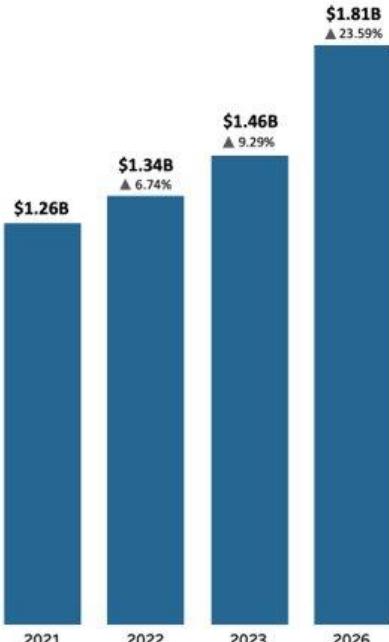


Astronomy Vs Satellite Connectivity

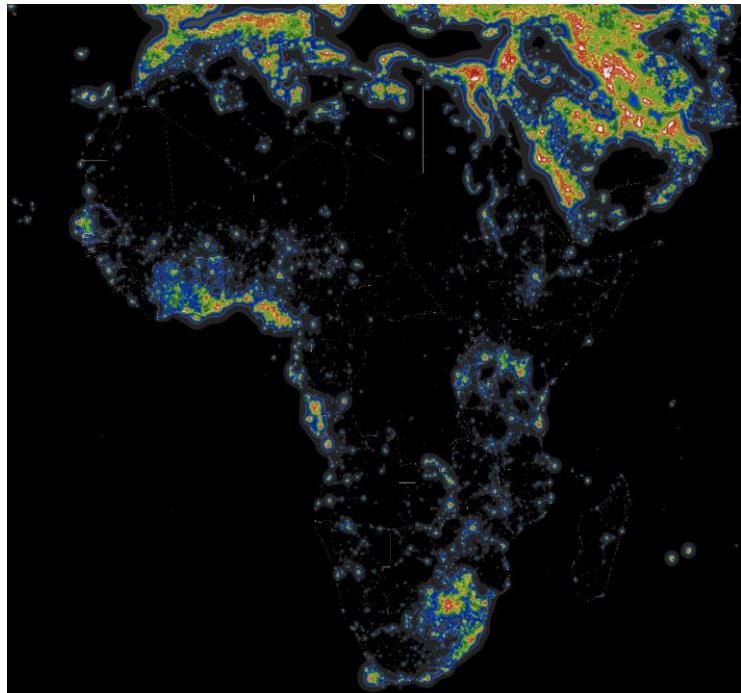
With 78% of Sub-Saharan Africa's population still unconnected to mobile broadband, satellite connectivity has become essential to bridging the digital divide and supporting national efforts to expand inclusive digital access where terrestrial networks remain limited.

This is reflected in the steady growth of satellite internet subscribers and rising market revenues across the continent, with the sector valued at USD 1.58 billion in 2024, and extending indirect benefits to millions through improved satellite-based connectivity.



Market value of satellite connectivity industry in Africa. Source: Space in Africa

Africa is home to the world's darkest skies among inhabited regions, a distinction reflected in multi-billion-dollar investments in world-class astronomical facilities such as SALT, MeerKAT, SKA, and HESS. These skies also support complementary industries, including astro-tourism, underscoring the urgency of protecting this invaluable natural resource.



Measures Taken

Measures adopted by African countries generally fall into three broad categories; technical, policy, and awareness initiatives, although several challenges continue to limit their full implementation.

Policy	Awareness	Ongoing	Insights
<ul style="list-style-type: none">• The Astronomy Geographic Advantage (AGA) Act of 2007- SA• The Karoo Radio Quiet Zone - SA• Discussions on the protection of Dark and Quiet Skies in the Kenya Space Bill 2025 consultations -KE• NamibRand Nature Reserve was certified as Africa's first International Dark Sky Reserve (IDSР), receiving a "Gold Tier" status, the highest possible ranking for sky quality - NA	<ul style="list-style-type: none">• Dark Sky International, Kenyan Chapter, advocating for the protection of dark and quiet skies.- KE• Submission of a statement to the 62nd UNOOSA Scientific and Technical Subcommittee session under the Dark & Quiet Skies Agenda.-- SA <p>Technical</p> <ul style="list-style-type: none">• AO Flagger on MeerKAT- SA• Gregorian Antenna design for MeerKAT- SA	<ul style="list-style-type: none">• ICASA Satellite Licensing Framework Consultation- SA• Inputs from SARAO and all leading satellite operators• Gaps Identified: SARAO vs Satellite operators, proposals not aligned in submission to ICASA	<ul style="list-style-type: none">• In some countries, mitigation measures are largely community-driven, rather than government-led.• Astro-tourism was a key driver in boosting the dark and quiet skies initiative, appealing to the economics of policymakers.• Lack of Awareness• Gaps Identified: Countries establishing new observatories, such as Egypt and Senegal, have no provisions yet for dark and quiet skies protection.

Proposed Solutions

Issue to be Addressed	Proposed Solution & Practical Next Steps
Awareness on the cultural, scientific and economic value of Africa's dark & quiet skies	<p>Collaboration with ongoing community awareness initiatives on dark & quiet skies protection</p> <p>Set up communities of practice involving astronomy communities, space agencies, academia, and astronomers for a cohesive and comprehensive approach to creating awareness on the value of a country's dark & quiet skies</p>
Misaligned priorities between astronomers, government & licensing authorities	<p>Establish multi-stakeholder advisory & coordination platforms to formulate licensing guidelines and technical mitigation measures that protect astronomy while protecting satellite connectivity objectives.</p> <p>Such committees should involve satellite operators, astronomers and licensing authorities.</p>
Continental Coordination Forums that allow for borrowing of best practices from existing efforts across Africa	<p>Convene a continental-level gathering of decision-makers from industry, astronomy, and government to share best practices and develop practical solutions that integrate diverse coordination approaches and mechanisms, which can then be adapted and applied by other nations.</p>

Any Questions?

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