



**2019 Call**

# Space Electric Propulsion Technology SRC



EPIC PSA

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## Outline

*Recall of the Space Electric Propulsion SRC*

**EPIC PSA main activities**

**SRC EPIC Roadmap & SRC OGS**

*Scope of the 2019 SRC Call*

**Disruptive Technologies**

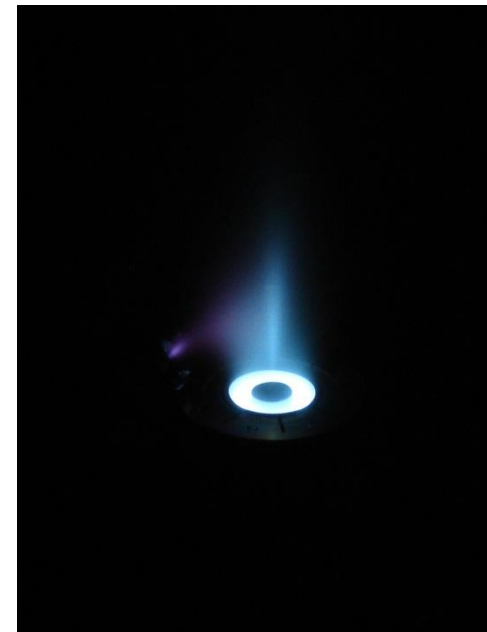
*Content of the 2019 SRC Call*

**Promising EP thrusters**

**Transversal EP technologies**

**To be kept in mind**

**Collaboration Agreement**





## EPIC Programme Support Activity

### Electric Propulsion Innovation and Competitiveness

- *EPIC (grant n. 640199) is the PSA project funded as part of the H2020 Space WP 2014+2019; 5+? years duration.*
- *EP SRC Challenge: to enable major advances in Electric Propulsion (EP) for in-space operations and transportation, in order to contribute to guarantee the leadership through competitiveness and non-dependence of European capabilities in electric propulsion at world level within the 2020-2030 timeframe, always in coherence with the existing and planned developments at national, commercial and ESA level.*

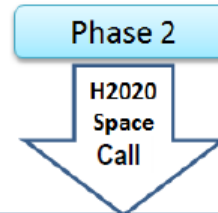
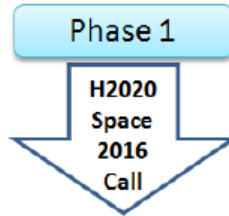


## EPIC PSA Main tasks:

- *Evaluation on the **state of the art** and needs of stakeholders*
- *Definition and refinement of **SRC roadmap** and master plan for implementation*
- *Definition of **Call topics and related documents** for H2020 Work Programmes for funding of SRC Operational Grants*
- ***SRC Risk management***
- *Definition of the **collaboration aspects** between SRC grants, including the PSA*
- ***Assessment of the progress and results** of the Operational Grants, in the context of the SRC objectives*
- ***Dissemination and education** activities*

## SRC EPIC Roadmap

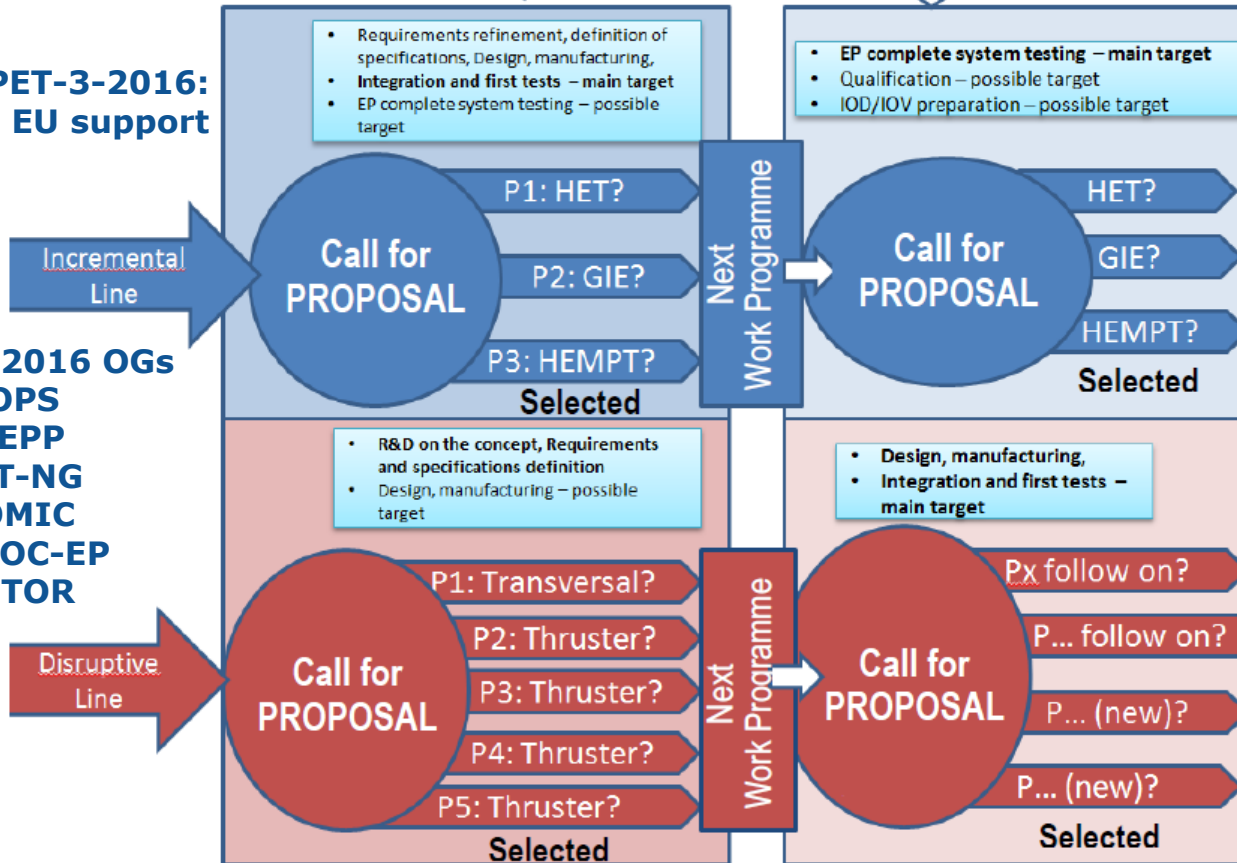
**SRC Call WP 2016**  
**COMPET-3-2016-a (IA)**  
**Incremental Technologies;**  
**COMPET-3-2016-b (RIA)**  
**Disruptive Technologies**



