For communications professionals in north, west, east & central Africa

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

OCTOBER / NOVEMBER 2025 Volume 24 Number 3

- To RCS or not to RCS?
- Connectivity with purpose
- Could mega constellations rewrite the future?

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Sahel Alliance countries seal radio frequency coordination deal for cross border comms

On 21 November, the member countries of the Alliance of Sahel States (AES) — Niger, Mali, and Burkina Faso — formally signed a radio frequency coordination agreement aimed at enhancing cross-border communication quality and security.

The pact establishes mechanisms to prevent interference and jamming within a 15km band on either side of shared borders, marking a new milestone in regional digital collaboration.

The Malian Ministry of Communication, Digital Economy, and Administrative Modernisation emphasised that spectrum management is crucial for mobile communications, broadcasting, security services, and emerging technologies. The agreement includes harmonising frequency coordination procedures, creating channels for information exchange among national regulators, organising regular border interference resolution meetings, and developing a modern framework to support the deployment of innovative technologies and digital market growth.

This cooperation was formalised during Burkina Faso's Digital Week, attended by delegations from Niger and Mali. A few days prior, the three countries' data protection authorities (DPAs) adopted a joint roadmap to bolster digital sovereignty, building on the AES DPA Consultation Framework established in April 2025. These steps follow their collective pledge, made about three weeks earlier, to combat rising cyber threats such as sophisticated cyberattacks, disinformation campaigns, online fraud, and infiltration of critical systems.

Previously, during Burkina Faso's Digital Week in November 2024, the countries agreed to eliminate roaming charges and outlined a joint digital and telecommunications development roadmap targeting regulatory reforms, cybersecurity, network interconnection, ICT training, and infrastructure upgrades, with implementation planned for 2025. They are also exploring satellite acquisitions to strengthen telecommunications services further.

These regional initiatives are part of a broader continental effort to harness digital technologies as drivers of socio-economic development. A joint study by the International Finance Corporation (IFC) and Google projects Africa's digital economy could reach at least $712 billion by 2050, accounting for approximately 8.5% of the continent's GDP.

However, questions remain regarding the effective implementation of these agreements. For instance, free roaming within the Economic and Social Area (ESA) was expected to start on 1 January 2025, but no official confirmation has been issued yet, raising concerns about the timeline's realisation.

Nigeria's Project Bridge to expand national fibre infrastructure by 2026

Nigeria's National Information Technology Development Agency (NITDA) is on course to complete its ambitious Project Bridge, a nationwide fibre-optic expansion initiative, by the first quarter of 2026.

The project, launched earlier this year, plans to deploy an additional 90,000km of fibre optic cables over five years to establish an open-access broadband backbone across the country.

The network aims to connect all 774 local government areas, along with public institutions and underserved communities, to enhance digital connectivity nationwide. NITDA's Director-General, Kashifu Inuwa, explained that the Ministry of Communications, Innovation, and Economy is overseeing the initiative after securing presidential approval for a Special Purpose Vehicle (SPV) responsible for supervising the rollout.

Nigeria currently has roughly 35,000km of fibre infrastructure, which officials deem inadequate for comprehensive internet access across the country. To address this gap, Inuwa highlighted that Project Bridge will be executed through a collaborative effort involving government agencies, private sector operators, and development partners. Stakeholder workshops have been organised across Nigeria to coordinate deployment strategies and ensure smooth progress.

Inuwa emphasised that the project is vital to the government's broader goal of boosting digital connectivity and fostering economic growth. He noted that expanding fibre coverage will improve services across key sectors and help strengthen Nigeria's digital ecosystem.

Eutelsat and du extend MENA broadcast services partnership

Eutelsat and Emirates Integrated Telecommunications Company (du) have announced the renewal of their longstanding partnership to provide high-quality broadcasting services throughout the Middle East and North Africa (MENA).

du, a leading telecom and digital services provider, operates one of the most advanced teleports in the Middle East, supporting a broad spectrum of communication and media solutions for broadcasters, enterprises, and government agencies.

This multi-year renewal reaffirms du's role as a key strategic partner for Eutelsat in the region, facilitating the distribution of a wide array of premium TV channels via the 7/8° West satellite position — MENA's dominant broadcast orbital slot. Covering 95% of satellite households in the region and boasting the largest exclusive reach, the 7/8° West position remains the preferred choice for viewers due to its extensive content offerings.

Building on their successful collaboration, the partnership combines du's cutting-edge teleport and broadcast infrastructure with Eutelsat's satellite expertise, ensuring reliable signal delivery and operational excellence for broadcasters and media clients. The renewal highlights both companies' shared dedication to advancing media distribution, fostering innovation, and expanding reach across the regional broadcast industry.

"Our continued partnership with du underscores the strength of our collaboration and the strategic importance of the 7/8° West position as MENA's premier broadcast hub. du's world-class teleport and operational capabilities complement Eutelsat's satellite infrastructure, ensuring seamless access to premium content for audiences across the region," said Raymond E. Rahme, Regional Vice President for MENA Sales at Eutelsat's Video Business Unit.

"Our partnership with Eutelsat has been vital in delivering high-quality broadcast services across MENA. By extending this collaboration, we reaffirm our commitment to excellence and innovation. Combining du's teleport infrastructure with Eutelsat's satellite coverage allows us to deliver seamless, premium broadcasting experiences to millions of viewers," said Karim Benkirane, Chief Commercial Officer of du.

Algeria plans to extend mobile coverage to 4,500 areas by 2027

Algerian authorities have announced plans to expand mobile network coverage to an additional 4,500 locations across the country by 2027.

This commitment was disclosed by Sid Ali Zerrouki, the Minister of Posts and Telecommunications, during the inauguration of infrastructure security upgrades at the Space Telecommunications Centre, part of Algeria Telecom Satellite (ATS).

This initiative marks the second phase of a nationwide project aimed at providing comprehensive mobile coverage, with a particular focus on rural communities and villages with populations ranging from 500 to 2,000 residents. Zerrouki explained that the first phase successfully covered 1,400 areas, deploying 1,200 base stations — of which 800 have already been installed — laying the groundwork for further expansion.

The Algerian government has been actively working to enhance telecommunications infrastructure. In August, authorities directed mobile operators to invest in connecting roads to their networks, ensuring better coverage and service quality. Earlier in May, they also encouraged the more effective use of the national satellite, Alcomsat-1, to improve internet access nationwide. Additionally, efforts to deploy fibre optic networks are ongoing, reflecting the country's broader push to modernise its digital infrastructure.

These developments come amidst encouraging statistics from the International Telecommunication Union (ITU), which reported that in 2023, mobile networks covered 98.5% of the population for 2G, 98.2% for 3G, and 90.4% for 4G services. Despite high coverage levels, mobile phone penetration reached 93%, while internet penetration stood at 76.9%.

However, experts highlight that widespread network coverage does not necessarily translate into widespread service adoption. The gap between coverage and usage underscores challenges such as access to compatible devices like smartphones and tablets, the affordability of internet services, and levels of digital literacy. The GSMA emphasises that these factors play a crucial role in determining whether populations fully benefit from the expanding telecommunications infrastructure.

Meta completes core construction of 2Africa subsea cable

Meta has announced the completion of the core build of its 2Africa subsea cable system, a landmark achievement in one of the world's largest connectivity initiatives.

The project, which is already expanding, aims to significantly boost internet capacity across Africa and connect the continent to the Middle East, South Asia, and Europe.

The 2Africa cable links 33 countries and is designed to deliver improved international bandwidth to over 3 billion people. Meta led the consortium behind the project, which includes major telecom and digital partners such as MTN Group (Bayobab), stc (center3), CMI, Orange, Telecom Egypt, Vodafone Group, and WIOCC. Additional segments and data centre integrations involve Bharti Airtel and MainOne (Equinix), extending the cable's reach further.

Construction is now underway on the Pearls Extension, a major upgrade set to go live in 2026. This extension will stretch from the Horn of Africa to South Asia and across the Persian Gulf, increasing the total length of the system to approximately 45,000km.

Each segment of the cable contains 16 fibre pairs, doubling the capacity of previous subsea systems and making it the first of its scale to connect Africa directly. The system incorporates advanced technologies like undersea optical wavelength switching, enabling more flexible bandwidth management to support emerging demands such as AI and cloud services.

Meta estimates that the cable will provide a trunk capacity of 180Tbps — enough to support 36 million HD video streams simultaneously — and could contribute up to US$36.9 billion to Africa's GDP within its first three years by fostering job creation, entrepreneurship, and digital ecosystem development.

Vodacom Group CTO Dejan Kastelic emphasized that 2Africa is more than just infrastructure; it's a catalyst for economic growth, innovation, and social inclusion. He highlighted Africa's demographic potential, noting that over 60% of the continent's population is under 25, and by 2030, over 1 billion people are projected to be internet users. As mobile data consumption per smartphone nearly triples, reliable connectivity becomes crucial for unlocking opportunities in digital services, financial inclusion, and commerce.

Ethio Telecom and Awash Bank launch Tila

Ethio Telecom has teamed up with Awash Bank to introduce Tila, a new digital platform offering credit, savings, and device financing services through the operator's Telebirr mobile money platform.

This innovative service leverages AI-driven credit scoring to provide non-collateral loans to individuals, salaried workers, and micro, small, and medium enterprises (MSMEs).

Awash Bank has committed over ETB2 billion annually to fund the program. Personal micro-loans are available up to ETB16,000, while MSMEs can access business loans of up to ETB150,000 with repayment periods ranging from one to six months. Employees paid through Telebirr or Awash Bank can also apply for salary-based loans of up to ETB1 million.

A key feature of Tila is its device financing component, which allows customers to purchase smartphones through instalment plans — aimed at users who cannot afford to pay upfront for handsets. Ethio Telecom emphasised that the initiative aims to promote broader digital and financial inclusion, especially in rural and semi-urban areas outside Ethiopia's major cities.

Telebirr has become a significant revenue stream for Ethio Telecom, with over 57 million users. Since its launch, the platform has facilitated more than ETB31.6 billion in digital loans and over ETB30.3 billion in savings. Additionally, early results from a pilot phase indicated strong demand for Telebirr-based cardless ATM withdrawals through Awash Bank's network, with over 92,000 transactions completed.

Tila forms part of Ethio Telecom's broader strategy to expand its digital financial services and improve smartphone access across Ethiopia, driving financial inclusion and supporting the country's digital transformation goals.

Airtel Nigeria launches smartphone financing program to boost 4G adoption

In mid-November, Airtel Nigeria introduced a new 4G smartphone financing initiative in collaboration with Itel, the entry-level brand of Transsion.

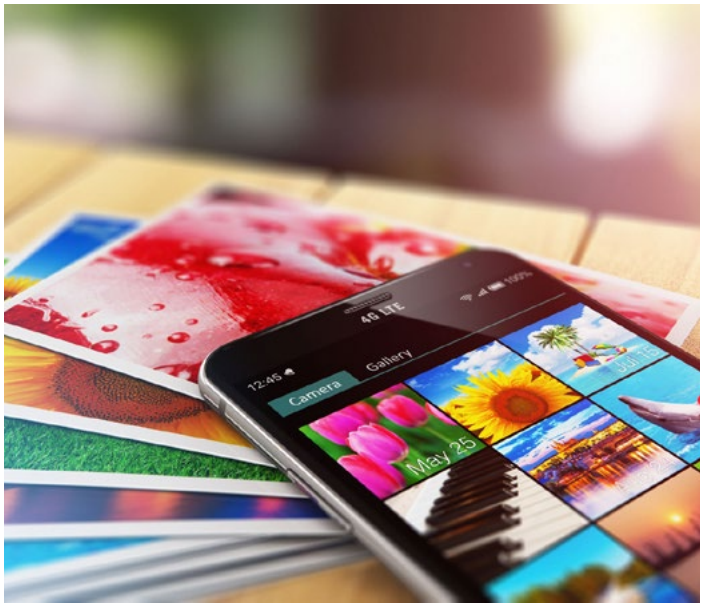
The program enables Airtel subscribers to purchase 4G-compatible smartphones and pay for them through affordable instalments spread over several weeks, making high-speed internet access more accessible to a broader population.

To qualify, customers must have been active on the Airtel network for at least three months, hold a registered SmartCash account, present an official ID such as a National Insurance Number, voter ID card, or driver's license, and agree to data processing terms. Once approved, final registration occurs at any Airtel store. Customers pay an initial deposit of either 19,000 or 21,000 naira to receive the Itel A50 smartphone, which provides immediate access to 4G internet. All payments, including deposits and weekly instalments, are processed solely through Airtel's secure mobile money platform, SmartCash.

"Connectivity is an opportunity, and smartphones are the key. Through Airtel's smartphone financing program, we are enabling more Nigerians to access 4G technology, fully benefit from digital inclusion without financial constraints, and transform the way they learn, work, and live. This initiative goes beyond simply providing devices: it's about empowerment, progress, and building a truly connected future," said Dinesh Balsingh, Managing Director of Airtel Nigeria.

This effort aligns with Airtel Africa's broader strategy to accelerate revenue growth from data services by increasing smartphone adoption and boosting subscriber engagement. Nigeria's digital transformation is rapidly advancing, driven by more data-intensive activities such as remote work and entertainment through platforms like TikTok.

Data revenue in Nigeria surged by 62.4% at constant exchange rates in the first half of 2026, reaching $357 million out of a total revenue of $697 million. This growth was fuelled by an increase in data subscribers from 26.3 million to 29.5 million, a rise in average revenue per user (ARPU) from $1.6 to $2.2, and an increase in average monthly data consumption from 8.1 to 10.1 gigabytes. Smartphone penetration now stands at 52.8%, with average monthly data use per smartphone reaching 12.7 gigabytes, up from 10.9 gigabytes previously.



Nigeria and Sierra Leone strengthen digital cooperation

Nigeria and Sierra Leone have concluded a high-level bilateral meeting in Freetown aimed at boosting collaboration in digital economy, technology innovation, and cross-border trade.

The talks brought together senior government officials, including Nigeria's Minister of Communications, Innovation, and Digital Economy, Dr. 'Bosun Tijani, and Sierra Leone's Minister of Communication, Technology, and Innovation, Hon. Salimah Bah, along with key private sector leaders.

During the discussions, both nations reaffirmed their commitment to regional integration and fostering a more inclusive, resilient, and innovation-driven West African economy. They agreed to deepen cooperation in key areas such as digital public infrastructure, interoperable government systems, broadband expansion, cybersecurity, digital identity, artificial intelligence, data governance, digital literacy, and cross-border digital trade.

A significant outcome was the signing of several Memoranda of Understanding (MoUs), which formalise collaboration on digital infrastructure, AI and emerging technologies, talent development, digital skills, spectrum management, and broadband deployment. Additionally, private sector companies from both countries established new partnerships to expand digital services, bolster fintech, edtech, healthtech, govtech, and cloud solutions, and support joint innovation initiatives, startup exchanges, and enterprise growth. Both governments viewed these MoUs as vital steps toward unlocking shared economic potential.

To ensure effective implementation, Nigeria and Sierra Leone agreed to establish a Joint Technical Working Group responsible for monitoring progress, reviewing ongoing projects, and recommending future areas for collaboration. The group will provide regular updates directly to the respective ministers.

Reinforcing their shared vision, the two nations emphasised that regional prosperity depends on stronger cooperation, freer movement of innovation, and deeper cross-border partnerships. They highlighted that the bonds uniting West Africa are stronger than borders and expressed confidence that a distributed innovation ecosystem will open new pathways for growth.

The engagement concluded with mutual appreciation for the positive dialogue and partnership spirit. Nigeria acknowledged Sierra Leone's warm hospitality and support during the visit, while Sierra Leone commended Nigeria's leadership in advancing regional digital transformation.

NCC to ban sale and use of pre-registered SIM cards

Nigeria's Communications Commission (NCC) has announced a new set of measures aimed at eliminating the sale and use of pre-registered SIM cards. This move is part of the government's broader efforts to enhance digital security and improve the integrity of the mobile identification system.

NCC Executive Director Aminu Maida emphasised that pre-registered SIM cards represent a significant cybersecurity threat, facilitating criminal activities such as fraud, identity theft, and money laundering. In response, the NCC plans to ramp up field inspections, impose penalties on operators found to be complicit, and strengthen collaboration with security agencies and the National Identity Management Commission (NIMC).

Maida explained that the updated enforcement procedures would establish a transparent and accountable framework for monitoring compliance, conducting investigations, and imposing sanctions. Despite previous efforts — including linking SIM cards to the National Identification Number (NIN) — loopholes remain, especially among informal resellers offering pre-activated SIM cards.

Through these new measures, the NCC aims to improve user traceability and bolster confidence in Nigeria's digital ecosystem. Authorities stress that strict regulation is vital to supporting the growth of mobile financial services and e-commerce, which are critical to the country's economic development.

Ghana approves roadside Fibre Chamber initiative

The Ghanaian government has endorsed a pioneering initiative aimed at transforming the country's digital landscape.

Described as "a bold and visionary step" by Sylvia Owusu-Ankomah, CEO of the Digital Chamber of Ghana, the move involves integrating fibre optic ducts and access chambers into all new road construction projects nationwide — eliminating the capital costs for telecom operators to lay fibre.

Ghana's Cabinet approved a proposal from the Ghana Chamber of Telecommunications to incorporate fibre infrastructure during road development, a policy widely known as the Dig Once Policy. This initiative results from ongoing advocacy by the Chamber and its member companies, emphasising the importance of infrastructure-led digitalisation.

Statistics reveal that approximately 60% of fibre cuts in Ghana — mainly caused by roadworks and construction activities — have led to service interruptions, costing nearly US$70 million to repair between 2021 and the third quarter of 2025. By mandating the inclusion of fibre ducts in new roads, the policy aims to significantly reduce fibre damage, minimise network downtimes, lower broadband deployment costs, and accelerate the roll-out of 5G and other digital infrastructure.

Beyond operational benefits, the initiative seeks to promote reliable and affordable internet access, aligning with Ghana's Digital Economy Policy (2024) and National Broadband Strategy.

Ghana Web suggests that this policy positions Ghana as a continental leader in infrastructure-driven digital transformation and could serve as a model for other African nations. It remains to be seen whether and when similar initiatives will be adopted elsewhere on the continent, but Ghana's bold move is undoubtedly setting a significant precedent.

