

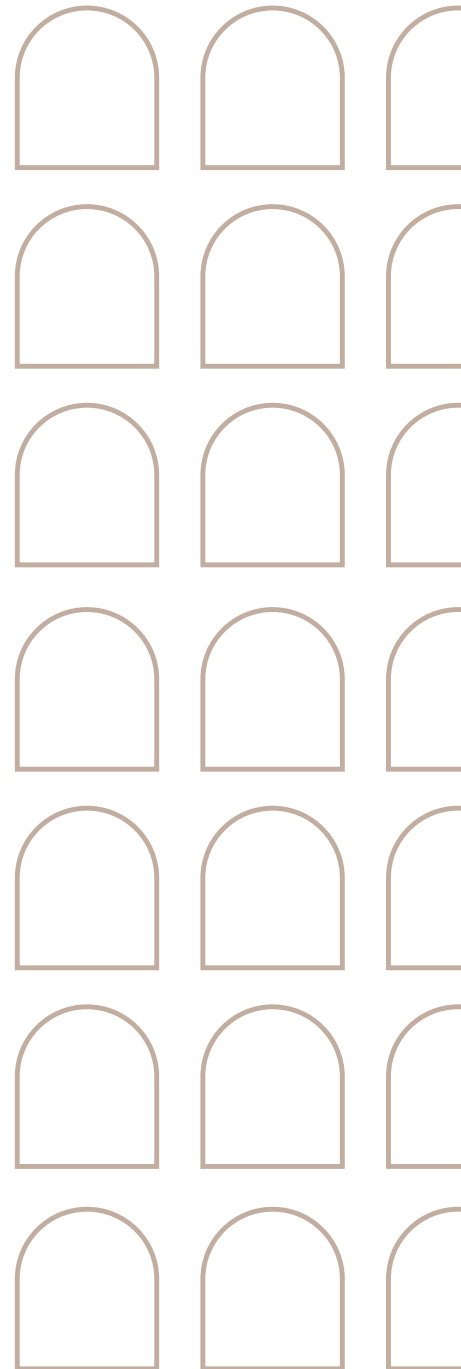
STG Policy Papers

POLICY BRIEF

EU-AU SPACE RELATIONS: STATUS, PROSPECTS AND CHALLENGES

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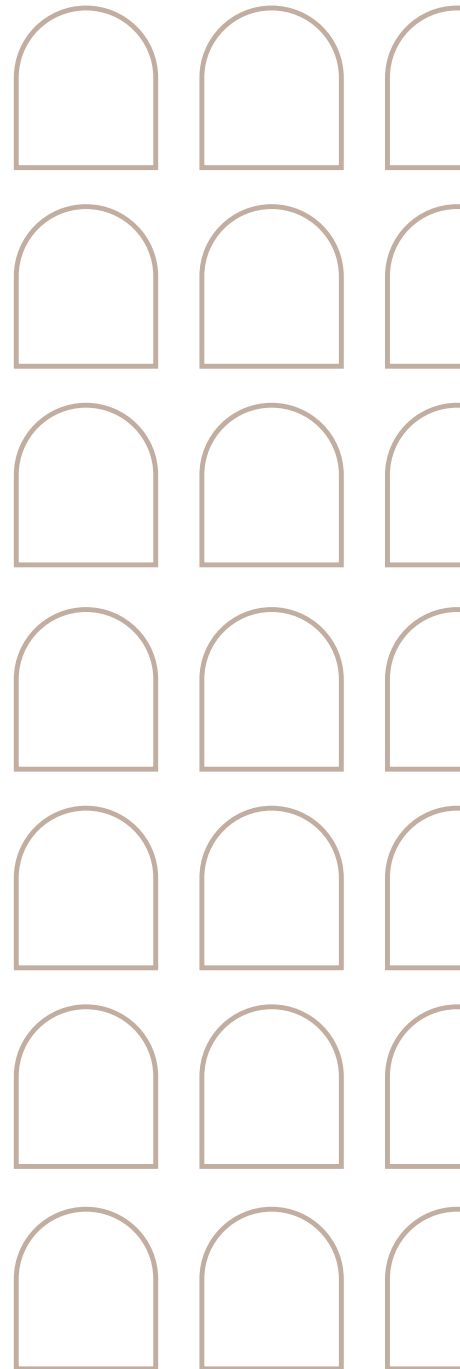
EXECUTIVE SUMMARY

