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

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

AUGUST / SEPTEMBER 2025 Volume 24 Number 2

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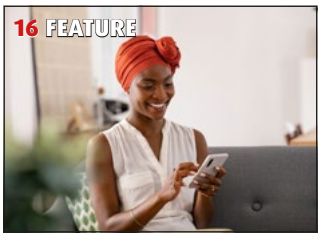
CONTENTS



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Airtel Chad announces major investment plan to boost network infrastructure

Airtel Chad is set to undertake a substantial investment of approximately 50 billion CFA francs aimed at enhancing network quality and expanding digital connectivity throughout the country.

The company's multi-phase development plan intends to address existing infrastructure challenges while extending coverage to underserved areas.

In the coming month, Airtel plans to increase microwave connection capacity, replace aging generators, enhance radio capacity across 89 4G sites, and upgrade router ports in the capital, N'Djamena, to 100G. Additionally, the operator will modernize the fibre network inherited from the former state-owned telecom provider, SOTEL.

Looking ahead, by January 2026, Airtel aims to deploy fibre connections in key locations such as Massakory in the southwest, Ati and Dop-Dop in the central region, and Abéché in the east. These efforts will enable radio services to be extended to 306 more sites and will mark the third phase of metro fibre deployment in N'Djamena. The plan also includes deploying 114 new sites to expand coverage in underserved areas, adding 170 more sites with 4G services, and establishing fibre links to connect N'Djamena with Sarh, passing through Dourbali and Bousso in the south. A significant upgrade involves replacing the existing Ericsson core network with new equipment supplied by Huawei.

This comprehensive plan has been submitted for approval to Chad's Regulatory Authority for Electronic Communications and Posts (ARCEP), amid ongoing efforts by the government to improve network services. Earlier this month, authorities ordered Airtel and Moov Africa to accelerate their connections to the national fibre optic backbone. The government's push follows reports of persistent consumer complaints over internet outages, instability, and high tariffs, with coverage still limited in many areas.

ARCEP has voiced concerns about these service quality issues and the slow pace of subscriber identification updates. Airtel, which has previously faced scrutiny over network performance, was fined 5 billion CFA francs in August 2023 for not meeting quality standards. To ensure transparency and accountability, Airtel has committed to submitting monthly progress reports on its investment implementation. Meanwhile, ARCEP has recently launched its 15th national audit focusing on service quality, with findings expected to inform future regulatory actions.

Es'hailSat forms strategic alliances with EgyptSat and Saudi NetLink to expand satcoms in Middle East and North Africa

Es'hailSat has announced strategic partnerships with EgyptSat and Saudi NetLink aimed at enhancing satellite service offerings across Saudi Arabia and the broader Middle East and North Africa region.

These collaborations are designed to provide customers with access to integrated satellite solutions, leveraging Es'hailSat's satellite capabilities alongside extensive ground infrastructure, including satellite communications and very small aperture terminal (VSAT) technology.

The partnerships will serve a diverse range of clients involved in applications such as VSAT communications, enterprise connectivity, telecommunications, and other related services. Both Saudi NetLink and EgyptSat plan to deepen their cooperation with Es'hailSat, expanding into areas like training, competitive pricing, and establishing themselves as preferred partners in the region.

Ali bin Ahmed Al Kuwari, President and CEO of Es'hailSat, highlighted that the alliance with Saudi NetLink combines the satellite expertise of both companies with their ground segment capabilities. Regarding the partnership with EgyptSat, he noted the rapid economic growth in the Middle East and North Africa, along with the influx of global sporting events, which has driven rising demand from commercial, government, and defense clients.

Al Kuwari expressed optimism about the collaborations, stating that these partnerships are vital for maintaining competitiveness in the global market. He emphasised that by working together, the combined efforts of these companies will generate greater value than their individual contributions, positioning Es'hailSat to better serve the evolving needs of the region's expanding digital landscape.

Ghana to introduce new legal framework for SIM card registration

Ghana's Minister of Communications, Digital Technologies, and Innovation, Samuel Nartey George, announced on September 5 in Accra that the country is preparing to introduce a new legal framework aimed at tightening SIM card registration processes.

The initiative was unveiled during a meeting involving government officials, telecommunications operators, and religious leaders, with the primary goal of addressing the rising incidence of fraud related to mobile financial services.

The proposed scheme is set to be submitted to Parliament in October as a legislative instrument. It will require each SIM card to be linked to the National Identification Authority's biometric database, leveraging biometric verification, integration with a centralized equipment register, and synchronization with the NIA's data systems. These measures are intended to make mobile money fraud more difficult by strengthening identity verification and reducing opportunities for impersonation. Additionally, the government plans to enhance the protection of personal data, especially for mobile money agents, who are often considered vulnerable points within the system.

Ghana has seen rapid growth in mobile money adoption, with a GSMA report indicating that penetration reached 200% by the end of 2023, with 66 million registered accounts for a population of approximately 33 million. Over half of the population now uses mobile money for payments and transfers. However, this surge in usage has been accompanied by an increase in financial scams. The Bank of Ghana's 2023 Financial Stability Report revealed over 13,400 fraud cases across the financial sector, with nearly 2,700 involving mobile money services such as MTN MoMo, Vodafone Cash, and AirtelTigo Money.

Authorities believe that implementing stricter legal requirements and integrating biometric data will significantly reduce vulnerabilities, curb identity theft, and restore public confidence in digital financial services. The move aims to improve transaction traceability and bolster the overall resilience of Ghana's digital economy amid growing cyber threats.

Telecom Egypt expands regional presence with new PoP at Aqaba Digital Hub

Telecom Egypt has announced the establishment of a new Point of Presence (PoP) at the Aqaba Digital Hub (ADH) in Jordan. This strategic move aims to bolster regional connectivity and resilience by extending Telecom Egypt's global network into one of the Middle East's most prominent carrier-neutral Tier III data centres, which is also among the largest in the region.

The new PoP will serve as a key interconnection hub, enabling seamless data exchange and facilitating efficient regional traffic flow. This development underscores Telecom Egypt's dedication to fostering strategic partnerships that support digital transformation initiatives across the Middle East, providing businesses and hyperscalers with high-capacity, reliable infrastructure essential for today's digital economy.

This expansion follows the successful deployment of the Coral Bridge subsea cable, a high-capacity 15km link connecting Egypt and Jordan. Developed in partnership with NaiTel, the telecom arm of ADH, the cable links Telecom Egypt's Taba landing point in Sinai to ADH's open-access facility in Aqaba. The Coral Bridge system forms a critical foundation for future connectivity, complementing the new PoP and enabling robust, scalable data transit between the two nations and beyond.

Together, these initiatives position Telecom Egypt and ADH as key players in addressing the region's growing demand for cloud services, AI applications, and international data exchange. The company continues to invest in its international infrastructure, including multiple subsea cable systems and landing points, to meet the increasing global digital traffic demands. As Mohamed Nasr, CEO of Telecom Egypt, stated, the dual deployment of the PoP and Coral Bridge represents a transformative step in strengthening the Middle East's digital backbone, creating diverse and resilient routes that facilitate global and regional connectivity.

Eyad Abu Khorma, CEO of Aqaba Digital Hub, highlighted that the combined efforts of the new PoP and the subsea cable significantly enhance regional resilience and open new pathways for traffic aggregation, fostering greater collaboration and connectivity across continents. These developments exemplify Telecom Egypt's commitment to driving innovation, reliability, and expansive connectivity in the evolving digital landscape.

Indus Towers eyes expansion into Africa

Indian passive telecom infrastructure provider Indus Towers is set to expand its footprint into Africa, with its board of directors approving a strategic entry plan on 2 September.

The company will initially focus on establishing operations in Nigeria, Uganda, and Zambia, as announced in a statement on the National Stock Exchange of India (NSE) website.

This move reflects Indus Towers' strategic effort to diversify its revenue streams, enhance operational capabilities, and create long-term value in emerging markets. The company plans to capitalize on its financial strength and leverage its existing partnership with Bharti Airtel, which is active across the continent through Airtel Africa, to establish a competitive presence. Looking ahead, Indus Towers also intends to explore additional African countries where Airtel already has a significant presence, aiming to expand its reach further.

Prachur Sah, Managing Director and CEO of Indus Towers, highlighted the company's confidence in its ability to differentiate itself in the rapidly growing African telecommunications sector. He emphasized that their expertise in providing innovative and cost-effective infrastructure solutions positions them well to become a preferred tower provider on the continent.

This expansion coincides with increased investments by telecom operators across Africa, as they aim to broaden network coverage and bridge the digital divide. According to the International Telecommunication Union, 2G networks covered approximately 93.8% of the African population in 2024, while 3G, 4G, and 5G coverage lagged at 85.9%, 70.9%, and just 11%, respectively. The GSMA estimates that around 13% of sub-Saharan Africa's population remains without broadband coverage, underscoring the ongoing need for infrastructure development. Industry forecasts from Mordor Intelligence project that the number of telecom towers on the continent will grow from around 218,000 in 2025 to over 273,000 by 2030.

East African leaders commit to developing regional communication satellite

Regional leaders from East Africa have reaffirmed their dedication to establishing a Partner States–owned communication satellite, a groundbreaking project aimed at providing universal, affordable, and reliable connectivity across the region.

The initiative was the focus of the Senior Officials' Meeting of the Northern Corridor Integration Projects (NCIP) ICT Infrastructure Development Cluster, in Kigali, Rwanda.

The meeting was chaired by Dr Aminah Zawedde, Permanent Secretary of Uganda's Ministry of ICT and National Guidance, and co-chaired by Stephen Isaboke, Principal Secretary for Broadcasting and Telecommunications of Kenya. Attendees included senior officials, regulators, space agency representatives, and policymakers from Uganda, Rwanda, Kenya, and South Sudan, with Rwanda's Permanent Secretary Yves Iradukunda and South Sudan's Undersecretary Thomas Gatkuoth also participating.

During the discussions, delegates worked to endorse the revised project roadmap and the terms of reference for the feasibility study, which will assess the technical, economic, and governance aspects of the satellite project. They also confirmed the willingness of the partner countries to co-fund the US$1 million study equally and considered a draft ministerial agreement to facilitate funding and implementation.

Iradukunda highlighted Rwanda's commitment, emphasising regional solidarity and the importance of the initiative for positioning East Africa on the global digital map: "Rwanda is committed to advancing this project for the benefit of our people."

Zawedde underscored the project's significance in achieving full national connectivity, aligning with Uganda's Digital Transformation Roadmap. She stressed that the region's collective effort to mobilise resources was vital to turning the vision into reality. Hon. Thomas Gatkuoth of South Sudan noted that the initiative would help unlock the country's technological potential and strengthen regional communication and data security.

Kenya's Isaboke emphasised that space-based projects are capital-intensive and require strong collaboration, reaffirming Kenya's support for this transformative agenda. The project promises to deliver extensive benefits, including bridging the digital divide by extending services to remote areas, ensuring data sovereignty through regional ownership, stimulating economic growth via broadcasting and ICT services, supporting cross-border trade, and fostering capacity building through training and knowledge exchange. Establishing shared digital infrastructure through the satellite will also reinforce regional integration and cooperation.

Key recommendations from the meeting included designating the Universal Access Fund as the primary source of financing for the feasibility study, with partner states supplementing with resources from their communications regulatory bodies. The Technical Committee was tasked with preparing a communication plan, starting with cabinet briefings in each country. Additionally, the leaders agreed to hold a ministerial meeting within 30 days to approve the project roadmap and officially adopt the agreement to proceed with the study.

On the sidelines of the event, Rwanda's Minister of ICT and Innovation, Hon. Paula Ingabire, hosted a breakfast meeting with delegations to review next steps. The participants emphasised that strong regional collaboration will be essential to the project's success as they move forward. The Kigali session reinforced the collective commitment of East African nations to pursue the satellite initiative, viewing it as a strategic investment in regional connectivity, data sovereignty, and integration.

Niger sets five-month goal to connect nearly 300 schools to high-speed internet as part of education modernisation

Nigerien authorities have announced a five-month timeline to connect 298 schools across the country to high-speed internet, marking a significant step in the nation's efforts to modernise its education system.

The announcement was made during the launch ceremony of the High-Speed Internet Connectivity-Education Project at a high school in Niamey, which is a key component of Niger's broader education reform strategy.

Élisabeth Shérif, the Minister of National Education, Literacy, and the Promotion of National Languages, emphasised the importance of digital connectivity for education, stating that "education is the foundation of every nation. It unlocks the potential of every child, forges citizenship, and prepares for the future." She highlighted that in today's digital age, access to the internet is essential for students, enabling real-time knowledge sharing and equipping young people for an increasingly connected world.

This initiative is part of the Smart Villages Project, which aims to accelerate Niger's ongoing digital transformation. Supported by a US$100 million grant from the World Bank, the project seeks to provide students and teachers with expanded access to online educational resources, innovative teaching tools, and pedagogical diversification. The program aims to enrich teaching materials and better prepare students for future career opportunities in a digital economy.

However, the success of this ambitious plan will depend heavily on ensuring stable internet connections, providing comprehensive training for teachers on digital tools, and maintaining ongoing funding for infrastructure upkeep, subscriptions, and equipment updates. According to DataReportal, at the beginning of 2025, approximately 6.37 million people in Niger were internet users, representing a penetration rate of 23.2%, highlighting both the progress made and the significant opportunity ahead for expanding digital access nationwide.

Cape Verde to launch 5G mobile internet by 2026

Cape Verde is set to deploy 5G mobile internet services by 2026, following the recent presentation of the country's national 5G strategy proposal.

The government emphasises that 5G will serve as a fundamental pillar for the next decade, offering significantly faster speeds, lower latency, and the capacity to connect a vast number of devices simultaneously.

The Ministry of Digital Affairs highlighted that this technological upgrade is more than mere modernisation; it is a powerful tool for economic and social transformation. The strategy aims to position Cape Verde as a prominent digital and innovation hub, fostering an environment ripe for innovation and investment while promoting digital inclusion across the country.

Officials believe that the rollout of 5G will catalyse the development of a conducive environment for technological advancement, ultimately helping the nation realise its ambitions of becoming a regional digital center. As of early 2025, the country boasted an internet penetration rate of 73.5%, with approximately 387,000 users, according to DataReportal.

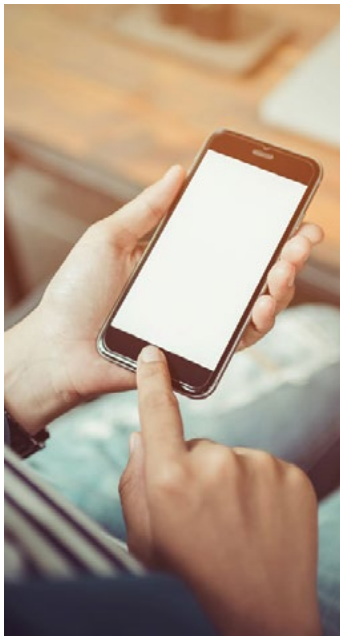
The International Telecommunication Union has also noted extensive mobile network coverage in Cape Verde, with 2G, 3G, and 4G services reaching 99.3%, 95.3%, and 88.5% of the population, respectively. The deployment of 5G is expected to further enhance connectivity, support innovation, and drive socio-economic growth in the island nation.

