SPACE TECHNOLOGY AND SPACE REGULATION

Harmonizing Space Law across the African Union: The African Space Agency and Regulatory Fragmentation in Nigeria, Kenya, and South Africa

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Abstract

The African Space Agency (AfSA) was inaugurated in Cairo on 20 April 2025, nine years after the African Union (AU) adopted its first continental space policy. Its Statute gives it a mandate to promote, advise and coordinate. It gives it no power to license, inspect or sanction. This article asks whether an agency built this way can narrow the gap between national space regimes that already differ in institutional design, licensing approach and legislative maturity. It compares Nigeria, South Africa and Kenya using statutes, draft bills, treaty status lists and institutional documents, and it reads that comparison against the AU's earlier attempt at continental harmonization, the 2014 Malabo Convention on Cyber Security and Personal Data Protection. Malabo took nine years to enter into force and, on the AU's July 2024 status list, had been ratified by 16 of 55 states. None of the three case-study states was among them. I argue that the three regimes differ less in their rules than in where they place regulatory authority, and that this institutional divergence, more than any single rule, is the main obstacle to harmonization. The article closes by proposing a sequenced alternative to an early treaty: model licensing standards with peer review, a pilot of mutual recognition among willing states, and a binding instrument only after the model has been tested.

Keywords: African Space Agency; space law; regulatory harmonization; NASRDA; South African Council for Space Affairs; Kenya Space Agency; Malabo Convention

1 Introduction

When the AU inaugurated AfSA at its permanent headquarters in Egypt's Space City on 20 April 2025, it completed an institutional project that began with the African Space Policy and Strategy adopted in January 2016 (Iderawumi, 2025a). The commercial case for continental coordination is easy to state. A single satellite can serve users in dozens of jurisdictions, yet each state applies its own licensing criteria, insurance floors and data rules. Innovate UK (2024) puts the value of Africa's space market at £16.16 billion in 2021, rising to a projected £18.77 billion by 2026. An operator that must clear a separate authorization process in every market it serves faces costs that a market of that size does not obviously justify.

Harmonization is therefore attractive, and it is also hard to deliver. This article asks a narrow question. Is an agency with AfSA's mandate institutionally able to harmonize national space regimes that already diverge, and what can the AU's earlier experience with the Malabo Convention tell its designers? The article makes three contributions. First, it compares three of the continent's most active programs (Nigeria, South Africa and Kenya) from primary and near-primary sources, and in doing so corrects a common simplification: the three do not sit on one scale from permissive to strict,

but embody three different ways of arranging promotion, licensing and ministerial oversight. Second, it uses the Malabo record as a structured analogy and says plainly where the analogy stops. Third, it proposes a sequence of instruments that fits AfSA's actual powers.

Section 2 explains the method and its limits. Section 3 traces AfSA's design. Section 4 examines the Malabo precedent. Section 5 compares the three national regimes. Section 6 assesses the risks to harmonization, Section 7 sets out design options and recommendations, and Section 8 concludes.

2 Method, sources and limits

The study is doctrinal and comparative. It treats statutes, draft bills, the AU's treaty status list and institutional records as primary evidence, and uses law-firm commentary, trade press and think-tank analysis only for facts the primary sources do not supply. The three cases were chosen because each has an established agency and an active reform process, and because together they show three different institutional models. Four limits should be kept in mind. The Kenya Space Bill and South Africa's Outer Space Bill are drafts, and I could not confirm what happened to either after the dates of the sources cited. Nigeria's 2025 Handbook is read through secondary commentary. I conducted no interviews with regulators. And the Malabo comparison is an analogy between instruments with different subject matter and legal form, so it is a way of asking questions and not a forecast.

The analysis uses three dimensions. The first is where each national regime places regulatory authority: in one agency that also promotes the sector, in a separate regulator, or in a body housed in a ministry whose main mission is not commercial. The second is the legal form of any continental instrument. I use the distinction drawn by Abbott and Snidal (2000) between hard law, with precise and binding obligations and delegated enforcement, and soft law, which gives up some of each in return for easier agreement. The third is timing, meaning whether a continental standard arrives before or after national reform is complete. The Malabo record is read along all three.

3 AfSA: Origins, mandate and design

The AU Assembly adopted the African Space Policy and Strategy in January 2016, at its Twenty-Sixth Ordinary Session (Iderawumi, 2025a). The Statute of the African Space Agency followed on 29 January 2018, adopted by the Thirtieth Ordinary Session in Addis Ababa (African Union, 2018). Figure 1 sets this sequence beside the history of the Malabo Convention, discussed in Section 4.