It is about two decades since the relationship between the European Union (EU) and African Union (AU) was redefined, with space cooperation as one of the areas for partnership. The renewed space cooperation has resulted in two main long-term space programmes, namely: Global Monitoring for Environment and Security (GMES) and Africa, and European Geostationary Navigation Overlay Service (EGNOS) in Africa. EU-AU space relations, however, faces challenges such as low contribution from Africa, projection of EU interests, regional politics in both blocs, and the changing global geopolitical context. If these challenges are not addressed, the impact of the EU-AU space relations would wane. This Policy Brief, based on a virtual roundtable discussion among actors from EU and AU, examines the status of the EU-AU space relations. It highlights potential areas for cooperation such as satellite connectivity, space weather research, space governance and the Sustainable Development Goals (SDGs). It also discusses the role of different actors, including national space agencies, academia, industry and civil society, towards strengthening of the partnership.

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1. INTRODUCTION

EU-AU multilateral collaborations were redefined in 2000 during the First Africa-EU Summit in Cairo, Egypt. Prior to this time, EU's cooperative framework with North Africa was separate from the framework with Sub-Saharan Africa. In their [Declaration](#) at the conclusion of the Cairo Summit, the leadership of EU and AU "committed to the basic objective of strengthening the already existing links of political, economic and cultural understanding [between the EU and AU] through the creation of an environment and an effective framework." The renewed relationship, with its long-term policy framework, is captured in the Joint Africa-EU Strategy (JAES) which was adopted in 2007, during the Second EU-Africa Summit in Lisbon, Portugal.

JAES outlines the shared vision, principles, objectives, mutual priorities, and governance framework for the relationship. It is updated at EU-AU Summits which alternate between Africa and Europe triennially. Also, it is implemented through Action Plans that span the period between Summits. Outer Space always features in the governance frameworks and attendant action plans. This has resulted in two main long-term continental programmes, namely: GMES and Africa¹ and the EGNOS in Africa² programmes. A third programme – Climate Services and Related Applications (ClimSA) – commenced in March 2021. Countries in the Caribbean and Pacific will, however, also benefit from ClimSA.

On 5 November 2021, a virtual roundtable was organised under the auspices of the European University institute (EUI) School of Transnational Governance, to reflect on the EU-AU space relations from institutional, policy and programmatic perspectives. Three main issues were discussed by the panellists:

- What is the current status of EU-Africa space relations and what mutual benefits have been derived thus far?
- What are the challenges facing the

partnership and what new opportunities could be explored?

- How can the partnership be strengthened for the mutual benefits of both continents and the global community, particularly in the face of current global challenges such as climate change and COVID-19?

2. STATUS OF EU-AU SPACE PROGRAMMES

The European Commission (EC) and African Union Commission (AUC) view the partnership between EU and AU as a success story. For Africa, the attention given to space gradually developed with every summit. Space is now considered a tool for supporting the implementation of the priorities of [Agenda 2063](#) – the continent's long-term framework for socioeconomic development. However, Africa prefers a mutually beneficial relationship, rather than a donor-recipient dependency.

There are four main pillars of the [GMES and Africa](#) programme, namely: infrastructure, service development, training and awareness. Eleven applications were developed under land and water resource management, and eight applications on marine and coastal areas. These applications are implemented by 13 consortia across Africa. Institutions within the consortia that have no adequate infrastructure have received support including earth stations, from the EU. Furthermore, over 3000 professionals have received [training in different thematic areas of Earth Observation](#). The initiative has also increased the awareness of the leadership of the AU Member States as well as the AUC, on the impact of space on socio-economic development. Due to the success of the first phase of GMES and Africa, the EU is funding a second phase that is scheduled for 2022-2025. EUI's School of Transnational Governance is also developing the success story into a Case Study for use in teaching space governance, international cooperation, knowledge transfer and public-private partnership, in its Master's programme.

¹ Global Monitoring for Environment and Security (GMES) is a network of space- and ground-based systems which supply measured data for managing the environment and security. At the request of African Heads of States to the EU, the initiative was extended to Africa, hence the name 'GMES and Africa'. The EU has changed the name of the initiative to Copernicus, but Africa maintains the name 'GMES and Africa'.

² European Geostationary Navigation Overlay Service (EGNOS) is the EU's satellite-based augmentation system which is used to improve the accuracy and reliability of global positioning systems. 'EGNOS in Africa' is an initiative to extend EGNOS services to Africa.

