# Fourth General Assembly (GA4)

*Involving the Global South in space activities*

# ***Research Report***

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*"Out of this world"*

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# Introduction

When discussing space activities, names such as NASA (National Aeronautics and Space Administration), ESA (European Space Agency), SpaceX, and Roscosmos (Russian Federal Space Agency) are likely to come to mind. This is not surprising, as these organisations are among the most successful in the field of space exploration and technology. However, the thing that these (mostly governmental) organisations have in common, is their location in the Global North. This ultimately shows the dominance of this region in space activities.

The dominance of the Global North in space activities creates a complex issue of technological and economic aspects. As most of the countries in the Global South are LEDCs, they face financial, infrastructural, and technical barriers. These barriers limit their participation in space exploration. The overdependence of Northern space agencies is a highly contributing factor that should definitely be kept in mind when resolving this issue, due to its ability to restrict the influence of the Global South regarding space activities. This Research Report contains an overview of this issue in depth, including important key words, the major parties involved, the timeline of events and several possible solutions.

# Definition of Key Terms

## Key term 1: The Global South

There is no definitive definition of the Global South. This therefore means that there is no definitive list of countries. Still, this term is often referred to. The most popular ways are listed below.

G77: One way of identifying countries is to look at the membership of the G77, a group of developing countries established in the 1960s to articulate and promote their collective interests at the United Nations. The group now numbers 134 states from Central and South America, Africa, Asia and Oceania, and refers to itself as the “global south”.

The Non-Aligned Movement (NAM): another way is the NAM, which numbers 120 countries. The NAM is the first political grouping that specifically aims to represent the Global South .

The last way the Global South could be indicated involved the list of 125 countries that attended the first virtual Voice of the Global South summit in India in January 2023 (Voice Of Global South Summit 2023, n.d.)

## Key term 2: LEDCs

This term is often referred to in MUN sessions. LEDCs is the abbreviation of the least economically developed countries. LEDCs can be identified by three main factors. The inhabitants of the country have low incomes; little access to good nutrition, health care, and education and the country's economy is usually farm- or otherwise land-based and therefore unstable (Less Economically Developed Countries, n.d.).

### Key term 3: Space activities
According to Unoosa (n.d.), "space activity" shall mean the launch of a space object into outer space, the operation and operational control of the space object in outer space, and the controlled termination of the space object's operation in outer space and/or its return to Earth, including the procedures for limiting the generation of space debris

### Key term 4: Spacefaring Nations
Countries with the capability to develop, launch, and operate space missions ("Spacefaring," n.d.). According to the organisation Space Crew, there are currently 77 space agencies, 16 of which have launch capabilities (Space Crew, 2024).

### Key term 5: Public-Private Partnerships (PPPs)
In a Public-Private Partnership, companies and government bodies or civil society organisations work together. The partnership may be solely financial (donations and sponsorship), but may also involve a more concrete collaboration. PPP is based on two main principles:

- Both parties invest in the project. In a financial sense (manpower, materials budget) and in an expertise-related sense (knowledge, networks).

- The parties contribute to a societal and often also commercial purpose.

(Public-private Partnership (PPP), n.d.)

## General Overview
The involvement of the Global South in space activities is an issue that has been going on for decades. In this overview, there is focussed on the potential that the Global South has, regarding space activities, but also on the challenges that it faces emerging into the global space community. Historically, space exploration has been dominated by a few key players, primarily the United States, Russia, China, and the European Union. These nations have established extensive space programs and achieved significant milestones. For example, they have had success in manned missions and the development of advanced satellite technology.

### Challenges that the Global South faces
In contrast, countries in the Global South have traditionally had limited engagement in space activities. Financial constraints remain a significant barrier, as space programs require substantial investment. For many developing nations, allocating resources to space exploration can be difficult due to competing needs in healthcare, education, and infrastructure. Additionally, technological barriers present another challenge. The advanced technologies required for space missions are often controlled by a few developed countries and private entities, making it difficult for developing nations to acquire or develop similar capabilities. Infrastructure deficits also pose a problem; many countries in the Global South lack essential facilities, such as launch centres and tracking stations, which are critical for conducting space missions independently.

### Changing perspective towards space technology
Although the Global South struggles with these challenges, this dynamic is changing as more developing nations in this region recognize the benefits of space technology. For example, India has made notable progress with its space agency, ISRO, achieving milestones like the Mars Orbiter Mission (Mangalyaan) and the Chandrayaan missions to the moon. Brazil has also advanced its space capabilities with satellite launch technologies, while Nigeria has successfully launched satellites to enhance communication and environmental monitoring.