Jumia and Watu Credit to increase smartphones access

Jumia Group has announced a strategic partnership with Watu Credit aimed at making smartphones more accessible to millions of Kenyans through flexible financing options.

The collaboration allows customers shopping on Jumia to spread payments over daily, weekly, or monthly instalments using mobile money, significantly reducing the high upfront costs that often hinder many from owning quality devices.

Despite smartphone penetration in Kenya reaching nearly 80%, a substantial number of users still rely on low-end devices due to affordability challenges. By integrating Watu Credit's Internet of Things (IoT)-enabled lending model, which can lock handsets if repayments are missed, the initiative seeks to balance affordability with responsible credit practices. Watu has already financed close to two million devices in Kenya since 2022, demonstrating the effectiveness of its approach.



This partnership is set to make premium brands like Samsung more attainable, opening doors for first-time smartphone owners and those looking to upgrade. According to Jumia East Africa Regional CEO Vinod Goel, smartphones remain among the platform's best-selling products, and this initiative aligns with Jumia's broader goal of promoting digital inclusion and economic empowerment across the region.

Initially, the program will be available through agent-assisted purchases before expanding to a fully online platform. Customers will be able to select their devices, complete digital know-your-customer (KYC) procedures, and have their devices delivered directly to their homes. Beyond convenience, the program aims to foster socio-economic development by enabling small entrepreneurs, students, gig workers, and families to participate more fully in Kenya's digital economy. Access to reliable smartphones is increasingly vital for income generation, education, healthcare, and digital literacy.

This partnership marks a significant step toward narrowing Kenya's digital divide and equipping communities with the tools necessary to thrive in an increasingly connected world.

Kenya calls for new regulatory approaches to tackle competition and consumer challenges

The Competition Authority of Kenya has emphasised the urgent need for innovative regulatory strategies to effectively address emerging competition and consumer protection issues within the rapidly evolving digital economy.

The remarks were made during the 19th Annual Competition Law, Economics, & Policy Conference held in Cape Town, South Africa, organised by the Competition Commission of South Africa.

Speaking on the panel, Director-General Kemei David highlighted that traditional regulatory tools are increasingly inadequate for markets such as online retail and digital finance. He stressed that authorities must adopt non-conventional approaches — focusing on innovation, investment trends, and future pricing models — to ensure fair competition and safeguard consumer welfare in these dynamic sectors.

Kemei underscored Kenya's proactive efforts, including conducting market inquiries and studies to understand market structures and identify risks. He cited a notable 2015 study that led to a significant reduction in USSD charges — from KES 10 to KES 1 — benefiting millions of consumers through a 90% price drop.

In terms of policy evolution, Kenya is currently amending its Competition Act to extend regulatory oversight to digital activities. The reforms aim to foster innovation while curbing the dominance of large digital platforms that could stifle competition.

Kemei also highlighted the importance of regional collaboration among African regulators to combat anti-competitive practices that cross borders. He acknowledged existing challenges, such as insufficient legal safeguards for digital content, fragmented regulations, and a lack of predictability that discourages cross-border investment.

To bolster Africa's digital economy, he proposed several strategic measures: harmonising intellectual property laws across the continent; establishing a continental IP rights registry; adopting multi-agency enforcement frameworks; strengthening enforcement mechanisms; promoting regional cooperation through the African Continental Free Trade Area (AfCFTA) Competition and Digital Trade Protocols; and creating regulatory sandbox environments to pilot new technologies in collaboration with sector regulators.

Kemei emphasised that these initiatives are vital for unlocking Africa's digital potential, protecting content creators, and fostering innovation-driven growth across the continent. By adopting such forward-looking regulatory frameworks, Kenya and its African partners aim to ensure a competitive, inclusive, and sustainable digital economy.

Chad takes action to improve telecommunication services and network coverage

Chad is intensifying its efforts to enhance the quality of telecommunications services across the country, with the government taking a firmer stance against operators failing to meet service standards.

Minister Boukar Michel recently convened a meeting with the chief executives of Airtel and Moov Africa, issuing a strict one-week deadline for them to connect to the national fibre optic network.

This move is part of the broader Electronic Communications Infrastructure Modernisation and Improvement Project (PMICE), which has seen the deployment of 1,275km of fibre optics aimed at improving network performance. Despite these developments, the Ministry of Post and Telecommunications reported an increase in consumer complaints related to persistent issues such as frequent network outages, inconsistent internet connectivity, and high pricing relative to service quality.

Minister Boukar Michel urged the operators to implement tangible solutions to address these problems: "the public's expectations in terms of communication have never been higher, and it is unacceptable to continue like this."

Chad's mobile connectivity coverage remains incomplete. Data from the International Telecommunication Union's (ITU) DataHub platform shows that in 2024, coverage stood at 86.9% for 2G, 84.5% for 3G, and 60% for 4G. The country has yet to deploy 5G technology.

Additionally, the affordability of mobile internet remains a significant obstacle. In 2024, the cost of the most affordable broadband plan offering at least 2 GB of data monthly via 3G technology was equivalent to 8.37% of the average monthly gross national income per capita. This figure exceeds the African average of 4.48% recorded in 2023 and is well above the 2% threshold recommended by the ITU for affordable internet access.

Safaricom completes major upgrade to M-Pesa platform

Safaricom has announced the successful completion of a significant upgrade to its flagship mobile money service, M-Pesa, marking the most extensive enhancement since 2015.

The upgrade, which was scheduled and executed seamlessly, introduces Fintech 2.0, a next-generation core platform designed to bolster the service's resilience, capacity, and innovative capabilities.

Safaricom describes Fintech 2.0 as a transformative step that positions M-Pesa to better serve Africa's rapidly expanding digital economy and to prepare for future technological advancements. The upgraded platform will increase transaction processing capacity from 4,500 to 6,000 transactions per second, with the potential to scale up to 12,000 as demand continues to grow.

One of the key features of the new system is the implementation of an active-active architecture across multiple hosting sites. This setup involves multiple identical servers or nodes operating simultaneously and sharing workloads through load balancers, ensuring higher resilience and minimal service disruptions. The platform also incorporates advanced artificial intelligence to enhance fraud detection, enable self-healing capabilities, and facilitate real-time monitoring.

Built on a cloud-native foundation, the new M-Pesa platform promises improved performance, instant scalability, and faster deployment of new products. Safaricom emphasizes that over the years, M-Pesa has evolved from a simple money transfer service into Africa's largest fintech ecosystem. The introduction of Fintech 2.0 aims to sustain this growth trajectory and position the platform for ongoing innovation.

"This upgrade is a bold investment in the future of M-Pesa and reaffirmation of our commitment to innovation, resilience, and customer trust. By moving to Fintech 2.0, we are unlocking a platform that not only scales to meet today's demands but also anticipates tomorrow's opportunities," said Safaricom's Group CEO, Peter Ndegwa.

Talking critical

Harald Ludwig, Technical Forum Chair, TCCA; and Asif Hamidullah, Head of Certification IoT & Verticals, GCF

GCF certification as a key enabler for mission critical broadband services

Public Safety Agencies and Mission Critical Communication Operators (MCCOs) around the world are currently in various phases of migrating their existing Public Land Mobile Radio networks from voice-oriented narrowband technologies, such as TETRA and P25, to mobile broadband technologies, based on 3GPP's 4G-LTE and 5G-NR standards. Mission Critical Services (MCS) is a key component of these standards with services such as Push-To-Talk (MCPTT), Video (MCVideo), and Data (MCData) – together also referred as MCX – being defined and planned to be globally adopted.

Certification of mission critical products and solutions, such as MCS Clients, devices and servers, are essential to ensure both compliance to industry standards, and interoperability with other 3GPP-compliant mission critical systems.

The Global Certification Forum (GCF) in collaboration with TCCA, has developed and deployed a Mission Critical Services Certification regime that demonstrates both compliance to the standards, and interoperability of mission critical products & services. GCF's certification allows MCCOs, Product Manufacturers and Service providers to have the confidence that products and services that are being deployed meet the stringent requirements of industry to ensure a successful service offering.

How GCF works with operators and TCCA

In many countries, public safety oriented networks are either government-built or contracted by governments to private network operators. Other critical networks are being developed privately, covering the needs of specific companies, alliances or sectors, such as mining, oil & gas, and defence. In all these cases, certification ensures interoperability and reliability, covering both products and mission critical services.

GCF has created a specific membership category for MCCOs, targeting the needs of public safety agencies and MCX service providers. Following the 2024 launch of GCF's certification program for mission critical services, operators are now signing up – MCCOs from Sweden (MSB), Belgium (ASTRID), Finland (Erillisverkot) and Norway (DSB) have already joined GCF. Other organisations are in the final stages of joining. GCF is engaged with MCCOs globally to make sure a common certification regime is used to help facilitate international cooperation and engagement.

While MCS is heavily dependent on the MCX specific standards, it is not just the product's MCX capabilities that needs certifying – the underlying device functionality connecting to the cellular network needs to be certified as well. For all these MCX components and sub-dependencies, public safety agencies and MCCOs can – and should – rely on GCF certification programs to demonstrate compliance and interoperability of their mission critical services.

MCX communication takes place over an IP connection between the client and server, and can technically be executed over any wireless or wired connection. However, certain critical features such as Quality of Service, Priority, and Pre-emption (QPP), which are specific to cellular networks, require integration and support of the MCX systems with the underlying LTE and/or 5G network elements.

As such, the certification of MCX products not only checks the MCX-specific features and functionality that run over IP, but also those features and functionality that need to be supported by the radio access technology.

Product procurement

The MCCO, or the designated entity contracted by the MCCO, may procure devices, MCX clients and services from a single supplier, or may procure its MCX clients, servers and devices from a combination of multiple vendors. In each case, GCF has defined specific scenarios, so it is always 100% clear which entity is responsible for certification. This enables MCCOs to ensure they are always acquiring certified products.

In addition, TCCA maintains recommended best practices for the procurement of MCX products, including MCX broadband services and certification practices.

In all scenarios, GCF certification forms the baseline level of requirements needed to be achieved before MCCO network specific testing is conducted. This will minimise interoperability issues and will ensure that any integration issues that are discovered can be easily isolated and are not related to compliance issues of the products. To ensure compliance, the MCCO's contract tenders must indicate that certification of products is mandatory.

To help MCCOs, GCF and TCCA have developed and maintained a model text that can be introduced into contract tenders, either 'as is', or customised by an MCCO to their requirements. This text describes the minimum certification requirements for procured products, and is available for download from TCCA's Legal and Regulatory Working Group (LRWG) library.

What's next?

The Mission Critical Services Work Stream (MCS-WS), managed by GFC in collaboration with TCCA, continues to evolve the MCX ecosystem. The workstream consists of key industry players and subject matter experts from GCF and TCCA member companies. Together, they are developing the key requirements for testing mission critical services, as well as defining the policies and procedures for the certification program.

GCF is also continuously expanding its support for MCX. For example, additional frequency bands can be added to GCF certification as needed by MCCOs. As well, Interoperability (IOP) and Field Trials testing is expected to become active by 2026. Additional capabilities such as MCX Server certification, Sidelink and IoT telematics over MCData are already in scope and will be delivered in future phases of the programme.

GCF's goal is to certify the entire system of MCX products and solutions (devices, clients and servers). Different product types are being introduced in phases once external dependencies are met, such as standardisation requirements from 3GPP.

Conclusions

As mission critical services migrate to LTE and 5G networks, TCCA and GCF have created a certification programme that enables operators to build their networks with confidence.

The programme, based around 3GPP standards, guarantees the highest levels of compliance and interoperability – with the flexibility to support new technologies and capabilities as they are developed.

Financing the future: How safe BNPL is unlocking Africa's smartphone revolution

In Africa, a smartphone is far more than a sleek device — it's a passport to education, healthcare, banking, and economic opportunity. From students in Ghana who boost their grades by using smartphones for homework, to farmers leveraging apps like Esoko to command better crop prices, the impact of connectivity is undeniable. Mobile health platforms such as HelloDoctor and Vula Mobile are bringing medical advice and diagnostics to rural areas once considered unreachable.

The ripple effects extend beyond individuals. In 2022 alone, mobile technologies contributed roughly 8.1% of sub-Saharan Africa's GDP — around $170 billion. Each new smartphone user doesn't just join the digital world; they stimulate demand for services, spur job creation, and boost financial inclusion. Kenya offers perhaps the most powerful example: the spread of mobile money services like M-PESA helped increase financial inclusion from just 27% in 2006 to an astonishing 84% today.

Looking forward, the continent is on track for transformation. Smartphone adoption is forecast to rise from 51% in 2022 to 87% by 2030. That growth promises to close the digital divide and open new frontiers for innovation. Yet the journey isn't without obstacles. The greatest barrier is simple but formidable: affordability.

The power of paying later

For many Africans, smartphones remain out of reach because of cost. An entry-level device can cost the 30-120% of a person's monthly income. This is where Buy Now, Pay Later (BNPL) financing is changing the game.

By allowing users to pay a deposit and spread the cost in daily, weekly, or monthly instalments, BNPL puts smartphones within reach of millions. For some, it's the first taste of digital access and empowerment: 40% of WATU SIMU customers reported an increase in income after getting a smartphone, while 30% of customers got new jobs (https://www.dealfish.co.ke/2025/09/watu-africa-issues-146-million.html). Meanwhile, Safaricom's Lipa Mdogo Mdogo programme, which lets users pay as little as KSh 20 (around £0.12) per day, has already helped more than 2 million Kenyans upgrade to 4G devices.

Young Africans are especially driving this shift. Among 18–24-year-olds, smartphone ownership surged from 44% in 2023 to 56% in 2024 — a 27% increase, largely fuelled by financing options. Financing has also lifted the quality of devices within reach. Average selling prices for entry-level phones jumped from $70 in 2023 to $110 in 2024, reflecting the shift toward better devices enabled by credit.

Crucially, BNPL doesn't just empower consumers. It de-risks lending for operators and retailers. Platforms such as Trustonic's device-locking system reduce bad debt by more than 70%, making it possible to extend credit to users with no formal banking history.

Success stories already shaping the market

Across the continent, BNPL programmes are proving their value at scale.

Carmen van Heerden, Commercial Director MEA, Trustonic

In South Africa, Pepkor's FoneYam service has enabled over 1.5 million customers to access smartphones, now accounting for eight out of every ten prepaid handsets sold. MTN Nigeria, in partnership with Intelligra, went from financing 20,000 smartphones in a pilot phase to delivering 1,000 devices a day. Meanwhile, Safaricom's Lipa Mdogo Mdogo has expanded beyond Kenya into Ethiopia, and M-KOPA has sold more than 6.4 million devices across Kenya, Uganda, and Nigeria — 90% of customers reporting an improved quality of life, with 70% actively using their phones to generate income.

