
 - **But market evolution, cost, performance & schedule trade-offs can influence GA's target performances**
- *Disruptive OGs have feasibility and innovation challenges*
 - **Focused on disruptive thruster concept or disruptive transversal technology**
 - **Reviews are linked to research and technology milestones**
- *Access to confidential information between partners and IPR management is a concern and is addressed.*

Market is constantly evolving

- *Market is monitored by all projects*
 - **Adaptation of the projects' objectives to meet demand**
 - **Focus on different market segments depending on technology**
- *Market changes may impact the EP roadmap*
 - **Changes to the roadmap are implemented through PSA**
 - **This workshop works as one input**
 - **Possible impact on SRC schedule or performance requirements**
- *EU Non dependence is important for achieving SRC objectives*

The SRC coordination mechanism

- *The multiannual agenda allows to take changes into account*
 - **Disruptive: the 2nd call was pushed forward to 2019 and redesigned to fit better the need of funding both low and medium TRL**
 - **Incremental: the 2nd Call will be designed to support the SRC objective of European competitiveness in electric propulsion at world level within the 2020-2030 timeframe**
- *So far synergies between SRC projects have not led to cooperation between projects*
- *Coordination for dissemination is achieved*



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**Thank you
for your attention**

Find out more:

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