### The importance of international cooperation
Despite these advancements, there are still many countries that find it hard to keep up with the expansion of space investigations. International cooperation plays a crucial role in facilitating the participation of the Global South in space activities. Global organisations and space agencies work to provide support through technology transfer, training, and collaborative missions. The United Nations Office for Outer Space Affairs (UNOOSA), for example, promotes equitable access to space technology and fosters international partnerships. Additionally, regional initiatives, such as the African Space Policy and

Strategy, aim to build capacity and support the development of space programs within specific regions.

These combined efforts reflect a growing recognition of the value of inclusive participation in space exploration. Unfortunately, results have shown that these combined efforts are not sufficient to ensure the full participation of countries within the Global South. In the upcoming debate the countries will be united to find a durable solution to this ongoing issue.

## Major Parties Involved

### Party involved: NASA (National Aeronautics Space Administration)

The National Aeronautics and Space Administration is America's civil space program and the global leader in space exploration. The United States agency is the leading country in the field of space technology, with an annual budget of more than $22 billion for 2020 (*NASA Organization - NASA*, n.d.).

### Party involved: India

India is one of the leading proponents of the Global South. India's Prime Minister initiated and hosted two Voice of Global South summits in 2023, bringing together over 100 countries to "share their perspectives and priorities on a common platform". Besides this, India is one of the few countries in the 'Global South' who has a leading position in space research. According to several sources, including investindia.gov, India's national space organisation, the ISRO (Indian Space Research Organisation), is currently the 6th largest space agency in the world and holds an exceptional success rate.

### Party involved: Space Generation Advisory Council (SGAC)

The Space Generation Advisory Council in Support of the United Nations Programme on Space Applications is a global non-governmental, non-profit (US 501(c)3) organisation. It focuses on representing young space professionals to the United Nations, space agencies, industry, and academia (*About SGAC*, n.d.).

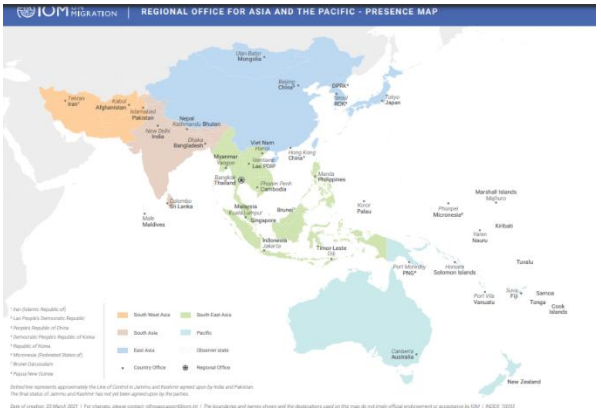
### Party involved: UNOOSA (United Nations Office for Outer Space Affairs)

The United Nations Office for Outer Space Affairs (UNOOSA) supports all countries, with a particular focus on developing nations, in leveraging the benefits of space to advance sustainable development. This objective is achieved through a range of activities covering various aspects of space, from space law to space applications.

UNOOSA assists countries in building their space sector capabilities using two primary methods. First, it provides resources such as training, workshops, conferences, and knowledge-sharing platforms. Second, it offers practical opportunities to expand space capabilities, including fellowships and competitive programs, many of which are specifically designed for developing countries, such as those included in the Access to Space 4 All Initiative (Martin.Stasko, n.d.).

### Party involved: APSCO (Asia-Pacific Space Cooperation Organization)

The Asia-Pacific Space Cooperation Organization (APSCO), headquartered in Beijing, was established in 2008 as an intergovernmental organisation. APSCO provides a cooperative framework for developing countries in the region to promote the peaceful use of space for development. By sharing resources in space science, technology, and applications, APSCO encourages cooperation to enhance the capabilities of its member states. Next to this text, there is a map that shows all the countries located in the Asia-Pacific region (*About APSCO*, 2018).




It is important to realize that countries in the global north, that have leading positions in space activities, but also countries in the global south, that perform apace activities, are crucial in this conflict.

## Timeline of Events

***1961*** **Formation of the United Nations Committee on the Peaceful Uses of Outer Space**. COPUOS was established to promote international cooperation in space exploration and to ensure that outer space remains accessible for all nations.

***1967*** **The Outer Space Treaty.** This treaty emphasises that space exploration should benefit all countries, prohibits the placement of weapons in space, and sets guidelines for the peaceful use of outer space.