These examples highlight a broader truth: BNPL is not a fringe solution; it is becoming the backbone of Africa's digital expansion.

The business case for operators is equally compelling. Smartphone adoption translates directly into higher revenue per user, as customers consume more data and digital services. Migrating a subscriber from 2G to 4G is not just an upgrade in technology — it's a revenue multiplier.

Financing also fuels loyalty and brand equity. Pepkor's FoneYam, for instance, has earned glowing reviews from customers grateful for access they couldn't get elsewhere. Some describe it as life-changing, proof that providing affordable pathways builds not only markets but also trust.

Operators are also bundling additional services — from insurance to content subscriptions — into financing plans, generating new revenue streams. Pepkor alone added insurance to 840,000 devices in 2024. Combined with secure enforcement tools like automated device-locking and payment reminders, BNPL improves operational efficiency while growing market share.

Overcoming the trust barrier

The biggest hurdle is trust. Traditional lenders rely on credit scores, payslips, and bank statements — metrics that simply don't exist for large segments of Africa's population. Many earn daily wages, lack bank accounts, and operate entirely outside formal credit systems.

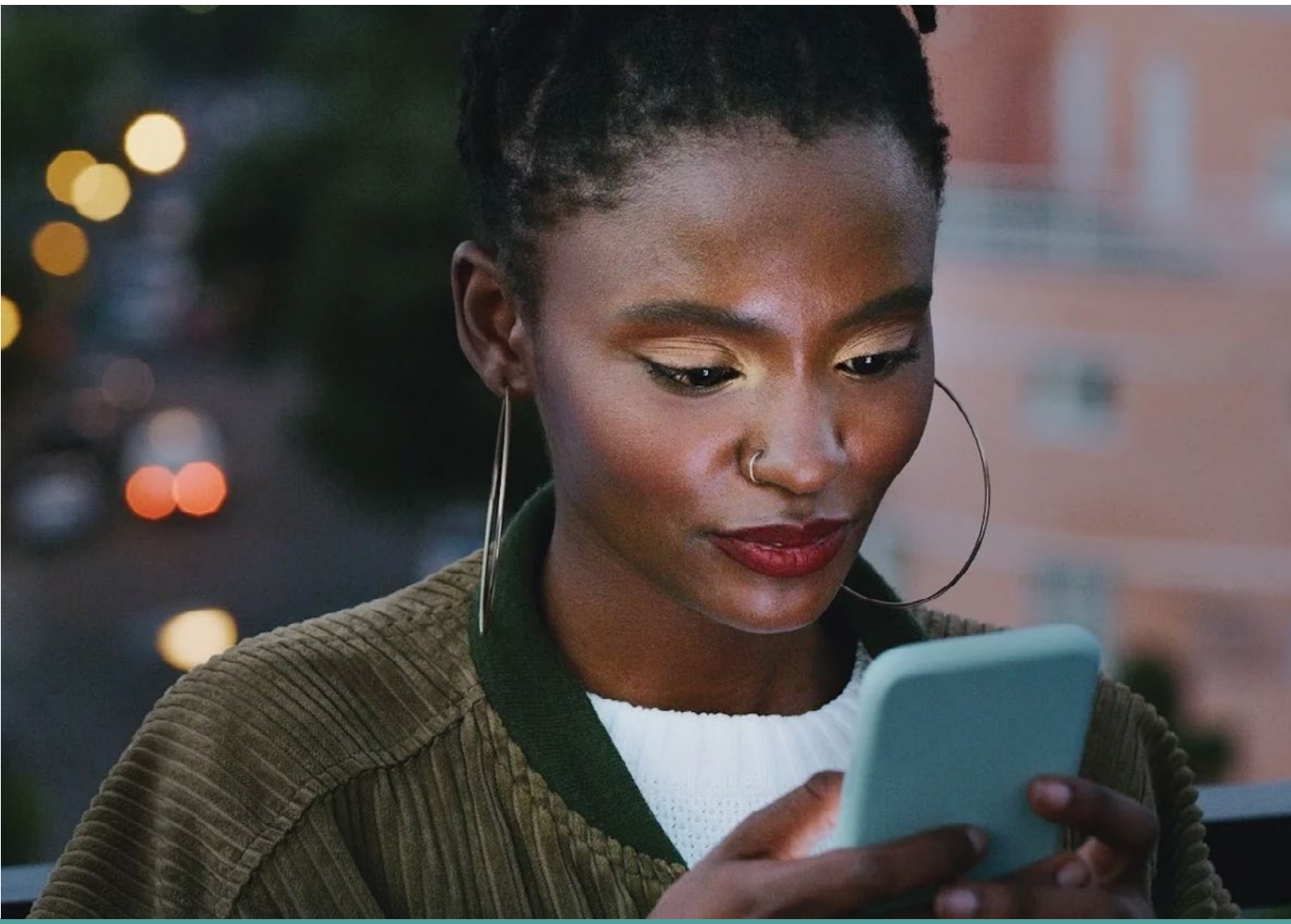
To solve this, BNPL models are innovating. Device locking technologies, with their systems of messages, reminders and if needed, locking if payments stop, making the device itself secure collateral. Alternative credit scoring looks at behavioural patterns — like airtime top-ups, SIM card activity, or mobile money transactions — as proxies for creditworthiness. Requiring small deposits upfront and aligning instalments with informal income cycles further increase repayment rates. And by partnering with fintechs such as M-KOPA and Intelligra, operators gain access to purpose-built tools for onboarding, repayment tracking, and risk reduction.

The best answer, for now

BNPL is not the only solution to Africa's smartphone affordability crisis. Smartphones cannot get much more affordable since they're already being produced by the billion and economies of scale have already been reached; however, refurbished devices, subsidies, and public access programmes all play their part.

Yet BNPL stands out as the most scalable, sustainable, and market-driven approach available today. It balances access with accountability, enabling users to join the digital economy while giving operators and retailers confidence in repayment.

The opportunity is clear. With continued innovation, supportive regulation, and deeper partnerships across the ecosystem, BNPL could well be the bridge that connects the next billion Africans to the digital world. ■



Airtel Uganda reports robust growth for first half of 2025

Airtel Uganda has announced strong financial results for the six months ending 30 June 2025, reflecting the telco's strengthening position in the country's competitive market.

The company reported a net profit of $48.9 million (Ushs 174 billion) and declared an interim dividend payout, reinforcing its commitment to delivering value to shareholders.

The company's customer base grew by 14.7% to reach 17.9 million, while data users increased by 25.9% to 7.5 million. Average data consumption per customer rose by 22.6%, reaching 5.95GB, which contributed to a significant 57.4% increase in total network data traffic. This data-driven growth offset declines in voice revenue, which was impacted by a regulatory reduction in interconnect rates from $0.013 (Ushs 45) to $0.007 (Ushs 26) last year.

Financially, Airtel Uganda posted revenue of $282 million (Ushs 1,084.8 billion), a 12.3% increase from the previous period. Data revenue saw an even sharper rise of 30.4%, reaching $137 million (Ushs 525.7 billion). EBITDA grew by 19.3% to $147 million (Ushs 567.3 billion), with margins expanding to 52.3%. Profit after tax surged by 28.7% to $51 million (Ushs 197.2 billion).

"Our strategy of investing in our customers' brilliant experience is creating value for both our customers and shareholders. We achieved 12.3% revenue growth with an EBITDA margin of 52.3% in the first half of 2025, strengthening our market position," said Airtel Uganda's Managing Director, Soumendra Sahu.

The company continued its extensive network expansion, adding 176 new 4G sites and 150 5G sites, while extending its fibre backbone by 1,793 kilometres. This expansion increased Airtel's 4G coverage to 91.5% of Uganda's population, with all sites now fully 4G-enabled.

In line with its progressive dividend policy, the Board declared an interim payout of $0.0007 (Ushs 2.5 per share), amounting to $28.1 million. The half-year dividend totalled $0.0012 (Ushs 4.35 per share), equivalent to $48.9 million (Ushs 174 billion), representing a 31.8% year-on-year increase. This underscores Airtel's commitment to balancing growth investments with delivering strong returns to shareholders.

Airtel Uganda continues to play a vital role in the country's digital economy, leveraging rising demand for data and innovative services, including Africa's first AI-powered Spam Alert tool, to drive its growth trajectory.

CMC Networks appoints Mahesh Jaishankar as new Managing Director

CMC Networks, a subsidiary of center3, has announced the appointment of Mahesh Jaishankar as its new Managing Director.

In this role, Jaishankar will spearhead the company's strategy to expand AI-powered connectivity solutions across Africa and the Middle East, leveraging his extensive on-the-ground expertise in the region. He succeeds Marisa Trisolino, who served as CEO until her departure in April 2025.

Jaishankar brings over 25 years of experience in building and scaling digital infrastructure and connectivity businesses. His previous roles include an advisory position at Arthur D Little and serving as Head of Strategic Negotiations at Google's GNA. He was also instrumental in launching and growing datamena at du, establishing it as a leading regional connectivity hub and a global destination for hyperscalers, OTT providers, carriers, and enterprises seeking seamless access to the Middle East and Africa.

Fahad Alhajeri, CEO of center3 and Chairman of CMC Networks, praised Jaishankar's leadership qualities, highlighting his deep expertise in hyperscalers, carriers, and enterprise markets. Alhajeri expressed confidence that under Jaishankar's guidance, CMC Networks will strengthen its position as the premier provider of AI-driven connectivity solutions across the region. Since center3 acquired CMC Networks in June 2024, the company has rapidly advanced its adoption of Artificial Intelligence for IT Operations (AIOps), establishing itself as a leader in AI-powered connectivity in Africa.

"I am honoured to take on this role at a pivotal moment for AI, innovation, and Africa's digital growth," said Jaishankar. "CMC has a remarkable legacy of delivering industry-leading customer experiences in some of the most complex markets worldwide. Together with our customers and partners, we will accelerate growth, unlock new opportunities, and provide the intelligent, scalable connectivity solutions that Africa and the Middle East need to thrive in the digital era."

Poa Internet secures $4 million funding to expand broadband access in Kenya

Poa Internet has secured a $4 million investment from Finnfund, the Finnish development finance agency. The funding aims to bolster the company's network infrastructure and expand its broadband services in a country where internet access remains limited despite increasing demand.

The investment follows a visit by Finnish President Alexander Stubb to Poa Internet's facilities in Nairobi in May. During his visit, Stubb praised Poa Internet's efforts in providing wireless home internet services to rural and low-income households across East Africa, highlighting the company's role in improving connectivity in underserved communities.

Nokia is Poa Internet's preferred partner for fibre optic technology. Nokia plays a key role in deploying infrastructure and supporting innovation to enhance connectivity and expand the company's network reach.

Kelvin Kiiru, Investment Partner at Finnfund, stated that the financing aims to "support the expansion of Poa Internet's broadband offerings in low-income areas," with the broader goal of bridging the digital divide. Since its launch in 2016, Poa Internet has steadily grown its presence in Kenya by targeting populations often overlooked by traditional telecom providers.

Guinea's TELEMO Project achieves major milestone

Minister of Posts, Telecommunications and Digital Economy, Rose Pola Pricemou, participated in a key meeting of the TELEMO project Steering Committee, chaired by Prime Minister Amadou Oury Bah, Head of Government.

Designated as one of the 28 priority projects under the ambitious Simandou 2040 Programme, TELEMO continues to make significant strides in advancing Guinea's digital ecosystem. During the meeting, discussions focused on the project's achievements and outlining the next steps to further accelerate Guinea's digital transformation agenda.

Minister Pricemou highlighted that over 90% of TELEMO's modules are now fully operational. This critical milestone allows key economic actors to access online transition plans, view tenders, submit bids, and monitor the entire procurement process through digital platforms — ushering in a new era of efficiency, transparency, and accountability in public procurement systems.

Through the TELEMO project, the Ministry reaffirmed its commitment to fostering modern, transparent, and effective digital governance.

Vodacom commits ZAR435 million to boost connectivity and infrastructure in Northern Gauteng

Vodacom has announced plans to invest ZAR435 million in the Northern Gauteng region of South Africa during the current financial year, aiming to address rising connectivity needs.

The investment will be allocated across the North-West province and Tshwane Metropolitan Municipality, focusing on upgrading critical infrastructure, deploying new sites, and rolling out advanced technology to support both customer demands and economic growth.

As part of this initiative, over 190 new 5G sites are set to be activated, alongside upgrades to existing 4G networks, including the installation of new 700MHz radio equipment to enhance coverage. The rollout will also include the deployment of new sites in underserved areas, such as Ikagaleng township, which will soon gain broadband connectivity for the first time, offering speeds of up to 350Mbps.

Recognising that affordability remains a barrier for many in Northern Gauteng, Vodacom is implementing personalised data and voice packages through its Just 4 You and Just 4 Your Town platforms. These platforms customise deals based on subscriber behaviour and location to provide more attractive pricing options. Additionally, the company offers a device financing option called Easy2Own, aimed at making smartphones more accessible.

Vodacom's Managing Executive for Northern Gauteng, Christo de Wet, emphasised that the investment underscores the company's commitment to empowering communities through improved connectivity.

Digital Realty names Marcel Louw as Managing Director for Africa

Digital Realty has announced the appointment of Marcel Louw as Managing Director for Africa, tasked with leading strategic operations across the continent and expanding its renowned global data centre platform, PlatformDIGITAL.

In his new role, Louw will oversee the company's activities in Kenya, Mozambique, Nigeria, and Ghana, building on existing operations and driving further growth. He will report to Paula Cogan, Managing Director for EMEA at Digital Realty, supporting the company's long-term vision for Africa's digital development.

Bringing over 20 years of experience in fund management and infrastructure investment, Louw joins from Pembani Remgro Infrastructure Managers, an Africa-focused private equity fund manager. There, he helped establish several funds and led major infrastructure projects, including data centres developed through a joint venture with Digital Realty. His background also includes five years at The Carlyle Group's Structured Credit Group in London, as well as positions at Goldman Sachs and the Royal Bank of Scotland.

"Marcel's deep experience in infrastructure investment and fund management across Africa, Europe, and the UK will be vital as we advance our next phase of growth on the continent. His track record of delivering large-scale infrastructure projects aligns perfectly with our mission to support enterprises as they scale and innovate in Africa," said Paula Cogan.

Building on a strong foundation in Africa, Digital Realty is actively expanding its data centre footprint and interconnection capabilities across the continent. The company aims to foster economic growth, facilitate cross-border collaboration, and connect African businesses to the global digital economy. To date, Digital Realty has invested over US$2 billion in Africa and has been ranked number one on Cloudscene's Data Center Ecosystem Leaderboard in the region.

