

# Space and Sustainability

A BMK-ESPI collaboration to establish  
a new “Centre of Excellence” at ESPI





# A new "Centre of Excellence" for Space and Sustainability to be established at ESPI.

Both the Earth environment and the orbital environment have seen grave degradations and rising pollution, which threaten their ecosystems and generate risks and opportunities for the space sector and beyond. The Austrian Space Strategy's main objective is to make Austria a pioneer and committed actor on the issue of Sustainable Development on Earth and in space.

**The Austrian Space Strategy states that "space and sustainability" will be established as a core topic at ESPI.**

In collaboration with the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), a Centre of Excellence for Space and Sustainability will be established at ESPI, fostering impactful policy-making in Austria, in Europe and globally.





## Objectives

The Centre of Excellence for Space and Sustainability (CESS) will aim to develop interdisciplinary expertise and know-how on the role of space to support sustainable development on Earth; and will also address sustainability issues in outer space:

**Promoting sustainability on Earth and sustainability in outer space at the European and global levels;**

**Facilitating research on both the role of space in supporting sustainable development and the green transition; as well as space sustainability issues;**

**Fostering the development of a network of European stakeholders interested in supporting sustainability on Earth and in space;**

**Acting as a supporting entity for European decision makers by providing knowledge, recommendations, and advice on sustainability issues.**

## Themes to be addressed:

### Sustainability on Earth

- Smart Cities, Mobility and Agriculture
- Energy Transition
- Green Deal
- Climate Action
- Responsible Space Sector
- Sustainable Development Goals
- Environmental Monitoring and Management
- Sustainable Economic Growth
- ESG and CSR in Space

### Sustainability in Space

- Space Traffic Management
- Orbital Capacity
- In-Orbit Servicing
- Space Weather
- Responsible Behaviour in Space
- Space Law
- Zero Debris
- Space Threats
- Space Situational Awareness

## Sustainability on Earth

As the effects of climate change become more visible and threaten human health, international security, and the economy, states have defined targets to reach NetZero. Climate science assessed by the IPCC is the scientific basis for climate policies worldwide. This scientific knowledge is based on space-based data, which in turn underpins policy processes.

However, challenges remain to foster the uptake of space-based data to support the green transition and sustainable economic development. In addition, space applications are key assets for effective and timely response to extreme weather events and natural disasters, which are growing in frequency and severity as a result of the climate crisis. In parallel, the space industry has an environmental footprint on Earth that ought to be better addressed.

## Sustainability in Space

**x7**

In the past ten years, the number of active satellites was multiplied by x7...

**x2**

The number of debris doubled in 15 years.

**x12**

...and multiplied by x12 in LEO only.

**1,000,000**

The International Telecommunications Union (ITU) states have registered radio frequencies for the launch of over 1 million satellites by 2029. Currently less than 10,000 satellites orbit our planet.



In parallel, there has been a rise in both the number of launches and irresponsible behaviours in space, which lead to further debris creation and risks of collisions and interferences. Many challenges remain as economic, legal, or diplomatic incentives to remove space debris continue to develop. In addition, there are limited capabilities for space situational awareness and no global framework for space traffic management.