



SPACE LAW SYMPOSIUM 2022

NATIONAL LAWS &
REGULATIONS TO ENSURE
SPACE SUSTAINABILITY

INTERNATIONAL INSTITUTE OF AIR AND SPACE LAW
& EUROPEAN CENTRE FOR SPACE LAW





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INTRODUCTION



RUVIMBO SAMANGA, AGRI SPACE AFRICA
The Role of the Young Generations in the Quest for Space Sustainability



TOTAL YOUTH POPULATION IN AFRICA

Africa's population will double to 2.5 billion people by 2050.





SUSTAINABLE DEVELOPMENT

DEFINITION



ENSURING GENERATIONAL FUTURES

The Brundtland Commission on environment and development defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own need.”

ECOLOGICAL



SOCIAL



ECONOMIC





WHAT IS SPACE SUSTAINABILITY?

DEFINITION

ENSURING SPACE ENVIRONMENT LONGEVITY

According to the **Secure World Foundation** space sustainability is "ensuring that all humanity can continue to use outer space for peaceful purposes and socioeconomic benefit now and in the long term."

SAFETY



HEALTH



VIABILITY





INDUSTRY PROJECTIONS

GLOBAL GROWTH

According to the **CU Boulder, Space Sustainability Initiative**, the space business is expected to grow four-fold in less than a generation.

According to **Morgan Stanley** with projected revenues of up to \$1.1 trillion by 2040, the global space industry is set to grow faster and larger than at any other time in human history.

MORE THAN
1000
SATELLITES
ORBIT THE
EARTH

SECURE WORLD
FOUNDATION



1700
SATELLITES
LAUNCHED
PER YEAR BY
2030

EUROCONSULT



80 COUNTRIES
WITH ACTIVE
SPACE
PROGRAMS

UNOOSA





GLOBAL CASE STUDIES

PUBLIC INITIATIVES ON THE CUSP OF SPACE
SUSTAINABILITY INNOVATION:

1 LTS GUIDELINES

A UK national space strategy at the forefront of modern regulation, developing so-called proximity missions for amongst others, in-orbit debris removal.

2 ARTEMIS ACCORDS

Singapore became the 18th nation, and first Southeast Asian country to join the Artemis Accords, to promote a peaceful, sustainable and beneficial use of space.

3 3SOS

Safety, Security and Sustainability of Outer Space (3SOS) public diplomacy initiative will promote “ethical conduct” in space.

4 AFRICAN SPACE POLICY

Emphasis on space applications for the SDGs, which necessitates equitable access of the orbital resource.





GLOBAL CASE STUDIES

PRIVATE INITIATIVES ON THE CUSP OF SPACE
SUSTAINABILITY INNOVATION:

1 CU BOULDER

Space Sustainability Initiative at CU Boulder identified need for a market analysis of the commercial space industry to determine the costs of being a **responsible** actor.

2 WEF

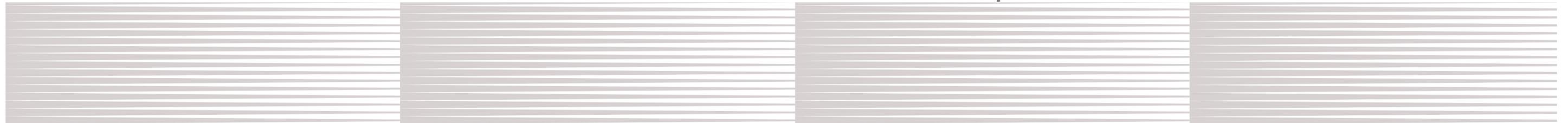
Space Sustainability Rating by the WEF to describe mission sustainability through mathematical model & **transparency** in making aggregate score available.

3 VIASAT

Various satellite operators calling for greater interoperability and legal manoeuvres to promote interoperability & **international cooperation**.