"Africa is one of the most dynamic digital frontiers in the world, with its influence on the global digital economy continuing to grow. As the leading data centre provider in the region, Digital Realty is uniquely positioned to deliver the infrastructure that connects Africa to the rest of the world. Together with our talented team, we will continue building platforms that drive innovation, expand opportunities, and deepen Africa's integration into the global digital ecosystem," said Louw.

ITU, Google, and Will.i.am launch training program for young Africans

The International Telecommunications Union (ITU), Google, and renowned rapper and entrepreneur Will.i.am have announced a new initiative aimed at empowering young Africans through artificial intelligence (AI) and robotics education.

Unveiled at the Digital@UNGA event during the United Nations General Assembly, the program will initially target youth aged 10-18 in Ghana, Ivory Coast, Kenya, Nigeria, and South Africa, with plans to expand to other nations over time.

The initiative will distribute robotics kits, deliver educational content customised to local contexts, and provide teacher training to foster STEM skills among underserved communities. Google will contribute $1 million in funding via its Google.org Foundation, alongside technical expertise to support implementation. The program emphasises reaching girls and underrepresented groups in tech, building on the ITU and UNICEF-led Giga initiative, which aims to connect schools across the continent.

Despite the increasing demand for digital skills, only 53% of young Africans aged 15 to 24 had internet access in 2023, significantly below the global average of 79%, according to the ITU. However, the need for digital literacy is rising rapidly; a 2023 study by the International Finance Corporation, cited by the World Economic Forum, projects nearly 230 million jobs in Africa will require digital skills by 2030.

"In our technology-driven global economy, there is an urgent need to help young people in disadvantaged areas catch up so they can participate. With skills in STEM, robotics, and AI, young talent in Africa can help solve the world's most pressing problems," said Will.i.am.

This partnership between public and private sectors underscores the strategic role of digital technology in preparing Africa's youth for future employment opportunities and bridging the digital divide that hampers their global competitiveness. The initiative aims to cultivate local talent, foster innovation, and create pathways for sustainable economic development across the continent.

Ivory Coast launches national Public Administration Interoperability Platform for digital transformation

Ivory Coast has officially launched its Public Administration Interoperability Platform, a landmark step in advancing the country's digital transformation efforts.

The platform was unveiled at a ceremony held at the Postel Building 2001 Auditorium, led by Minister of Digital Transition and Digitalisation Kalil Konaté. The event gathered government officials, technical partners, and media representatives to mark this significant milestone.

The new platform is a core component of the National Digital Development Strategy and supports the government's vision of achieving a "Zero Paper" administration by 2030. By enabling seamless interoperability between various government information systems, the platform aims to streamline administrative processes, reduce bureaucratic silos, and accelerate the digitisation of public services across the nation.

Built on the UXP solution developed by Cybernetica — modelled after Estonia's renowned X-Road platform — the system embodies a proven, open-source framework designed to be adaptable to Ivory Coast's specific needs. This approach not only enhances flexibility but also reduces long-term costs associated with proprietary licensing.

In its initial phase, twelve pilot institutions will integrate the platform, including key agencies such as the General Directorate of Taxes, the National Office of Civil Status, the National Social Security Fund, and the Abidjan Trade Court. Successful adoption by Directors of Information Systems across ministries and public institutions is deemed critical for the platform's overall success.

The project is overseen by the National Agency for Digital Development (SNDI), with technical support from Cybernetica. Authorities emphasised that this initiative reflects the government's commitment to modernising governance systems, boosting efficiency, promoting inclusion, and fostering economic development as part of the Côte d'Ivoire 2030 Strategic Plan.

This deployment underscores Ivory Coast's ambition to position itself as a digitally empowered nation, leveraging innovative technology to enhance public sector effectiveness and citizen services.

Mauritania to launch nanosatellite program

The Mauritanian government is actively exploring the development of a national space program focused on nanosatellites, with the overarching goal of establishing a sovereign space system that supports the country's broader development initiatives and enhances its standing in regional and global space technology.

Minister of Digital Transformation Ahmed Salem Ould Abode recently convened a high-level meeting to review the project's details. He outlined that the program would include the deployment of one or more low-orbit nanosatellites along with the necessary ground infrastructure for satellite control and operation. An essential component of the initiative is the transfer of technical skills to Mauritanian experts, ensuring local capacity for the design, manufacturing, and management of nanosatellites.

The government envisions the program serving strategic missions related to security, surveillance, and observation, while also expanding digital coverage across the entire national territory. This focus aims to bolster digital services and enhance security infrastructure, reflecting the country's commitment to leveraging space technology for societal benefits.

Mauritania's ambitions come amidst a regional surge in satellite initiatives, with countries like Senegal launching GAINDESAT-1A in August 2024, and others such as Djibouti, Côte d'Ivoire, and Botswana also deploying their own satellites recently. The African space sector has seen significant investment, with approximately $465.34 million allocated in 2024 alone.

Namibia targets rise in SIM card cloning

The Namibian government, along with law enforcement authorities, mobile network providers, and regulatory bodies, is intensifying efforts to tackle the escalating issue of SIM card cloning that threatens consumer security across the country.

Emma Theofelus, Namibia's Minister of Information and Communications Technology, expressed concern over the increasing prevalence of this form of cybercrime, highlighting that it undermines the progress made through the country's mandatory SIM card registration system. She pointed out that while reports of scams persist, there has been a notable decline in overall cyber offences, attributing this to the registration process's effectiveness.

Speaking during a regional engagement in the north-eastern Zambezi region with leaders from various stakeholder groups, Theofelus emphasised the growing sophistication of scammers. She noted that criminals are now adopting advanced tactics such as SIM cloning, which complicates efforts to combat cybercrime. The minister assured the public that authorities are working closely with law enforcement agencies to identify and apprehend those responsible, while urging citizens to remain vigilant and cautious when engaging online.

In addition to these enforcement measures, the Ministry of ICT has launched a nationwide cyber security awareness campaign aimed at safeguarding students and teachers from falling prey to cyber threats. The initiative kicked off at Caprivi Secondary School in Katima Mulilo, Zambezi, with officials including Linda Aipinge-Nakale, the interim executive director, and Fillemon Johannes, director for ICT, leading the programme.

Officials explained that the campaign forms part of Namibia's broader strategy to strengthen cyberspace security and combat cybercrime, as outlined in the country's National Digital Strategy. The combined efforts aim to foster a safer digital environment for all Namibians.

Talking satellite

Kallie Carlsen, MD of Paratus South Africa

Africa's connectivity landscape: the challenges and solutions, and the role of satellite technology

The demand for increased connectivity across Africa is determined and shaped by the continent's unique geography, population distribution and infrastructure. Africa spans vast geographical areas with low population density and this makes traditional infrastructure deployment expensive and therefore both economically and logistically challenging.

Another major challenge in many regions is unreliable power infrastructure. This means that these countries need connectivity solutions that have low power requirements or independent and backup power sources. Another complication is limited terrestrial infrastructure, with fibre connectivity being concentrated in urban centres and coastal regions. At the same time, there is an urgent need for affordable solutions, given the economic constraints across most markets, as well as resilience due to all the harsh environmental conditions and infrastructure vulnerabilities.

Connectivity demands vary significantly across the continent. Southern Africa, including South Africa, Botswana and Namibia, benefits from more developed infrastructure but faces high demand for reliable backup solutions due to power instability and the need for backhaul redundancy. East African nations such as Kenya, Tanzania and Uganda have strong mobile penetration with a growing demand for high-capacity solutions for both business and education sectors. West African countries, such as Nigeria and Ghana, have dense urban populations that need high-capacity solutions alongside remote resource sector connectivity. Central African nations, including DRC, have minimal existing infrastructure and a critical need for basic connectivity across vast territories. North Africa generally has more developed fixed-line infrastructure, but this region is now experiencing growing demand for high-capacity wireless solutions.

Resource-rich African countries can prioritise industrial connectivity for mining and oil/gas operations, while service-oriented economies on the continent tend to focus more upon urban business connectivity and digital inclusion initiatives.

Low Earth orbit (LEO) satellite technology offers key advantages, but it is not a universal solution for Africa's connectivity challenges. Its strengths include low latency, high bandwidth, rapid deployment and wide coverage footprint, and is therefore ideal for remote industrial sites, disaster recovery, backup solutions, rural schools and clinics, and temporary project sites. However, it faces limitations including cost constraints, licensing complexity, terminal availability and weather vulnerability. LEO is transformational for specific use cases but is best when integrated with, rather than replacing, terrestrial infrastructure, particularly in population centres where fibre and mobile connectivity are more economical at scale. LEO works best as part of a connectivity ecosystem rather than as a standalone solution.

The integration of geostationary Earth orbit (GEO), medium Earth orbit (MEO) and LEO satellites is creating new opportunities across Africa. These different orbital satellite technologies provide complementary coverage profiles, which enable application-specific deployment that uses the right satellite technology for specific use cases. The multi-layered approach delivers significant redundancy benefits and provides enhanced reliability for critical communications. Telecommunications providers are now able to offer customised solutions based on specific client needs rather than one-size-fits-all satellite packages. A competitive ecosystem with multiple operators is therefore driving innovation and price competition, and this multi-layered approach has accelerated market development.

The mining sector in Africa is a strong example of where satellite connectivity adds strategic value. In remote operations, connectivity supports technologies such as automation, remote equipment monitoring and predictive maintenance. It also improves worker safety by enabling the tracking of staff movements and monitoring environmental factors like dust, gas levels or temperature to ensure safe conditions. In addition, satellite connectivity supports sustainability goals by enabling data collection that helps monitor environmental performance. Given the high operational value of mining sites, these locations often justify the use of premium connectivity solutions, whether as a primary service or a backup to terrestrial links.

Making satellite connectivity affordable in Africa is a complex issue. Business case viability is increasingly evident for enterprise applications where the investment can be justified by the numerous operational benefits. However, the barriers for consumer adoption remain because services are still prohibitively expensive for individual consumers that are not offered any subsidisation. Government initiatives are making satellite connectivity more viable for targeted applications, such as for rural schools and healthcare facilities. The price trajectory is encouraging, and costs are declining as competition increases and technology advances.

While Africa will remain mobile-first for the foreseeable future, satellite connectivity will be increasingly embedded in the connectivity ecosystem as a critical complement to terrestrial solutions, particularly as hybrid network architectures become more sophisticated.

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How OSS/BSS reinvention unlocks revenue and customer loyalty

Telecoms are under pressure to move beyond delivering reliable connectivity and start competing on customer experience. By reimagining OSS/BSS as engines of insight, CSPs can unlock new revenue streams while building loyalty that lasts.

For decades, OSS and BSS were seen primarily as the plumbing of the telecom world — the hidden systems that kept billing accurate and services delivered. Essential, yes, but hardly glamorous. That's changing. Today, operators are discovering that the same platforms can be powerful engines of growth, provided they are modernised, connected, and infused with customer journey mapping (CJM).

Data-driven personalisation at scale

Graeme Hughes, MD at We Are CORTEX, believes this shift is overdue: "we encourage and assist telcos to move from transactional analysis of certain legs, or aspects, in a customer journey, to an end-to-end appreciation. That means automating and orchestrating across domains, technologies, operating companies and third parties. Once you build that appreciation of context and the customer's intent, you can really start to lift the customer experience."

It's the difference between treating a subscriber as a billing record and recognising them as an individual with needs, preferences, and pain points. Are they gamers who demand low latency? Travellers who rely on seamless roaming? Content creators frustrated by slow uploads? Without that insight, frustrations mount — and the next telco suddenly looks more appealing.

"Integrating CJM into an OSS/BSS platform gives providers a complete picture of how customers interact with their services - from signup to daily usage and renewals," explains Splynx CEO Alex Vishnyakov. "When this data is linked with billing, service, and support information, it becomes much easier to spot new revenue opportunities and personalise offerings."

With Splynx, for example, providers can see who consistently hits data limits, who regularly upgrades, or who struggles with service quality.

"That insight allows them to launch targeted upsells and cross-sells, like offering higher-speed plans to heavy users or value-added services such as secure DNS or content filtering to customers who need them," says Vishnyakov. "This approach improves customer experience and increases ARPU at the same time."

The promise is clear: personalisation not just as a 'nice to have' but as a competitive advantage that keeps subscribers loyal and grows ARPU.

"When telcos integrate customer journey mapping in their BSS/OSS systems, they get a much clearer and real-time view of every interaction across all touchpoints," agrees Dominic Smith, Marketing Director at Cerillion. "From signing up and paying bills to getting help or upgrading a service, it's easier to spot where things might go wrong — or where there's a chance to offer something extra, such as upselling a roaming package when the customer is travelling abroad."

Adding CJM to digital channels also opens the door to self-service, which is increasingly what customers prefer, adds Smith: "for the operator, this creates more engagement and more data points to analyse, opening up new opportunities to monetise each stage of the customer journey."

Automation: the non-negotiable

Data and insight are powerful, but without automation they risk getting stuck in slow, manual processes. Telcos are discovering that automation within OSS/BSS is no longer optional.

"Automation is a non-negotiable for telcos looking to evolve from traditional connectivity providers to agile digital service enablers,"

says Letchu Narayanan at CSG. "By automating billing and service delivery with modernised OSS/BSS, operators can improve accuracy and reduce time-to-market, opening the door to innovation at scale. Crucially, AI-powered automation also enables a deeper understanding of the customer across regions and product lines."

Indeed, when billing and service workflows are fully automated, everything runs smoother. Billing becomes effortless - invoices, reminders, dunning flows, and payments are handled automatically; as do new installations, activating a new plan or upgrading an existing one takes seconds, not days. Notably, errors disappear, cutting billing errors and frustrated customers.

The benefits ripple outward. Faster service delivery, fewer errors, and a connected journey improve satisfaction while sustaining revenue growth.

Smith echoes this, highlighting the everyday headaches automation solves: "BSS/OSS automation takes the headache out of billing and service delivery. It ensures accurate, real-time charging and efficient payment processing, while zero-touch workflows enable rapid, error-free provisioning. It is also the foundation for successful self-service strategies, providing the means to launch and scale digital channels that customers actually enjoy using."

Breaking down silos to monetise insights

Even the best insights lose impact if they remain siloed. OSS/BSS modernisation is about more than systems — it's about tearing down barriers between teams.

"To truly innovate on pace with market demands, telcos must break down internal silos and ensure alignment across every department, from marketing to sales to finance to customer service," says Narayanan. "A key benefit of a modernised OSS/BSS solution is the ability to gain a unified, contextualised view of customer behaviour."

"A big challenge is when customer data sits in silos - billing in one system, usage in another, support somewhere else," agrees Vishnyakov. "An OSS/BSS platform solves this by becoming the central source of customer insights, and the real value comes when this data is actively used by marketing and sales teams. The best practice is to connect OSS/BSS data directly with marketing and sales tools so that every decision is based on real customer behaviour. Sales teams have full customer context - when they contact a lead or existing client, they already know their usage patterns, billing history, and pain points."

