

Sustainable Space for Sustainability on Earth



organized by the United Nations Office for Outer Space Affairs (UNOOSA)
in collaboration with Germany, Peru and United Arab Emirates

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Fact Sheet

What is the UN World Space Forum?

The United Nations World Space Forum is a premier event that brings together experts, policymakers and stakeholders from a diverse range of sectors, including government, private industry, academia, NGOs and international organizations. Launched in November 2019, the World Space Forum is hosted by the United Nations Office for Outer Space Affairs (UNOOSA) and provides a platform for addressing the growing interest in the future of space and international cooperation.

Why was the Topic "Sustainable Space for Sustainability on Earth" chosen?

Space technologies play an integral role in our daily lives, providing data and services from satellites that support everything from communications to weather forecasting. However, the growing issue of space debris and rising space traffic threaten the long-term sustainability of Earth's orbital environment and space exploration. In September 2024, world leaders at the United Nations adopted the "UN Pact for the Future", which is a global commitment to accelerate progress on sustainable development and address pressing global challenges through collective action and international cooperation, calls, among many other topics, for strengthened international collaboration in the peaceful exploration and use of outer space for the benefit of all. Research highlights that approximately 40% of the 169 targets within the Sustainable Development Goals (SDGs) rely significantly on satellite-based navigation and earth observation technologies. The United Nations is committed to leveraging space innovations to achieve global sustainability goals, with increasing attention on the unique role space technologies can play in advancing these objectives.

What are the urgent Sustainability Challenges in Outer Space?

Space debris: Defunct satellites and spent rocket stages are posing significant threats to operational satellites, which are vital for global communication, navigation, and weather monitoring. Over 36,000 objects larger than 10 cm currently orbit Earth, along with 330 million smaller fragments ranging from 1 to 99 mm.

Space Traffic: As of November 2024, over 13,000 active and inactive satellites orbit Earth, a significant increase from 6,250 in 2021. This surge is largely due to the deployment of extensive communication satellite constellations. The escalating congestion in low Earth orbit necessitates the immediate implementation of comprehensive international space traffic systems to ensure the safety and sustainability of space operations.

What can Space do for Sustainability on Earth?

Satellite-based technologies offer critical tools for addressing global challenges such as climate change, disaster management, and sustainable development. Earth observation satellites provide invaluable data for climate action, while satellite communication networks support global connectivity during emergencies, making them essential to fostering resilience and promoting sustainable development across the world. However, access to space data and technologies needs to be improved on a global scale.

What are the discussions of the World Space Forum in Bonn?

The World Space Forum features several sessions focused on pressing issues:

- **Space for SDGs:** How can space technologies support sustainable development by providing essential data for climate action and disaster management?
- **Sustainable Space Activities:** How can space activities be managed sustainably and safely, particularly in light of rising space debris and increasing space traffic? Which technologies are promising for removing space debris from orbits?
- **Sustainable Lunar Exploration:** How can we ensure that lunar and celestial body exploration is conducted in a safe, sustainable, and peaceful manner?
- **Strengthening Space Governance:** What legal and policy frameworks are needed to manage space traffic, space debris, and space resources, in collaboration with the private sector, civil society, and other stakeholders?

A conference report comprising key recommendations and discussions will be submitted to the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) for further action and consideration.