Algeria launches pilot call centre

Algeria has taken a significant step toward expanding its telecommunications and digital services sector with the inauguration of a pilot joint call centre in Ouargla.

The initiative was officially launched by Sid Ali Zerrouki, Algeria's Minister of Post and Telecommunications, on 23 November. The call centre brings together key operators in the sector, including Algeria Telecom, Algeria Post, and Mobilis, as part of the country's broader plan to develop a robust call centre industry and boost the national economy.

The government envisions this call centre as a central hub for managing citizen communications, allowing for the digitised and organised handling of complaints, inquiries, and requests related to postal and telecommunication services. The facility will also serve as a conduit for providing information about various services and directing callers to specialised departments. Additionally, it aims to facilitate communication between customers and relevant sector authorities, ultimately enhancing service quality and supporting Algeria's ongoing digital transition.

Initially, the call centre will employ around 480 people, with plans to expand significantly in the coming years to create up to 10,000 jobs by 2027. The project is expected to gradually include other companies across different sectors, further strengthening its role in the country's economic development. Minister Zerrouki assured that the necessary infrastructure and investments are in place to support what he described as a promising project that positions Algeria as a notable player in the regional and international call centre markets.

Morocco mandates fibre optic connectivity for all new buildings

Morocco has officially mandated that all new buildings and housing developments be equipped with fibre optic connections.

This new regulation was formalised through a joint decree published in the Official Bulletin No. 7454 on 6 November 2025, establishing minimum technical standards for connecting new infrastructure to public telecommunications networks. The initiative aims to modernise and enhance digital services nationwide.

Amal El Falah Sghrouchni, Minister Delegate for Digital Transition and Administrative Reform, explained that the goal is to ensure access to very high-speed internet from the moment of construction: "new buildings will be directly connected to fibre optics, enabling residents and businesses to benefit from fast, reliable digital services."

This measure is a key component of Morocco's 'Digital Morocco 2030' strategy, which seeks to foster an inclusive and sustainable digital economy. It complements the National Broadband and Ultra-High-Speed Broadband Plan, targeting 70% population coverage with 5G and connecting 5.6 million households to fibre optics by 2030. Currently, Morocco has nearly 4 million FTTH (fibre-to-the-home) lines, a number that continues to grow. The existing infrastructure is shared among national operators, enhancing service quality and enabling speeds of up to 1 Gbps at reduced costs.

By making broadband a mandatory feature in new developments, Morocco aims to create widespread connectivity that will drive innovation, support startups and digital enterprises, and improve services in education, healthcare, and public administration. The extensive deployment of fibre optics is also expected to accelerate the digital economy by facilitating access to secure cloud services, teleworking, and high-bandwidth business applications.

Talking critical

Michel Duits, Norwegian Directorate for Civil Protection (DSB) and Co-chair of TCCA's IWF Working Group; and Sylvain Allard, Senior Director, Connectivity, Capgemini, and lead author of the IWF white paper

The IWF - a major advancement in mission-critical communications

As the critical communications sector increasingly adopts broadband networks to deliver critical services, the Interworking Function (IWF) emerges as a necessary driver for a smooth transition from narrowband to broadband systems.

The IWF is a key component of the 3GPP Mission Critical Services (MCX) architecture that enables interoperability between Land Mobile Radio (LMR) systems and MCX services. It provides a standardised approach for facilitating seamless communication across both domains, ensuring compatibility in voice, data, and signalling services. To achieve interoperability, an IWF is required, either as an embedded software component or as a standalone function/entity. This integration may be implemented by the LMR equipment manufacturer, a third-party developer, or the network operator.

It is not a straightforward process - successfully integrating LMR and MCX networks involves overcoming several critical challenges. To ensure a smooth and effective deployment, the following areas must be proactively addressed:

- Service mapping – LMR systems are frequently customised with specific features and integrations tailored to user requirements. To maintain continuity, these customised services may need to be replicated within the MCX environment.
- Performance and scalability – The IWF must be designed to avoid becoming a bottleneck between the LMR and MCX networks. This requires careful planning of the supporting network infrastructure, computing environment, and IWF software architecture to eliminate single points of failure and performance limitations. Furthermore, the solution should be scalable to support future expansion and the incorporation of new services. It should also be noted that the IWF must fulfil equivalent LMR requirements to ensure that the interworking of both technologies delivers a user experience comparable to that of mission-critical LMR networks.
- User training and change management – Transitioning to a new communication system can often face resistance. It is vital to ensure that MCX solutions offer the same reliability for essential LMR functions. Clear communication of the advantages of MCX, coupled with comprehensive user training and dedicated support during the transition, will be crucial for driving adoption and user confidence.
- Maintaining operational continuity – To minimise disruption during the migration process, a phased rollout strategy should be developed. Gradual implementation of MCX services ensures that mission-critical communications remain uninterrupted while users adjust to the new system.
- Security considerations – Ensuring robust security is paramount in any push-to-talk environment, especially when interworking between LMR and MCX networks. Trust and protection must be established through a combination of standards-based security protocols, operational safeguards, and cyber defence measures. The IWF interfaces provide mechanisms for secure user and group authentication, as well as protection of signalling and media traffic. Additionally, physical and procedural safeguards must be in place to protect the IWF from becoming a vulnerability or attack vector.
- Redundancy & resilience – Redundancy and resilience are proven, intrinsic features of LMR that have been built and tested over time, which need to be taken into account when adding the IWF solution.
- Control – Public safety agencies often require a high level of authority over their systems – not only in terms of coverage and capacity, but also in determining who can access the system and who receives priority.

The IWF adheres to internationally recognised 3GPP and ETSI standards, providing a secure, scalable, and vendor-neutral interoperability framework, allowing the selection and deployment of best-of-class solutions, and therefore avoiding dependence on proprietary interworking solutions from the incumbent LMR vendor. Designed to support large-scale deployments, the IWF is suitable for nationwide public safety networks and expansive industrial operations. A growing number of LMR system vendors are adopting the 3GPP-defined IWF standards, promoting multivendor interoperability.

The adoption of MCX is steadily increasing among LMR equipment manufacturers, mobile network providers, and software developers. To support this evolution, ETSI organises a series of MCX Plugtests™ events to evaluate interoperability across multi-vendor environments. These testing campaigns focus on verifying MCX server-client compatibility, integration of MCX Application Servers with 4G/5GCore networks for prioritised and multicast communications, and interworking with LMR systems via the IWF interface.

The 2025 edition of ETSI's MCX Plugtests confirmed that at least eight MCX vendors have successfully implemented the IWF interface, enabling essential interworking features such as group affiliation, group calls, and private calls. Future ETSI MCX Plugtests are expected to expand these evaluations to include emergency calling and Short Data Services (SDS). In parallel, the Global Certification Forum (GCF) in partnership with TCCA has launched a certification programme for 3GPP-compliant MCX solutions. Plans are underway to extend this initiative to cover certification of server-side MCX components, including IWF functionality, to ensure robust end-to-end interoperability across the ecosystem.

The integration of LMR networks with broadband MCX services via the IWF standard marks a major advancement in mission-critical communications. This convergence harnesses the reliability of LMR with the expanded capabilities of 4G and 5G — enabling seamless voice, real-time data transfer, high-resolution video, and enhanced coverage.

The IWF is explored in detail in a white paper from TCCA's IWF Working Group – the white paper can be found here https://tcca.info/about-tcca/tcca-resources/whitepapers/

Satellites powering Africa's next digital leap

Africa's digital leap won't happen on fibre alone — and satellites are quietly becoming the continent's most strategic back-up plan and launchpad in one...

Africa's connectivity challenge remains vast and varied. Where do you see the largest gaps and which of those can satellite technology realistically address first?

Infrastructure remains the greatest challenge across Africa, although regulation and affordability also add significant complexity. Satellite connectivity can directly strengthen infrastructure by improving reliability, interconnecting countries and gateways, and providing both primary and backup links that accelerate development.

Affordability is also improving as satellite capacity costs continue to fall. What used to be viable only for highly remote areas is now increasingly affordable for broader use cases, helping close the digital gap.

Regulation is evolving alongside technological progress. It remains a challenge, but one that we actively manage. We've worked with regulators and governments across Africa for more than 50 years, and our experience ensures we can continue aligning satellite operations with national digital priorities.

LEO satellites promise to "democratise connectivity." What does that really mean on the ground in Africa — for a student in a remote village or a health clinic far from the grid?

It's important to distinguish between consumer and enterprise use cases.

On the consumer side, satellite is a powerful way to connect people in areas where terrestrial networks can't reach. Companies like Starlink have demonstrated this potential, though in some regions, mobile connectivity remains more suitable and cost-effective.

For enterprises, requirements are different. Businesses and institutions often need very specific performance levels — low latency, high reliability, committed information rates and strong service level agreements (SLAs) — which is where we focus. For example, in telemedicine, where lives depend on stable, high-quality connections, enterprise-class LEO satellites deliver the reliability and responsiveness needed.

Affordability for individuals and small organisations remains a challenge, but costs are coming down. Satellite can also serve as a backhaul for local terrestrial or community Wi-Fi networks, extending access to villages that fibre and mobile haven't yet reached. This model allows shared access at comparable prices, making it more attainable for rural communities.

Many African countries are heavily investing in fibre and 5G backhaul infrastructure. How do you see satellites working with these investments rather than against them?

We see satellite as a complementary technology that helps terrestrial operators accelerate their rollout. It enables them to start serving new areas immediately — even before investing in fibre or tower infrastructure — and to generate revenue while planning longer-term deployments. Once terrestrial links are in place, the satellite connection can either remain as a backup or be redeployed elsewhere.

Satellites also provide valuable resiliency. Fibre cuts and terrestrial outages are common, and having satellite backup ensures critical services, such as mobile financial transactions, remain online. You don't need to back up an entire fibre network — just the essential traffic. That reliability is vital for economic activity and user trust, and it strengthens Africa's overall digital transformation.

Affordability is a recurring barrier. What business model or financing innovations can make satellite internet sustainable for low-income users or small ISPs across Africa?

Our model is to provide satellite infrastructure at costs comparable to terrestrial networks, enabling local service providers to build affordable plans that fit their markets. Operators can use satellite backhaul to extend mobile or Wi-Fi networks, tailoring pricing and contention levels to local conditions.

For example, community Wi-Fi can bring access to small villages for as little as $1–2 per month. We've operated within this framework for decades, working closely with regulators, local ISPs, and national telcos to ensure our solutions strengthen — not disrupt — local ecosystems.

Our approach is about partnership:

Yanniv Betito, Telesat's RVP of Business Development for EMEA

creating win-win models that make satellite viable while supporting national digital goals. We don't aim to replace terrestrial operators or go directly to consumers, but to complement existing players and make connectivity sustainable across income levels.

With mobile towers expanding and terrestrial options often cheaper, is that a potential barrier to satellite adoption?

Not necessarily. We don't see satellite as competing with terrestrial networks but as enabling them. Telcos are expanding aggressively — Airtel Africa and Helios Towers, for example — and satellite can backhaul these new sites efficiently, making it feasible to reach more remote regions.

Where fibre and terrestrial infrastructure make economic sense, they'll continue to grow. Satellite simply fills the gaps where those investments aren't viable, helping operators extend coverage faster and more cost-effectively than waiting for ground infrastructure.

Looking ahead to 2030, what does a "connected Africa" look like in your vision — and what are the biggest risks that could derail achieving that vision?

Our immediate focus is near-term execution. We'll launch our first satellites in 2026 and commence global services by the end of 2027. By 2030, we expect every country to benefit from scalable, reliable satellite infrastructure that supports ongoing digital transformation.

We view challenges such as regulation, affordability, and deployment logistics as areas for collaboration, not barriers. Our goal is to work with governments, telcos, and local partners to ensure that as demand grows, we can rapidly scale capacity, add local hubs, and support each country's connectivity priorities.

Beyond broadband access, where will satellite connectivity have the biggest impact — in education, fintech, healthcare, or agriculture — and which will move fastest?

All of these sectors will benefit, but those with the highest performance requirements — such as healthcare and fintech — will likely lead adoption. These industries demand low latency, high SLAs, and always-on connectivity, all of which LEO satellites provide.

That said, education and agriculture will also see significant gains as connectivity expands. Our technology is designed to integrate seamlessly with existing networks, delivering terrestrial-grade performance through the sky. Over time, as affordability improves and awareness grows, adoption will spread across all sectors.

What are the key priorities you want Telesat to bring to the Africa Tech Festival table, and what do you hope to accomplish while you're here?

Our priority this year is execution. In previous years, our goal was to introduce our technology and demonstrate its potential. Now, the market recognises our reliability and service quality, and conversations have shifted to implementation.

Partners are coming to us asking, "How can we collaborate?" That's exactly where we want to be. We're now focused on finalising the commercial, technical, and regulatory models that will make LEO connectivity operational by the end of 2027 — and, ultimately, help accelerate Africa's digital transformation. ■

African countries commit to halving internet costs by 2028

On 18 November in Cotonou, fifteen countries from West and Central Africa pledged to cut the cost of internet access by half within the next five years.

During the Regional Summit on Digital Transformation, the Digital Affairs Ministers from Benin, Burkina Faso, Ivory Coast, Senegal, Niger, Sierra Leone, Guinea, Cape Verde, Congo, Chad, Nigeria, Liberia, Togo, and Ghana adopted the groundbreaking Cotonou Declaration — a strategic document aimed at removing barriers to digital access in a region still facing significant connectivity challenges.

Presented by Sierra Leone's Minister of Communications, Salima Monorma Bah, the declaration outlines regional priorities covering connectivity, infrastructure, digital identity, artificial intelligence, and employment. Leaders hailed it as a pivotal step toward creating an integrated African digital market, although the reality on the ground highlights enormous challenges. Currently, only 38-40% of people in West and Central Africa use the internet, leaving 62% offline despite coverage rates reaching up to 80%. The digital divide is widening; countries like Cape Verde, Gabon, and Ghana enjoy usage rates of 60-75%, while Niger and Chad struggle with just 10-15%.

While access exists, millions of households still cannot afford it. West Africa remains the world's least affordable region for data. On average, fixed broadband costs 21.5% of monthly income — far above the 2% recommended by international standards. Mobile data, though more accessible, consumes 4.6% of income — more than twice the UN's suggested threshold. In Liberia, a fixed broadband subscription costs over 150% of monthly income, and in the Central African Republic, nearly 27%.

Roger Félix Adom, former Minister of Digital Economy of Côte d'Ivoire, acknowledged that "West and Central Africa pay twice as much per gigabyte as the global average."

Sangbu Kim, Vice President of the World Bank for Digital Affairs, warned that "without drastic price reductions, it will be impossible to include populations in the digital economy."

The Cotonou Declaration commits participating nations to modernise networks, strengthen national backbones, harmonise roaming charges, and develop regional internet exchange points to decrease reliance on foreign infrastructure — an often costly and vulnerable dependency. They also aim to boost interconnection between neighbouring countries and establish regional data centres capable of hosting 40% of critical government data by 2030, as currently only 0.2% of global computing capacity is available in West Africa.

"Only shared vision and coordinated investments will enable us to include our populations in the digital economy," said Benin's Minister of Digital Affairs, Aurélie Adam Soulé Zoumarou.

The ministers also proposed creating a regional mechanism to finance digital transformation, attracting private capital, multilateral funding, and public investments.

While commitments were made, the real challenge lies ahead: turning words into action.

Moustapha Cissé, CEO of Kera Health and former head of Africa's first AI research centre, stressed that "the Cotonou Declaration must be the final declaration for the sub-region. Now we must act."

Aminata Ndiaye Niang named CEO of Orange Madagascar

Aminata Ndiaye Niang has been appointed as the new CEO of Orange Madagascar, effective 1 November, succeeding Frédéric Debord.

She brings extensive experience in digital technology and transformation, positioning her to lead the company's efforts to boost digital and financial inclusion and reinforce its role as an innovative, community-focused operator in Madagascar.

Orange highlighted Ndiaye Niang's leadership role in guiding the company alongside its management team to serve Madagascar's development and communities effectively. The company expects her strategic vision and expertise to accelerate subscriber growth across mobile and internet services and expand Orange Money offerings.

Her focus will be on strengthening Madagascar's subscriber base, which totalled approximately 3.7 million at the end of September 2025, amid fierce competition from Yas. Total mobile subscriptions in the country are estimated at around 18.2 million.

In line with its expansion strategy, Orange Madagascar has been investing in rural network deployment. In January 2023, it partnered with NuRAN Wireless to roll out 500 telecom sites in underserved areas. In December 2023, the company secured a €30 million global license, and in January 2024, it announced plans to cover 90% of the population by year's end, reinforcing its commitment to extending connectivity across Madagascar.

Regional progress on free roaming between Burkina Faso and Ghana

The rollout of free roaming between Burkina Faso and Ghana is gradually taking shape, coinciding with activities during Digital Week in the 'land of upright men.'

Telecom regulators from both countries, along with operators, are working to finalise the memorandum of understanding (MoU) for this initiative.