Similarly, the third phase of the [EGNOS in Africa](#) programme is scheduled for 2021-2024. During this phase, the implementing body - the Joint Programme Office (JPO) - would promote EGNOS and Galileo³ across Africa. Currently, EGNOS is only used by the 16-member countries of the Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA). The full coverage of Africa would be made possible through a new version of EGNOS that is currently under development. The new version is especially useful for the equatorial region which experiences a depreciation in the performance of the first version due to thick foliage and heavy rainfall that occurs in the region.

JPO is also expected to promote the use of EGNOS in other applications besides aviation such as maritime, agriculture and surveying. To consolidate the EGNOS in Africa programme and make it sustainable, there are efforts to institutionalise JPO by linking it to the African Space Agency (AfSA) when the agency becomes operational. It is not yet clear whether the GMES and Africa programme will also be institutionalised and linked to the AfSA.

3. OTHER POTENTIAL AREAS OF COOPERATION

Ongoing space programmes of the EU-AU partnership fall within the thematic areas of Earth Observation and Satellite Positioning. Other potential areas of cooperation include satellite communication, space science, space governance and the Sustainable Development Goals (SDGs).

- Cooperation in satellite communication would improve connectivity in Africa, especially for its remote population. It will also open the market for satellite service providers in EU and Africa. Presently, a private company called Knowledge Consulting Limited, in collaboration with the World Bank, is planning to [connect all African universities and post-secondary education institutions, to high-speed Internet](#). The EU-AU partnership could support this effort.

- South Africa is building a new Space Weather Centre which is expected to be ready in the first quarter of 2022. The Centre has been designated a [regional centre for the provision of space weather information](#) by the International Civil Aviation Organisation (ICAO). The AU and EU may consider co-development of the facility and the sharing of knowledge.
- The partnership between EU and AU occurs within an international space ecosystem which is congested and contested, with growing risks and threats. AU and EU can work together in forging and strengthening the future of international space law, including providing Transparency and Confidence Building Measures (TCBMs), regulating behaviour in outer space through Space Situational Awareness (SSA), as well as pursuing a fair and reasonable regulatory framework for the global space economy. EU and AU can also develop joint positions on space security because of the common objectives that they share.
- AU and EU have subscribed to the SDGs. The SDGs have overlaps with Agenda 2063 and [Horizon Europe](#) – EU's current funding framework for research and innovation. AU and EU need to join efforts to attain the specific goals and indicators of the SDGs by developing applications and solutions using satellite data.

Furthermore, the EU-AU space partnership should not only meet the basic needs of their populace; it should fulfil their international obligations including mitigating climate change and checking the spread of COVID-19.

4. CHALLENGES FACING THE PARTNERSHIP

Space in developing and emerging nations is characterised by lack of political support, poor financial commitment, low technological readiness, low human capital, as well as poor infrastructure. To generate political support, African professionals need to continuously educate their policymakers and the public

3 EU's satellite based global navigation satellite system.

about the socio-economic benefits of space. Elected politicians also need to organise hearings and invite space professionals to share their knowledge and give advice on space issues.

As space gets more political support, it will likely get more funding and investment from both the public and private sectors, thereby addressing the problem of poor funding. Since space would have to compete with other national and continental needs, it is necessary to prioritise aspirations, options and interests of different actors

Technologically, Africa is still catching up with Europe. This fact cannot be ignored if the partnership is to succeed. To raise technological readiness in Africa, knowledge generation and technology development need to be boosted. Technology and knowledge transfer from EU to Africa can only be meaningful when Africa's absorptive capacity is well developed.

Africa is also lagging in ground- and space-based infrastructure. EU has made data and signals from its space-based infrastructure available to Africa, but this will not meet the entire needs of Africa, nor would it replace the role of ground-based infrastructure. Hence, EU and AU could cooperate in the co-development of new infrastructure, products and services.

Regional integration and governance are also common issues in Africa and the EU. Reaching agreements among respective members of the AU and EU is a herculean task. Also, while the EU is a supranational organisation, the AU is not. Thus, there is need for increased efforts towards regional integration in Africa.

Geopolitics is equally a factor in the EU-AU partnership. In addition to the programmes coordinated by the European Commission and the African Union Commission, there are several bilateral agreements between EU Member States and AU Member States. On the other hand, there are countries such as China, Japan and Russia, that are interested in partnering with Africa towards the attainment of its space aspirations. These geopolitical dynamics need to be navigated by both Africa and the EU.