Figure 1. Two continental harmonization tracks compared. The upper track shows AfSA's path from the 2016 Space Policy and Strategy, through the 2018 Statute, to its 2025 inauguration; the lower track shows the Malabo Convention from drafting in 2011 to the AU status list of 8 July 2024, which records 16 ratifications. Sources: African Union (2018, 2024); Digital Watch Observatory (n.d.); Iderawumi (2025a).

The Statute is more modest than the agency's public profile suggests. Article 2 establishes AfSA as an organ of the AU dedicated to "promoting, advising and coordinating" the development and use of space science, and Article 4 directs it to promote and coordinate implementation of the Space Policy and Strategy (African Union, 2018). Nothing in the portions of the Statute I could read confers licensing, inspection or sanctioning powers. Herman (n.d.) reaches the same reading of the agency's role: AfSA coordinates and advocates at the continental level while national programs and their partners keep the work of building and operating space systems. Press coverage often compares AfSA with the European Space Agency, and ESA's support is real; a memorandum of understanding covers

earth observation, joint training and institutional development (Iderawumi, 2025a). The comparison has limits, though. ESA runs programs. AfSA, on the Statute's terms, convenes and advises.

The contrast with the European Union is sharper still. The European Commission's 2025 proposal for an EU Space Act would set common authorization, safety, resilience and sustainability rules for space operators through a directly applicable regulation (White & Case, 2025). That is the kind of instrument one reaches for when a central institution can legislate for its members. AfSA has no equivalent, and any harmonization it achieves will have to rest on consent.

4 The Malabo precedent

The AU Convention on Cyber Security and Personal Data Protection was drafted in 2011 and adopted at Malabo on 27 June 2014 by the Assembly's Twenty-Third Ordinary Session (Digital Watch Observatory, n.d.; African Union, 2024). It needed fifteen ratifications to enter into force. The fifteenth instrument, Mauritania's, was received by the AU on 9 May 2023, and the Convention entered into force on 8 June 2023, nine years after adoption (Data Protection Africa, 2023). Entry into force did not bring momentum. Chatham House (2024) noted that only 15 of 55 members had ratified when the Convention took effect, that São Tomé and Príncipe was the only addition afterwards, and that Egypt, Algeria, Nigeria, South Africa, Kenya, Morocco and Ethiopia had not ratified. The AU's status list of 8 July 2024 records 16 ratifications, roughly 29 per cent of the membership (African Union, 2024). I did not find a later official list, so Figure 2 reflects that date.

Figure 2. Status of the Malabo Convention among the 55 AU member states. Sixteen states have ratified or acceded, 13 have signed without ratifying, and 26 have done neither. Nigeria and South Africa are in the middle group and Kenya in the last. Source: African Union (2024), status as of 8 July 2024; classification by the author.

Why did uptake lag? The sources document the pattern better than the motives, so what follows are hypotheses, each with some evidence. The first is that national law moved first. All three case-study states enacted their own data protection statutes while declining to ratify: South Africa's Protection of Personal Information Act (2013), Kenya's Data Protection Act (2019) and Nigeria's Data Protection Act (2023). The second is that regional tracks competed. The Economic Community of West African States adopted its own Supplementary Act on personal data protection in 2010, four years before Malabo (ECOWAS, 2010). The third is that a consent-based treaty has no built-in reward for joining or cost for staying out. Ratification is a sovereign act, and observers noted doubts about the Convention's likely effect from the start (Abdulrauf & Fombad, 2016).

Three features of space governance make the analogy imperfect, and they cut in different directions. First, states already share a baseline in the UN space treaties. Article VI of the Outer Space Treaty (1967) makes each state internationally responsible for national space activities, including those of private entities, and requires authorization and continuing supervision. Every state therefore has a reason to license; what they lack is agreement on how. Second, commercial operators are an organized constituency with a direct stake in common rules, which data protection lacked. Third, AfSA has not proposed a treaty. The Malabo lesson applies to AfSA only if it chooses that path.

5 Three national regimes

Table 1 summarizes the three regimes, and Figure 3 shows how they relate to AfSA.

