



Analyzing the development path of emerging space ecosystem: Opportunities and Challenges for Space Sustainability at Azercosmos

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The Space2030 Agenda

“The Space2030’ Agenda: space as a driver of sustainable development” adopted in 2021 by the United Nations General Assembly, recognizes “space tools” to be highly relevant in accomplishing the 2030 Agenda for Sustainable Development.

Space2030 provides a long-term vision to integrate space as a tool for development and to bridge the gaps in accessing space technologies and services between established space nations and emerging space nations. It has four main pillars for action and development:



- **Space economy:** economic benefits of space
- **Space Society:** societal benefits of space activities
- **Space accessibility:** access to space for all
- **Space diplomacy:** international collaboration and partnerships on space activities

Space and Sustainable Development Goals (SDGs)



SPACE LAW FOR NEW SPACE ACTORS FACILITATES Space Law and Policy Technical Advisory Missions, and helps Member States implement international treaties and commitments stemming from the Committee on the Peaceful Uses of Outer Space. In developing expertise on international space law, and engaging key decision-makers on the benefits of robust regulation, UNOOSA supports emerging space-faring nations gain the legal tools to underpin their national space activities, which builds trust and confidence for investors and fosters the sustainable use of outer space.



SPACE AND GLOBAL HEALTH is the focus of the General Assembly 77/120, which encourages greater coordination and cooperation among all relevant actors in key space activities regarding global health that foster the exchange of ideas & data between the space and health sectors. UNOOSA works to strengthen capacity-building and networking in these areas.



PARTNERSHIPS with Member States are essential for UNOOSA's role as Secretariat of the Committee on the Peaceful Uses of Outer Space, which has negotiated global governance of outer space activities, and in our provision of unique to opportunities to access the benefits of space policy, science, and technology. From deploying satellites from the International Space Station, to developing space law, as well as the use of earth observation to tackle climate change, UNOOSA's programme supports all Member States on their space-faring journey.



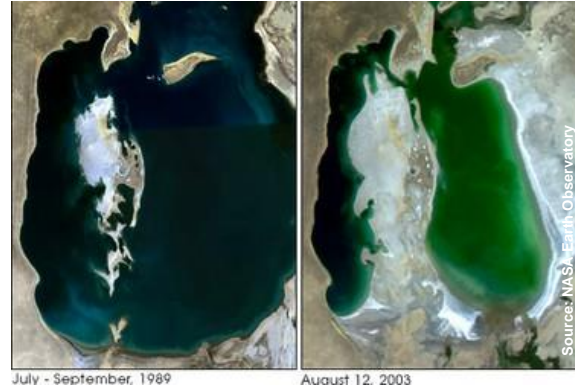
SPACE SOLUTIONS COMPENDIUM IS an online database of space solutions in support of the SDGs. The Compendium contributes to sharing good practices, establishing partnerships with industry, and empowering Member States to access and understand how space-based solutions can be used to achieve the sustainable development goals.



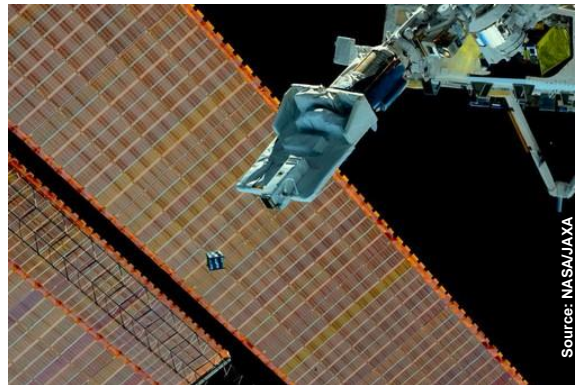
UN-SPIDER EMPOWERS countries to utilise Earth Observation, communications, and navigation satellites to build institutional resilience in all the phases of the disaster management cycle. Guidance is given on how to invoke International Emergency Response Mechanisms and strengthen national capacities in the use of space.