That unity enables flexibility: "with the deeper understanding of the customer, telcos can more effectively personalise offerings and anticipate future market demands," adds Narayanan. "A catalogue-driven architecture is key to give operators the flexibility to quickly launch new services, test personalised bundles and accelerate time to value."

The solution? Automation and orchestration layers that cut across vendors and domains.

"Processes need to be vendor-agnostic and domain-agnostic," argues Hughes. "You need to decouple your processes from your tools and technologies, and call on the technology you need through a single pane of glass for your whole organisation to recognise and build on."

This, he says, is how leading telcos are leveraging hyperscalers, integrating AI, and future-proofing their businesses.

Smarter, targeted communication

Customers don't want more messages — they want better ones. The ability to personalise communication with precision is where OSS/BSS insight pays off.

"We live in a 'convenience' culture," Hughes says. "It is easier than ever to prompt spend with a customer in favour of maintaining and improving their connectivity and services. But less is more when it comes to consistent and targeted communication that is not founded on real-time data. Don't write to customers about new data bundles unless you know they use a lot of data. The same applies to cross-selling and up-selling any service."

By analysing the customer journey inside an OSS/BSS platform, telcos can see how customers use services, when they upgrade, and where they drop off.

"For example, if data shows that many customers consistently hit usage limits, providers can introduce tiered plans or top-up options instead of forcing them to upgrade to a full higher package," says Vishnyakov. "If families or businesses use multiple services under one account, creating bundled offers - combining internet, VoIP, security, or content filtering - increases value for the customer while boosting ARPU."

"Timely, personalised messages — like balance notifications, top-up prompts or airtime loans — keep customers engaged and reduce churn, especially in regions like Africa, where many customers are prepaid and price-sensitive," notes Pieter Welgemoed, Head of sub-Saharan Africa at CSG. "When communication is based on real-time account activity and preferences, it transforms from a retention tool into one that also drives upsell opportunities."

Real-time monetisation moments

Real-time OSS/BSS data doesn't just improve communication — it creates entirely new monetisation opportunities.

"Similar to consistent messaging, when you have customer-impacting events, the timing could not be better," says Hughes. He gives the example of offering extra data when a subscriber nears their limit, or even providing a free coffee-shop connectivity voucher during an outage.

"These can be very powerful opportunities," says Hughes. "You can either get out ahead of issues and build confidence, or react when customers call you, already frustrated. No matter how well you set up a reactive CX, it will be a negative experience."

Smith sees AI as a force multiplier: "instead of pushing out generic campaigns, operators can upsell personalised offers when the timing is right. Add AI and machine learning, and these promotions get even better, predicting what's most likely to appeal."

"When an OSS/BSS platform becomes the source of truth, it gives providers the right data to make smarter decisions about cross-selling and upselling," asserts Vishnyakov. "The real power comes from integrations. With open APIs, we can connect to tools like LibreQoS or Preseem. These tools optimise latency, buffer bloat, and throughput while linking this information directly to customer and billing data."

Another example is security-driven upselling. Integrating with secure DNS services allows providers to block malicious domains, inform customers about it, and offer advanced security or content-filtering packages in a natural, value-driven way.

According to Vishnyakov, it comes down to two points: having a system that brings together the right data and tools; and being proactive and using that data to create value for both the provider and the customer.

Welgemoed points out that in Africa, where usage habits are fluid, micro-segmentation is particularly powerful: "real-time data empowers providers to respond to actual behaviours, not assumptions. This increases conversion and customer satisfaction while maximising wallet share."

OSS/BSS as a growth engine

The consensus is striking: OSS/BSS can no longer be treated as background systems. They are front-line enablers of growth.

Customer experience is one of the biggest differentiators in the telecom market, especially in Africa, where competition is growing and expectations are rising. Many providers lose the battle in the communication aspect - inconsistent updates, missed billing reminders, or fragmented support channels directly impact retention.

"This is where a modern OSS/BSS platform becomes critical. By consolidating all customer data and communication in one ecosystem - calls, emails, SMS, WhatsApp, billing notifications, support tickets, and even automated chatbots - service providers can finally move away from juggling disconnected systems," asserts Alex Vishnyakov. "Beyond retention, consistent and targeted communication opens the door to new monetisation opportunities. By segmenting customers based on their plans, usage patterns, or payment history, providers can proactively upsell new packages, cross-sell value-added services, and recover revenue through automated dunning flows. In short, centralised communication + targeted automation = stronger customer relationships, less churn, and higher ARPU."

By embedding CJM, fuelling it with real-time data, automating processes, breaking down silos, and personalising engagement, CSPs can make the leap from being utility providers to trusted digital partners. The results? Higher revenue, stronger loyalty, and the agility to compete in a fast-moving digital economy.

Or, as Hughes puts it: "this is what customers need — and what they will pay a premium for." ■

Travel eSIM: why North African operators are handing away 90% of their own revenues

Darren Shaw, Chief Product Officer, eSIM Go

Today, North African MNOs are keeping less than 10-20% of the value of travel eSIM data consumed on their own networks by inbound roamers. The rest flows straight to international eSIM vendors.

Travellers are connecting, operators are carrying the traffic — but the revenue is leaving the country. Outbound subscribers are doing the same when they travel, abandoning high-margin roaming domestic bundles for global eSIM brands. Operators are being disintermediated in both directions.

This is not 'cannibalisation of roaming.' It's disintermediation — and it's happening now.

The travel eSIM surge

Independent forecasts confirm what operators already see in their traffic stats:

- Juniper Research: global travel eSIM users to grow 440% in the next five years.
- Kaleido Intelligence: retail spend on travel eSIMs will hit $10 billion by 2028, up from $3.3bn in 2025.

Inbound roamers want to buy instantly, digitally, at the point of booking. Outbound travellers want affordable, flexible data abroad without worrying about how much data they use or the administration of adding and cancelling bolt-on packages. And global marketplaces are meeting that need.

For decades, roaming was a high-margin, high-control revenue stream. But those margins were sustained by reciprocal wholesale agreements. With travel eSIM, that protection is gone.

Defend too hard with premium wholesale rates, and traffic flows to a competitor MNO. Do nothing, and digital eSIM vendors take it all. Meanwhile, operators continue to carry traffic, invest in infrastructure, and provide QoS — all for a fraction of the value.

Let's be clear: this isn't about 'silent roamers' anymore. That was 1995. This is about a structural shift where 90% of the value is leaking away.

The operator advantage

Here's the good news: operators still hold the most important cards — the network, the brand, the billing relationship, and trust. What's missing is the ability to activate travel eSIMs at scale, with global coverage, at the right price points.

We work with MNOs across the Middle East and Africa who have launched branded and co-branded travel eSIMs, capturing inbound roamers directly and ensuring traffic stays on the operator's network; monetised international eSIM inbound traffic for MNOs by partnering with hundreds of global vendors, OTAs and airlines; retained outbound roamers with affordable, branded solutions — sometimes even winning customers roaming traffic away from rival MNOs; and achieved up to 4x increase in roaming traffic, ARPU and revenue growth within 18 months.

If MNOs defend too hard and maintain premium or traditional inbound roaming wholesale rates, competitors simply take the traffic.

Push too hard on wholesale, and rates collapse in a race to the bottom — fuelled by international eSIM vendors moving petabytes of traffic at ultra-thin margins, free from the traditional bilateral agreements that once protected fair value to both MNOs.

And let's be clear: not all travel eSIMs are created equal. Many global providers throttle data without disclosing it within their Terms and Conditions, route traffic through opaque jurisdictions that raise privacy concerns, and run on less resilient infrastructure with poor service and support. Most are marketplaces, not networks.

For operators, that creates real risk. Your brand has been built on trust and reliability. Do you really want it tied to cut-price services that frustrate customers and fail to meet expectations? A bad experience abroad reflects on you, not the marketplace. The reputational cost far outweighs any short-term wholesale gain.

The travel eSIM revolution isn't 'on the horizon.' It's here. And the question for North African MNOs is simple: will you keep handing 90% of the value to global vendors, or will you take it back? ■

eSIM explained

An eSIM (embedded SIM) is a digital SIM that enables users to activate mobile plans without a physical card. For mobile network operators (MNOs), it removes logistical burdens while opening new revenue streams and improving customer experience through simple digital provisioning and support. For the end user, it means immediate access to local connectivity, flexible plan switching and the ability to manage multiple profiles on one device. Travellers can activate data before or upon arrival, avoiding airport kiosks and patchy, insecure Wi-Fi. They benefit from far lower costs compared to traditional roaming, with local eSIM plans often priced at a fraction of roaming packages. Security is also improved as there is no physical SIM card to lose or be stolen.

G20 comes to Johannesburg: Building Africa's digital arteries

The G20's arrival in Africa isn't just symbolic — it's a once-in-a-generation chance to hardwire the continent into the global digital economy. With more than 600 million people still offline, leaders and industry players argue that universal connectivity must be treated as infrastructure, not luxury.

When the G20 gathers in Africa for the first time in November 2025, the symbolism will be powerful. But for African telecom leaders, symbolism is not enough. The continent faces the largest digital inclusion challenge of the 21st century: connecting more than 600 million people who remain offline, most of them in rural and low-income areas. Without decisive action, Africa risks deepening the digital divide just as the rest of the world moves into the 5G and 6G eras.

"This is about positioning universal connectivity as a core development priority," says Andy Dikobo, Public Sector Executive at NTT DATA in the Middle East and Africa. "By advocating for funding, regulatory harmonization, and public-private partnerships, Africa can attract investment and scale infrastructure. Emphasising 4G for mass inclusion while deploying 5G in strategic zones will ensure balanced growth."

The G20 provides a rare platform: it unites the world's largest economies with multilateral lenders, regulators, and technology companies. For the first time, Africa will chair those discussions — and that means it can put the continent's connectivity challenge at the top of the global agenda.

Connectivity as infrastructure, not luxury

The first step, argue industry leaders, is to reframe connectivity. Too often, it is seen as a telecoms industry problem, or a matter of consumer convenience. But Africa's case is stark: without networks, everything else — from education and healthcare to digital payments and e-commerce — remains out of reach.

"We need to frame connectivity as a foundational enabler of inclusive growth," insists Danial Mausoof, Vice President of Technology, Solutions and Services at Nokia in MEA. "By embedding wireless infrastructure goals into the G20 digital inclusion mandate, Africa can push rural 4G/5G


Danial Mausoof, Nokia


Andy Dikobo, NTT

deployment alongside clean water and energy access."

This argument resonates with policymakers because the evidence is compelling. A 2023 World Bank study found that every 10% increase in broadband penetration in low- and middle-income countries boosts GDP growth by 1–2%. Ericsson research shows that a 10% increase in school connectivity alone can lift GDP per capita by more than 1%.

"It is time to stop thinking of connectivity as a consumer service," says Majda Lahlou Kassi, Vice President and Head of Ericsson West and Southern Africa. "It is critical infrastructure. Without it, digital transformation cannot happen."

The numbers illustrate both progress and the scale of the challenge. According to GSMA's 2024 Mobile Economy report:

- Mobile penetration across sub-Saharan Africa has reached 49%
- But only 22% of mobile users are connected to 4G
- 5G adoption remains below 1% across most of the continent
- Nearly 600 million people remain offline entirely, mainly in rural areas

The urban-rural divide is particularly acute. In Lagos or Nairobi, consumers enjoy high-speed 4G and even pilot 5G services. But in much of the Sahel, central Africa, and remote coastal regions, even 2G voice coverage is patchy.

"This unevenness creates a two-speed Africa," says Mausoof. "Urban elites move forward with digital tools while rural populations risk being excluded from the modern economy altogether."

Cutting deployment costs

Part of the reason is cost. Extending 4G or 5G coverage into sparsely populated, low-income areas often makes little commercial sense for operators. But new approaches are changing the equation.

"Our analysis shows that smart rural base stations, AI-driven planning, and zero-footprint energy systems can cut rollout costs by up to 40% in rural Africa," explains Mausoof. "These solutions are not theoretical. They are being deployed today."

One promising model is Radio-as-a-Service (RaaS), where a neutral host builds and manages base stations that multiple operators can use. This shared approach allows carriers to expand coverage without bearing the full cost. Ghana's Next-Gen Infrastructure Company (NGIC) is an early example, pooling operator resources to deploy 4G networks nationwide.

Ericsson has focused on sustainability and affordability: "our solar-powered rural site solutions show that even in remote areas, cellular solutions based on 4G and 5G are the most cost-efficient, future-proof and scalable," says Kassi. "The technology exists — the challenge is scaling it."

Fixed Wireless Access (FWA) is another game-changer. By using 4G or 5G to deliver home broadband via wireless rather than fibre, operators can connect households at a fraction of the cost of trenching cables. GSMA predicts that by 2030, FWA will account for over 40% of broadband connections in Africa.

However, even with smarter deployment models, investment remains the bottleneck. Rolling out universal connectivity in Africa is estimated to cost $100–150 billion over the next decade. No single operator, or even national government, can shoulder that.

"Africa can leverage the G20 to accelerate deployment by advancing targeted policy advocacy, coordinated investment, regulatory harmonisation, and innovative public-private partnerships," says Sunil Geness, Director of Global Government Affairs & CSR Africa at SAP. "The G20 unites leading economies, multilateral development banks, and significant technology stakeholders. That creates opportunities to unlock financing and technical expertise for Africa's digital infrastructure."

Mausoof advocates for blended finance models: "Universal Service Funds can be matched with private investment to de-risk rural deployments. Development banks can provide concessional loans to make marginal projects viable."

This is not theoretical. The World Bank's Digital Economy for Africa Initiative (DE4A) has already mobilised billions to support connectivity. The African Development Bank's Digital Moonshot plan aims to achieve universal broadband access by 2030. The challenge, industry voices say, is to bring these efforts under a unified G20-backed framework.

"Global bodies like the ITU estimate that connecting the remaining unconnected population will require more than $400 billion by 2030," says Kassi. "But the return is clear. Without this investment, Africa risks being left behind in the digital economy."

Policy, regulation and spectrum

Money is only part of the story. The regulatory environment must also encourage investment and innovation to strengthen national security, economic prosperity, and social stability – a concept known as techno-nationalism.

"As techno-nationalism intensifies, African nations must take a proactive stance at the G20 to advocate for open and equitable wireless spectrum policies and cross-border data frameworks," argues Dikobo. "NTT DATA recommends that African leaders push for transparent spectrum auctions, regional harmonisation of frequency bands, and interoperable data governance models. These steps are essential to ensure seamless digital connectivity across borders and to empower local innovation without geopolitical constraints."

According to Kassi, techno-nationalism risks fragmenting the global digital ecosystem.