**SRC Call WP 2019 & 2020**  
**SPACE-13-TEC-2019 (RIA) &**  
**SPACE-28-TEC-2020 (IA)**

**COMPET-3-2016:**  
**28,16 M€ EU support**

**COMPET-3-2016 OGS**  
**CHEOPS**  
**GIESEPP**  
**HEMPT-NG**  
**GANOMIC**  
**HIPERLOC-EP**  
**MINOTOR**



**Disruptive Technologies**  
**SPACE-13-TEC-2019:**  
**10 M€ (Indicative)**  
**(RIA)**

**Incremental Technologies**  
**SPACE-28-TEC-2020:**  
**[24] M€ (Indicative)**  
**(IA)**



## SPACE-13-TEC-2019

### SRC In Space electrical propulsion and station keeping / Disruptive Technologies

The **Disruptive Technologies**, are very promising EP thruster concepts or transversal EP technologies which could disrupt the propulsion sector by **providing a radical improvement in performance and/or cost reduction**, leading to become the preferred technology for certain applications; **or enable new markets**.

- **Promising EP thrusters** are for example: Helicon Plasma Thrusters (HPT), Electron Cyclotron Resonance plasma thrusters (ECR), Magneto Plasma Dynamic thrusters (MPD), Pulsed Plasma Thrusters (PPT), micro-propulsion electric thrusters, etc.
- **Transversal EP technologies** are for example disruptive electric propulsion systems, such as power condition electronics, direct drive, magnetic nozzles, alternative propellants, testing techniques, materials, etc.

**Recommended project size**  
**Indicative budget**  
Type of action

**1 M€ for activities starting from TRL<4**

**1 to 2 M€ for activities starting from TRL≥4**

**10 M€**

Research and Innovation Actions

Participation of industry, including SMEs, is encouraged



## SPACE-13-TEC-2019

### To be kept in mind:

- *Proposals may target any part of the **technology readiness levels (TRL) scale**, in particular: Breakthrough technologies starting at low or very low TRL ( $<4$ ); Promising technologies starting at higher TRL ( $\geq 4$ ).*
- *Proposals shall include a **market analysis** detailing the targeted applications and the specific key advantages of the proposed technology.*
- *Proposals **shall not be based on technology lines mentioned in the call topic COMPET-3-2016-a** for incremental EP technologies (HET, GIE, HEMPT).*
- *Requesting contribution from EU of **EUR 1 million for activities starting from TRL  $< 4$**  and of **EUR 1 to 2 million for activities starting from TRL  $\geq 4$** .*
- *Type of Action: **Research and Innovation Action (RIA)***
- *Indicative budget: **EUR million 10.0***
- *Opening: **16 Oct 2018**; Deadline: **12 Mar 2019***