5.1 Nigeria: One agency, two jobs

Nigeria's National Space Research and Development Agency (NASRDA) both promotes the sector and regulates it. Its regime rests on the NASRDA Act 2010, 2015 licensing regulations and, since 2025, a Handbook on Space Regulation and Spectrum Management that introduced tiered licensing and a digital application portal (Afriwise, 2026). Operators must maintain at least USD 15,000,000 in third-party liability insurance (Afriwise, 2026), a single stated minimum and not a sum tied to mission risk. The same commentary reports a projected annual sector potential above USD 200 billion but does not explain its basis, so I treat it as promotional and not as evidence. The reform is incomplete: reporting from a 2025 stakeholder workshop quotes a senior lawyer describing the 2001 policy, the 2010 Act and the 2015 regulations as outdated, while a new National Space Policy was still being drafted (Iderawumi, 2025b). NASRDA operates under the Federal Ministry of Innovation, Science and Technology.

5.2 South Africa: Promotion and licensing kept apart

South Africa separates the two functions. The Space Affairs Act 1993 established the South African Council for Space Affairs (SACSA) as the national authority for authorizing and supervising space activities, and the Act requires a licence from the Council for covered activities (Parliamentary Monitoring Group [PMG], 2015). SACSA is a statutory council whose members are appointed by the trade minister. The South African National Space Agency (SANSA), created by the SANSA Act 2008, sits under the science department (PMG, 2015). Reform has been slow. A 2012 review commissioned by the trade department recommended changes that included explicit insurance and third-party liability requirements and a national registry of space objects (PMG, 2015), and by 2017 a draft Outer Space Bill to repeal the 1993 Act was being consulted on (PMG, 2017). I could not confirm its later status. Personal data is governed separately by the Protection of Personal Information Act.

5.3 Kenya: A defence-housed agency and a civil bill

Kenya's Space Agency was created in 2017 by an executive order, as successor to a National Space Secretariat formed in 2009 (Business Daily, 2024; Nyangi, 2024). It operates under the Ministry of Defence (Ministry of Defence, 2024). The draft Kenya Space Bill 2024 would make the Agency a body corporate with power to authorize, license and supervise space activities (s. 6(1)(j)), regulate earth observation (s. 22), approve launches (s. 23), keep a national register of space objects (s. 32) and require third-party insurance for launches (s. 35). It defines the responsible Cabinet Secretary as the minister for space science and technology (s. 2) and excludes military space operations from its scope (s. 4) (Kenya Space Agency, 2024). The draft thus points toward a civil regulatory role while the Agency's institutional home remains defense, and the sources do not say how the two will be reconciled. In late 2024 the draft was in its final public participation stage (Nyangi, 2024). I could not confirm enactment.

Table 1. Comparison of the Nigerian, South African and Kenyan space regimes.

	Nigeria	South Africa	Kenya
Principal instruments	NASRDA Act 2010; 2015 licensing regulations; 2025 Handbook	Space Affairs Act 1993; SANSA Act 2008; draft Outer Space Bill (2017)	Space Agency Order 2017; draft Space Bill 2024
Licensing authority	NASRDA	South African Council for Space Affairs (SACSA)	Kenya Space Agency (Bill would formalize licensing)

	Nigeria	South Africa	Kenya
Institutional home	Ministry of Innovation, Science and Technology	SACSA: trade department; SANSA: science department	Ministry of Defence
Third-party insurance	USD 15,000,000 minimum	Explicit requirement proposed in reform	Required for launches (draft s. 35); amount not stated in provisions reviewed
Data protection statute	Data Protection Act 2023	POPIA 2013	Data Protection Act 2019
Malabo status (8 July 2024)	Signed, not ratified	Signed, not ratified	Not signed
Reform status	Policy under revision; Handbook issued 2025	Outer Space Bill drafted; later status not confirmed	Bill in final consultation (late 2024); enactment not confirmed

Entries reflect the sources cited in Section 5 and the AU status list of 8 July 2024. "Not confirmed" means that I found no source later than the date indicated.

Figure 3. AfSA as a coordination hub among differently organized national regimes. Dashed double arrows indicate coordination and consultation, not binding authority. The figure shows institutional arrangements, not volume of activity. Sources: Statute of the African Space Agency (African Union, 2018); Section 5 of this article.

5.4 What the comparison shows

Read side by side, the three regimes differ less in their rules than in where they put authority. Nigeria gives one agency both the promotional and the regulatory role. South Africa gives them to two bodies under two ministries. Kenya houses its agency in a defence ministry while drafting a civil licensing law. Rules such as an insurance floor can be negotiated as numbers. Institutional placement cannot be negotiated that way, because it decides who may speak for a state at the table, who can bind it, and who sees earth observation data. That is why I regard institutional divergence as the central obstacle. A model clause on insurance means little if the three counterpart bodies cannot recognize one another's decisions.

6 Structural risks to harmonization

No binding power. The Statute describes coordination, and Herman (n.d.) describes advocacy. AfSA can persuade and assist but cannot compel Nigeria, Kenya or South Africa to converge on licensing floors, liability rules or data handling.