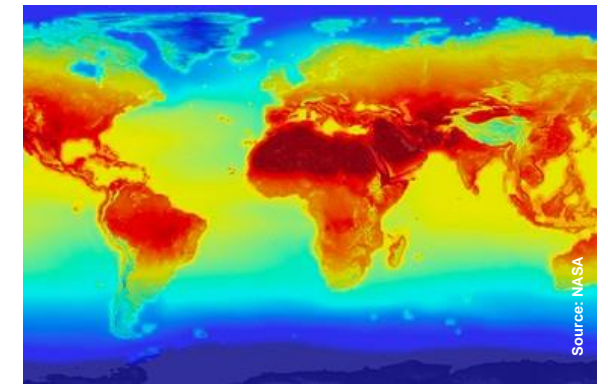
SPACE4WOMEN PROMOTES access to space as well as Science, Technology, Engineering, and Mathematics education and careers for women and girls around the world. Only 1 in 5 space industry workers are women and women makeup only 11% of astronauts globally. To address this disparity, Space4Women brings together over 152 mentors to support their mentees in pursuing space as a career.



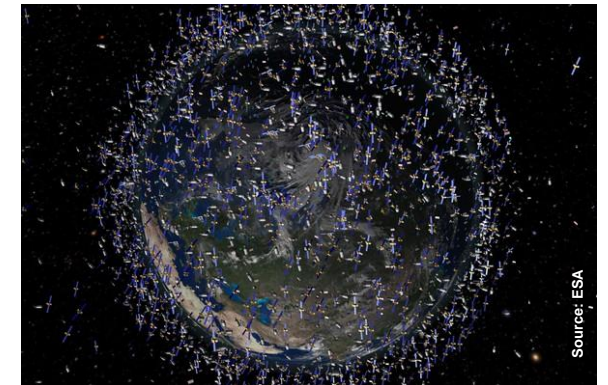
SPACE4WATER IS an inter-disciplinary, multi-stakeholder platform connecting experts in the use of space technology for water. UNOOSA maintains a web, multi-stakeholder platform connecting experts in the use of space tech for water. UNOOSA maintains an online hub, hosts meetings and an annual scientific conference series. Examples of space tech for water include monitoring surface water extent, groundwater resources, and drought monitoring based on satellite data.



ACCESS TO SPACE FOR ALL PROVIDES unique opportunities for Member States to access the benefits of space science, technology, and applications. UNOOSA's partnerships support hands-on opportunities on Earth and on-orbit, such as experiments in hypergravity and microgravity conditions; the development and deployment of small satellites; and educational programmes like fellowships. The knowledge and skills gained can help build a space-capable workforce and bring socioeconomic benefits.



SPACE4CLIMATE ACTION FULFILLS a niche role in facilitating international cooperation and the wider use of space-based technologies to implement climate change mitigation, adaptation, and resilience initiatives. UNOOSA delivers targeted capacity-building, hosts an online portal, and developed a strategic mapping exercise "*International Efforts using Space for Climate Action*", which supports policy-makers to develop multilateral strategies, partnerships, and research.



THE UN REGISTER OF OBJECTS LAUNCHED INTO OUTER SPACE is a key transparency mechanism, and as a treaty obligation, it helps Member States and industry understand the fundamental question of "Who owns what in space?". Member States registered 2050 functional space objects (probes, satellites, etc.) in 2022. UNOOSA maintains the Register on behalf of the Secretary-General.



About Azercosmos

Operating as the first and only satellite operator in the region since 2010 and as the Space Agency of the Republic of Azerbaijan as of 2021, we are committed to creating a better connected and secure world for future generations.

While building the local know-how as the leading force behind the development of innovative space ecosystem in Azerbaijan, we also aim to emerge as one of the driving forces in the global space industry by engaging in a wide range of R&D activities as well as developing GIS solutions, cooperating with international stakeholders and engaging in major global projects.



>200

Employees



204

Local and
international
stakeholders



>80%

Satellite utilisation
rate



90%

Revenues from
export

Key initiatives in the sustainability journey

In 2023, Azercosmos joined the **UN Global Compact initiative in Azerbaijan**.

By joining the Global Compact, Azercosmos have the opportunity to plan, implement sustainability in the field of space activities, strengthen its internal capabilities and promote its expertise to the wider business community and other stakeholders internationally. Also, exchange of experience between Azercosmos and the UN Global Compact, and discussions on Azercosmos' report on the assessment of the effects of global climate changes on the Republic of Azerbaijan are planned.