"...and Africa has a strategic interest in keeping it open, fair and interoperable. At the G20, African leaders can speak with a unified voice to promote policies that prioritise technology neutrality, harmonised spectrum allocation and secure cross-border data flows," says Kassi. "Fair access to spectrum is foundational. We have long advocated for future-proof, investment-friendly spectrum frameworks that encourage innovation and reduce deployment barriers. Across the continent, many governments are already working with partners like the African Telecommunications Union (ATU) to align policies and unlock more spectrum for mobile broadband. Bringing these efforts and cooperative mindset to the G20 table can help scale that alignment, attract investment and accelerate rollout."

Mausoof believes that, at the

Advocating for digital trust

Maeson Maherry, Chief Operating Officer, Ascertia

While the expansion of 4G and 5G networks across Africa is a powerful enabler — bringing entire communities online and opening access to education, healthcare, financial services, and government programs. But faster connectivity alone won't deliver the full promise of digital transformation. What's needed alongside it is an equally strong investment in *digital trust infrastructure*.

As more services move online, it becomes essential to ensure that every digital interaction is authentic, secure, and accountable. This is where digital signatures and distributed digital identities come into play. A compelling example is the mobile electronic national ID (eID) and mobile driver's license (mDL) — secure, verifiable digital identities that can be used to access services, prove identity, and authorise transactions, all from a smartphone.

Of course, for digital trust to be truly inclusive, it must be accessible. That means coupling high-speed networks with the availability of low-cost, yet secure, smartphones—devices that support cryptographic security and protect user data by design. Without this, we risk widening the gap rather than closing it.

Maeson Maherry, Ascertia

Africa has a unique opportunity to leapfrog outdated systems by pragmatically adopting proven global standards. The European Union has invested heavily in building interoperable digital trust frameworks — from eIDAS-compliant digital signatures to cross-border identity assurance. These technical and regulatory standards can be adapted to local realities, enabling African nations to accelerate time-to-value while ensuring legal reliability and user confidence.

Africa's digital future will be shaped not just by how many are connected, but by how much those connections can be trusted.

G20, African nations should:

- Advocate for technology-neutral spectrum policies that prioritise performance, energy efficiency, and openness — enabling flexible models like AnyRAN, which allow operators to integrate multi-vendor systems seamlessly.
- Promote shared spectrum frameworks for rural coverage and emergency services – a big miss on the entire continent today.
- Establish cross-border digital corridors, supported by harmonised data privacy regulations and regional cloud/data centre strategies.

"Africa must unite as a single digital voice, pressing the G20 to safeguard open architecture standards and non-discriminatory access to next-gen tech," confirms Mausoof.

Geness agrees: "by presenting a united front via the African Union and regional economic communities, Africa can negotiate from a position of strength at global standard-setting organisations and G20 dialogues."

The G20 is our moment

Ultimately, the argument for universal connectivity is not just economic. It is about human potential.

"Priority sectors like telemedicine, remote education, and digital commerce all thrive on low-latency, secure, and resilient wireless networks," says Mausoof. "The G20 should ensure that infrastructure financing earmarks wireless-specific windows — especially in universal service and climate resilience funding."

The pandemic made this point painfully clear. In countries like Kenya and Nigeria, students in urban areas could continue learning online, while rural peers were left behind. Telemedicine pilots showed promise in cities but struggled in areas with weak networks.

"The simple truth is: there is no digital transformation without connectivity," says Kassi. "If G20 infrastructure finance overlooks wireless networks, it risks missing the foundation for progress across every other sector."

Majda Lahlou Kassi, Ericsson

The African Union's Digital Transformation Strategy provides the roadmap: universal access to affordable broadband, harmonised spectrum policy, and digital skills for all. The question is whether Africa can use the G20 to accelerate delivery.

"We already have the right technologies for the region — now we need investment to scale them," says Kassi.

For Dikobo, the path forward is clear: "by advocating for funding, regulatory harmonisation, and innovative partnerships, Africa can attract investment and scale infrastructure. The G20 is the ideal platform to position these priorities globally."

"Through smart regulation, targeted investment, and continental unity, Africa can lead — not follow — the global digital agenda. G20 2025 is our moment," concludes Mausoof. ■

Secure wireless communications for nature conservation

Rob Nel, Business Owner and Head of Technology, OmniComs Africa

Africa's wild places are under increasing pressure. Expanding human populations, organised wildlife crime syndicates, climate change and shrinking natural habitats all pose escalating risks to biodiversity. For conservationists, park rangers and local communities, technology has become an indispensable ally. From real-time monitoring of endangered species to coordinating ranger patrols across rugged landscapes, secure wireless communications now sit at the heart of modern conservation.

Yet with opportunity comes vulnerability. The very data and systems designed to protect wildlife can be exploited by adversaries if they are not built on secure, resilient foundations. A leaked GPS coordinate can place a rhino at risk. An intercepted ranger transmission can reveal patrol patterns. A compromised network can delay response teams when minutes matter most.

At OmniComs Africa, we have witnessed these challenges first-hand. Our mission is to ensure that conservationists across the continent have access to trusted, secure communications, built on advanced digital radio and integrated network solutions.

Why security matters in conservation communications

Conservation networks are unlike commercial or urban communication systems. They must operate in remote, unforgiving environments where infrastructure is scarce, power supply is unreliable and the stakes are uniquely high. In this context, security takes on several dimensions.

Confidentiality of sensitive data: Endangered species locations are highly sensitive intelligence. If intercepted, they could be exploited by poachers. Strong encryption and access control are essential.

Integrity of communications: Every data point - whether from a fence sensor, drone feed, or ranger patrol - must be authentic and untampered. Spoofed or manipulated data could divert patrols or mask illegal activity.

Availability and reliability: Communications in the field cannot drop when they are needed most. Networks must provide continuous coverage, redundancy and resilience to environmental damage or sabotage.

Physical security: Radios, repeaters, and sensors themselves can be tampered with, stolen, or destroyed. Hardware must be rugged, tamper-resistant and backed by contingency plans.

Our work focuses on delivering solutions that provide secure voice and data transmission, encrypted GPS tracking and robust field-ready hardware, ensuring that field teams can operate safely and effectively.

Secure communication in action: global conservation projects

Several international projects illustrate how secure digital networks are transforming conservation work:

1. Kruger National Park, South Africa

Kruger is one of the largest national parks in Africa and one of the hardest hit by rhino poaching. A wide-area digital radio system provides secure coverage across vast swathes of the park. Encrypted voice ensures patrol communications remain confidential, while GPS-enabled radios give commanders visibility of ranger movements in real time. The result is faster, safer and more coordinated responses to incidents.

> "With opportunity comes vulnerability. The very data and systems designed to protect wildlife can be exploited by adversaries if they are not built on secure, resilient foundations. A leaked GPS coordinate can place a rhino at risk."

2. Kenya Wildlife Service (KWS)

In Kenya, an integrated digital network covers multiple reserves under the stewardship of the Kenya Wildlife Service. Rangers now operate with secure voice, encrypted data and GPS tracking, all managed through a centralised dispatch system. This has transformed patrol coordination, reducing response times and improving safety in some of the most challenging terrain on the continent.

3. Kaziranga National Park, India

Kaziranga is a UNESCO World Heritage Site home to the world's largest population of one-horned rhinoceroses. A multi-site digital network covering over 1000 km² links ranger stations, guard posts and field patrols, with encrypted GPS data ensuring patrol routes remain confidential and coordinated.

4. Mount Kenya UNESCO Biosphere Reserve

A deployment in East Africa involved providing secure digital communications for rangers working across remote mountainous terrain. Solar-powered repeaters ensured continuous operation in off-grid environments, while rugged radios with long battery life could withstand extreme conditions and rough handling.

These examples demonstrate that secure wireless communications are not just a technical convenience - they are a critical tool in protecting biodiversity.

Key features of effective conservation networks

Whether deploying a single repeater in a conservancy or a multi-site digital trunked network spanning Transfrontier Parks, successful conservation communication

networks share several core characteristics.

For end-to-end security, encryption, authentication, and secure key management ensure that sensitive communications remain confidential and trustworthy. To ensure field resilience, equipment must withstand heat, dust, rain and rough handling. Solar or battery-powered options keep systems running off-grid. Integration capabilities are also key, requiring a unified operational ecosystem for link radios with IoT sensors, drones, camera traps, and satellite links. Moreover, networks should grow with the conservation mission, covering new areas as parks expand or trans-frontier initiatives require cross-border coordination. Finally, to support full operational intelligence, advanced dispatch platforms provide real-time mapping, incident logging, and ranger tracking, giving commanders the situational awareness needed to act decisively.

The African conservation context

While global case studies provide proof of concept, Africa presents unique challenges and opportunities.

Vast, remote landscapes require wide-area coverage solutions that traditional cellular networks cannot deliver. Meanwhile, cross-border parks, such as KAZA (Kavango-Zambezi Transfrontier Conservation Area), demand scalable, interoperable systems that can operate across jurisdictions. Moreover, community engagement is essential: conservation areas often overlap with local villages, meaning communications must extend to community scouts and first responders. Additionally, resource constraints require solutions that are cost-effective to deploy and maintain without compromising security or performance.

Looking ahead, conservation communications will become even more integrated and data-driven, with IoT sensors detecting fence breaches, gunshot or vehicle movements will feed data directly into secure radio backbones. AI analytics will flag suspicious patterns, such as unusual ranger patrol gaps or clustering of poaching activity. Satellite backhaul will connect even the most remote ranger stations to command centres, ensuring continent-wide visibility. Body-worn cameras integrated with radios will provide live situational awareness to control rooms, secured end-to-end.

As these systems grow, so too does the risk of cyber-attack or misuse. That is why security by design must remain at the forefront. By combining digital radio technology with expert network design and local operational knowledge, Africa's conservation organisations can ensure that communications remain both innovative and trustworthy.

Reflections on local implementation

From our experience deploying networks in Southern Africa, several lessons have emerged:

Design networks around the user, not the technology: Rangers need equipment that is simple to operate under stressful conditions. Complexity in the field can undermine security.

Train and empower local teams: Technology is only as effective as the people operating it. Field teams and community scouts need training on encryption, device handling and secure operational procedures.

Plan for environmental resilience: Solar-powered repeaters, ruggedised radios and waterproof enclosures are not optional - they are mission-critical.

Prioritise data governance: Conservation organisations must make careful decisions about what data is shared publicly, what is restricted and how long sensitive location data is retained.

Integrate monitoring and response: Systems must feed actionable intelligence into operational centres capable of rapid, coordinated action. Delays in response undermine the purpose of any network.

Connecting the wild - securely

Africa's biodiversity is a global treasure, but protecting it requires more than good intentions. Rangers, conservationists and community scouts cannot operate effectively without secure, reliable communications.

Through strategic deployment of digital radio networks, IoT integration and locally supported operational systems, we can ensure that conservation teams can focus on what matters most: protecting wildlife and natural habitats.

Connectivity is not enough. Security, reliability and resilience are non-negotiable. Only by connecting the wild securely can we give Africa's wildlife the protection it deserves - today, tomorrow and for generations to come.

Telecom Africa transforms data centre operations with TCPWave

In the rapidly evolving telecommunications landscape across Africa, Telecom Africa has established itself as a pioneering force, delivering a diverse portfolio of services that include mobile voice, internet data, digital content, and financial solutions.

To sustain growth and meet the increasing demands for security, automation, and operational efficiency, Telecom Africa sought to modernize its network infrastructure. Partnering with TCPWave, the company implemented an advanced DDI (DNS, DHCP, and IP Address Management) solution that revolutionized its data centre operations.

A complex network landscape

Telecom Africa's network spans numerous regions and serves millions of customers. Its service offerings include prepaid and postpaid mobile plans, internet connectivity, multimedia messaging, and a suite of digital services such as mobile money, music streaming, and digital content.

The company also provides enterprise solutions encompassing cloud computing, Internet of Things (IoT), business communications, and broadband services. Its extensive international roaming, mobile financial services, and digital content offerings position it as a vital player in Africa's digital transformation.

Managing this vast and diverse network environment presented significant challenges. The company needed to automate the provisioning of compute resources to accelerate deployment times and reduce manual effort. Accurate discovery and management of network components — including routers, switches, firewalls, and compute nodes — were essential to maintaining operational oversight. Security was a paramount concern, requiring strict access controls to safeguard sensitive data and prevent unauthorized changes. Additionally, integrating network management with VMware's automation platform, VMware vRealize Automation (VRA), was necessary to support various VLAN configurations and streamline workflows.

Implementing a strategic solution

To address these complexities, Telecom Africa adopted TCPWave's comprehensive DDI platform, which offered a range of features designed to optimize network management and security.

The platform's distributed network discovery engine played a vital role by continuously scanning the entire network infrastructure to identify subnets and IP address allocations. This automated discovery process ensured the network's state was always up to date, providing Telecom Africa with accurate, real-time visibility into their sprawling infrastructure.

Security enhancements were achieved through the platform's Identity Administration (IA) module, which offered detailed control over user access. Administrators could define granular permissions, ensuring that individuals only had access to the resources necessary for their roles. This level of control fostered accountability and minimized the risk of accidental or malicious alterations. Complementing this, Role-Based Access Control (RBAC) allowed the creation of customized administrator roles, further refining permissions and enforcing the segregation of duties essential for maintaining network integrity.

The platform's user-friendly interface simplified network management tasks, making it easier for teams to operate efficiently and respond swiftly to network issues. Importantly, the solution was built with automation in mind. It supported VLAN provisioning through Ansible playbooks, enabling seamless integration with existing automation workflows. Compatibility with VMware vRealize Automation (VRA) allowed the company to dynamically provision VLANs and other network configurations, supporting diverse deployment scenarios and accelerating service delivery.

Transformative results

The deployment of TCPWave's DDI solution brought about transformative benefits for Telecom Africa.

Automated network discovery and provisioning significantly reduced manual efforts, minimized errors, and sped up deployment timelines. The platform's robust security framework, built on granular access controls and RBAC, ensured that only authorized personnel could make critical changes, thus strengthening the overall security posture of the network. Real-time visibility into network status enabled proactive management, allowing Telecom Africa to identify and resolve issues before they impacted service.

Furthermore, the flexible automation capabilities allowed the company to tailor network configurations quickly and efficiently, aligning with operational policies and supporting rapid innovation. The combination of automation, security, and visibility empowered Telecom Africa's network teams to operate with greater confidence and agility, positioning the company to support future growth and technological advancements.

TCPWave's deployment at Telecom Africa exemplifies how advanced DDI solutions can fundamentally transform network management in complex, dynamic environments. By automating routine processes, enhancing security through granular access controls, and providing up-to-date network insights, Telecom Africa has strengthened its operational efficiency and security posture. ■

Enhancing telecom operations: network optimisation with Gigamon

As one of Africa's largest telecommunications providers, serving over 60 million customers with voice, messaging, and data services, this company also extends its reach to business clients across more than 50 countries. Its offerings include high-grade internet connectivity, Internet of Things (IoT) solutions, cloud hosting, and security services.

