About the Authors:

Wojciech Kaczanowski

Expert specializing in space issues, superpower rivalries, international security, and new technologies. Holds a BA in International Relations from Cardinal Stefan Wyszyński University and an MA in Security and Strategic Studies from the University of Warsaw. His work focuses on space security, scientific research by state agencies, and the space programs of the U.S., China, and Russia.

Anna Hiller

Anna Hiller is a dedicated Master's student in War and Conflict Studies. Her research

focus is the security policy analysis of geopolitical dynamics in Eastern Europe and the strategic space domain. Through her current role at the German Aerospace Center, she possesses practical experience at the nexus of technology and federal policy. She is also active in initiatives such as Model NATO Germany and aims to contribute to shaping international policy on critical and emerging technologies.

About the publication:

3 Main Points:

Question: How can Africa maintain strategic autonomy while navigating the intensifying U.S.-China "space race"?

Argument: Africa's "space for development" model leverages international partnerships not for prestige, but as essential tools for data sovereignty and socioeconomic transformation.

Conclusion: To avoid terrestrial patterns of exclusion, African states must foster domestic investment and benefit-sharing to ensure space remains a collaborative commons rather than a competitive frontier.

Highlight Sentence:

"The African Space Agency's goal is to share data, expertise and even sovereignty in orbit to establish the African sky as a collaborative commons, not a competitive frontier."

Definition:

The Artemis Accords are a set of non-binding principles to enhance the governance of civil space exploration. The ILRS is a Chinese and Russian initiative intended for scientific research on the moon.

Where does Africa stand in the global space race?

Introduction

Various African nations have played an important role in space exploration, particularly in the Apollo Missions in the 1960s. While space powers like China and the United States (U.S.) focus their space activities on lunar exploration, many African nations invest heavily in downstream applications, primarily for agriculture and climate resilience. Increasingly, these states are also developing local satellite capabilities to ensure their data sovereignty. As of now, 21 African nations have their own space programs, with 18 of these having successfully launched at least one satellite into orbit.

The leading African nations in space investment are Egypt, South Africa, Nigeria, Morocco, Algeria, and Angola. In 2025, Africa saw a major development in its space ventures with the establishment of the African Space Agency (AfSA), uniting all Member States of the African Union to coordinate and implement Africa's space ambitions and being the primary point of contact for Africa's cooperation with international partners. Certainly, African nations operate and will operate in already crowded orbits. Therefore, partnerships are of strategic importance, and this Brief will go into African partnerships with global space powers.

Overall, space infrastructure and access to space are recognised as a matter of national security for African nations, just as in Europe. With that in mind, African governments are shifting their focus to investments in space assets. Space infrastructure is used for critical security activities, including wildlife protection, border surveillance, and ensuring food security, thereby driving broader socioeconomic transformation.

Partnerships

As mentioned above, the AfSA was inaugurated in April 2025 in Cairo, Egypt. Its goal is to share data, expertise and even sovereignty in orbit to establish the African sky

as a collaborative commons, not a competitive frontier. What needs to be highlighted here is the focus on cooperation rather than competition with other space actors, especially in EO. This "space for development" approach can also be found in the African Union's Space Policy and Strategy. Nevertheless, as Africa's strategic value grows, it finds itself as a key arena for the intensifying space race between the U.S. and China. This geopolitical rivalry is most visible in the competing frameworks for lunar exploration. While four African nations have signed the U.S.' Artemis Accords as of early 2026, five African Nations are cooperating within China's International Lunar Research Station (ILRS). Interestingly, Senegal is the only African state to be a member of both the Artemis Accords and the ILRS.

Artemis Accords

The Artemis Accords, established in 2020, intend to provide a common set of principles to enhance the governance of the civil exploration and use of outer space. African nations joining of the Artemis Accords is described as a strategic move to strengthen bilateral ties with the United States. It can further be described as a soft power move to establish oneself as a modern, innovative nation. Furthermore, in light of the future lunar economy, it is a strategic move to participate early in new lunar exploration and future exploitation, as the Artemis Accords provide the legal framework for international cooperation and the exploitation of lunar resources.

Nonetheless, the Artemis Accords require commitments to the partnership, especially in a financial nature. African states still face difficulty in funding their own national space programmes and therefore struggle to dedicate additional finances outward, towards a meaningful participation in the Artemis Accords. Therefore, scepticism arises from the ability to leverage their status as Artemis Accords signatories without sufficient financial (domestic) investments. It is also questionable whether every Member of the Artemis Accords will have the same voice in future decision-making on lunar activities, and whether African nations not contributing critical technology to the program will remain observers.

Of particular concern are two elements in the Artemis Accords: the safety zones and rights to extant resources. Safety Zones "permit signatories to establish protected areas around their lunar operations to prevent harmful interference." This mechanism can act as a tool for indirect appropriation, in conflict with the Outer Space Treaty. Nations operating on the Moon could exercise spatial control, while the other states would have to accept and avoid these areas. It can be argued that this represents already established patterns of exclusion on Earth.

Additionally, the Artemis Accords allow for the resource extraction of lunar resources; it is not clear whether African nations will be able to benefit from this principle as they don't necessarily possess the capabilities to do so and more advanced spacefaring nations are likely to "get there first". Therefore, this strategic vulnerability needs benefit-sharing proposals or technology transfer to overcome this incapacity.