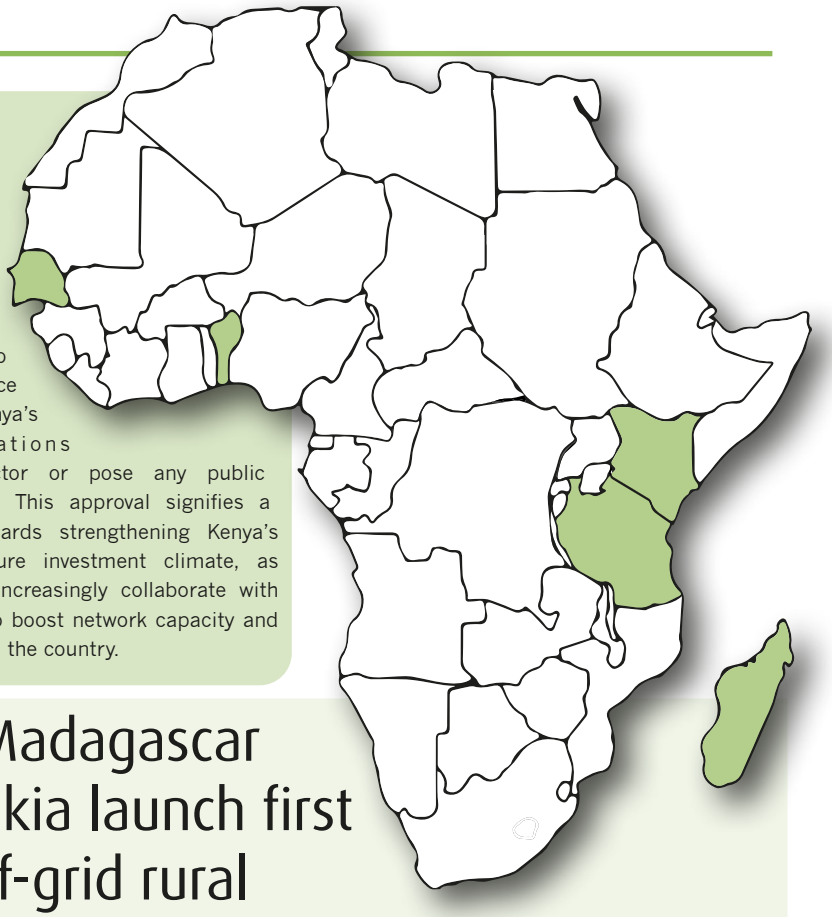
The Regulatory Authority for Electronic Communications and Posts of Burkina Faso (ARCEP) stated on November 19 that this initiative is part of a robust regional cooperation effort aimed at providing direct benefits to users — specifically, ending costly charges for calls, SMS, and mobile internet when roaming between Burkina Faso and Ghana.

This development follows recent regional moves, including Guinea and Sierra Leone signing an MoU on free roaming during the Transform Africa Summit. These efforts are driven by the Economic Community of West African States (ECOWAS), though some countries, like Burkina Faso, have withdrawn from the bloc but are still advancing regional cooperation independently. Notably, Burkina Faso signed an agreement with Togo last April.

In the broader West African context, free roaming has already been launched between Sierra Leone and Liberia, with Liberia also signing an MoU with Côte d'Ivoire. ECOWAS member Ghana was among the first to implement free roaming in June 2023, with bilateral agreements subsequently signed between Ghana and Benin, and Ghana and Togo — these went into effect in October 2024. Togo and Benin also finalised their own bilateral arrangements.

Additionally, an MoU was signed between The Gambia and Ghana for implementation in early 2025, though no updates have been provided since. Similar bilateral steps have been taken between Mali and Togo, Benin, Togo and Niger, and Côte d'Ivoire and Burkina Faso.

Kenya's Competition Authority approves stake acquisition in Atlas Tower Kenya



The Competition Authority of Kenya (CAK) has granted unconditional approval for France-based impact investment fund STOA S.A. to acquire a 31.03% minority shareholding in Atlas Tower Kenya Limited.

This stake includes veto rights, giving STOA influence over key decisions within the company, which specialises in developing and maintaining telecommunications towers and related infrastructure nationwide.

CAK's review concluded that the transaction is unlikely to significantly reduce competition in Kenya's telecommunications infrastructure sector or pose any public interest concerns. This approval signifies a positive step towards strengthening Kenya's digital infrastructure investment climate, as foreign investors increasingly collaborate with local companies to boost network capacity and connectivity across the country.

Digital payments come to 5 markets

Axian Group has announced a strategic partnership with Mastercard to introduce innovative digital payment solutions in five African countries where Axian operates mobile networks.

The collaboration aims to enhance financial services in Madagascar, the Comoros Islands, Senegal, Togo, and Tanzania, by launching a range of virtual and physical card offerings, along with merchant solutions, under Axian's Mixx and MVola brands.

In these markets, where Axian's services are branded as Yas, consumers will be able to use their Mixx and MVola applications to activate and load virtual cards, access live foreign exchange rates instantly, and monitor or cancel transactions in real time. These features are designed to make international payments more efficient, secure, and convenient for users.

Erwan Gelebart, CEO of Axian Group's digibank and fintech division, emphasised that the new solutions would empower millions of consumers, small and medium-sized enterprises, and entrepreneurs to conduct transactions via mobile phones. He highlighted that this move would also bolster the digital ecosystems within those markets, providing users with the tools needed to thrive in an interconnected world. Gelebart expressed that the partnership with Mastercard would enable customers to shop, send cross-border remittances, and manage their businesses securely through mobile applications.

Mete Guney, Mastercard's Executive Vice President for Market Development in EEMEA, added that the partnership reflects their ongoing commitment to creating simple and secure payment methods. He noted that working with innovative companies like Axian is vital to driving financial inclusion and accelerating the growth of Africa's digital economy.

Airtel Madagascar and Nokia launch first fully off-grid rural connectivity sites

Airtel Madagascar, in collaboration with Nokia, has unveiled the country's first fully off-grid Rural Connect sites, marking a significant step toward extending mobile connectivity to underserved rural communities.

Utilising Nokia's innovative Rural Connect solution — which combines AirScale Radio Access, renewable energy systems, and lean civil structures — these sites enable Airtel Madagascar to offer reliable, high-quality coverage in some of the most remote areas where connectivity was previously unavailable.

This initiative underscores Airtel Madagascar's dedication to bridging the digital divide and meeting its universal service obligations, while also aligning with Nokia's strategic mission to connect unserved populations through sustainable and energy-efficient technology solutions across Africa.

The push to improve rural connectivity comes at a critical time. According to the International Telecommunication Union (ITU), around 2.6 billion people worldwide lack internet access, with 1.8 billion residing in rural regions. These figures highlight both the challenge and the opportunity for digital transformation. Research from the World Bank indicates that a 10% increase in broadband penetration can boost GDP by up to 2.5% in developing countries, while GSMA forecasts suggest that closing the mobile internet usage gap could add as much as $700 billion to global GDP by 2030.

Nokia's Rural Connect solution addresses these issues head-on by offering a cost-effective, sustainable approach to rural connectivity. The solution emphasises circular economy principles by reusing refurbished radio access network hardware and integrates renewable energy sources such as solar or hybrid solar-wind systems to support fully off-grid operation. It also supports flexible backhaul options, including microwave, user equipment relay, and low Earth orbit satellite links, ensuring reliable performance even in the most challenging terrains.

"Our collaboration with Nokia represents a transformative step in ensuring that no community is left behind in Madagascar's digital journey. Expanding coverage to rural areas not only meets regulatory requirements but also opens new opportunities for education, healthcare, and economic development for thousands of people," said Anne Catherine Tchokonte Tcholagheu, CEO of Airtel Madagascar.

"Partnering with Airtel Madagascar to deploy Rural Connect sites exemplifies how innovation and sustainability can work together. Our solution provides operators with a scalable, energy-efficient, and affordable way to reach the hardest-to-access communities and extend the benefits of digital connectivity," said Mustapha Salah, Nokia's Head of Mobile Networks for Central, East & West Africa.

Nokia's Rural Connect deployments across Africa—such as in Ethiopia, Egypt, Cameroon, and Mali—have already demonstrated tangible societal benefits. In one rural community in Cameroon, mobile usage increased fivefold within two weeks of activating a site, giving residents access to essential services like education, healthcare, digital commerce, and government programs.

At the core of Nokia's Rural Connect initiative is its commitment to environmental, social, and governance (ESG) principles. The initiative aims to ensure that the societal benefits of connectivity outweigh its environmental impact. Through such efforts, Nokia continues to advance digital inclusion across Africa, empowering communities with secure, sustainable, and high-performance networks that foster inclusive growth and development.

Madagascar in tense standoff over internet costs

Madagascar's government and its major telecom operators are engaged in a tense standoff over efforts to lower internet prices.

The operators are demanding the removal of several taxes totalling approximately 215 billion ariary, but the government has refused to concede, insisting on negotiations and warning of potential sanctions if the operators do not compromise.

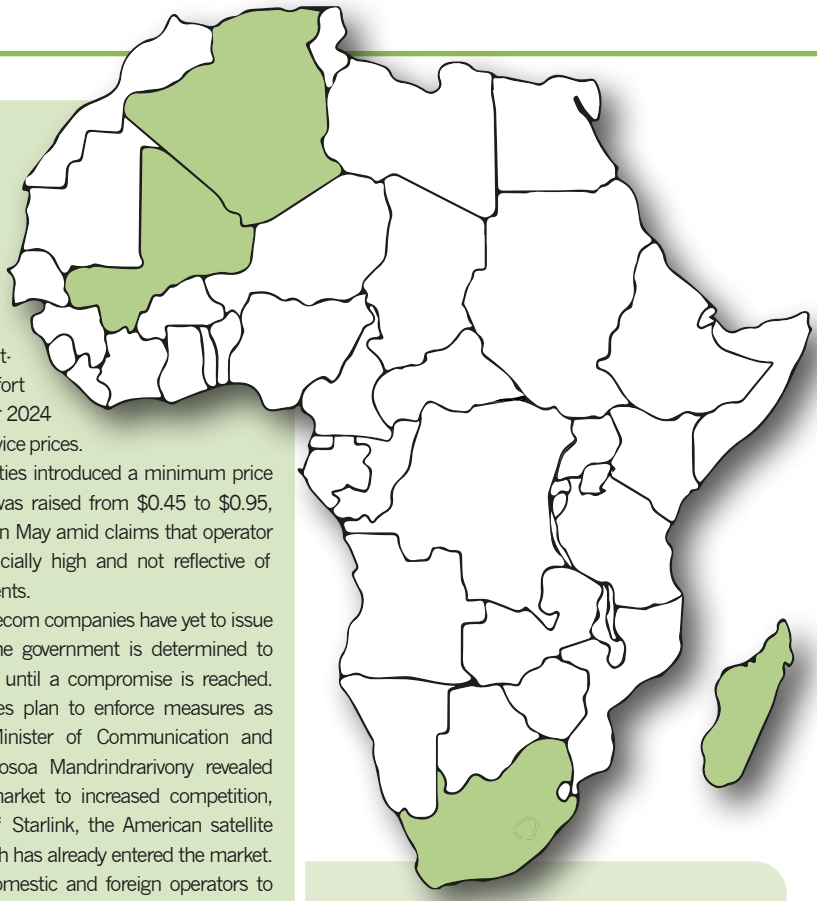
Mahefa Andriamampiadana, Madagascar's Minister of Digital Development, Posts, and Telecommunications, detailed the taxes targeted by the operators, which include excise duties, taxes on mobile transactions, and levies on phones costing less than $100. These taxes are estimated to account for just over 11% of the sector's total revenue, or roughly 1,938 billion ariary in 2024. The government maintains that eliminating these taxes would have significant repercussions on the national budget, particularly affecting allocations for education and health sectors. Yuri Garise Razafindrakoto, Secretary General of the Ministry of Economy and Finance, explained that the draft law concerning tax removal is already under review and awaiting approval, making it impossible to incorporate any new provisions without risking financial shortfalls that cannot be offset by anticipated expenditures.

On social media, voices have been calling for a reduction in internet prices, targeting the country's three main telecom providers — Yas, Airtel, and Orange. The Telecommunications Regulatory Authority (ARTEC) responded by urging operators to explore options for adjusting rates to benefit consumers, following a wave of complaints about high mobile internet costs. ARTEC indicated that this initiative builds on actions taken since late 2024, including an initial tariff adjustment and a joint government-operator effort announced in October 2024 to reduce telecom service prices.

In April 2024, authorities introduced a minimum price per gigabyte, which was raised from $0.45 to $0.95, but this was revoked in May amid claims that operator pricing was still artificially high and not reflective of negotiated commitments.

While Malagasy telecom companies have yet to issue official statements, the government is determined to continue negotiations until a compromise is reached. If talks fail, authorities plan to enforce measures as stipulated by law. Minister of Communication and Culture Ogascar Fenosoa Mandrindrarivony revealed plans to open the market to increased competition, citing the example of Starlink, the American satellite internet provider, which has already entered the market. He called on both domestic and foreign operators to prepare for this eventuality.

Data from the International Telecommunication Union shows that in 2023, the average monthly expenditure on mobile internet in Madagascar was 6.28% of gross national income per capita — down from 52% in 2014 — but still three times higher than the 2% affordability threshold set by the organisation. Across Africa, the ratio stands at 4.48%, and globally at 1.24%. As of early 2024, the country had approximately 6.6 million internet users, accounting for a penetration rate of 20.4%, according to DataReportal.



Algerian government to strengthen institutional communications

The Algerian Ministry of Communication has announced plans to submit a draft national strategy aimed at enhancing institutional communication across the country.

The announcement was made during a presentation by Minister Zoheir Bouamama before the Committee on Culture, Communication, and Tourism at the National People's Assembly (APN).

The proposed project includes several concrete measures designed to modernise and secure the country's communication infrastructure. These measures involve the digital overhaul of government services, the creation of an independent national audiovisual regulatory authority, the establishment of a High Council for Journalistic Ethics, and the issuance of professional press cards to journalists. Additionally, the strategy seeks to regulate both online and print media, with a focus on digitising and safeguarding official information flows, strengthening the Algeria Press Service, and enhancing professional training within the sector.

The initiative comes amid growing concerns over the proliferation of disinformation, which is undermining public trust in government actions. According to DataReportal, Algeria had 36.2 million internet users in January 2025, accounting for 76.9% of the population. Over half the population, more than 25.6 million Algerians, are active on social media platforms, where misinformation is prevalent.

A 2025 study conducted by the Disinformation Social Media Alliance (DISA) revealed that 93% of Algerian internet users encounter false or misleading information online, with a third of them facing such content daily. Despite increased awareness, 39% of respondents admitted to sharing content that later proved to be false, highlighting the urgent need for effective institutional communication strategies to combat misinformation and promote accurate information dissemination.

Vodacom and Google Cloud to modernise data infrastructure

Vodacom Group has announced a significant multi-year partnership with Google Cloud aimed at transforming its data infrastructure and bolstering its artificial intelligence ambitions.

The collaboration involves migrating and consolidating the telecom operator's vital data assets onto Google's cloud platform, creating a unified data ecosystem.

The partnership will enable Vodacom to utilise Google Cloud's BigQuery and other advanced solutions to establish a "single source of truth" for all its internal information. This centralisation is expected to improve data governance, streamline operational processes, and lay a robust foundation capable of supporting increasingly sophisticated AI models.

Shameel Joosub, President and CEO of Vodacom, described the partnership as more than just a technological upgrade, emphasising its significance in the context of Africa's broader digital revolution. He stated that integrating Google Cloud's data and AI solutions will modernise Vodacom's infrastructure and fundamentally transform its operational approach.

For Google Cloud, this agreement is part of a wider strategy to accelerate the adoption of its technologies across Africa by partnering with regional operators with strong market presence. Through this collaboration with Vodacom, Google aims to facilitate access to cutting-edge AI solutions for millions of users and businesses across the continent. However, the deal also bears similarities to Microsoft's recent collaboration with MTN, one of Vodacom's main competitors in several African markets.

Mali strengthens Government communication coordination

The Malian Ministry of Communication, Digital Economy, and Administrative Modernisation (MCENMA) recently held a strategic meeting to enhance the coordination and effectiveness of government messaging.

The gathering brought together communication officials from all ministries, along with representatives from the Malian Broadcasting and Television Office (ORTM), the Malian Press and Advertising Agency (AMAP), and the National Communication Agency for Development (ANCD).

Participants focused on harmonising public messages and devising strategies to better promote government actions. In his address, Minister of Communication Alhamdou Ag Ilyène underscored the evolving nature of threats facing Mali, highlighting that contemporary attacks are no longer solely military but increasingly media-driven, digital, and psychological. He stressed that "the country's first line of defense is the word of the State—a clear, credible, and unified message." The minister called on communication officers to speak with one voice, emphasising discipline and consistency, and reminded them that "every ministry, every spokesperson, every public communicator represents the credibility of government action."

This initiative is part of a broader effort to reinforce the cohesion and coordination of Mali's government communication strategy. The goal is to share best practices, improve institutional responsiveness, and develop a unified approach that effectively addresses current challenges in public communication, according to a MCENMA press release.

Alhamdou Ag Ilyène pointed out that Mali is currently facing a "veritable information war," citing recent reports from the Africa Center for Strategic Studies published in 2022 and 2024. These reports reveal a fourfold increase in disinformation campaigns across Africa during this period, with West Africa being the most targeted region, accounting for 40% of these campaigns.

Talking sustainability

Mark Williams-Wynn, CTO, EWaste Africa

Driving the circular economy in telecommunications

As we navigate the realities of the impact that humans have created in the Anthropocene age, the telecommunications industry stands at a pivotal crossroads as to how they will react. Companies operating within this sector hold a unique position and responsibility to champion the principles of a circular economy.

Promoting circularity

At the core of this transformation is the recognition that telecommunications companies are not just service providers; they are powerful agents of change capable of shaping consumer behaviour and industry standards. From a consumer perspective, these companies are uniquely positioned to influence habits through education and practical initiatives.

Moreover, implementing take-back schemes, device rental programs, and subscription models serves to facilitate responsible handling of electronic waste. These initiatives not only extend the lifecycle of devices but also help create closed-loop systems where materials can be recovered, reused, and reintegrated into manufacturing processes. Such approaches are vital for decoupling economic growth from resource extraction, thereby aligning business goals with environmental stewardship.

From an African perspective, telecom companies like Safaricom are looking at ways of becoming more circular through ideas such as sharing infrastructure with other telecom companies and offering reductions for contracts if the phone is returned upon upgrade.

Educating consumers

Beyond operational innovations, education plays a fundamental role in fostering a circular economy within the communications landscape.

Telecom companies have a responsibility to raise awareness about what the circular economy entails, why it matters, and how individual actions can contribute. This means helping the public to understand how electronic waste contributes to problems like resource depletion, pollution, and inequality, and encouraging them to consume more responsibly.

By empowering consumers with knowledge, companies can influence purchasing decisions and end-of-life management behaviours, ultimately creating a more informed and engaged customer base committed to sustainability.

Design and lifecycle management

Telecoms companies must ensure that all waste generated through infrastructure upgrades, decommissioned equipment, or end-of-life devices is handled ethically and in compliance with environmental regulations. Partnering with certified, environmentally responsible waste management firms guarantees that hazardous materials are managed safely, and valuable resources are recovered efficiently, and thereby minimising harm to ecosystems and public health.