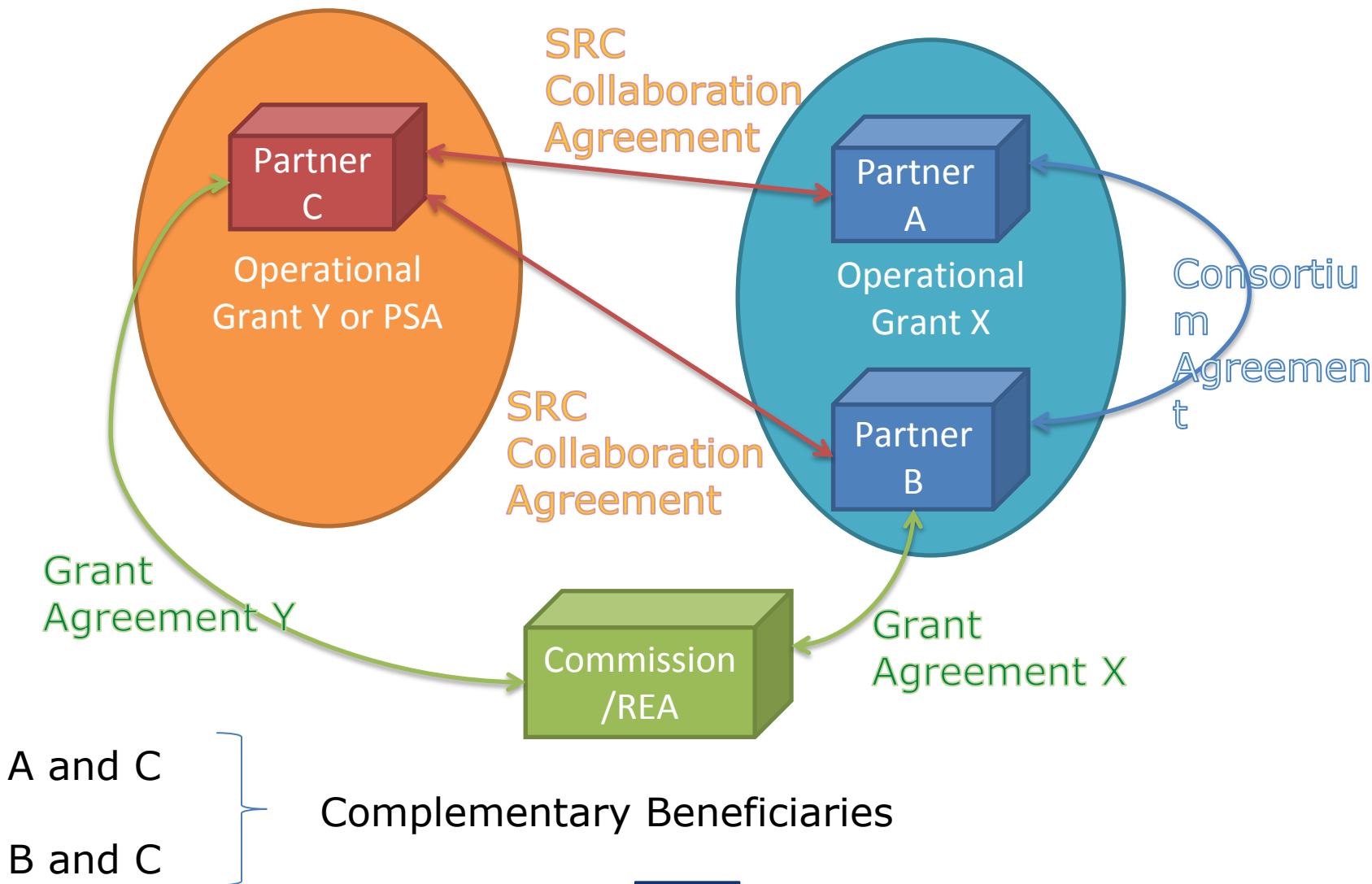
## SPACE-13-TEC-2019

### To be kept in mind:

- **Eligibility and admissibility conditions:** *The conditions are described in General Annexes B and C of the work programme. The following exceptions apply:*
  - **No beneficiaries of the grant agreement EPIC (640199) will participate in consortia of proposals submitted under this topic of the call for proposals, with the exception of the DLR research institutes, Eurospace and SME4Space VZW.**
  - **A maximum of two projects for transversal technologies shall be selected for funding**
- **Grant Conditions:** *Grants awarded under this topic will be complementary to each other and complementary to grants awarded under topic COMPET-3-2014, sub-topic COMPET-3-2016-a and sub-topic COMPET-3-2016-b ("complementary grants"). In order to ensure a smooth and successful implementation of this Strategic Research Cluster (SRC), the beneficiaries of complementary grants ("complementary beneficiaries") shall conclude a written **"collaboration agreement"**.*



# SRC Collaboration Agreement





# Many thanks for your attention

For more information on Horizon 2020 Space:  
<https://ec.europa.eu/programmes/horizon2020/en/h2020-section/space>

For more information on the EPIC PSA activities:  
[www.epic-src.eu](http://www.epic-src.eu)

@EPICCh2020



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