Managing such a vast and complex network infrastructure requires sophisticated tools for visibility, troubleshooting, and ensuring optimal service delivery. Eli, a network broker planner overseeing the company's tapping and aggregating platform at nine major sites and six smaller locations, plays a vital role in planning, forecasting, troubleshooting, and maintaining network performance. His goal is to build an efficient, resilient, and profitable network that delivers the best possible experience to customers.

Achieving deep network visibility and efficiency

The company's deployment of Gigamon solutions predates Eli's tenure by four years, and over the years, Gigamon has become integral to his operations.

As fraud incidents and network complexities increased, the company invested heavily in Gigamon's sophisticated tools to gain insight into traffic patterns and network behaviour. Starting with GigaVUE-HD4 appliances, the network evolved to include GigaVUE-TA10 aggregators, GigaVUE-HC3, and GigaVUE-TA200 units.

According to Eli, Gigamon is essential for deep observability, asserting that, "without Gigamon, we would lack the visibility needed to understand our network and traffic flows."

One of the pressing issues Eli faced was the overwhelming number of duplicate packets in the Cisco Application Centric Infrastructure (ACI) fabric, which hampered traffic analysis and network efficiency. After conducting a thorough business case analysis comparing various vendors, he identified Gigamon's GigaSMART technology as the optimal solution. During a proof-of-concept, the de-duplication feature of GigaSMART achieved an impressive 88% reduction in duplicate packets for user-plane traffic, significantly improving network clarity and probe efficiency.

"Not even the probing vendors are able to provide a feature like Gigamon provides. If you look at increasing probe capacity, that will cost you around five times the amount as a Gigamon smart module," advises Eli.

Advanced visibility and intelligent traffic management

Gigamon's suite of solutions, including the GigaVUE® TA and HC series appliances, GigaSMART applications, and the innovative GigaVUE Enriched Metadata, forms the backbone of the company's network monitoring and analysis capabilities.

GigaVUE Enriched Metadata, in particular, offers a groundbreaking perspective on subscriber behaviour, providing deep insights into network usage and helping identify critical service issues. This advanced metadata enables Eli and his team to gain a clearer understanding of traffic patterns and application performance, which is crucial for maintaining high-quality service levels.

Gigamon's tools empower Eli to monitor network usage across different regions of Africa, pinpoint performance bottlenecks, and address issues such as latency spikes. This insight allows his team to optimize network investments and improve overall quality of service. The solutions seamlessly feed traffic data to probes for various projects — ranging from compliance and analytics to performance troubleshooting — while maintaining a resilient infrastructure with zero downtime, which significantly enhances return on investment. Additionally, Gigamon's compatibility with other vendor solutions simplifies the process of integrating feeds for diverse projects, making it easier for Eli to manage complex network environments.

Transforming network operations and customer experience

The deep observability provided by Gigamon has transformed how Eli and his team troubleshoot and optimize the telecommunications network.

The availability of comprehensive traffic data has dramatically reduced the time required to identify and resolve issues, directly contributing to improved service quality and operational efficiency.

"Over the past nine years, I've had the opportunity to work closely with Gigamon, navigating the evolving landscape of mobile networks. Throughout this journey, I've encountered challenges, and time and again, Gigamon Support has risen to the occasion — delivering exceptional service and effective resolutions," says Eli. "Their success is clearly driven by a top-down approach, where leadership, engineers, and support teams collaborate with agility, fostering trust and innovation. One standout development is GigaVUE Enriched Metadata, which offers a cutting-edge perspective on subscriber behaviour and delivers deep network insights — crucial for addressing critical service issues. I'm a proud customer partner with Gigamon and excited about the promising future ahead."

Ease of use is another significant advantage. Eli praises the Gigamon Fabric Manager for its intuitive interface, which allows even new team members to quickly understand and navigate the network environment.

"If you look at the Gigamon product line, it's helped our company become closer to the customer. We want to be on the same journey with them and connect them," explains Eli. "Our whole motto is about connecting our people and our customers, and the Gigamon infrastructure has met our demands. It's a world-class service." ■

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New DIN-Rail Edge computer lineup for smart city gateways

Advantech has launched two innovative DIN-rail edge computer series: the ARK-1251 and ARK-1222.

These ultra-compact, fanless systems are specifically engineered for space-constrained and rugged industrial environments, delivering dependable edge intelligence with flexible expansion options and versatile I/O interfaces. Despite their compact design, both models provide powerful functionality. They come integrated with Advantech's DeviceOn software and SUSI API, enabling real-time system monitoring, remote diagnostics, and automated recovery processes. Equipped with built-in TPM 2.0 and advanced hardware management features such as multi-level watchdog timers and comprehensive hardware health monitoring, these systems significantly enhance cybersecurity and ensure long-term reliability.

Housed within a rugged IP4X-rated chassis, the ARK-1251 and ARK-1222 support a wide 12 to 28 VDC input range and feature space-saving DIN-rail mounting, making them ideal for smart automation and smart city edge computing applications. These systems are built to provide the intelligence, efficiency, and durability necessary for demanding industrial edge deployments.

The AI-accelerated ARK-1251 model is powered by Intel® Core™ Ultra Processors 125U and 155U, featuring a hybrid SoC architecture that combines CPU, GPU, and NPU cores. This setup enables high-performance AI computing with low power consumption. The ARK-1251 supports up to 96GB of DDR5 5600 MHz SODIMM memory and includes multiple M.2 slots for 5G/LTE modules, Wi-Fi, and NVMe SSD storage. Connectivity options are extensive, featuring multiple USB ports, dual RS-232/422/485, RS-422/485 ports, dual 2.5GbE, a 1GbE port, and dual display outputs. It's also the first in the ARK series to support EdgeBMC management, allowing both in-band and out-of-band management via Advantech's DeviceOn platform. Its compact form factor and advanced capabilities make it suitable for a variety of applications, including machine automation, AI-based inspection, cobot integration, and real-time quality control in manufacturing environments.

Meanwhile, the ARK-1222 functions as an industrial intelligent gateway, powered by Intel® Atom® x7433RE and Intel® Celeron® N97 quad-core processors. It comes pre-installed with 16GB of DDR5 memory, ensuring reliable computing performance with high energy efficiency. Its versatile I/O connectivity includes 2 x 2.5GbE, 4 x RS-232/422/485, multiple USB ports, and dual HDMI outputs for display flexibility.

Expansion options include mPCIe and M.2 slots, supporting Wi-Fi, 5G, and the EAI-1200 Hailo AI accelerator. Built for harsh industrial environments, the ARK-1222 offers long-term reliability for mission-critical applications. It is ideal for industrial automation, IoT gateway solutions, and edge AI deployments in demanding conditions, supporting smart city initiatives such as intelligent traffic management, environmental monitoring, and public safety systems.

Safeguarding profitability across CSP networks

TEOCO's latest SmartCircuit release features an innovative suite of modules designed to optimise the entire lifecycle management of transport network circuits for Communications Service Providers (CSPs). This comprehensive solution aims to enhance financial stability, streamline operational processes, and safeguard profitability across complex transport networks.

SmartCircuit features six interoperable modules that continuously analyse wholesale circuits — from contract inception through to revenue realisation — empowering CSPs with the tools necessary to govern and optimise their transport infrastructure effectively. Key capabilities include contract abstraction and validation, which centralises all wholesale service agreements, extracts key terms and conditions, and cross-references them with actual services delivered and associated costs. This ensures compliance and accuracy while providing a holistic view of contract families, including amendments, addenda, and schedules related to financial, location, and service aspects.

The solution enables CSPs to generate precise ordering instructions based on the latest contract amendments, significantly improving operational accuracy and efficiency. It also facilitates detailed calculations of contracted financial commitments at any given point, supporting precise budgeting and forecasting. Additionally, SmartCircuit helps identify overcharges and unused services, unlocking cost recovery and optimisation opportunities.

"SmartCircuit supports the governance of the complex lifecycle of every transport network circuit. It streamlines and orchestrates the entire process, protecting profitability. Its contract management capabilities — especially the consolidated view of entire contract families — are truly a game changer," said Faye Henris, EVP of Business Analytics at TEOCO.

Integrated within TEOCO's flagship SmartSuite portfolio, SmartCircuit is built on a flexible, carrier-grade platform capable of handling data-intensive workloads and advanced analytics. This scalable, future-proof solution is designed to meet the evolving cost management needs of CSPs.

Managed satellite services for uninterrupted airport connectivity

In an industry where even seconds of downtime can cause significant disruptions, SITA has introduced Managed Satellites, a fully managed satellite service designed to keep airports and airlines connected at all times — regardless of outages, natural disasters, or remote locations.

Available in over 130 countries, this service offers primary, secondary, and emergency connectivity options tailored for the air transport sector. Leveraging low earth orbit (LEO) satellites, it provides secure, high-bandwidth, low-latency communications that ensure critical systems remain operational during network failures or congestion.

The solution directly addresses vulnerabilities of traditional fibre and terrestrial networks, which are susceptible to earthquakes, weather events, fibre cuts, and peak congestion. It is ideal for off-airport sites, aircraft maintenance hangars, cargo hubs, and emergency deployments, enabling continuous operations even in challenging circumstances.

Martin Smillie, SVP at SITA, emphasized that this technology is vital for maintaining high availability in airports by offering a flexible, cost-effective way to enhance network resilience and optimize digital operations. The service includes 24/7 monitoring, installation, support, and seamless integration with other SITA connectivity solutions.

Key features include industry-regulated, secure satellite connectivity; full lifecycle management and support worldwide; proactive monitoring to prevent disruptions; bundling options with other airport connectivity services; and expert on-site support for deployment and maintenance

As airports become increasingly dependent on uninterrupted digital systems, SITA Managed Satellites provides the reliable, resilient connectivity needed to operate smoothly in any situation.

Radio planning and optimisation for telcos

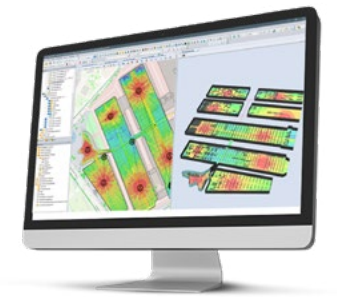
Forsk has introduced Atoll One, a state-of-the-art radio planning and optimisation platform designed to revolutionise how telecom operators deploy, manage, and optimise their wireless networks.

Developed with a modern, cloud-native architecture, Atoll One offers a comprehensive suite of tools that streamline the entire network planning lifecycle — from initial coverage assessment to ongoing performance optimisation — helping operators deliver reliable, high-quality connectivity while reducing costs and accelerating deployment timelines.

Atoll One boasts an intuitive and user-friendly interface combined with powerful automation features, enabling network engineers and planners to perform detailed radio coverage studies, site selection, interference analysis, and capacity planning with greater precision and efficiency. Its advanced 3D propagation modelling algorithms support accurate simulations of real-world environments, including urban, suburban, and rural terrains, ensuring optimal placement of cell sites and frequency allocations. This enables operators to maximise network coverage, improve signal quality, and enhance user experience across diverse geographic regions.

One of the platform's key strengths lies in its flexibility and seamless integration capabilities. Atoll One is designed to connect effortlessly with existing OSS/BSS systems, enabling real-time data exchange, automatic updates, and streamlined operational workflows. This interoperability facilitates more dynamic planning processes, reduces manual work, and helps teams respond swiftly to network changes or new deployment requirements.

The platform also includes sophisticated capacity analysis tools that allow operators to forecast future demand and optimise resource allocation accordingly. Built-in analytics and comprehensive reporting features provide deep insights into network performance, enabling data-driven decision-making and continuous optimisation. Whether planning for 4G, 5G, or future network generations, Atoll One is scalable and adaptable, supporting the evolving needs of modern wireless networks through its modular design.



Designed for both new network rollouts and the ongoing optimisation of existing infrastructure, Atoll One empowers telecom operators to enhance network quality, reduce operational costs, and shorten time-to-market for new services. Its robust architecture ensures high performance and reliability, even when handling large-scale, data-intensive planning tasks, making it an essential tool for operators aiming to stay competitive in the rapidly evolving wireless landscape.

Forsk's Atoll One stands out as a future-proof, comprehensive solution that combines innovative features, ease of use, and scalable architecture — empowering telecom providers to meet the demands of today's dynamic connectivity environment and prepare for the networks of tomorrow.

Rugged modular BoxPC for demanding industrial applications

Westermo recently unveiled the Hyrax-1000, a rugged, modular BoxPC engineered for demanding railway and industrial environments. Built in line with the open ModBlox7 standard developed by PICMG, this platform offers scalable performance options through various CPU configurations and supports extensive customization for diverse applications.

Despite its compact size, the Hyrax-1000 comes equipped with a comprehensive array of interfaces — including Gigabit Ethernet, RS232/422/485, DisplayPort, and USB 3.0 — in its base configuration. Its modular architecture allows users to add up to seven communication or interface modules, enabling tailored hardware setups. The housing supports multiple mounting options such as DIN rail, wall, and 19-inch rack, facilitating seamless integration into control cabinets, vehicles, or space-constrained environments.

Designed to meet the rigorous EN 50155 railway standard, the Hyrax-1000 operates reliably across temperatures from -40°C to +70°C, and is maintenance-free, making it ideal for long-term deployment in critical applications. It provides a versatile, future-proof platform for train manufacturers, railway operators, and system integrators seeking reliable alternatives to proprietary embedded systems.

Addressing industry challenges related to inflexible, proprietary solutions, the Hyrax-1000 leverages the open ModBlox7 standard — a scalable, modular platform architecture developed by PICMG with input from over 130 industry members. Westermo has been a key contributor to shaping this standard through collaboration with 18 industry partners, promoting interoperability and cross-vendor compatibility. The Hyrax-1000 is the first commercial embodiment of this vision, combining scalability, configurability, and integrated GNSS support for advanced edge computing applications such as telematics, diagnostics, passenger infotainment, IoT gateways, and cloud data services.

The system's fanless and maintenance-free design, along with its flexible mounting options, allows for integration into vehicles and control cabinets, even in space-limited setups. Its modular design supports additional extension modules, including wireless options like Wi-Fi 3x3 MIMO (802.11ac) and LTE, with support for up to four SIM cards per module to enhance network coverage and operational flexibility. Wi-Fi modules support both client mode — enabling train-to-ground communication — and access point mode for onboard device connectivity.

Future plans include expanding the module ecosystem to further extend capabilities while maintaining an open-platform approach. The Hyrax-1000 features dedicated internal M.2 SSD mounting space, connected via the CPU's SATA 3.0 port, supporting applications such as multimedia streaming, operational logging, and sensor data analytics.

Look out for...

Protecting critical data in the quantum era

Quantum-safe wireless communications are emerging as a critical frontier in safeguarding sensitive data against the evolving threat posed by quantum computing.