A foundational pillar of circularity lies in how products are designed and managed throughout their lifecycle. Incorporating eco-design principles, such as designing for repair and reuse, can significantly extend the useful life of devices. For instance, modular designs that allow for easy replacement of components make refurbishment more straightforward and cost-effective. At the same time, these designs also allow for repair and reuse by encouraging the creation of products that can be easily disassembled, with fewer glued or welded parts, enabling effective recycling and component recovery at end-of-life.

These design strategies promote resource efficiency by maximising the utility of existing devices and reducing the need for virgin material extraction.

Implementing take-back schemes, rental models, or device subscription services further supports this approach by creating structured pathways for product return and reuse. These models not only reduce waste but also open new avenues for customer engagement and revenue streams, reinforcing the business case for sustainability.

Partnerships as catalysts for circularity

Achieving a true circular economy requires collaboration across the ecosystem.

Partnerships between telecom operators, device manufacturers, and recycling organisations are vital for creating seamless pathways for device refurbishment, repair, and responsible disposal.

By providing training, certification, and support to recycling organisations, manufacturers can ensure refurbished devices meet quality standards, protecting brand reputation and consumer trust. Telecom companies can further facilitate market acceptance by reintroducing certified refurbished devices, expanding access to affordable, sustainable technology options.

The youth are critical to driving circularity, and they should be included on the journey, not just as unwilling passengers. They are very aware of environmental challenges and have great ideas for practical solutions. In addition, governments are starting to realise the importance of circularity, but further support is needed to drive real change. Whether through diversion from landfill, Extended Producer Responsibility schemes, or better enforcement, policy action remains critical to the transition.

Embracing the circular future

However, transitioning to a circular economy model is not without challenges. Consumer perceptions often favour new devices, perceiving refurbished products as inferior, which hampers adoption. Additionally, a lack of awareness about the benefits of circular practices and difficulties in tracking device histories pose obstacles.

To overcome these barriers, targeted education and awareness campaigns are essential. Highlighting the environmental, economic, and social benefits of refurbished devices can shift consumer attitudes. Implementing transparent tracking systems, such as digital certificates or blockchain-based provenance, can build trust and ensure accountability throughout the device lifecycle.

The pathway towards a sustainable, circular telecommunications industry is both a strategic necessity and an opportunity for innovation. By integrating eco-design principles, fostering collaborative partnerships, and investing in consumer education, companies can significantly reduce their environmental footprint while unlocking new market opportunities.

How secure device financing is the key to universal connectivity

The mobile usage gap isn't about network coverage, it's about cost. Across the globe, billions of people live in areas with mobile broadband coverage yet remain offline.

The GSMA's Barriers to Mobile Internet Adoption report shows that over 3.1 billion people live where coverage exists but don't use the internet. This usage gap is the divide between those who can connect and those who actually do.

For the past decade, governments, NGOs, and operators have invested heavily in expanding coverage. Towers have gone up, fibre has been laid, and data costs have fallen. Yet many remain disconnected. The bottleneck isn't infrastructure—it's affordability.

The affordability barrier

For millions living on daily or weekly wages, owning an internet-enabled smartphone remains out of reach. In low- and middle-income countries (LMICs), an entry-level handset costs around 16% of monthly income. That's several weeks of disposable income, a luxury few can justify when essentials come first.

Without affordable devices, people can't access jobs, digital payments, or government and healthcare services moving online. Yet many already own basic feature phones and maintain relationships with operators. They top up regularly, pay bills, and stay loyal. The infrastructure for financing exists—it just hasn't been fully activated.

A new wave of financiers

Mobile Network Operators, smartphone financiers, and retailers are positioned to solve this challenge. They have mass-market reach, customer insights, and established relationships, making them ideal to offer device financing. Instead of paying upfront, customers can spread the cost over manageable payments.

This model has succeeded across Sub-Saharan Africa, Latin America, and parts of Asia. Financed devices empower people to participate in the digital economy. A smartphone becomes a productive asset to generate income, manage businesses, and access education.

However, the opportunity isn't without risk. In markets with weak credit systems, operators face defaults, asset loss, and operational complexity.

Why traditional lending falls short

Traditional lending relies on credit histories and collateral, which most emerging-market consumers lack. Behavioral scoring or deposit requirements limit reach and exclude those the programs aim to help.

Many pilots stall. Operators face bad debt or struggle to secure backing. Unsecured handset-financing schemes report default rates of a quarter to a third, especially without remote-locking mechanisms, wiping out margins.

This isn't a technology or demand problem—it's a trust problem. Embedding trust directly into devices enables carriers and retailers to safely offer financing to underserved customers.

Mitigate risk through secure device financing

At Trustonic, the solution isn't to avoid risk, but to eliminate it.

Our device locking platform provides the foundation that makes large-scale financing viable. MNOs, retailers, and financiers can offer credit confidently by embedding a hardware-secured layer of trust. Customers are kept in touch with their bill with reminders, notifications and messages, and if necessary, the device can be temporarily locked. Once payment is made, functionality is restored. The process is automated, transparent, and secure.

Users gain fair access to smartphones without hidden penalties. Operators protect revenue and reduce bad debt. The technology supports

micro-repayments, subscription plans, and buy now pay later schemes, integrating with existing billing systems. Operators can scale efficiently while strengthening customer loyalty.

Security as a growth engine

Secure device financing reduces bad debt, enabling operators to expand portfolios. Each secured device represents a new connected customer, translating into higher ARPU, lower churn, and a stronger competitive position. Modest repayment plans can bring millions of new users online, increasing data usage and service adoption. This is how financing closes the usage gap.

Building trust through transparency

Technology alone isn't enough. Financing must be transparent and fair. Customers need to understand what happens if they miss a payment and how devices are reinstated.

Trustonic puts user trust at the center. Devices are never locked without communication, and unlocking is straightforward. The goal is accountability, not punishment, building long-term confidence. Transparency benefits the entire value chain, enabling sustainable scale.

The wider impact: unlocking digital participation

Affordable devices have profound ripple effects. Each new smartphone user participates in the digital economy—accessing banking, education, telemedicine, and more.

For governments, closing the usage gap accelerates national connectivity goals. For MNOs, untapped demand becomes active users, driving growth in data, fintech, and value-added services. A 10% increase in mobile broadband penetration can boost GDP growth in developing markets. Secure device financing is a catalyst for economic development.

A new era of universal connectivity

As coverage expands, the challenge shifts from building networks to building access. Secure device financing is a practical way to close the usage gap, aligning commercial incentives with social outcomes.

At Trustonic, we partner with operators, financiers, retailers, and OEMs to help millions take their first step into the digital economy safely.

The goal is simple: a world where everyone who can connect, does connect. ■

Data at home: the new battleground for African MNOs

As African regulators enforce stricter data residency rules and digital economies mature, mobile network operators are being pushed to rethink the physical, legal and architectural foundations of their networks. The outcome is a shift from centralised data flows to distributed, sovereign infrastructure designed for performance, trust and long-term strategic resilience.

For the past two decades, the defining challenge for African mobile network operators was coverage. The goal was to get signal to rural areas, to expand the radio network footprint, to scale backhaul capacity, and later to support the dramatic rise of mobile data. But as connectivity has become more pervasive, the competitive battleground has shifted. Today, the strategic question is not simply whether networks can reach people, but where the data those networks generate is stored, processed and governed. Data sovereignty has moved from the margins of legal compliance to the centre of infrastructure strategy.

Christian Tshishiku, Senior Analyst, DC Byte

"Data sovereignty is now a core part of how MNOs think about network design," explains Nitesh Singh, Managing Director and Communications, Media & Technology Lead for Africa at Accenture. "Many African countries have enacted laws that require sensitive or regulated data to be stored and processed locally. That changes how you architect your platforms. If your analytics, billing or security functions are running in another region, you cannot comply. The design shifts from global to local by necessity."

The impact is particularly pronounced in markets like Nigeria, Ghana, Kenya and South Africa, where data protection frameworks are established and actively enforced. Nigeria's NDPR and various sector-specific regulations impose residency requirements on telecom and financial services data. Ghana's Data Protection Act introduces stringent conditions on how data may be collected, moved, and stored. Kenya's Data Protection Act applies similar conditions, while South Africa's POPIA embeds privacy obligations into corporate operations. What all of these frameworks share is a common principle: data produced within national borders falls under national legal jurisdiction, and operators must ensure that data is physically and operationally accessible to authorities within the state.

The shift from centralised processing to localised compute

For years, many MNO groups and service providers depended on regional data hubs to serve multiple markets. Johannesburg, Lagos and Nairobi acted as processing and interconnect centres, just as Marseille, Lisbon and Dubai acted as offshore gateways for international transit. That model offered scale efficiencies. But data sovereignty introduces friction into that architecture.

"As soon as data must remain within the country where it is generated, the very idea of a multi-country processing hub becomes problematic," says Stefano M. Resi, Head of Data Centre Sales for Middle East and Africa at

Nokia. "If you run shared billing, shared analytics or shared customer experience platforms, you now need to redesign those systems to operate in each sovereign territory. It is not simply a compliance obligation. It changes the topology of the network and the operating model of the business."

Resi emphasises that the implications go far beyond hosting decisions: "data sovereignty touches every internal function," he says. "Budgeting changes because new infrastructure is required. Procurement changes because only certain vendors meet compliance standards. Governance changes because financial structures, shareholder eligibility and partner qualification can be regulated. You cannot isolate the impact. It becomes systemic."

The result is a shift toward distributed architectures composed of in-country data centres linked through secure, policy-aligned interconnection. Operators are no longer designing networks around pure efficiency or cost. They are designing for jurisdictional alignment, latency optimisation and resilience.

Infrastructure disparities are creating divergent MNO strategies

Not every African country is positioned equally for this transition. Markets such as South Africa, Nigeria and Kenya have mature data centre ecosystems with Tier III and Tier IV facilities, carrier-neutral interconnection hubs and hyperscaler nodes. Operators in these markets, including MTN, Vodacom, Airtel Africa and Safaricom, are already shifting workloads into sovereign environments to reduce latency and meet regulatory obligations.

In contrast, countries such as Zambia, Malawi and Sierra Leone lack large-scale certified facilities, forcing operators to continue hosting workloads offshore. The immediate benefit is reduced capital expenditure, but the trade-offs are clear: increased latency, dependency on international transit links, exposure to geopolitical risk, and vulnerability when submarine cables are disrupted.

"This is where the divide becomes visible," notes Christian Tshishiku, Senior Analyst at DC Byte. "Operators in countries with strong data sovereignty regulations are building partnerships with domestic data centre providers. Meanwhile, in markets with weaker frameworks, data continues to flow out of the country. That may reduce cost, but it diminishes national resilience and slows the development of local digital ecosystems."

Tshishiku adds that sovereign hosting is increasingly seen as a competitive differentiator, especially among enterprise and public sector clients: "government institutions, financial service providers and large corporates are explicitly asking where data resides. The ability to guarantee in-country storage is becoming a procurement advantage."

Local hosting is no longer only about compliance

Latency may be the most compelling operational argument in favour of sovereign data processing. African digital services are increasingly real-time in nature: mobile banking, payment authentication, cloud collaboration applications, streaming media, and low-latency enterprise services all perform significantly better when data does not need to traverse multiple international links.

"When data is processed close to the customer, the service experience improves measurably," says Singh. "We are talking about improved load times, smoother video delivery, more stable calls and better real-time analytics. These benefits matter in markets where mobile is the primary access point to the internet."

Resi draws an analogy to automotive engineering. "In the 1980s, cars were powerful but not particularly safe. When the industry invested in safety — airbags, crash-resistant frames, electronic braking — the result was not slower cars, but safer and faster ones. Data sovereignty has a similar dynamic. By strengthening national data control and security, you lay the foundation for better performance, greater trust and ultimately faster digital economic development."

Hyperscalers are entering African markets because of sovereignty, not despite it

Several years ago, cloud hyperscalers preferred to serve Africa through remote regions in Europe or the Middle East. That model is now increasingly untenable. Corporate clients and governments are insisting on domestic control of sensitive data, and MNOs are seeking architectures that place compute closer to users. Cloud providers have responded by deploying local zones, edge nodes and full regions in South Africa, Kenya, Nigeria and soon Egypt and Morocco.

"The direction is unmistakable," Tshishiku notes. "Hyperscalers are adapting to sovereign requirements because the market demands it. Local presence is becoming mandatory for capturing enterprise workloads in Africa."

Singh adds that AI use cases are accelerating this trend. "AI workloads are inherently data-intensive. Their accuracy and usefulness depend on locally relevant datasets. That means keeping data local to train and operate the models. Sovereignty and AI are deeply interlinked."

Regulatory fragmentation remains the largest structural barrier

While sovereign frameworks are stimulating investment and infrastructure development, the lack of harmonisation across African regions increases cost and complexity. Fifty-four countries now have over fifty interpretations of data residency and data protection. Some are precise and enforceable. Others remain broad or ambiguously worded.

"One of the biggest challenges is consistency," Resi explains. "Regulations evolve faster than infrastructure can be deployed. Interpretations vary across ministries and agencies. Operators need clarity and predictability to justify capital investment. A regional or continental framework, similar to the European GDPR alignment model, would unlock greater efficiency and scalability. But we are not there yet."

Despite the fragmentation, Resi remains optimistic: "in almost every market where data sovereignty frameworks have been introduced, infrastructure investment followed. Data frameworks stimulate data infrastructure, and infrastructure stimulates digital services and economic growth. This is a long-term trajectory, not a short-term phase."

The competitive frontier is now trust

Perhaps the most significant shift is not technical, but strategic. Data sovereignty has elevated trust to a market differentiator. In a mobile-first continent where personal and financial services are mediated through handheld devices, trust is an operational currency.

"When customers understand that their data is stored and protected under local law, confidence increases," says Singh. "This matters not only for consumers, but for governments and enterprises. Trust is becoming a structural component of competitive strategy for MNOs."

The question is no longer whether data sovereignty will shape the future of African telecommunications. It already is. The real question is which operators will build the technical, legal and organisational foundations early enough to convert compliance into advantage.

The answer is beginning to show in latency curves, network stability metrics, enterprise contract wins and hyperscaler partnerships. The next decade will belong to operators who build networks not only for speed and coverage, but for proximity, resilience, authentication integrity and sovereign alignment. Those who continue to rely on offshore processing will eventually find cost efficiencies outweighed by regulatory pressure, customer expectations and digital sovereignty priorities.

Africa's data economy is no longer weightless. It has a home. And where that home is located is now a defining strategic choice. ■

Stefano M. Resi, Nokia

Nitesh Singh, Accenture

To RCS or not to RCS – the African dilemma

Jentje Umpleby, Sales Specialist, Openmind Networks

The suspension of Google's RCS guest services in multiple African MNOs has created a peculiar dilemma, leaving consumers, brands, and operators highly frustrated.

RCS is an advanced form of SMS, offering interactive features such as images, buttons, carousels, verified senders, and read receipts. It operates directly within the phone's native messaging application, eliminating the need for external third-party apps. RCS is widely supported on Android, and its availability on iOS is increasing.

RCS for business brings these same capabilities to business communication. It allows companies to send branded, interactive messages for promotions, service updates, and two-way conversations. For mobile operators, RBM provides a secure and reliable channel that gives them control over delivery, quality, and compliance.

While RCS has existed for a long time, the GSMA's Universal Profile addressed fragmentation. Google's pivotal role was to rapidly accelerate its adoption, turning it into a widely available service through its Google Jibe platform.

To increase reach and user adoption, Google enabled RCS via the Google Guest Cloud, allowing Android users to send P2P RCS messages, and enterprises to deliver Rich Business Messages to users on networks not yet in partnership with Google. Google has hosted this global federated service with the objective that carriers will partner with Google for RCS business services, as this is where Google monetises its investment, and the carrier can benefit from charging for RBM terminations within their network.

The provision of free, global RCS infrastructure via the Google Guest Cloud represents a significant, multi-million-dollar operational investment. To ensure the long-term sustainability and continued expansion of this infrastructure, Google is shifting to a partnership model that requires a revenue share with operators for RCS for Business.

As part of the transition to a sustainable, carrier-led model, Google has begun phasing out free RCS guest services in some markets. While this transition is necessary for the long-term health of the ecosystem, it has led to temporary service disruption and user frustration in affected regions.

Users having gotten used to RCS now find it getting switched back off again. This is causing a lot of frustration as no clear answers are given as to why they no longer have access to RCS, other than "your carrier does not support" notice. Although Google has not made public statements as to the reason for suspension, the message is clear: if a consumer wants RCS, it is up to the carrier to support it.

RBM will take time to establish and is still fragmented. In the US, 90% of users are RCS-enabled as it was one of the first regions where Apple has enabled RCS. Germany, for instance, primary carriers have joined forces in campaigning heavily on the features of RBM, partnering with large Enterprises to educate users on the security aspects of RBM resulting in user confidence in RBM as a trusted Telco native channel. The German consortium of carriers has a view that RCS has not replaced SMS necessarily, but that it has created a new revenue channel for them. On average, RBM campaigns, depending on the type of campaign, achieved 120-300% higher conversion rates for enterprises compared to SMS and email campaigns.

Some African operators have successfully adopted RCS and partnered with Google. For example, in Nigeria, user adoption is high, and they are beginning to monetise RBM. The key to RBM's success lies in its reach: enterprises need to connect with a majority of subscribers in that market. RBM is most effective when most or all operators in a market have adopted RCS. However, large global enterprises, such as global retailers are embracing RCS for Business as the ROI is significant, buyer trust is there, whilst the secure nature of the channel appeals to hyperscalers and financial institutions for authentication OTP purposes.

Market Shift Statements

Drawing on Openmind Networks' Future of Messaging Report 2025 and analyst outlooks commissioned to Mobilesquared, the data underscores a substantial and rapid global transition toward Rich Business Messaging. This is not a slow evolution, but a measurable shift that places early movers in a strong position to reclaim significant value previously ceded to OTT platforms. The financial projections alone are staggering, with the global RBM market forecast to explode from $190.8 million in 2024 to an estimated $4.5 billion by 2029. This acceleration is heavily influenced by cross-platform support, evidenced by the projection that Apple's highly anticipated RCS support is expected to add a massive $1 billion in RBM revenue by 2029.