***1979*** **Establishment of the Group of 77**. The G77 is a coalition of developing countries, their aim is to promote their economic interests and increase their power in international forums. The group has been instrumental in advocating for the interests of Global South countries in various fields, including space technology (G77 further explained at subheading :'key word 1: The Global South', heading 'The definition of key words')

***1998*** **African Space Policy Conference.** The conference led to the development of the African Space Policy and Strategy, which aimed to coordinate and strengthen space activities across the continent.

***1999*** **Adoption of the African Space Policy by the African Union (AU).**

***2001*** **Establishment of the Asia-Pacific Space Cooperation Organization (APSCO).** (APSCO further explained at subheading 'Party involved: APSCO (Asia-Pacific Space Cooperation Organization', heading: 'Parties involved')

***2004*** **Official Establishment of the African Regional Centre for Space Science and Technology Education (ARCSSTE-E).**

***2014*** **African Space Leadership Conference.** This conference focused on strengthening space cooperation and advancing space capabilities within Africa. It brought together leaders and stakeholders from across the continent to discuss strategies for space development, policy-making, and regional collaboration. The conference highlighted Africa's growing interest in space and the need for cohesive efforts to enhance its space sector.

***2017*** **Space Generation Advisory Council (SGAC) Space Generation Fusion Forum.** The Space Generation Fusion Forum is an event organised by SGAC to engage young professionals and students in space activities. For further information on SGAC, go to heading: 'Major parties involved', subheading: 'Party involved: Space Generation Advisory Council (SGAC)'

***2020*** **Launch of the African Space Industry Report.** The African Space Industry Report provides comprehensive data and insights into the state of the space industry in Africa.

*2021* **Launch of the Space4Youth Program by the United Nations Office for Outer Space Affairs (UNOOSA).** Space4Youth is a UNOOSA initiative designed to support the development of space education and career opportunities for youth in developing countries. For further information on SGAC, go to heading: 'Major parties involved', subheading: 'Party involved: UNOOSA (United Nations Office for Outer Space Affairs)

*2023* **Global South Space Forum**. The Global South Space Forum is a gathering aimed at discussing and promoting space research and technology among Global South countries.

## Possible Solutions

### Solution: Prioritise Existing Commitments

From an opposing perspective, a key argument is that space activities are already highly complex. Nations with established space programs should prioritise their existing commitments and projects, focusing on optimising current operations rather than expanding to include the Global South. This would involve:

1. Concentrating Resources: Developed countries should continue to invest in and advance their space technologies without diverting resources to new, unproven programs in the Global South.

2. Risk Management: Avoiding the involvement of less experienced nations could reduce the risk of failures and potential setbacks that could arise from introducing new participants with varying levels of expertise and infrastructure.

3. Establishing Clear Benchmarks: Before considering broader inclusion, developed countries could establish benchmarks for collaboration, ensuring that any new participants meet specific technical and operational standards.

### Solution: Create a Global Space Cooperation Framework

From a perspective favouring inclusion, fostering global collaboration in space activities can be highly beneficial. This solution advocates for the establishment of an international framework to facilitate participation from the Global South:

1. Global Partnership Programs: Develop programs that offer technical assistance, training, and resources to countries in the Global South. This could include joint missions, shared research, and access to existing infrastructure.

2. Funding and Investment: Establish international funds or grants specifically for supporting space projects in developing nations, possibly managed by organisations like the United Nations Office for Outer Space Affairs (UNOOSA).

3. Knowledge Transfer: Facilitate knowledge transfer through workshops, collaborative research initiatives, and partnerships with established space agencies, ensuring that skills and technology are shared equitably.

**Solution: Mutual beneficial approach. Implement a Tiered Integration Approach**

A balanced solution seeks to integrate the Global South into space activities in a way that ensures mutual benefit while managing risks and resources effectively:

1. Tiered Participation: Create a system where countries from the Global South can participate in space activities based on their current capabilities. This would allow for gradual integration, starting with lower-risk projects or observational roles.

    a. CubeStats and small satellites could be helpful in this issue, as they are cost-effective and accessible for developing countries. As they are relatively cheaper, they bring less risks.

2. Shared Resources and Infrastructure: Develop shared platforms and infrastructures, such as joint satellites or collaborative research stations, where nations can contribute according to their capacity and benefit from shared data and technology.

3. Capacity Building: Invest in long-term capacity building by supporting educational initiatives, infrastructure development, and policy frameworks in the Global South. This ensures that their participation is sustainable and beneficial in the long run.

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