Counterpart mismatch. A defence-housed agency, a trade-department council and a science-ministry agency weigh security exemptions, data sharing and commercial speed differently. Even non-binding guidance has to be translated across those cultures before it can be applied.

Competing tracks. Nigeria and Rwanda became the first African signatories of the Artemis Accords on 13 December 2022 (White House, 2022), a plurilateral soft-law track that runs outside AU institutions. Regional communities such as ECOWAS, the East African Community and the Southern African Development Community could add their own frameworks, as they did in data protection.

The most important risk is one of timing. Nigeria is revising its policy, South Africa has a replacement bill in draft, and Kenya has a bill in consultation. If each state completes its reform before any continental baseline exists, harmonization will become a matter of amending finished laws, which is the position the AU found itself in with data protection. There is a counterweight. Space licensing involves far fewer actors than data protection, operators want common rules, and the UN treaties supply a shared starting point. The window is open, but it will not stay open.

7 Design options and recommendations

Four instruments are realistically available to AfSA: a binding convention, a model law with peer review, mutual recognition of operator licenses, and technical guidelines. Table 2 compares them on four criteria. The ratings are my own qualitative judgement, offered to structure the choice and not as measured data.

Table 2. Qualitative comparison of instruments available to AfSA.

Instrument	Ratification risk	Enforceability	Speed	Fit with differing ministries
Binding convention	High	Strong in principle	Slow	Poor
Model law with peer review	Low	Moderate (reporting and peer pressure)	Medium	Good
Mutual recognition of operator licences	Medium (needs agreements)	Strong for covered operators	Medium	Moderate (requires trusted counterparts)
Technical guidelines	Low	Weak	Fast	Good

The ratings are the author's judgement and are not drawn from measured data.

The ranking is not a verdict that soft law is simply a weaker substitute for treaties. In the account given by Abbott and Snidal (2000), soft law lets states with different capacities and preferences begin together, keeps the cost to sovereignty low, and can harden over time. That is the logic behind the sequence proposed here.

Five recommendations follow. First, AfSA should begin with a model licensing standard and not a treaty. The standard would cover authorisation, continuing supervision, registration, earth observation data handling and third-party insurance set in bands by mission risk, which avoids the single-sum problem noted in Nigeria's regime. States would adopt or adapt it, and the Council would run a periodic peer review with published results. Second, each state should designate one focal authority for AfSA, whichever ministry it sits in, and AfSA should keep a public register of those authorities. This addresses counterpart mismatch directly and costs little. Third, AfSA should pilot mutual recognition of operator licences among a small group of willing states, with common insurance bands, and widen it only if the pilot works.

Fourth, AfSA should publish an annual map of overlapping instruments, covering regional frameworks and plurilateral arrangements such as the Artemis Accords, and should open a standing channel with the regional communities. Fifth, it should commission a baseline comparative study and time the model standard so that the pending Nigerian, South African and Kenyan reforms can absorb it before they are finished. A binding convention can be reconsidered after several years of experience. If it is, it should carry a funded monitoring function from the start and an entry-into-force threshold set with the states that actually run licensing regimes in mind, since Malabo's threshold of

fifteen took nine years to reach. ESA's institutional development support, already part of its memorandum with AfSA (Iderawumi, 2025a), could also be used to draw lessons from Europe's long experience of coordinating national programs.

Progress should be measurable. Reasonable indicators for the first five years include the number of states that have designated a focal authority, the number of national licensing regimes that cite or incorporate the model standard, participation in the mutual-recognition pilot, and publication of a first round of peer review. If few states have adopted the standard after several years, that would be evidence that consent-based instruments struggle in space as they did in data protection, and a stronger instrument would then be easier to justify.

8 Conclusion

AfSA is a real institutional achievement, but it was built to coordinate, not to compel. The three national regimes it must work with differ most in how they allocate authority between promotion, licensing and ministerial oversight, and that kind of difference does not yield to model clauses alone. The Malabo Convention shows what can happen when a consent-based continental instrument arrives after states have legislated for themselves: nine years to enter into force and 16 ratifications by mid-2024, with none of these three states among them. AfSA is not bound to repeat that history. Its best chance lies in acting while national reforms are still open, starting with instruments that depend on adoption and not ratification, and building the oversight capacity that Malabo lacked before it asks states to be bound. Future work should test the hypotheses offered here through interviews with regulators, track the fate of the pending bills, and update the Malabo ratification count against any later AU list.

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