This growth is being actively pulled by enterprise demand. Over half of service providers (52.5%) report that their rich-messaging strategy is directly driven by the inherent limitations of traditional SMS and the rising threat of fraud. When it comes to strategic intent for rich communication, RBM is leading the way, cited by 30% as the main driver, marginally ahead of WhatsApp Business at 25%. The market confirms this trend: since Apple committed to RCS support starting in 2024, 36.1% of providers saw an immediate increase in enterprise inquiries, and nearly 40% report that this high demand has been sustained, indicating that the move to interactive, secure messaging is now mandatory for large-scale corporate communication.

The RCS opportunity for Africa

The current disruption in RCS guest services across parts of Africa is not the end of RCS — it is a call to action for operators. The frustration felt by users and enterprises alike underscores one simple truth: there is clear demand for rich, interactive, and secure messaging. The question is no longer whether RCS is viable, but who will take ownership of it in each market.

As Google transitions toward a carrier-led RCS model, operators in Africa have a unique opportunity to step up, partner strategically, and take control of their own RCS infrastructure. By doing so, they can capture new enterprise revenue, strengthen customer relationships, and restore consumer trust in native telco messaging.

The global data tells a compelling story — Rich Business Messaging is scaling fast, enterprise adoption is accelerating, and Apple's RCS support will only add momentum. Markets that embrace RCS early are already seeing significant returns through increased engagement and monetisation.

The time to choose is now: to RCS or not to RCS — Africa's next major messaging decision will define its digital communication landscape for years to come. ■

Could mega constellations rewrite Africa's future?

Africa is stepping into a new era. One defined not by the limits of its geography, but by the vast possibility of its skies. Mega satellite constellations could be the breakthrough that transforms connectivity from a stubborn challenge into a catalyst for continental acceleration.

A continent on the edge of a connectivity revolution

Standing on the outskirts of Nairobi, it's not uncommon to see a teenager balancing a smartphone and a textbook, searching for an evasive and unreliable signal. This is the paradox of Africa today: a generation eager to plug into the global digital ecosystem, and an infrastructure network that too often leaves them buffering.

Yet something fundamental is shifting. Conversations once dominated by the logistics of fibre trenches and tower placement have turned upward: toward the sky, where networks ignore borders and where satellites glide silently over regions that have waited decades for reliable connectivity.

"Across Africa, the conversation about connectivity is changing from possibility to inevitability," says Ayes Amewudah, Consulting VP Africa at Commercis Plc. "The continent stands on the edge of a digital revolution."

The optimism surrounding new low Earth orbit (LEO) constellations is not the usual hype cycle. It feels different, maybe because for the first time, the technology aligns with the continent's realities: widely dispersed populations, rugged terrain, and the soaring demand for affordable, high-performance communication.

"LEO, MEO, and GEO satellites each offer unique strengths that make them essential to global connectivity," asserts Pablo Catapodis, VP Sales Africa, SES. "LEO constellations provide low-latency links ideal for real-time applications, MEO satellites combine high throughput, low latency, and wide coverage for data-intensive use cases, and GEO satellites deliver unmatched global reach and reliability for data, broadcasting and critical communications. Together, they form the foundation of a versatile, truly global satellite ecosystem."

As Bob Potter, CTO of Global Invacom, frames it: "new NGSO constellations can deliver lower cost, low latency broadband to the African continent. Africans can benefit from services they may not have previously accessed — finance, education, health information, government services, the global marketplace."

The revolution isn't only technological. It's human.

Breaking the chains of geography

Africa's landscape is extensive: vast deserts, dense forests, and mountain ranges that defy even

the most ambitious engineers. For decades, these magnificent features have been the very things that held connectivity back.

"Africa has historically struggled to deliver broadband due to geography, topography and cost," Potter notes. "Africa has historically struggled to deliver broadband services to its communities due to challenges such as geography and topography and cost of deployment to remote areas. Utilising the mega constellations means that Africans can benefit from broadband services which in turn enable the people to access services they may not have previously gained access to (finance, government information, education, health information, access to the global marketplace, etc)."

Entire nations have been shaped by the simple fact that reaching remote communities required digging trenches through regions where roads themselves are a luxury. With satellite, those barriers vanish.

"Satellite removes geographical boundaries," says Helen Weedon, Managing Director of the Satcoms Innovation Group. "Mega constellations in LEO have the power to transform connectivity. For governments across Africa, this can have a massive impact on their universal service obligations (USOs) as they can help to connect rural and underserved areas at a lower cost. USOs aim to connect those communities that are disadvantaged due to lack of access to connectivity and therefore internet and phone services. The use of satellite removes geographical boundaries such as remoteness or terrain that prevents the rollout of copper or fibre cables or mobile phone masts in the area due to cost."

Out in the field, the change is palpable. Engineers no longer speak about the impossibility of reaching certain regions. Instead, they speak in timelines: days, not months; weeks, not years.

"The beauty of LEO," adds Stephen Tunnicliffe, Chief Strategy & Commercial Officer at Commercis Plc, "is that it can be deployed much faster — essentially wherever you can set up a terminal."

Suddenly, the continent's vastness feels like an advantage rather than an obstacle.

From isolation to inclusion

In rural Malawi, a teacher recently told visiting engineers that her students sometimes walk kilometres to find a reliable signal strong enough for a single online lesson. Stories like hers echo across the continent: stories of determination, resilience, and the frustration of knowing what's possible but being unable to reach it.

That is why the promise of LEO resonates so deeply.

"Connectivity transforms isolation into integration, and potential into productivity," says Amewudah. "Mega constellations could unleash an untapped reservoir of skills, ideas, and entrepreneurship. By extending digital access to rural populations, mega constellations could unleash an untapped reservoir of skills, ideas, and entrepreneurship that could reshape local economies from the ground up."

The most striking aspect of this shift is not the speed of the internet, but the speed of opportunity.

Weedon underscores this point with clarity: "satellite is inclusive. If affordable or subsidised, it can boost education, healthcare, business, finance — and level the playing field. It can transform communities and their ability to expand their reach in terms of trade, to develop their education systems, gain easier access to healthcare, take advantage of government services online, open bank accounts and a plethora of other benefits."

The transformation happens quietly. A mother in a rural community gains access to telemedicine. A small business owner connects with suppliers abroad. Students join digital classrooms that no longer buffer into oblivion.

"The value of a connected continent is well documented by organisations such as the United Nations, the World Bank, GSMA, the European Union and more, and is essential to elevating the African standard of living and competitiveness with developed nations," explains Yanniv Betito, Vice President, Sales and Business Development, EMEA, Telesat. "In fact, a World Bank study revealed that every 10% increase in broadband penetration drives GDP growth by 1.38% in developing countries. Achieving this level of connectivity simply cannot be done with terrestrial networks that are limited by terrain, national borders and other constraints."

The economics of scale: making access affordable

Africa's digital dreams have always collided with a familiar wall: cost. The expense of building fibre through remote areas has historically dwarfed the revenue those regions could generate. Investors, understandably, hesitated.

But LEO constellations are rewriting the balance sheet.

"While geostationary (GEO) satellite connectivity has been available for decades, the associated costs of accessing this small number of satellites made it prohibitive for wide scale use by African nations," says Betito. "But new low Earth orbit (LEO) constellations, many of which include hundreds to thousands of satellites, deliver greater economies of scale resulting in a far lower cost per megabit of bandwidth. This creates an affordable price point for telecommunications providers to offer to African enterprises and individual end users."

Unlike traditional infrastructure, which can be heavy, physical, and slow, LEO is agile. Once the satellite network is in place, the barriers to entry shrink dramatically.

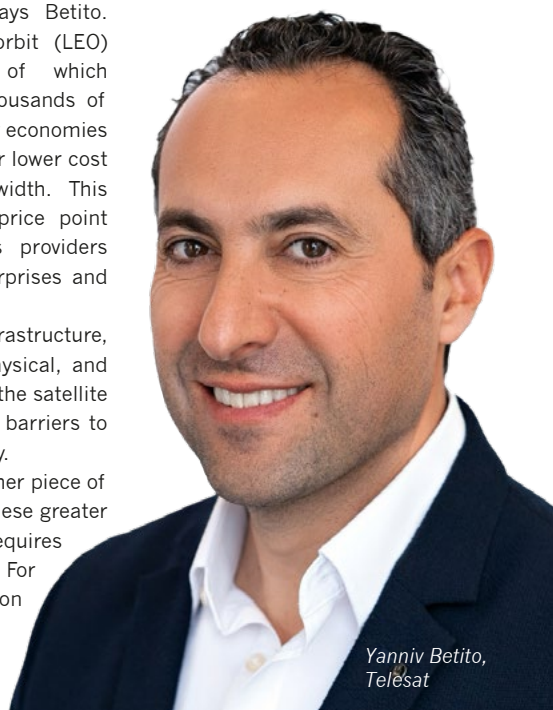
Betito highlights another piece of the puzzle: "achieving these greater economies of scale requires satellite standardisation. For instance, standardisation enables replicability across multiple enterprise sites that may be located across different regions or even countries. Each location can use the same satellite antennas and other equipment, simplifying the user experience and avoiding high integration and network configuration costs. As an example, by adopting the MEF 3.0 Carrier Ethernet / Layer-2 service, the Telesat Lightspeed™ LEO constellation delivers seamless interconnection with the African fixed terrestrial networks, just like any other Carrier Ethernet extension a provider purchases."

This standardisation simplifies everything from interoperability to network maintenance. It's the difference between each country reinventing the wheel and the entire region moving forward cohesively.

Of course, innovation doesn't erase reality. Africa's terrain still challenges engineers; logistical hurdles still complicate deployment; regulatory processes still move at their own pace.

"Africa comes with real challenges. Reliable electricity remains a major constraint, especially in off-grid areas where powering user terminals and gateways is not guaranteed. Poor road infrastructure can complicate logistics, transporting equipment to remote sites becomes especially difficult during the rainy season, when many roads become impassable," says Tunnicliffe. "Affordability is another key consideration. Although prices for satellite hardware are gradually falling, they remain out of reach for many households. Innovative

Pablo Catapodis, SES



Yanniv Betito, Telesat

business models, such as community access hubs, local cooperatives, or government-subsidised connectivity programs, could help overcome these barriers."

Technical complexity also lingers. Weedon raises concerns about flat panel antennas (FPAs): "at present, FPAs are not subject to a standard testing and certification procedure that ensures minimum performance standards and prevents interference being caused with GEO networks. SIG and GSOA are currently working hard to heighten awareness of this issue and to tackle it by coming up with a testing and certification procedure that is agreed by satellite operators and can be used by satellite manufacturers to ensure that their antennas meet the minimum standards."

Yet the industry is neither complacent nor unprepared. The rapid pace of innovation suggests that these challenges, while real, are surmountable. Indeed, the race to innovate is more than competitive: it's collaborative, with the continent's future connectivity hanging in the balance.

Rewriting Africa's telecommunications map

Walk into any telecom operator's headquarters across Africa, and you'll find a mix of excitement and caution. LEO isn't just adding capacity; it's redrawing entire business models.

"The rise of mega constellations will certainly disrupt Africa's telecommunications ecosystem," observes Amewudah. "There is debate about whether satellite internet will compete with or complement traditional telecom infrastructure investments in Africa. The most forward-looking operators see partnership, not competition. A hybrid model, where satellites handle remote and hard-to-reach areas, while fibre and 5G networks serve urban cores, could create a resilient, multilayered digital ecosystem. Such collaboration could optimise network costs, accelerate expansion, and ensure that no community is left behind. Ultimately, the question is not whether satellite and terrestrial systems can coexist, but how effectively they can converge to deliver universal connectivity."

The old dichotomy — satellite vs. terrestrial — is dissolving. Hybrid networks are becoming the blueprint for Africa's future. Fibre in cities, 5G in economic hubs, satellite in remote and rural zones.

"Mega constellations will provide more bandwidth, improving the overall quality of service by providing backup solutions for terrestrial networks or by extending coverage to areas where laying fibre is not economically or physically viable. However, because many mega constellations provide direct connectivity service to end users, they compete head-to-head with existing telecom providers," says Betito. "Another key issue is overcoming network latency. African terrestrial connectivity routing often sends network traffic through Europe or the Americas before returning to Africa; this is slow and inefficient. Instead, LEO connections take the most direct path, increasing reliability and reducing latency, which is critical for applications like mobile payments."

This is more than connectivity: it's economic infrastructure.

Regulation, sustainability, and the African sky

Africa's regulatory map has always been a mosaic. A patchwork of policies, priorities and processes, each tied to its own history and political context.

"Regulation in Africa is very different to other world regions," explains Weedon. "It is not straightforward and there is no blanket regulation, so it's difficult to navigate. Access to spectrum can also be a challenge but this is gradually changing. Limited infrastructure can also create barriers."

Potter echoes the complexity: "regulation is very fragmented, with each country with a different set of regulation. There is currently no consistent framework in place in terms of satellite regulation so this needs to be taken on a country-by-country basis."

Yet harmonisation is slowly emerging. As governments see the economic potential, regulatory clarity becomes a competitive advantage.

Environmental sustainability has also become firmly part of the conversation. Betito emphasises the growing global responsibility: "all satellite operators are required to comply with several international rules and treaties developed by the United Nations and other cooperative organisations, along with regulations from the International Telecommunication Union (ITU). These policies cover a range of issues such as collision avoidance and space debris mitigation, fair radio frequency spectrum utilisation, and safe, sustainable use of space. There is also growing international consensus around the need to mitigate light and radio pollution from satellites that can interfere with terrestrial activities like astronomy."

In a continent deeply affected by climate change, the alignment of connectivity with green energy — particularly solar-powered terminals and gateways — creates a rare moment where technological progress and climate stewardship coexist.

Digital inclusion at continental scale

In townships, markets, tech hubs, and rural villages, connectivity is increasingly viewed as a necessity, not a luxury. And the benefits extend far beyond convenience.

"The ultimate promise of mega satellite constellations extends far beyond internet access; it is about accelerating Africa's social and economic transformation," Amewudah says. "Reliable connectivity enables digital education platforms that reach every child, telemedicine programs that serve every community, and e-commerce ecosystems that empower entrepreneurs to trade globally. It allows farmers to access agricultural data, young professionals to work remotely for international companies, and governments to digitise public services efficiently."

"As industries evolve and connectivity demands grow more complex, multi-orbit solutions will remain central to delivering reliable, adaptive, and future-proof satellite communications across Africa and around the world," says Catapodis. "Already, more customers from across the continent come to count on the broad reliability profile of multi-orbit solutions."

Connectivity becomes a foundation for inclusive growth, it breaks down geographic barriers, promotes innovation, and ensures that opportunity is not confined to cities.

"Given that so much of the African continent is still underserved or not served at all, mega constellations can have a transformative effect on the economic development and digital inclusion across Africa," adds Weedon. "Satellite provides the most inclusive technology that ensures that every community can gain access to connectivity no matter where they are from the nearest town or city."

According to Potter, Africa has the lowest internet penetration at just 39%. Access to broadband can transform this.

Betito describes the broader societal shift: "increased access to satellite connectivity has the potential to make a huge difference to Africa's economic development and digital inclusion. It opens doors to critical services such as healthcare, education, financial and agricultural management, and creates potential for businesses to expand and flourish. It is the continent with the lowest internet penetration at just 39% and its people struggle with poverty. Access to broadband and therefore the internet can transform this, and mega constellations provide the ideal connectivity medium."

In countries where entire generations have grown up just outside the reach of the digital world, this shift is not merely technological: it is liberating. ■

Bob Potter, Global Invacom

Connectivity with purpose: Ericsson's vision for Africa's 5G future

Africa's 5G journey is accelerating, and Ericsson says the real magic happens when technology meets purpose — from greener networks to empowered communities. This interview explores how collaboration, sustainability, and storytelling with impact are shaping a more connected, inclusive digital future across the continent.

How does Ericsson's vision for 5G showcased at MWC Kigali align with the broader digital transformation goals across Africa?

It's absolutely fascinating to visit Kigali. It was my first visit to Rwanda, and what really strikes me is how strong the country's technology foundation already is. Rwanda is a genuine tech hub, which makes it the perfect place to discuss how 5G can be a growth enabler and a driver of innovation across Africa.

We're excited to be partnering with companies like MTN here at Mobile World Congress Kigali to demonstrate not just the technology, but also its societal impact. Yes, 5G brings economic opportunities, but it also has the power to transform communities; whether through better connectivity, automation, or safety solutions.

Ultimately, it's all about partnership and progress. Africa has enormous potential, and Ericsson is deeply committed to helping the continent grow through technology, innovation, and collaboration.

In your view, why is purpose-driven marketing especially vital for technology companies operating within the African market?

I think everyone working in this space feels the importance of authenticity, of telling real stories that show the true impact of what we do. That's central to Ericsson's values and to my personal philosophy as a communicator.

Marketing isn't just about showcasing technology; it's about storytelling with purpose. We want people to see and feel the change our technology brings — whether it's enabling businesses, connecting communities, or building digital skills for the future.

Africa offers us an incredible opportunity to highlight stories of innovation, entrepreneurship, and empowerment. With our partners and the brilliant talent within Ericsson, we're proud to bring those stories to life and demonstrate how technology truly transforms lives.

Kirsty Fitzgibbon - Vice President and Head of Marketing, Communications and SCR, Ericsson Europe Middle East and Africa

Can you elaborate on how sustainability is integrated into Ericsson's strategic initiatives to promote energy efficiency, reduce carbon emissions, and develop greener networks in Africa?

Sustainability isn't a "nice to have" for us — it's at the heart of our strategy. Ericsson has set ambitious Net Zero targets: by 2030, we aim to achieve Net Zero in our own operations, and by 2040, across our entire value chain.

We're building energy efficiency directly into our products. For example, our latest radio units have achieved a 40% reduction in energy use since 2021, and a 30–35% reduction in weight. That translates into lower emissions across the supply chain and easier deployment for our partners.

