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# Horizon 2020 Work Programme for Research & Innovation 2018-2020

## Space technologies, science and exploration

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# SPACE-20-SCI-2018: Scientific instrumentation and technologies enabling space science and exploration

## What?

- **Research and innovation actions (RIA):** The challenge is to foster cooperation between scientific, engineering and industrial teams, within and outside Europe, to develop instrumentation and technologies enabling space science and exploration, including planetary exploration, missions, stimulating synergies between space and ground-based observations combining and reusing different technologies, techniques and methodologies.

## How much?

- Total budget: **10 million EUR**
- Estimated amount per proposal:  
**2-3 million EUR**
- Funding rate: **100%**

This is a traditionally highly oversubscribed topic  
Address carefully all the implementation aspects, for they may be decisive for funding decision

# SPACE-20-SCI-2018: Scientific instrumentation and technologies enabling space science and exploration

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**Specific Challenge:** Great advances in the knowledge of the Universe and the Solar system have been enabled by the data delivered by space science as well as human and robotic exploration missions and ground-based space observatories. Europe contributed to these endeavours by developing and implementing world-class space missions and ground-based infrastructure, in the context of national, ESA and ESO scientific programmes, and often in partnership with major international players.

Continued collaborative efforts are needed to prepare the scientific instruments and technologies that will enable future space science and exploration missions.

The challenge is to foster cooperation between scientific, engineering and industrial teams, within and outside Europe, to develop instrumentation and technologies enabling space science and exploration, including planetary exploration, missions, stimulating synergies between space and ground-based observations combining and reusing different technologies, techniques and methodologies.

**Scope:** The development of instrumentation and technologies enabling space science and exploration missions may address early scientific instrumentation and technology development associated to future space science and exploration, including planetary exploration missions. The development of new and innovative approaches, such as the use of Cubesats and other small space platforms, including planetary entry probe, or the use of Commercial off-the-shelf (COTS) components is encouraged as long as it leads or contributes to the implementation of space science and exploration with significant scientific outputs.

Advances are expected in support to on-site activities such as landing, planetary navigation, sample collection and processing or in-situ analysis.

Activities should target primarily European and European-led space science and exploration missions or internationally-led missions where the participation of European partners provides demonstrated added-value in terms of technological development and scientific output.

The Commission considers that proposals requesting a contribution from the EU of between EUR 2 and 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

### Expected Impact:

- Increased collaboration of scientific, engineering and industrial teams both within and outside Europe across different domains;
- Enable breakthroughs in terms of the capacity to exploit scientific space data and in terms of developing scientific instrumentation and technologies used in space science and exploration missions.
- Validation of novel human spaceflight and robotic space instrumentation and technologies through analogue tests.

**Type of Action:** Research and Innovation action

## Excellence

- Prepare the **scientific instruments and technologies** that will enable **future space science and exploration missions**, including **planetary exploration**
- **Synergies** between space and ground-based observations
- Advances in **support to on-site activities**
- **Combine and reuse**
- **Innovative approaches**, e.g. Cubesats, small space platforms, planetary entry probe, COTS components.
- Target primarily **European and European-led missions**

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  - capacity to **exploit scientific space data**
  - developing scientific instrumentation and technologies used in **space science and exploration missions**
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# Thank you!

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