5. STRENGTHENING THE PARTNERSHIP

The agenda setting for the EU-AU partnership needs to be balanced on both sides. For example, the [EC comprehensive strategy for Africa](#) that was released in March 2020, is meant to set the stage for the 6th EU-AU Summit scheduled for February 2022. The document highlights five priority areas for partnership between EU and Africa, as well as ten action plans. The document is grounded on a "policy first" principle; hence there is a need for policy grounding by the AU as well, as it prepares for engagement with the EU. Africa has its [African Space Policy](#), just as the EU has the [European Space Policy](#). The high-level objectives of the African Space Policy are addressing user needs; accessing space; developing the market; governance/management; and international partnerships. Aligning the different agendas of the two blocs would strengthen the partnership.

In addition to GMES and Africa, another major Earth Observation initiative in Africa is [Digital Earth Africa \(DEA\)](#). The South African Space Agency (SANSA) is hosting DEA's Project Management Office and is also supporting its operations through staffing and funding. Possible areas of convergence between GMES and DEA could be explored, as it would avoid duplication of infrastructure and streamlining the allocation of funds.

Human capital development is a strong component of EU-AU cooperative programmes and is equally important to the attainment of Agenda 2063. The proposed [Pan-African University Institute for Space Science \(PAUISS\)](#) is expected to play a role in this regard, through education and training in the four focus areas of the African Outer Space Programme, namely: Earth Observation, Navigation and Positioning, Satellite Communication, and Space Science and Astronomy. The establishment of a [space policy institute in Africa](#) would complement the activities of PAUISS with space policy studies, design, analysis and advice.

Intra-African cooperation is also necessary for strengthening the partnership. Leading

countries in Africa are encouraged to share their knowledge and experiences with the space-aspiring countries. Regional institutions such as the [Regional Centre for Mapping of Resources for Development \(RCMRD\)](#) and the Regional Centres for Space Science and Technology Education (RCSSTE) in [Nigeria](#) and [Morocco](#), need the support of African countries as they were established to develop manpower for the space sector.

There are other deliverables from the ongoing EU-AU relationship that are of critical importance to Africa, including the sharing of EU experiences with the AU member States. An example is how the EU brings government, industry, and society to work together in achieving a specific goal. African countries need to cultivate such a practice/process for them to be able to bridge the 'science divide' which is a major pre-requisite to their bridging the 'space divide'.

To further strengthen the partnership, the EC has proposed a regular Space Dialogue between it and the AUC. Such a dialogue will bring fresh ideas to their individual positions on issues of mutual interest and facilitate both continents' reaching consensus on the issues.

5.1. Role of national governments and space agencies

One of the tasks of national governments is to provide a policy and legal framework for space activities. Presently, nine African countries have national space policies.⁴ Only South Africa has a national space law. As space development occurs in a global context of rules and norms, African countries need to effectively participate in the mechanisms established to develop these rules and norms.

They also need to invest in the generation of knowledge and contribute to innovations. They should consider setting up frameworks like Horizon Europe, which can attract foreign-based scientists, experts and counterpart research grants.

Africa has access to the free and open data

received from Copernicus, which could be used to generate new innovations. However, different data sources need to be combined to get the right insight and intelligence. Hence, it is important for governments to work with downstream private companies, who can develop services and applications from data. This public-private-partnership will stimulate a thriving space sector. Support from the EU could be through purchase of data at a heavily discounted rate from private providers in Europe and distributing them for free to countries that need it. [Norway is presently engaged in such an initiative.](#)

5.2. Role of academia, industry and civil society

EU-AU space relations will be strengthened by what everyone contributes, including African academia. At present, most African universities are not co-opted into the national space programmes of their countries. For Africa to be an effective partner in the EU-Africa space relations, its universities need to be an integral part of its national space programmes.

University education is also evolving. Today, in most countries that have committed to industrialising their economy, it is not enough to present a graduating student with a certificate or diploma as a manifestation of academic accomplishments. At entrepreneurial universities, students are trained to turn their research papers into business ventures. Some universities also liaise with industries interested in using their type of research. Under the auspices of EU-AU Space Relations, African universities can develop partnerships with universities in Europe that have achieved recognition in specific areas of interest.

The systems of innovation (consisting of academia, industry and government) also need to be vibrant and productive. Research is done by the universities or academia; industry contributes the know-how and related skills; and government provides the funding and enabling environment. In the present age, [data is the new capital](#); hence Public-Private-

⁴ Algeria, Angola, Ethiopia, Kenya, Morocco, Namibia, Nigeria, Rwanda, and South Africa.