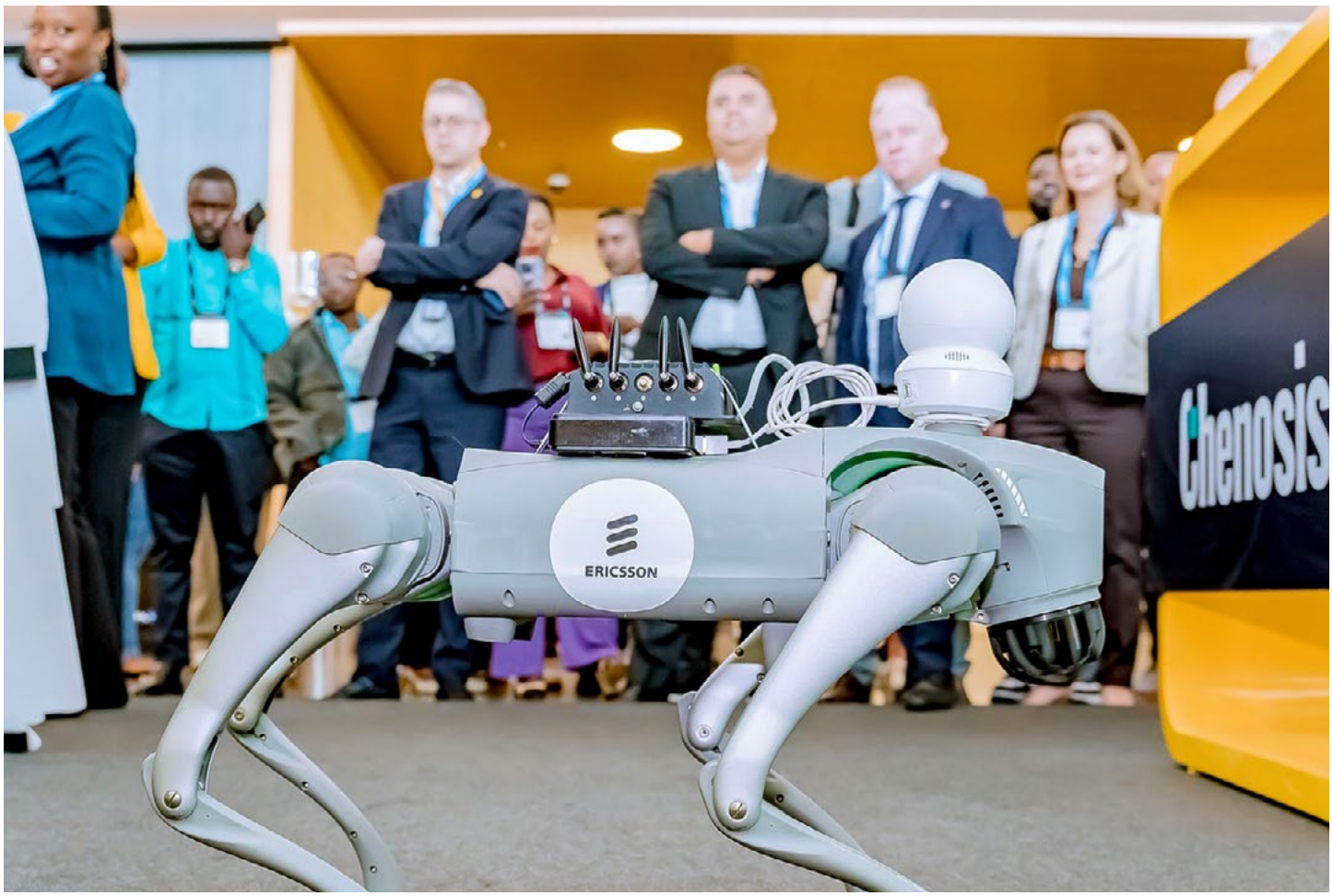
We're also proud of our electrical and electronic waste management (or e-waste) program, which helps customers recycle and reuse equipment at no cost. Up to 98% of our returned equipment is recycled or repurposed.

Sustainability is not only about reducing our footprint but also about innovation and working actively towards full circular economy practices. It's reflected in the way we design, produce, and manage our products and services, creating greener, more efficient digital services that drive Africa's digital transformation in a more climate-responsible way.

Why do you believe collaboration is essential for achieving impactful technological and societal outcomes in the African context?

What really struck me during MWC Kigali was how unified the message of collaboration was — from President Kagame to ministers, regulators, and industry leaders. Everyone agrees that we can't bridge the digital divide alone.

Public-private partnerships are absolutely vital. For example, our partnership with UNICEF in support of Giga's aims to bridge the digital divide by connecting every school to the internet initiative is a testament to what can be achieved when we unite for a common cause. Ericsson was the first private sector partner to make a multimillion-dollar commitment to UNICEF and ITU's Giga initiative and has supported Giga in mapping more than 2.1 million schools, increasing access to connectivity for 14,500 schools and connecting more than 7.79 million students to the internet.



On a more local level, we've worked with organisations like Yas Senegal and the Ministry of Education to deliver affordable, quick-to-deploy Fixed Wireless Access to schools, with devices, teacher and learner training and access to digitised curricula and the world of internet content, ensuring an end-to-end fully digital education ecosystem. We've also collaborated with the Smart Africa Digital Academy, training over 100 policymakers from 19 African countries in digital technologies, AI, and 5G. And through our partnership with AXIAN Telecom, we are committed to digitally upskilling even more young people across Africa in 5G, AI, and automation. We will work closely with local partners to develop tailored strategies that address the unique needs of youth in each market.

It's about collective progress; combining strengths to drive economic development and societal change. And as a mother, I feel particularly inspired by how this collaboration can unlock the potential of the next generation, wherever they start from.

How is Ericsson shaping its campaigns to resonate with African priorities such as youth empowerment, digital literacy, and sustainable innovation?

Fintech is one of the most exciting areas for us. Through partnerships like MTN's mobile financial platform, powered by Ericsson Wallet, we're enabling financial inclusion for millions.

In Uganda, for example, we've worked directly with women running market businesses, helping them use mobile finance tools to manage transactions and grow their enterprises. It's a powerful example of how technology can empower entrepreneurs and communities.

Beyond fintech, our Ericsson Educate initiative builds digital and AI literacy, often in partnership with organisations like AXIAN Telecom. Across Kenya, Uganda, and beyond, we're helping young people and women gain the skills they need for future jobs and innovation.

Our goal is simple: connect the unconnected, empower the underserved, and make sure everyone — from entrepreneurs to students — has access to digital opportunity.

"Sustainability is not only about reducing our footprint but also about innovation and working actively towards full circular economy practices. It's reflected in the way we design, produce, and manage our products and services, creating greener, more efficient digital services that drive Africa's digital transformation in a more climate-responsible way."

What are some of the challenges and opportunities Ericsson faces when aligning its global strategies with the unique needs and aspirations of African communities?

Every country has its own priorities and starting points, and with Ericsson operating in around 180 markets, that diversity we see it as an opportunity rather than a hurdle.

Connectivity is our core focus globally, and in Africa, that mission takes on a special meaning. By combining our global expertise with local presence — people who live and work in these communities — we can tailor solutions that make a real impact.

That's what makes Ericsson unique: we're a global company with local roots. Our teams on the ground truly understand what's needed and how to adapt our technology for local realities.

Africa is full of potential, and our commitment to the continent is unwavering. We're proud to partner in its growth story: not just as engineers, but as people genuinely invested in its future. ■

Eyes on the skies: how lasers and latency will shape Africa's satellite-based digital future

Across Africa, demand for reliable connectivity is firmly on the rise. Digital tools underpin everything from mobile banking to agricultural forecasting, from virtual classrooms to telemedicine in rural clinics.

It's the global leader in mobile money, accounting for 65% of the world's $1.1 trillion worth of transactions, with services like M-Pesa thriving in areas like Kenya and Tanzania. Tools like Digital Green are providing farmers in Ethiopia with climate and soil data for improved crop planning. And platforms such as Hello Doctor and mPharma are revolutionizing telehealth in countries like Nigeria and beyond.

Yet, despite the rapid growth of Africa's digital economy, a significant portion of the continent still remains offline. According to the International Telecommunication Union (ITU), only around 37% of the population in Africa have reliable internet access, almost half the global average. That leaves hundreds of millions without access to these pioneering digital services – as ever, the bottleneck is not innovation, but connectivity. The digital divide used to be a matter of inconvenience, but now it's a question of economic opportunity, social participation, and national resilience.

Ivo Ivanov, CEO, DE-CIX

Satellites – particularly the new generation of low Earth orbit (LEO) constellations – are emerging as one of the most promising ways to close this divide. Unlike terrestrial fiber or mobile networks, which require extensive infrastructure buildouts, satellites can deliver coverage to deserts, rainforests, islands, and remote communities with equal ease. They can complement undersea cables and terrestrial backbones, ensuring that connectivity is not limited to major urban centers. For Africa, where vast distances and limited infrastructure have historically slowed progress toward universal access, the ability to beam high-speed, low-latency internet directly from the skies represents a transformative leap forward. We've mastered getting satellites into orbit – the question now is how quickly these satellites can be used to secure Africa's digital future, and how quickly – and intelligently – they can be integrated into the continent's broader connectivity ecosystem.

Africa's rising space footprint

Africa's space ambitions are already reshaping the continent's digital trajectory. More than 21 African nations now operate space programs, with at least 65 satellites in orbit serving everything from Earth observation to communications. Leaders such as Nigeria, South Africa, Egypt, Algeria, and Morocco have steadily expanded their fleets, while emerging players like Ghana and Tunisia have shown what's possible with homegrown innovation. Ghana's first satellite, GhanaSat-1, was built and launched by university students in partnership with the Kyushu Institute of Technology in Japan, while Tunisia's Challenge-1 marked the country's first domestically manufactured satellite. These milestones demonstrate that space is not merely the preserve of the world's largest economies – it is becoming a field where all nations can contribute directly to solving their own challenges.

But this isn't about prestige. Across the continent, Earth observation missions are helping farmers track rainfall patterns, manage crop yields, and adapt to shifting climates. Governments are leveraging satellite imagery to monitor deforestation, track urban growth, and respond to natural disasters. In countries vulnerable to drought and flooding, satellites provide early-warning systems that can save lives and livelihoods. These technologies are also providing the groundwork for greater digital inclusion, enabling previously underserved regions to connect into the global economy. With Africa's population projected to double by 2050, the ability to harness space for smarter agriculture, climate resilience, and connectivity is essential for sustainable growth.

Latency matters (more than you think)

Whatever ambitions propel humanity beyond the stratosphere, everything depends on connectivity. And these days, connectivity is measured not just in coverage, but in latency: the fraction of a second it takes for information to make a round trip across the network. Naturally, this is a difficult thing to overcome with satellites and terrestrial nodes being so far apart. Low latency is the difference between a smooth video call and a broken one, between a reliable cloud application and a frustrating delay. By orbiting just a few hundred kilometers above the planet, rather than 36,000km like their geostationary (GEO) counterparts, low Earth orbit (LEO) satellites can reduce transmission times from 400–700ms down to 20–50ms. But is that good enough?

Fiber connections, particularly those that use local Internet Exchanges (IXs), can achieve transmission times of 1-5ms for a round trip, so while 20-50ms might sound impressive, it's not yet on a par with fiber-based connectivity. We cannot bring satellites any closer, so

instead we need to look at optimizing how data traffic is managed between orbit and Earth. This is the focus of the European Space Agency's OFELIAS project, which is developing new protocols, algorithms, and procedures to intelligently control network utilization and overcome the limitations of today's systems. Unlike traditional radio links, OFELIAS is experimenting with laser-based communications, capable of far higher bandwidths and faster information flows. The real challenge is that optical transmissions are more susceptible to atmospheric disturbances – fog, clouds, and rain can slow or disrupt signals. By 2026, OFELIAS aims to deliver a blueprint for how next-generation satellite networks can mitigate these effects and bring truly resilient, high-performance connectivity to Earth – and areas like Africa where universal terrestrial connectivity remains costly and impractical, will stand to gain the most.

The next frontier

The bottom line is that tomorrow's satellite ecosystems will need to behave much more like the terrestrial Internet: traffic exchanged at neutral meet-points, smart routing across multiple operators, and automatic failover when any single path degrades. That means interconnection – in orbit and on the ground – will become a key design principle. As LEO constellations scale, the bottleneck will be how efficiently traffic is handed off between satellites, ground stations, cloud edges, and national networks so users experience consistent low-latency and reliability across borders. Africa has a head start on this logic from its terrestrial Internet journey. A 2024 study by the Coalition for Digital Africa reports that the number of operational IXs in Africa had grown from 36 in 26 countries in 2016 to 63 in 38 countries by 2023. Today, there are a total of 68 IXs in Africa connecting a minimum of three independent networks. Building and using these IXs has already shown how local traffic exchange lowers costs and improves performance – an approach the region can eventually extend to space-enabled connectivity as satellite traffic grows.

This global staging is important because connectivity is ultimately a collaborative pursuit, and it's how the region will eventually unlock cross-border applications that demand predictable performance in key areas like telemedicine, fintech, remote learning, and cloud workloads. Policy momentum is lining up: the African Telecommunications Union highlights the role of satellites in health, education, agriculture, and disaster response, while Europe's Africa-EU Space Partnership Program explicitly seeks Africa-Europe partnerships on digital connectivity infrastructure, creating the right conditions to co-develop interconnection models and shared standards.

Taken together, these steps sketch a near-term pathway: regional satellite-to-ground interconnection hubs, weather-aware optical routing, and common peering frameworks that let African networks exchange space-borne traffic locally and efficiently, just as they do today on land – but with much greater potential coverage. ■

Driving wireless connectivity for trains

Confronted with escalating safety concerns and operational inefficiencies, a leading government-owned railway company in Africa recognised the urgent necessity to modernise its aging communication infrastructure.

As the country's primary railway provider overseeing over 1,000km of track, the organisation's ability to deliver reliable passenger and freight services was crucial to the national economy and daily life. To ensure uninterrupted, efficient operations and to position itself for future growth, the railway embarked on a comprehensive network upgrade to develop a resilient, scalable wireless communication system.

The urgency for network modernisation

The railway network serves as a vital conduit for both passenger mobility and cargo logistics within the nation. However, the existing private wireless communication system was showing its age. Persistent slowdowns, frequent outages, and declining public confidence underscored the critical need for intervention.

Beyond operational delays, the outdated technology posed serious safety risks, especially with the reliance on obsolete onboard signalling systems that are essential for managing train traffic and ensuring passenger and cargo safety. The microwave backbone, which forms the core of the communication network, was no longer capable of supporting the demands of modern railway operations. Additionally, remote stations depended on aging solar power systems, resulting in unreliable service in isolated regions.

Addressing these issues swiftly was necessary to restore safety, operational efficiency, and reliability.

An end-to-end approach

The modernisation initiative was driven by several core challenges. The first was the obsolete microwave communication links, which struggled to provide stable, high-capacity connectivity, leading to inefficiencies across the railway's operations. The outdated onboard signalling systems further compounded safety concerns, as their unreliability threatened safe train management. Remote stations, reliant on antiquated solar power installations, experienced frequent outages, disrupting service in remote areas. Furthermore, the limited budget constraints meant that the solution had to be not only effective but also cost-efficient, compatible with existing infrastructure, and scalable for future technological advancements.

The railway's transformation required an end-to-end approach that went beyond quick fixes, aiming instead for a future-proof network. Ceragon's team delivered a tailored, comprehensive solution addressing each of these challenges.

They upgraded the core communication backbone with high-capacity wireless microwave links, leveraging advanced technology to provide resilient, high-throughput connectivity across the entire 1,000km network. This significantly reduced service disruptions and delays, enabling trains to operate on schedule and improving overall operational efficiency. To enhance real-time coordination between rail terminals and control centres, Ceragon implemented VHF digital mobile radio systems at strategic locations, which improved communication clarity and safety.

In remote areas where the power infrastructure was unreliable, Ceragon deployed sophisticated solar power systems with 72-hour autonomy, ensuring continuous operation even during extended outages. These sustainable power solutions enhanced overall network stability and reduced dependence on the unreliable grid. The infrastructure was designed with scalability in mind, providing a foundation for integrating emerging technologies such as real-time analytics, predictive maintenance, and autonomous train control systems, positioning the railway for future technological evolution.

Embracing the future

The results of this modernisation effort were transformative.

The upgraded microwave links and robust power systems dramatically reduced outages, ensuring trains could run reliably and on time. Improved signalling and communication systems enhanced safety standards, reducing risks associated with outdated technology. Restoring consistent service and safety measures increased public trust and satisfaction. Importantly, the new scalable infrastructure positioned the railway to adopt innovative solutions like cargo tracking, automated safety systems, and predictive maintenance, supporting sustainable long-term growth.

In an increasingly digital world, reliance on outdated communication networks is a significant barrier to efficiency, safety, and competitiveness. Railway operators and other critical industries must embrace modern wireless infrastructure to meet rising demands and leverage technological innovations. With a solid wireless foundation, industries can confidently navigate upcoming challenges, innovate processes, and deliver safer, more reliable services. ■

Airtel Africa's groundbreaking satellite internet trial on a moving train

In a historic breakthrough for connectivity across the African continent, Airtel Africa has successfully demonstrated high-speed satellite internet on a moving train traversing sub-Saharan Africa's challenging terrain.

Bridging the connectivity gap in rail transportation

Rail transport has long been a vital lifeline for sub-Saharan Africa, facilitating the movement of millions of tonnes of freight and hundreds of thousands of passengers annually. However, vast sections of these extensive rail lines have historically been disconnected from modern communication networks, hindering operational efficiency and passenger experience. With this successful satellite trial, that disconnect is now being bridged.

Cutting-edge satellite technology

Several partners initiated a pioneering trial to demonstrate the viability of satellite internet connectivity on a moving train traversing challenging terrains. This innovative test aimed to showcase how satellite technology can provide reliable, high-speed internet in remote and difficult-to-reach areas, thereby transforming rail communication and passenger experience across the continent.

The trial was powered by Airtel Satellite for Business, utilising the low Earth orbit (LEO) satellite constellation from Eutelsat OneWeb, and Kymeta antenna technology. Throughout most of the journey between key cities, the train maintained a robust connection, demonstrating that satellite-based internet can deliver consistent, high-quality service even through dense forested areas and remote landscapes. The connection remained stable, with minimal interruptions, and proved capable of supporting various applications in motion.