U.S.-Africa cooperation

The U.S.-African partnership goes beyond the Artemis Accords. Just last year, in 2025, the U.S. started the inaugural U.S.-Africa Technical and Regulatory Space Training Meeting with 12 nations, including Senegal, Angola, Nigeria and Egypt, aiming to deepen cooperation between the U.S. and the African space sector and establish the U.S. as a long-term partner in African space development. The training does not aim to build further dependencies on outside actors but to empower African nations to create locally owned, financially sound, and internationally aligned space programmes, as Jonathan Pratt, former senior official at the State Department's Bureau of African Affairs, emphasised.

Further, many African nations have access to U.S. space infrastructure through NASA partnerships or commercial satellite services. Several African nations host or operate ground infrastructure for the U.S. space systems. For example, South Africa, although not a signatory of the Artemis Accords, started a new partnership with NASA in 2020, building one of the world's three deep space ground stations in the Western Cape to support future Artemis missions to the Moon and Mars.

In addition, the U.S. company Atlas Space Operations activated in 2025 an antenna in Mwulire, in the eastern province of Rwanda (a Member of the Artemis Accords), to serve its global weather and space weather monitoring in its COSMIC-2 mission. In addition to that, many African nations have access to U.S. satellite data provided by SERVIR, a joint venture between NASA and the U.S. Agency for International Development (USAID), which provides satellite-based Earth observation data to African nations, among others, to assess environmental threats and coordinate responses to natural disasters.

China-Africa space cooperation

China is one of the key partners for African countries in the context of space exploration and space technology development. In 2024, Xi Jinping expressed this view during the 9th Forum on China-Africa Cooperation (FOCAC), stating that China-Africa relations are “enjoying their best period in history.” Xi Jinping announced extensive cooperation with African countries in the field of new technologies, including space technologies. The main areas are remote sensing satellites, the construction of research infrastructure on the Moon and joint exploration of deep space.

Chinese involvement in the development of space technology in Africa may be similar to other sectors of the economy. Cooperation began many years ago. A prime example is Nigeria's first telecommunications satellite, which was built by Chinese engineers and launched atop a Long March 3B carrier rocket in 2007. Algeria followed suit (Alcomsat-1 in 2017) and Ethiopia (ETRSS-1 in 2019). Egypt is also an interesting case study, as it not only cooperates with Beijing in the construction and launch of payloads (including Horus-1, Horus-2 and MisrSat-2), but also in the construction of a satellite assembly, integration and testing centre.

According to the Italian Institute for International Studies, China currently has 23 bilateral agreements with African countries. Cooperation focuses on investments in scientific programmes, technological cooperation in the construction and launch of satellites, and staff training. According to the South China Morning Post, China has supported Egypt's satellite project with USD 74 million, while USD 68 million has

been allocated for the construction of a satellite assembly, integration and testing centre.

Although the construction of its own satellite constellations is extremely important from the perspective of the functioning of state administrations, armed forces and natural disaster response, China is trying to encourage African countries to cooperate on much more ambitious projects. One of these is the exploration of the Moon as part of the ILRS programme, whose main initiators are China and Russia. The ILRS is a competitor to the American Artemis programme, where both aim to restore human presence on the Moon and establish a permanent research facility there.

China's strategy takes into account the involvement of countries that do not have advanced space technology but are permanent partners of Beijing or Moscow in other sectors of the economy. South Africa and Egypt joined the ILRS programme in 2023. In 2024, agreements were signed by institutions from Ethiopia, Senegal and Kenya. The parties are working closely together on the construction of a lunar facility, the use of the ILRS, as well as training and education. It is worth noting that individual countries also cooperate within the BRICS format.

Europe-Africa space cooperation

The European Union is also taking action in the context of cooperation in space exploration and work on space technologies. In January 2025, the Africa–EU Space Partnership Programme was launched, with the aim of targeted thematic cooperation and high-level strategic dialogue. The cooperation is intended to involve the African space sector and is expected to support technological and scientific development. The projects will be supported by existing European space systems such as Copernicus for Earth observation and Galileo and EGNOS for satellite navigation.

The programme, with a total budget of €45 million, is aimed at countries in the sub-Saharan Africa region and its main themes are climate, environment, energy, sustainable development and job creation. The financial contribution comes entirely from the European Union, and the programme is scheduled to end in 2028.

For better coordination, the programme has been divided into three components:

1. EU–Africa Space Partnership, which aims to promote cooperation at high political and administrative levels;
2. Space and the Green Transition – Focus on Early Warning – the parties focus primarily on threats related to climate and environmental change. Modern space technologies, such as satellite monitoring of weather changes and natural resources, can help to manage these problems more effectively;
3. Space and the Private Sector, which aims to stimulate private companies based on satellite data.

The European Space Agency (ESA), which is independent of the European Union, also remains an important partner for Africa. In the face of global climate and environmental challenges, access to unique technologies and international projects supports Africa in monitoring natural resources, predicting disasters and promoting sustainable development, combining local needs with global know-how. In addition, cooperation allows for the development of young people, which is an investment in the future of the African space sector.

For example, in October 2025, young engineers from both continents met at the ESA training and education centre at ESEC-Galaxia in Belgium for a Space Systems Engineering Training Course, jointly supported by the ESA and the AfSA. The training took place as part of the aforementioned Africa-EU Space Partnership Programme.

Summary

Although African countries do not have developed space sectors, they are actively working to build them. The process is mainly carried out in cooperation with other entities, i.e. the United States, China or Europe. Joint projects result in the development of new technologies that contribute to the protection of African resources and the environment.

It is worth noting, however, that the involvement of these countries often also serves to strengthen their own position in the global space race, which makes this cooperation both an opportunity for Africa and an element of the strategic interests of its partners. At the same time, this poses a challenge for African countries. They must maintain their autonomy and control over their own resources, especially human resources, which may be exploited by companies and states from outside the continent.