4 PRIVATEER

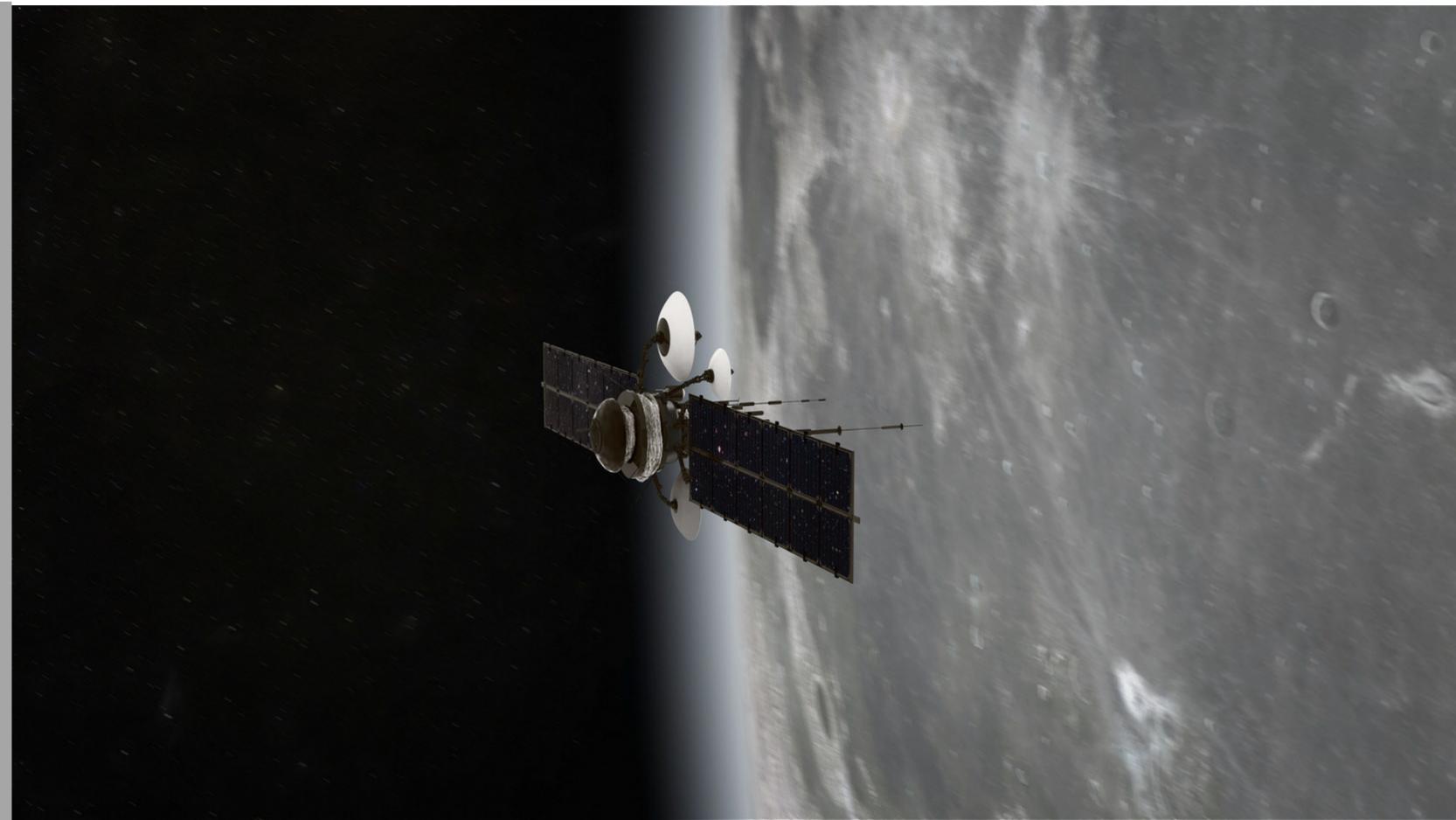
Space Situational Awareness, understanding and taking **accountability** of the services as well as risks of collision that space affords us.





CALL TO ACTION

CORE ELEMENTS FOR SPACE SUSTAINABILITY



1

EQUITABLE SHARING OF ORBITAL RESOURCE

- Enable developing countries
- Equitable and limited allocation
- Economic vs environmental impact
- Technology and policy development

2

CRITICAL TECHNOLOGIES FOR CLEAN SPACE

- Space situational awareness
- Registration of space objects
- Technology transfer and interoperability

3

CREATING A REUSABLE SPACE ECOSYSTEM

- Create a reusable ecosystem of suppliers, manufacturers and rideshare opportunities for payloads
- Combining mission planning and supply chain management services



YOUTH PARTICIPATION

PRACTICAL ROLES YOUTH CAN PLAY IN SPACE SUSTAINIBILITY:

The youth are encouraged to make best use of volunteer opportunities as advocacy platforms and career stepping stones.

ADVOCACY

Space Safety and Sustainability Project Group, as well as a new Space Generation Advocacy and Policy Platform.

OUTREACH

Volunteering, information-sharing and networking.

ENTREPRENEURSHIP

The youth are creative and enthusiastic, and lending development to cutting edge technologies.

RESEARCH

Supporting technical and policy development i.e. AIAA, IAF, IISL.





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