To evaluate the system's performance, Airtel conducted comprehensive testing along the entire route. The results were highly encouraging: coverage was maintained across nearly the entire journey, with download speeds reaching up to 100Mbps and upload speeds of 20Mbps. These speeds are more than sufficient to support both operational needs — such as real-time train management and safety systems — and passenger services, including multiple device connectivity. The trial traffic plan aimed for 100Mbps downlink and 20Mbps uplink, and the actual performance closely aligned with these targets, confirming the system's ability to deliver reliable, high-capacity internet on the move.

Implications for railway safety and passenger experience

The trial's success highlights the remarkable potential of satellite technology to provide high-quality connectivity where other solutions fall short. It demonstrated smooth, consistent performance with low latency, even while the train was in continuous motion through remote and challenging environments. This achievement not only represents a technological milestone but also opens new avenues for enhancing railway safety, operational efficiency, and passenger experience.

For railway operators, reliable satellite internet enables real-time monitoring of train systems, predictive maintenance, and rapid emergency response, significantly improving safety standards. For passengers, this connectivity paves the way for onboard Wi-Fi, digital ticketing, real-time travel updates, and entertainment streaming — transforming lengthy journeys into more connected, productive, and enjoyable experiences.

Expanding connectivity across Africa

This pioneering test proved that seamless, uninterrupted internet access is now achievable over a distance of 669km through dense forests and remote regions where traditional cell towers and fibre optic networks are absent.

This pilot is just the beginning. Building on this success, Airtel, in partnership with Eutelsat and OneWeb, is expanding Airtel Satellite for Business across Nigeria, the Democratic Republic of Congo, Zambia, Madagascar, and Gabon. These initiatives aim to deliver high-speed connectivity to some of Africa's most remote and underserved regions, extending the reach of modern communication. ■

Making RF simple: Preseem's vision for Africa's wireless future

As fixed wireless booms across Africa, ISPs are discovering that RF complexity, capacity pressure, and rising user expectations can make growth feel like flying a drone in a windstorm...

Given the rapid growth of fixed wireless access across African markets, what are the top three operational challenges you see with an ISP rolling out fixed wireless access (FWA) in Africa?

The first big challenge is expertise — particularly in RF. It's a complex, niche technology, so finding and training the right people can be tough. You might hire a few engineers who speak the language, but your wider support team often doesn't have that same background. Tier-one support staff are usually great with people, not networking, so dealing with RF-heavy tickets is hard.

That's where Preseem helps. We make it easier for support teams to understand what's going on without needing deep RF expertise. We convert complex RF metrics into simple, colour-coded scores from one to ten. That cuts onboarding time and training needs dramatically. We also harmonise data from different vendors, so ISPs can view multi-vendor networks in one place.

The second challenge is maintaining best practices. It's easy to make an access point and a few CPEs work — it's much harder to make them work well and consistently. If you don't start with solid installation practices, you end up wasting capital on an inefficient network. Poor RF connections don't just hurt one client — they degrade the access point's overall efficiency. We give operators data that objectively shows which installations are good and which need improvement.

And the third challenge is sustainability. Early on, if you're the only ISP in a new area, you can get away with some inefficiencies. Customers are just happy to have internet. But as soon as competition appears, you'll feel the pain. Getting your network fundamentals right from day one is essential.

Gerrit Nagelhout, COO, Preseem

Preseem emphasises the shift from reactive to proactive network management. What practical steps should ISPs take to implement that?

Start by ensuring every CPE has a clean connection. Our RF score — rated zero to ten and colour-coded — makes it easy to spot problem areas. You can quickly see whether issues affect all CPEs on an access point or just a few. From there, set measurable goals for your team, such as improving a certain percentage of scores each quarter.

Next, monitor access point capacity. Overloaded APs cause latency spikes, buffering, and poor user experience. Preseem identifies which APs are full, how many subscribers they can still handle, and which clients are consuming too much airtime. That lets you take action before customers notice issues.

Interference usually isn't bad if you're the only WISP in an area — unless you're causing it yourself. But once competition increases, noise becomes a real problem. Again, our RF score flags this early. It tracks factors like RSSI, noise, and stability, so if the score drops, you know something's wrong before users start complaining. It's a single metric that saves you from digging through ten others.

Capacity management is often the biggest business problem for wireless ISPs, especially in dense or fast-growing areas. What are the best practices for access point capacity management?

Capacity management comes down to two things: contention and airtime.

Too many clients on one access point (contention) means it spends all its time switching between them instead of doing useful work. You need to keep that below a certain threshold.

Then there's airtime — how efficiently your APs handle traffic. A bad RF connection uses far more airtime for each bit transferred, reducing the total throughput for everyone. Clean connections maximise both bandwidth and efficiency.

Preseem helps by showing how many subscribers you can safely add and by tracking latency in real time. We measure latency for every subscriber and aggregate that into daily scores per access point. If all latencies spike during peak hours, that AP is congested, and you know exactly where to act.

Do you approach greenfield networks differently from established ones?

We're complementary to existing monitoring systems. Whether it's a new or mature network, we connect to whatever access points are in use and start showing data immediately.

For new deployments, the focus should be on doing those first installs

right. Poor early installs might not hurt much now, but they'll cap how many subscribers you can add later. Established networks, on the other hand, benefit from our insights into performance optimisation and capacity balancing.

Many African ISPs run mixed infrastructures — fixed wireless, fibre, satellite — and use multiple vendor systems. How important is vendor-agnostic visibility in such an environment?

It's crucial. Each vendor does things differently, so onboarding new staff takes time — they have to learn Cambium, MikroTik, Ubiquiti, Mimosa, Huawei, ZTE, and others. We normalise all that into a single, unified view, dramatically cutting onboarding time and giving teams confidence to handle support tickets.

Even for engineers, checking multiple systems is painful. Preseem centralises that workflow, improving efficiency and allowing teams to act proactively across mixed technologies.

With subscriber expectations rising — streaming, remote work, heavy mobile use — how can ISPs manage expectations and maintain satisfaction without overspending?

It all starts with managing plan speeds intelligently. A default rate limiter is a blunt instrument — it technically enforces speeds but often creates lag and frustration. Our "experience-optimised" shapers are smarter: even at max plan speed, users get smoother, lower-latency performance.

We've had customers see their call volumes drop dramatically after activating our shapers. Once latency is reduced at that level, we can pinpoint deeper network issues, like overloaded backhauls or specific access points, using our inline experience data. If an AP is overloaded, our automatic capacity management tool limits throughput intelligently to prevent buffering and preserve user experience.

The results are immediate — fewer support calls, fewer truck rolls, and happier customers. That directly reduces operational costs. Being proactive also cuts churn, since many unhappy customers don't complain — they just leave.

On the revenue side, better data helps identify upsell opportunities. If a customer consistently maxes out their plan but has a strong link and available capacity, you can confidently offer a higher plan. That drives ARPU growth while maintaining a positive experience.

Given Africa's unique challenges — spectrum constraints, power reliability, and diverse terrain — what trends will most influence fixed wireless operations in the next few years?

More spectrum availability will be a game-changer. The 6GHz and 4GHz bands are under review, and dynamic frequency allocation looks promising. As 5GHz gets congested, those new bands will really help. Preseem will support operators by showing which APs are busiest and which clients should move to the new spectrum first.

We're also watching Starlink. It won't replace all ISPs, but it raises the bar for customer expectations. ISPs need to build resilient, high-quality networks now to stay competitive.

Africa is our second-largest market after the US, and it's growing fast. The opportunities in South Africa are huge, and we're seeing early traction in Kenya and Nigeria too. Markets there are developing quickly, and as ARPU levels and stability improve, we see strong potential across the continent.

Preseem's mission has always been to help regional and independent ISPs compete with the big players — and Africa's growth story fits that perfectly. ■

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Precision testing for hollow core fibre networks

EXFO has unveiled the industry's first hollow core fibre (HCF) optimised OTDR (Optical Time Domain Reflectometer) equipped with bi-directional testing capabilities.

This innovative device is specifically designed to enhance the reliable testing of data centre interconnects supporting AI applications, offering high-precision measurement of HCF networks. This breakthrough is part of EXFO's broader portfolio of hollow core fibre-capable testing solutions, aimed at accelerating the adoption of HCF technology, which promises to revolutionise network performance through higher speeds, lower latency, and greater reliability.

Hollow core fibre differs from traditional solid glass fibre by utilising a central vacuum or air-filled channel, which significantly reduces signal latency and enhances transmission speed—crucial attributes for data centre interconnects. To effectively measure and optimise these fibres, EXFO's new OTDR combines lab-grade accuracy with field durability, providing essential parameters such as loss, return loss, and overall transmission quality. Its dynamic range is tailored for HCF characterisation, while dedicated software enables bi-directional analysis, allowing precise extraction of fibre parameters like splice loss, reflectivity, and length.

In addition to the OTDR, EXFO's comprehensive hollow core fibre testing portfolio includes several specialised tools. The CTP10 attenuation profile device delivers ultra-high-resolution spectral loss measurements at 0.01pm, making it suitable for testing WDM components and photonic integrated circuits. The OSA FTBx-5235 characterises CWDM and DWDM networks and can be used in a portable format with a source to determine attenuation profiles of HCF. The FTBx-570 dispersion analyser is the industry's only single-ended solution for rapid chromatic dispersion and polarisation mode dispersion testing, which is vital for hollow core fibre validation. Supporting these tools are the MaxTester 945 and FTBx-88810 series optical loss test sets, which

provide precise optical loss and latency measurements essential for next-generation networks.

"Watch this space as EXFO continues to lead the industry with solutions that facilitate hollow core fibre adoption and network performance transformation," said Etienne Gagnon, Senior Vice President of Test & Measurement at EXFO.

SENCITY Urban 300 boosts 5G urban coverage

HUBER+SUHNER's recently launched SENCITY Urban 300 brings a new addition to the company's range of indoor and outdoor directional antennas designed to enhance 5G network performance. This compact antenna is tailored for wireless operators and installers seeking high data throughput in a small footprint within the 5G frequency spectrum.

As the proliferation of smart mobile devices continues to challenge network capacity, small cell solutions and Distributed Antenna Systems (DAS) are becoming essential for increasing network density. These technologies enable wireless systems to support more users with faster speeds, especially in urban environments where coverage is difficult to achieve with traditional macro cells. The SENCITY Urban 300 aims to address these challenges by providing a high-capacity solution suitable for city streets, airports, train stations, shopping malls, and sports stadiums.

"Future mobile networks will deliver much more. As networks evolve and upgrade, we are committed to providing infrastructure that supports the growth and adoption of 5G. The SENCITY Urban 300 strengthens this effort by enhancing capacity in central locations," said Cristina Olimpieri, Product Manager at HUBER+SUHNER.

This dual-polarised antenna combines an aesthetic design with excellent electrical performance. It features a PIM-optimised design that minimises network interference, helping operators maximise system performance. Equipped with MIMO 2x2 technology, it enhances wireless capacity and quality without requiring additional bandwidth or higher transmission power. The antenna offers a gain of 5-7 dBi and good port isolation within the 5G frequency range.

Installation flexibility is another key feature; the compact size allows for discreet mounting on walls or poles, making it suitable for street furniture and in-building applications. The SENCITY Urban 300 is the third antenna in HUBER+SUHNER's series, following the successful Urban 100 and 200 models, further expanding options for 5G network deployment.

Opanga guarantees 10X ROI on traffic optimisation

Opanga has introduced its groundbreaking 10X ROI Guarantee Program, marking the industry's first performance-backed commitment to delivering tangible results in real-time traffic management.

This innovative program assures network operators that deploying Opanga RAIN, their advanced AI-powered Traffic Optimisation Platform, will yield a minimum tenfold return on investment within the first year, or the operator will not be responsible for the software licensing fee. The program will be available starting December 2025.

"After years of refining real-time traffic optimisation in Tier One networks worldwide, we understand that operators prioritise measurable performance. RAIN reliably scales networks, enhances customer experience, and reduces costs. Our 10X Guarantee offers a predictable, proven ROI — no hype, no vapourware — just verifiable results or you walk away," said CEO Cole Brodman.

The 10X ROI Guarantee applies to both traditional wireless and Fixed Wireless Access (FWA) networks. It hinges on key performance metrics such as throughput, Physical Resource Block (PRB) utilisation, active-user load, and congestion reduction, all benchmarked against the operator's existing RAN KPIs. To ensure transparency and accountability, Opanga provides quarterly reports that track ROI through established metrics, allowing operators to independently verify results via on/off testing procedures.

This low-risk commitment means that if Opanga fails to meet the agreed-upon performance levels and cannot rectify the issues within the first twelve months, the operator will incur no charges and has the option to exit the contract.

Opanga RAIN's capabilities include real-time data collection, processing, and performance scoring to significantly reduce network congestion. Its industry-disrupting guarantee delivers verifiable financial outcomes; for example, in a recent deployment with a Tier One North American carrier, RAIN achieved a 20% increase in average user throughput, an 18% reduction in congested cells, and a 28X ROI.

"This guarantee is transforming not just network performance but also how operators assess AI solutions. They can now measure, prove, and financially benefit from AI-driven optimisation," said Ben Hadorn, Vice President of Product at Opanga Networks.

High-efficiency Ku-band beamforming for LEO satellite terminals

Qorvo's new Ku-band beamformer IC has been specifically designed to meet the increasing demand for compact, power-efficient SATCOM terminals supporting time-division duplexing (TDD).

TDD architectures allow a single antenna array to handle both transmit and receive functions, reducing system size and complexity. This enables the development of low-profile, electronically steerable terminals suitable for mobile and airborne platforms. Building on the company's previous March release of Ku-band FDD beamformer ICs, this new device completes Qorvo's scalable and versatile SATCOM portfolio, catering to both TDD and FDD terminal architectures.

The new TDD solution, the AWMF-0247, is ideally suited for terminals used in low Earth orbit (LEO) satellite constellations, where power efficiency, performance, and cost are critical factors. It supports Ku-band operation from 13.75 to 14.5 GHz for transmit and 10.7 to 12.75 GHz for receive, ensuring full compatibility with current and upcoming SATCOM networks that require compact, electronically steerable antenna arrays. The device integrates transmit and receive functionalities into a single chip, significantly enhancing efficiency and signal quality. Notably, the AWMF-0247 reduces receive array power consumption by 40%, improves signal clarity by over 20%, and offers up to five times greater transmit efficiency compared to competing solutions. Even when EIRP (Effective Isotropic Radiated Power) efficiencies are comparable, Qorvo achieves these improvements with a much smaller die area, facilitating easier integration and more cost-effective terminal designs.

"The AWMF-0247 enables a new class of TDD-based SATCOM terminals that demand greater efficiency, integration, and signal performance. It provides customers with the tools to develop more capable, compact arrays while reducing power consumption and system costs," said Ryan Jennings, Director of SATCOM & Systems Engineering at Qorvo.

Ultra-fast WiFi 7 for industrial environments

Zyxel Networks has announced the launch of its inaugural industrial-grade wireless access point, the BE5000 4-Stream WiFi 7 Dual-Radio NebulaFlex Pro Industrial Access Point (IAP500BE).

Designed specifically for demanding indoor environments such as warehouses, storage facilities, and maintenance workshops, the IAP500BE combines rugged durability, extended coverage, and ultra-fast WiFi 7 performance to support industrial digital transformation initiatives.

As industrial environments become increasingly interconnected, ensuring reliable connectivity remains a significant challenge. Harsh conditions, signal interference, and outdated WiFi infrastructure often create network bottlenecks that hamper productivity. Zyxel's IAP500BE addresses these issues by enabling businesses to extend high-speed WiFi across expansive factory floors and hard-to-reach corners, fostering seamless operational workflows.

The IAP500BE leverages WiFi 7 technology, providing multi-gigabit connectivity with ultra-low latency, ideal for supporting factory equipment, sensors, mobile devices, automated guided vehicles (AGVs), and control systems. Its industry-first Smart Mesh MLO (Multi-Link Operation) combines multi-link operation with mesh networking to establish a dual-radio mesh backhaul, increasing throughput by up to 40% and extending coverage. Additionally, the RF-First design incorporates antenna isolation technology and optimised layouts to minimise interference from nearby WiFi, Bluetooth, and mobile networks, resulting in cleaner, stronger signals vital for industrial environments.

Built to withstand tough conditions, the IAP500BE features a metal housing and fanless design to endure impacts, dust, and oil ingress while maintaining efficient heat dissipation. It operates reliably in temperatures ranging from -25°C to 65°C, with 6KV lightning protection and 15KV ESD safeguards to prevent weather-related and electrical damage. Dual power inputs with reverse polarity support ensure continuous operation during power failures or wiring issues, reducing maintenance costs.

The device offers versatile deployment options, including mounting on DIN rails, wall mounting, or enclosure installation, with external antenna support to optimise coverage. Management flexibility is a key feature; it can operate standalone, integrate with on-premises controllers, or be managed via Zyxel's Nebula Cloud platform. Each Nebula-managed unit includes a one-year Nebula Pro Pack license for advanced cloud features, enabling scalable, efficient network management and easy upgrades.

Look out for...

Beyond Earth: the future of space-based data centres

Future technology is rapidly evolving, with ambitious plans to revolutionise data storage and processing beyond Earth's atmosphere.

One company leading the charge is Lonestar Data Holdings, which envisions establishing a data centre on the Moon. President Stephen Eisele asserts that placing data centres in space offers unmatched security, shielding data from terrestrial threats and hacking attempts. Recently, Lonestar successfully tested a tiny, hardback-sized data centre that travelled to the Moon aboard the Athena Lunar Lander, launched by SpaceX.

The growing demand for data processing, driven by artificial intelligence and digital expansion, has strained Earth's existing infrastructure. Finding suitable locations on Earth is increasingly difficult due to environmental concerns, land availability, and local opposition. Space-based data centres could circumvent these issues, leveraging the limitless solar energy available in space and eliminating local environmental impacts.

Recent research, including a European Commission-backed study by Thales Alenia Space, explores the feasibility of orbiting data centres. The proposed constellation of satellites would provide a data processing capacity comparable to large terrestrial centres, with plans for modular, expandable systems built in orbit. However, experts warn of significant hurdles, such as the high costs of launching equipment, challenges in cooling without gravity, and vulnerability to space weather and debris.