Partnerships (PPP) are key to creating sustainable joint EU-AU initiatives. They will also unleash Africa's creativity and stimulate local investment.

Civil society, which includes professional associations, foundations, and think-tanks, also have roles to play in strengthening EU-AU space relations. Their expert knowledge and experience are needed to shape policies, agendas and common positions for the two continents.

5. CONCLUSION

AU and EU have a long-standing relationship. Both view space cooperation between them as important and mutually beneficial. While the current cooperative programmes cover two thematic areas (Earth Observation and Navigation & Positioning), there is potential for cooperation in Satellite Communication (with a focus on connectivity and Internet access), Space Science (with a focus on space weather research), as well as space governance. As with other types of partnership, the EU-AU partnership is faced with peculiar challenges. A lot more lies with Africa to increase investment in space, develop its technological readiness, invest in education and create an environment for research and innovation. EU's support of Africa's efforts is of mutual benefit as both regions would benefit from increased private sector activities, as well as access to new applications and innovations. The proposed space dialogue by the EU is a laudable addition to the agenda setting process of the EU-AU space relations.

The School of Transnational Governance (STG) delivers teaching and high-level training in the methods, knowledge, skills and practice of governance beyond the State. Based within the European University Institute (EUI) in Florence, the School brings the worlds of academia and policy-making together in an effort to navigate a context, both inside and outside Europe, where policy-making increasingly transcends national borders.

The School offers Executive Training Seminars for experienced professionals and a Policy Leaders Fellowship for early- and mid-career innovators. The School also hosts expert Policy Dialogues and distinguished lectures from transnational leaders (to include the STG's Leaders Beyond the State series which recorded the experiences of former European Institution presidents, and the Giorgio La Pira Lecture series which focuses on building bridges between Africa and Europe). In September 2020, the School launched its Master-of-Arts in Transnational Governance (MTnG), which will educate and train a new breed of policy leader able to navigate the unprecedented issues our world will face during the next decade and beyond.

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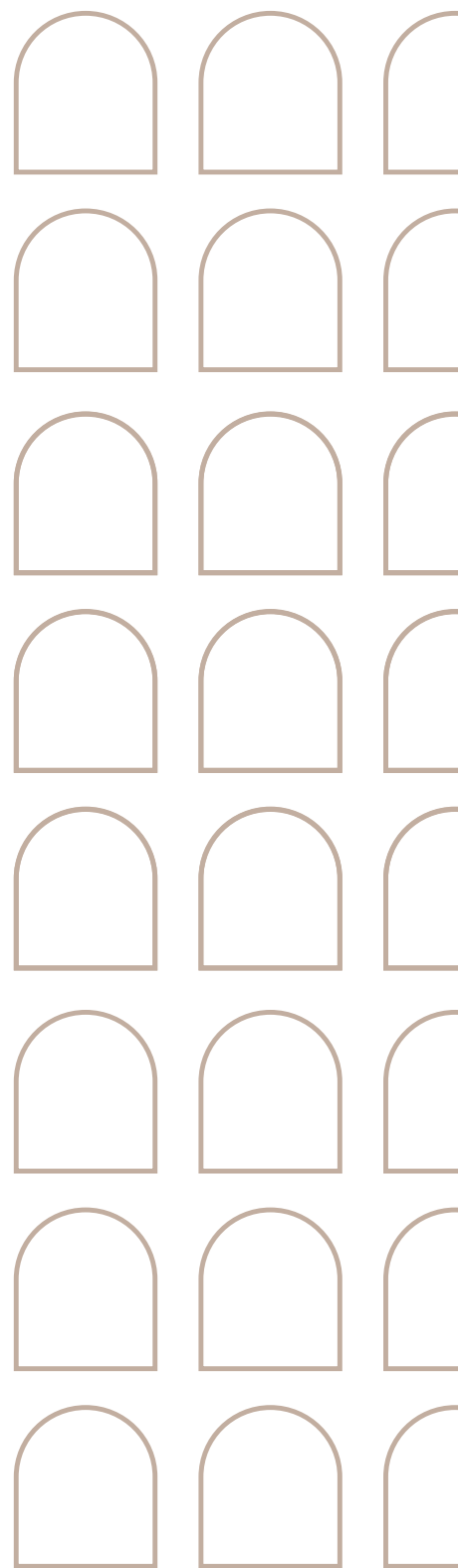
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