Key initiatives in the sustainability journey

In 2024, Azercosmos announced adoption of its **own Green Policy document.**

By joining United Nations Global Compact initiatives last year, Azercosmos established a goal to minimize its impact on the environment during its operations, the development and launch of satellites, their activities in orbit, and the management of space objects.

Goals

Key goals of our Green Policy:

- 1. General:** our Space Agency - Azercosmos is committed to minimizing its environmental impact across its operations, spacecraft development, launch and deorbit activities, and facility management. Similarly, we will continuously search for innovative solutions and implement best practices to optimize resource consumption, reduce waste generation, and greenhouse gas emissions.
- 2. Collaboration and Partnerships:** Azercosmos will actively engage with space industry partners, academic institutions, suppliers and customers, and other stakeholders to advance green policy initiatives, share knowledge and expertise.
- 3. Compliance and Accountability:** We will remain adherent to relevant environmental laws, regulations, international standards for green initiatives and international agreements that the Government of Azerbaijan is part of, while holding ourselves accountable for achieving long-term sustainability.
- 4. Education and Outreach:** We will promote awareness and understanding of environmental issues related to activities within space industry and inspire the next generation of scientists, engineers, and leaders to prioritize green policy.

Climate Change - an Eye from Space platform

Climate Change - an Eye from Space platform has been presented to the public in 2024. This platform offers space monitoring of the effects of global Climate Change on the Republic of Azerbaijan. A comparative analysis of climate change based on satellite imagery has been conducted on the digital platform prepared in two languages. The analyses on the platform cover five directions – snow cover and glaciers, water resources, drought and desertification, agricultural lands, and atmospheric changes.



You can get acquainted with the "Climate Change - an Eye from Space" digital platform by visiting the link: <http://climatereport.az/>

Vision

At Azercosmos, we strive to cultivate a diverse, inclusive, and equitable workplace where every individual has the opportunity to thrive, grow, and succeed. By embracing diversity in all its forms and fostering an environment of inclusion and equity, we unlock the full potential of our workforce.

This commitment directly aligns with our agency's mission of providing advanced technological solutions for global peace, prosperity, and sustainable development. Through our diverse perspectives and collaborative efforts, we propel Azercosmos to new heights of excellence in the space industry, ultimately contributing to a better future for all.



Space Mentorship for Women

“**Space Mentorship for Women**” program, held within the framework of the partnership between the Space Commerce Institute and Azercosmos in 2024.

The main goal of this mentoring program, held for the first time in our country, is to discover the **full potential of women** in the space field and support their participation in global collaboration.



Space Ecosystem Development in Azerbaijan

CanSat Azerbaijan

Teknofest Azerbaijan

**Earth Observation
Competition**

Space Center

Space Academy

SGAC local events

World Space Week

**Women Mentorship
program**



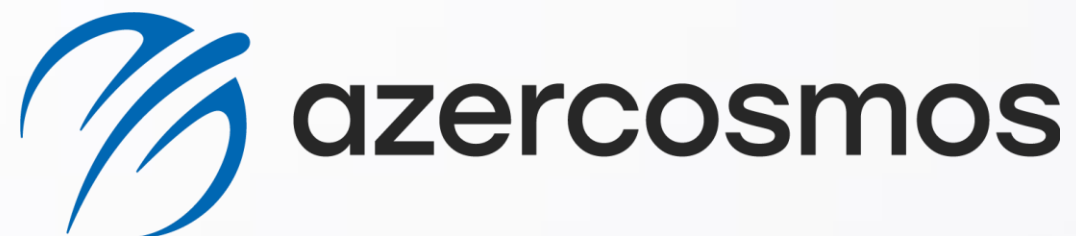
Challenges and opportunities of local ecosystem

Key Challenges

- ✂ Space Sustainability Awareness
- ✂ Developing the Ecosystem for Space Sustainability
- ✂ Budget Constraints for Sustainability Initiatives

Key Opportunities

- ✂ Collaboration with the international organizations
- ✂ Educational and Research Initiatives
- ✂ Earth Observation satellites and its data



Thank you !