Despite these challenges, companies like Lonestar remain optimistic. They plan to launch a Moon orbiting data centre by 2027 and anticipate broader adoption within the next decade. These space-based solutions promise enhanced security and compliance with data sovereignty laws, as data stored in space would be governed by the laws of the country that launched the hardware. As interest and investment grow, the future of data centres may very well be beyond our planet, marking a new frontier in digital infrastructure.

Sutel blocks Liberty-Tigo merger

The Costa Rican telecommunications regulator, Sutel, has officially rejected a proposed merger between two of the country's leading private operators, Liberty and Tigo.

The decision halts a deal that was first announced in August 2024, when parent companies Liberty Latin America (LLA) and Millicom International Cellular revealed plans to combine their Costa Rican operations into a single entity.

The proposed merger would have resulted in a dominant market player, with Liberty Latin America expected to hold approximately 86% ownership, while Millicom would retain about 14%. The companies claimed that the merger aimed to foster a stronger, more integrated service provider for consumers in Costa Rica. However, concerns over market competition appear to have played a significant role in Sutel's rejection, with the involvement of the country's competition authority, Coprocom, suggesting antitrust issues may be at the heart of the decision.

Industry observers indicate that the primary worry is that such a concentration of market power could lead to higher prices and reduced service quality or options for consumers, especially given that Kölbi, a state-owned telecom operator, would remain the only significant competitor post-merger. While Sutel has not publicly detailed its reasons, the move aligns with efforts to prevent market monopolisation and protect consumer interests.

Liberty Costa Rica has signalled that it engaged extensively with regulators over several months to develop solutions that would address competition concerns. After being informed of Sutel's initial rejection in September, Liberty and Tigo filed a formal appeal in late October, challenging the regulator's decision. Both companies are now awaiting the final outcome of their appeal, leaving the future of the proposed merger uncertain.

Marlink enhances connectivity for Croatian fleet

Marlink has upgraded onboard connectivity and cybersecurity solutions across 22 vessels operated by Tankerska Plovidba and Atlantska Plovidba.

Central to this upgrade is Marlink's Sealink NextGen hybrid network, designed to support the company's shift toward fully digitalised shipping operations, boosting safety, efficiency, and crew communication quality.

Tankerska Plovidba will also implement Marlink's Unified Threat Management (UTM) system to strengthen the cyber resilience of its fleet, ensuring robust protection against cyber threats. The company plans to integrate Low Earth Orbit (LEO) Starlink internet with traditional VSAT connectivity managed via Marlink's XChange platform. This integration aims to expand options for business applications and improve onboard connectivity for crew members.

The upgraded solution offers several benefits for Tankerska Plovidba, including high-bandwidth, low-latency communications that support digitalised fleet management. It also enhances cybersecurity with features such as application control, web filtering, intrusion protection, anti-virus solutions, and firewalling. Additionally, it provides secure access for crew members to welfare and entertainment services, enabling better contact with friends and family—an essential aspect of crew wellbeing.

Tankerska Plovidba, which became the controlling shareholder of Atlantska Plovidba at the end of 2024, operates a combined fleet of product tankers and bulk carriers. The company maintains a strong environmental, social, and governance (ESG) strategy, emphasising crew welfare and engagement. The provision of Starlink LEO internet access underscores this commitment, enhancing crew access to welfare services and communication.

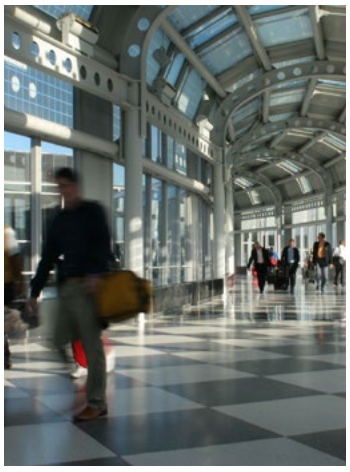
IHS Brazil expands DAS network at Afonso Pena Airport in Curitiba

IHS Brazil, a subsidiary of the IHS Towers group, has announced the expansion of its distributed antenna systems (DAS) project at Afonso Pena Airport in São José dos Pinhais, part of the Curitiba metropolitan area, through a partnership with Motiva Airports.

The upgraded DAS solution employs fibre-to-the-antenna (FTTA) technology, a system it previously deployed on Line 5-Lilac of the São Paulo subway, marking a significant enhancement in airport connectivity.

Alexandre Katz, Operations Director of IHS Brazil, highlighted that this project is the largest among the 16 airports included in the collaboration with Motiva Airports, formerly CCR Aeroportos. The airport's internal DAS network now features 45 irradiation points supporting both 4G and 5G across three indoor zones, covering all internal areas of the terminal. The system is capable of supporting multiple frequency bands — 1800 MHz, 2100 MHz, and 2600 MHz in 2x2 MIMO for 4G, as well as the 3500 MHz band for 5G — ensuring high-capacity connectivity.

Outside, three sections of the airport, including runways, parking lots, and terminal entrances, will benefit from the DAS coverage, overcoming physical obstacles such as concrete walls and metal structures that often disrupt signals. Afonso Pena Airport, one of southern Brazil's key transportation hubs, handles around 500,000 passengers and 800,000 tons of cargo each month, with over 140 daily flights. Katz stated that the expanded DAS network will enable Brazil's major mobile network operators (MNOs) to deliver faster, more reliable connections to both airport staff and travellers.



He emphasised that the integration of 4G and 5G technologies will support improved data services and operational efficiency at the airport, meeting the increasing demand for high-quality connectivity. IHS Brazil noted that this project is part of a broader initiative aimed at enhancing indoor connectivity in various environments such as airports, shopping malls, hospitals, and factories across Brazil. The company has previously installed DAS systems at airports in Navegantes, Palmas, São Luís, Foz do Iguaçu, and Goiânia, with plans to roll out additional systems at other airports within Motiva Airports' portfolio in 2026.

Oman Airports leads with world's first Wi-Fi 7 deployment at Muscat International Airport

Oman Airports has announced the deployment of Wi-Fi 7 technology at Muscat International Airport, claiming to be the first airport operator globally to implement this next-generation connectivity solution.

The rollout is part of a strategic partnership between Oman Airports, a government-owned entity responsible for managing and operating the Sultanate's civil airports, and technology giant Huawei. This collaboration aims to develop an advanced digital infrastructure to support the evolving needs of smart airports of the future.

Wi-Fi 7 offers ultra-fast speeds and the capacity to handle a significantly higher number of simultaneous connections, resulting in a more stable, secure, and responsive browsing experience for travellers, airport staff, and service providers alike. With approximately 40,000 passengers passing through Muscat International Airport daily, this upgrade promises to facilitate seamless, high-capacity connectivity throughout the terminal, including departure halls, check-in areas, retail zones, and dining spaces.

This initiative is a key element of Oman Airports' broader digital transformation strategy, designed to improve the overall travel experience and foster an innovation-driven operational environment. Beyond Wi-Fi 7, Oman Airports is advancing several other high-tech projects, such as next-generation smart security systems, modern visual technology platforms, and sophisticated artificial intelligence applications, all aimed at enhancing airport operations and passenger experience.

Industry body Wi-Fi Alliance introduced Wi-Fi 7 in 2024, highlighting its ability to improve performance across the 2.4GHz, 5GHz, and 6GHz frequency bands. The technology enables high throughput, lower latency, and greater reliability, supporting applications like augmented, virtual, and extended reality (AR/VR/XR), immersive 3D training, and ultra-high-definition video streaming. Oman Airports' adoption of Wi-Fi 7 positions the country at the forefront of airport digital innovation.

Edotco Bangladesh signs five-year tower partnership with Summit Communications

Edotco Bangladesh has entered into a new five-year space and power lease agreement with tower company Summit Communications. The collaboration aims to establish a more integrated infrastructure model to accelerate the rollout of telecom towers across the country.

Under this renewed partnership, Edotco and Summit will work together to enhance high-capacity, low-latency transmission links between sites, facilitating a more efficient expansion of network coverage throughout Bangladesh. The agreement provides a clear operational framework that supports the long-term strategy of coordinating tower deployment plans more seamlessly, enabling faster development of new sites and smoother integration of colocation opportunities.

This collaboration is designed to support the growth of 4G and 5G infrastructure, ensuring networks have the performance and stability necessary for modern digital services. It also aims to better serve rural and semi-urban areas, where demand for reliable connectivity is increasing as communities increasingly adopt digital solutions.

Edotco highlighted that the partnership with Summit, leveraging their combined tower networks and Summit's nationwide fibre backbone, will strengthen Bangladesh's end-to-end connectivity infrastructure. Both companies are working towards aligning their strategies to provide a scalable foundation for the country's ongoing digital transformation and future growth.

UAE's TII and Space42 to develop first space-to-ground quantum communication network

The Technology Innovation Institute (TII), the applied research division of Abu Dhabi's Advanced Technology Research Council (ATRC), has announced a strategic partnership with UAE-based satellite company Space42 to co-develop the UAE's first space-to-ground quantum communication network. This initiative aims to integrate satellite and ground systems utilising sovereign quantum key distribution (QKD) technology.

The partnership was formalised at the Dubai Airshow and marks a significant milestone in the UAE's quantum communication ambitions. It seeks to establish ultra-secure data exchange channels, enhance cyber resilience, and position the UAE as a leader in secure digital infrastructure spanning both terrestrial and space domains.

Under the collaboration, TII and Space42 will focus on developing, testing, and deploying a satellite-based QKD solution — an advanced cryptographic technology that uses quantum mechanics to enable unmatched data security. Building on TII's existing work in QKD, the project aims to validate and demonstrate secure quantum communication links via satellite, paving the way for future commercial applications of quantum-secure space systems.

The agreement provides a structured framework for joint research and development, including payload design, satellite integration, and ground infrastructure operation. It also specifies objectives related to the design, testing, validation, and in-orbit demonstration of QKD technologies.

Through regular coordination, technical collaboration, and knowledge sharing, TII and Space42 aim to accelerate sovereign innovation, develop national expertise, and reinforce the UAE's position as a global hub for quantum-secure communications.

BICS and Starlink to expand satellite-to-mobile connectivity in Europe

BICS, a Proximus Global company, has announced a strategic partnership with Starlink, designating BICS as the preferred IPX provider across Europe for Starlink's direct-to-cell satellite connectivity services.

This collaboration allows Starlink to utilise the IPX network to connect with mobile network operators (MNOs) today, while also laying the groundwork for future networks capable of delivering broadband services directly to smartphones.

Proximus Global's IPX network, functioning similarly to a roaming exchange, acts as a bridge connecting Starlink to MNOs. This setup enables standard smartphones in remote areas without terrestrial coverage to connect directly to satellites. Looking ahead, the network will support next-generation capabilities designed to optimise smartphone performance within non-terrestrial networks.

"We're excited to work with Proximus Global to ensure our next-generation constellation can leverage harmonised spectrum to provide the most powerful satellite-to-mobile service across Europe. Our goal is to end mobile dead zones and deliver connectivity when people need it most. This partnership is a critical step toward seamless connectivity and integrating European operators with enhanced data security," said Starlink's VP of Engineering, Mike Nicolls.

The first European operator to benefit from this alliance will be Kyivstar, Ukraine's largest digital and mobile operator, serving nearly 22.5 million Ukrainians as of September 2025. The collaboration with Kyivstar exemplifies how satellite connectivity is vital during emergencies when terrestrial infrastructure — such as base stations and fibre lines — is damaged. Satellite links are increasingly essential for maintaining uninterrupted communication in crisis situations, ensuring connectivity when traditional networks are compromised.

"With partnerships like this, our IPX acts as a bridge to unlock new opportunities. Satellite providers gain access to broader consumer bases, mobile operators can seamlessly fill coverage gaps, and end-users benefit from more reliable, consistent connectivity. It's a win-win for everyone involved," said Ben Vandermeulen, Chief Revenue Officer at Proximus Global.

This partnership marks a major milestone for Proximus Global in its mission to connect satellite companies with terrestrial mobile operators via its extensive roaming network. Using BICS' decades of leadership in IPX connectivity, the collaboration highlights the growing importance of satellite technology in achieving truly global, ubiquitous coverage — particularly in underserved regions lacking traditional infrastructure.

Fixed wireless and fibre performance hold steady as demand surges

Preseem has released its 2026 ISP Network Report, offering one of the industry's most comprehensive real-world analyses of access network performance across fixed wireless and fibre operators.

Drawing on billions of daily data points from hundreds of ISPs worldwide, the report reveals a sector that is holding its ground under rising subscriber expectations — and, in some areas, quietly outperforming conventional wisdom.

The report shows that average active fixed wireless users now consume around 8 Mbps, up 11.5% year-on-year. Meanwhile, daily subscriber data usage has climbed to 14.5 GB, with both fibre and wireless networks seeing consistent growth as streaming-heavy habits continue to dominate home broadband demand.

Despite rising consumption, latency across networks has remained stable, and even improved for many wireless subscribers — dropping between 4% and 7% year-on-year. The analysis suggests that operators are successfully keeping ahead of congestion, aided by smarter network design, proactive optimisation, and better management of in-home Wi-Fi. In other words: chaos did not reign.

A standout finding is that fibre and fixed wireless subscribers experience remarkably similar performance when matched by speed plan. While fibre continues to deliver lower baseline latency, much of the delay experienced by subscribers comes from in-home wireless environments — putting both technologies on more even footing than many assume.

On usage patterns, the report highlights that speed plans over 100 Mbps often sit largely idle, while subscribers on sub-75 Mbps plans appear constrained by the plan itself rather than their habits. Median usage rises only gradually with higher plan speeds, suggesting consumers do not endlessly expand their bandwidth appetite simply because more is available. (At least until the next major game console update.)

On the infrastructure side, the report captures meaningful shifts in the fixed wireless vendor landscape. Cambium and Tarana continue to gain ground, while Ubiquiti remains the largest but sees a modest decline in share among Preseem-monitored networks. More than 75% of fixed wireless access points still serve 10 or fewer subscribers, reinforcing the highly distributed nature of regional wireless deployments.

"With operators juggling multi-vendor, multi-access networks, real-world insight has become essential," said Dan Siemon, CEO at Preseem. "This report offers ISPs a clear view of where they stand — and where the opportunities lie."

Dhiraagu and Infovista to implement AI-driven network optimisation for 2G to 5G

Dhiraagu, the Maldives' leading telecommunications provider, has teamed up with Infovista to deploy comprehensive AI-powered optimisation across its entire network, spanning from 2G to 5G.

The partnership aims to accelerate return on investment (ROI) from network upgrades while ensuring optimal subscriber experiences across the Maldives' geographically diverse archipelago.

With a rising demand for connectivity driven by a booming tourism industry and ongoing digital transformation efforts, Dhiraagu's deployment seeks to meet these challenges head-on. The operator has integrated Infovista's suite of solutions — Planet, TEMS, and Ativa — creating a unified approach to network planning, testing, and assurance.

The collaboration focuses on three key operational areas, including smart network planning, advanced performance validation, and proactive service assurance.

The companies claim that this partnership will enable faster ROI through intelligent network planning and capacity management, while reducing operational costs with automated diagnostics and streamlined workflows. Additionally, the deployment is expected to unlock new revenue streams through data-driven network optimisation and enhanced customer insights.

"Our AI-powered solutions will empower Dhiraagu to achieve superior performance and reliability, while future-proofing their infrastructure for ongoing 5G expansion and beyond," said David Tulis, Chief Revenue Officer at Infovista.

"Infovista's integrated approach provides us with unprecedented visibility and control across our entire network ecosystem. This partnership ensures we remain Maldives' fastest and most reliable network, delivering the intelligent operations necessary for sustainable growth in the 5G era," said Mohamed Musad, Chief Technology & Information Officer at Dhiraagu.

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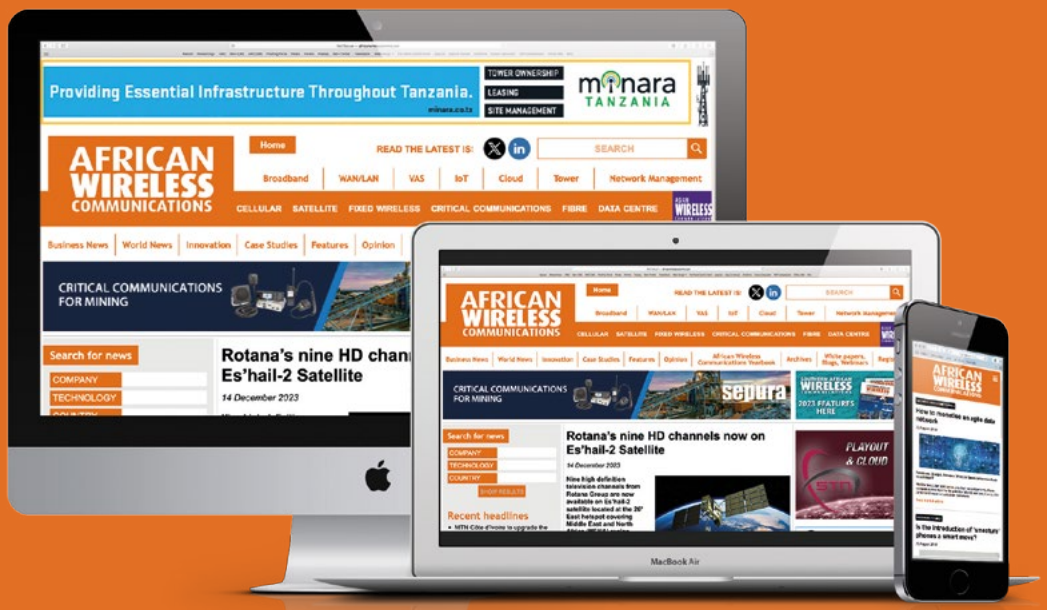

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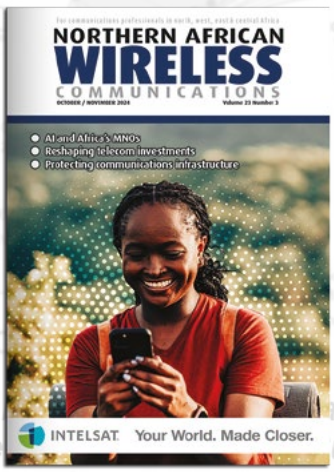

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