Traditional cryptography relies on complex mathematical problems that are currently difficult for classical computers to solve. However, the advent of powerful quantum computers threatens to break these encryption methods, exposing data to cyber risks.

To address this, industry leaders like Colt Technology Services, Honeywell, and Nokia are collaborating to explore quantum-safe networking solutions, particularly through satellite communications.

A key technology in this effort is Quantum Key Distribution (QKD), which enables two parties to share encryption keys securely, leveraging the principles of quantum mechanics. While QKD is highly secure, its current limitation to roughly 100km due to physical constraints on terrestrial fibre optics hampers widespread adoption. Moving QKD into space via low Earth orbit (LEO) satellites provides a promising solution for achieving global coverage, especially across transoceanic distances. The collaboration plans to trial space-based and subsea techniques, aiming to create resilient, quantum-resistant encryption methods.

"Nokia is helping our customers stay ahead when it comes to securing critical data through resilient defense-in-depth strategies. Quantum computing brings great promise, but it's also a potential threat to the encryption models on which society has relied so far. This collaboration with Colt and Honeywell shows how space-based quantum-safe technologies can help protect networks, safeguarding sensitive information across every domain against future quantum threats," says James Watt, Vice President and General Manager, Optical Networks, Nokia.

This initiative underscores a proactive approach to cybersecurity, targeting industries with vast amounts of sensitive information.

Fiji awards 5G spectrum licenses to major telecom operators

Fiji's Ministry of Trade, Co-operatives, Micro, Small and Medium Enterprises, and Communications has officially issued 5G spectrum licenses to the country's three leading mobile operators: Vodafone Fiji, Digicel Fiji, and Telecom Fiji. The licenses will come into effect on 15 September 2025, with the full 5G rollout expected to unfold gradually over three phases between 2025 and 2028.

The first phase, set for 2025, will focus on four key urban centres — including the capital, Suva — known for their dense populations, business activity, and tourism, as well as existing infrastructure like fibre and reliable power. Expansion into additional areas will occur during the second phase in 2026, followed by further extension in 2027 and beyond.

Vodafone Fiji, which currently serves over 850,000 subscribers and holds approximately 85% of Fiji's telecommunications market, is preparing for its initial phase, having already completed extensive testing. Meanwhile, Digicel Fiji, part of the global Digicel Group operating in 31 markets across the Caribbean, Central America, and Asia Pacific, has not disclosed subscriber figures but has expressed strong commitment to the 5G initiative. According to the Fiji Times, Digicel Fiji's CEO Farid Mohammed stated that the company's significant investment in 5G aligns with the government's vision for a connected digital future.

In addition to urban deployment, the Fijian government is working on upgrading rural and maritime networks to 4G, aiming to improve connectivity across the country. Deputy Prime Minister and Minister for Communications Hon. Manoa Kamikamica emphasised that the rollout is being carried out strategically and responsibly to foster inclusive national development. He also highlighted Fiji's ambition to position itself as a regional leader in digital transformation through these efforts.

Hughes do Brasil partners with Soil Tecnologia for irrigation connectivity

Hughes do Brasil, a subsidiary of Hughes Network Systems known for satellite and managed network services, has announced a strategic partnership with startup Soil Tecnologia, which specialises in automation and monitoring solutions for central pivot irrigation systems.

The collaboration aims to bring enhanced connectivity and smart automation to agribusiness irrigation projects across Brazil, beginning with the far west of Bahia —a key agricultural region that recently became the country's leading irrigation hub, accounting for nearly 10% of all pivots installed nationwide.

This partnership addresses a critical challenge in Bahian municipalities where much of the irrigation equipment operates without reliable connectivity. As a result, landowners often need to travel long distances to operate their systems, and issues with pivots are frequently detected too late, leading to crop losses, inefficient water use, and wasted energy. By leveraging advanced satellite terminals, Hughes plans to enable consistent connectivity for these remote irrigation devices, allowing rural producers to monitor and manage their systems conveniently via Soil's mobile applications.

Ricardo Amaral, Vice President of Enterprise Sales and Marketing at Hughes Brazil, explained that their satellite connectivity solution employs IoT technology to monitor equipment, sensors, and operational processes in real-time, even in areas lacking terrestrial infrastructure. He emphasised that satellite technology can transform irrigation into a smarter, more sustainable process by optimising water resource use and reducing waste. When integrated with Soil Tecnologia's app, this satellite connectivity allows farmers to generate detailed reports on each pivot's performance, including water and energy consumption, as well as the irrigated area. The system also enables real-time monitoring of irrigation depth, ensuring each crop receives the appropriate amount of water.

In addition, the technology provides immediate notifications if any equipment unexpectedly shuts down, allowing operators to respond quickly and minimise crop impact. This innovative approach aims to modernise irrigation practices in Brazil, promoting efficiency, sustainability, and better resource management across the country's agricultural sector.

SpaceX launches Nusantara Lima satellite to enhance connectivity in Indonesia

SpaceX has successfully launched the long-awaited Nusantara Lima (N5) satellite for Pasifik Satelit Nusantara (PSN), marking a significant milestone in expanding satellite broadband coverage across Indonesia and neighbouring regions.

The satellite was launched on the morning of 11 September from Cape Canaveral Space Force Station aboard a Falcon 9 rocket, following three days of weather-related postponements.

Built on Boeing's 702MP VHTS bus, the N5 satellite is equipped to deliver over 160 Gbps of capacity using Ka-band spot beams, providing critical broadband internet access and communication services to Indonesia, Malaysia, and the Philippines. Boeing highlighted that the satellite features advanced payload processing technology, enabling PSN to dynamically allocate its internet and communication capacity based on shifting demand, enhancing flexibility and responsiveness.

Designed to supplement PSN's existing SATRIA-1 satellite, which has been operational since last year, the Nusantara Lima satellite has been in development since 2022. Although initially scheduled for launch in 2023 alongside SATRIA-1, both launches faced delays, with no official explanation provided. The N5 satellite's successful deployment brings new hope for improving connectivity in underserved communities, schools, and businesses that previously lacked reliable access, according to PSN Group CEO Adi Rahman Adiwoso. He emphasised that with a capacity exceeding 160 Gbps, the satellite will bolster Indonesia's national communications infrastructure to meet growing demands.

The N5 satellite is expected to remain operational for at least 15 years, with plans for it to reach its designated orbital slot at 113 degrees East by mid-January 2026. Service is anticipated to commence on 1 April 2026, according to reports from the Indonesian newspaper Kompas. The satellite's total cost, including construction and launch, is estimated at over IDR7 trillion, reflecting its critical role in advancing Indonesia's digital connectivity landscape.

Taliban imposes nationwide internet ban

The Taliban government in Afghanistan has initiated a sweeping crackdown on internet access, with the latest move involving the imposition of a ban on fibre optic internet services across the country.

Authorities have confirmed a Wi-Fi shutdown in the northern Balkh province, with plans to extend the restriction nationwide. The Taliban has indicated that this ban will ultimately cover the entire country, marking one of the most severe restrictions on digital connectivity since they regained power in August 2021.

Reports from various provinces suggest widespread disruptions, with internet access reportedly cut off in regions including Baghlan, Badakhshan, Takhar, Kunduz, and Nangarhar. According to Reuters, as many as ten provinces have experienced outages. An official statement cited by Afghanistan International emphasised that the order from Taliban leadership is "irreversible" and will be enforced across the nation.

The government justifies the measure as an effort to "prevent immorality," but it represents a significant departure from previous policies, as it is the first such internet shutdown since the Taliban's return. The ban affects not only household users but also government offices, private businesses, and public institutions, all of which are now left without Wi-Fi internet access. While most Afghan provinces previously enjoyed fibre optic connectivity, this has now been halted. Mobile internet services remain available but are reportedly slow and costly.

Officials have mentioned that alternative solutions are being explored to meet essential needs, although details on these measures remain unclear. The Afghanistan Media Support Organisation has strongly condemned the move, arguing that it disrupts access to vital information and services for millions of citizens. It also poses a serious threat to freedom of expression and the work of journalists.

The restriction is expected to have far-reaching consequences beyond individual users, with businesses suffering from reduced online activity and the interruption of digital commerce. Additionally, access to fixed internet has played a crucial role in providing educational opportunities, particularly for girls, which may now be jeopardised by the ban.

This policy shift appears to contradict earlier statements from Afghanistan's Communications Ministry, which last year highlighted the country's growing fibre optic infrastructure, including over 1,800km of network and plans for an additional 488km. The recent crackdown signals a significant reversal in the country's approach to digital connectivity, raising concerns about the future of internet freedom and development under Taliban rule.

Nokia and Microscan Infocommtech to expand optical network capacity in India

Nokia has announced a strategic partnership with Indian fibre networking services provider Microscan Infocommtech to deploy its advanced optical network solutions across Microscan's DWDM backbone in Mumbai and Pune. The deployment aims to address the rapidly growing bandwidth demands from enterprise customers, OTT providers, financial institutions, and hyperscalers in the region.

The new metro and regional optical network will leverage Nokia's Photonic Service Engine (PSE) technology, along with its 1830 Photonic Service Switch (PSS) equipped with CDC-F 2.0 architecture, capable of flexibly delivering wave services exceeding 400G. Nokia stated that this architecture will enable Microscan to build a more agile, scalable, and cost-efficient backbone network, positioning it to better serve its expanding customer base.

Microscan's founder and Managing Director, Sandeep Donde, explained that the deployment will not only improve capacity but also enhance network resilience and uptime, especially against fibre cuts. The flexible nature of Nokia's solution is expected to support Microscan's planned expansion into the states of Maharashtra and Gujarat, as part of its broader effort to develop a nationwide National Long Distance (NLD) network to meet increasing bandwidth needs.

Donde emphasised that beginning with Maharashtra, Microscan aims to strengthen its network infrastructure to gain a competitive edge by offering higher SLAs and enabling new use cases. Vito Di Maria, Vice President of optical networks at Nokia Asia Pacific, highlighted that the cloud-optimised platform will allow Microscan to unlock new opportunities for hyperscalers and large enterprise clients, increasing network efficiency and resilience.

Vodafone Romania and Digi Romania acquire segments of Telekom Romania Mobile

Vodafone Romania and Digi Romania have announced binding agreements to acquire separate portions of OTE's subsidiary, Telekom Romania Mobile Communications (TKRM), a move that will consolidate the Romanian mobile market to three main operators.

Vodafone plans to purchase TKRM's post-paid customer base for □30 million, while Digi has agreed to acquire its pre-paid customers for □40 million. In addition to customer portfolios, both companies will gain spectrum assets and telecommunications towers as part of the deal. The transaction is expected to be finalised by early October.

Vodafone Group CEO Margherita Della Valle stated that the deal would strengthen Vodafone's position in Romania by increasing its local scale and creating significant synergy benefits. She emphasised that the move aligns with Vodafone's broader strategy of establishing strong footholds in growing markets, enabling continued investment in high-quality networks for customers. OTE chairman and CEO Kostas Nebis expressed satisfaction with the agreement, noting that it aligns with OTE's focus on optimising its portfolio and delivering enhanced shareholder value.

Telekom Romania, which was the country's fourth-largest operator with approximately 3.8 million customers at the end of 2023 — down from 4.16 million the previous year — will see its customer base divided between Vodafone and Digi. The two companies had previously signed a memorandum of understanding in November last year to outline their plans for dividing parts of Telekom Romania's operations, signalling a strategic move to streamline and strengthen their positions in the Romanian telecommunications market.

Ufone 4G partners with Oladoc to expand healthcare access across Pakistan

Ufone 4G has announced a partnership with domestic digital healthcare platform Oladoc, aiming to provide affordable and accessible medical services to millions of its subscribers nationwide.

The collaboration seeks to address the healthcare access gap between urban and rural areas in Pakistan, where most doctors are concentrated in cities despite over 60% of the population living in remote regions. Primary healthcare facilities in these underserved areas are often under-resourced, leading many families to undertake long journeys for basic medical needs.

The partnership combines Ufone's extensive nationwide network with Oladoc's platform of over 25,000 doctors and specialists. This integration is designed to enable Ufone 4G customers in underserved communities to access timely consultations, preventive care, and essential medical services without leaving their localities. Oladoc offers services such as appointment booking — both in-person and online — lab test scheduling, medicine delivery, surgery appointments, and corporate wellness programs.

As part of the initiative, Ufone 4G users will be able to use the Oladoc app to arrange free video consultations with healthcare professionals. They will also enjoy discounts of up to 20% on in-clinic appointments, up to 40% off on lab tests — including home sampling options — and discounts on medicine delivery and surgery bookings, which can be reduced by up to 30%. The exclusive subscription plan for Ufone 4G prepaid customers offers flexible daily, weekly, and monthly payment options, with the monthly plan priced at PKR60 plus applicable taxes. This partnership aims to bring quality healthcare closer to home for millions of Pakistanis and reduce the urban-rural healthcare divide.

NLT Telecom, floLIVE, and TNS collaborate on eSIM innovation for Latin American IoT market

Brazilian IoT specialist NLT Telecom has partnered with floLIVE and TNS to promote the adoption of eSIM technology based on the upcoming SGP.32 standard from the GSMA within the Latin American IoT sector. This collaboration aims to enhance device connectivity, streamline operations, and reduce costs across various industries in the region.

floLIVE highlights that the GSMA's SGP.32 eSIM standard, currently in final approval stages and expected to be launched before the end of 2025, is tailored to meet the specific needs of the IoT market. The standard emphasizes simplified operations, offering increased control and flexibility to service providers and device owners. Security protocols embedded within SGP.32 are designed to provide refined control over network access and data integrity, addressing critical concerns in IoT deployments. The overarching goal of SGP.32 is to facilitate large-scale device connectivity, which could significantly lower logistical and operational expenses for companies across multiple sectors.

This joint initiative also features the development of multi-IMSI solutions, along with customizations at the SIM and APN levels, enabling seamless and autonomous device transitions. Additionally, the partners are working on eSIM orchestration tools with unified control interfaces, further simplifying device management.

"With this collaboration, we're providing the Brazilian and Latin American markets with high-quality IoT hyperconnectivity through the extensive global network of leading MNOs and MVNOs. This allows for massive device connections across the continent, with remote management and simplified control. It helps reduce logistics costs, enhances operational results, and ensures compliance with local regulations," said André Martins, CEO of NLT Telecom.

The initial deployment of the new eSIM solutions developed by NLT and floLIVE will target TNS, a global provider of infrastructure as a service with operations in over 60 countries and a growing footprint in Brazil and Latin America.

"The ability to deploy and manage IoT devices effortlessly across borders without local intervention is a major step forward. The comprehensive

solution from NLT and floLIVE, including advanced network core, connectivity management, SIM and eSIM technology, and multi-IMSI capabilities, provides us with the confidence and flexibility to expand our growth in Brazil and Latin America," said Alexandro Araújo, head of Latin America at TNS.

NLT and floLIVE have maintained a collaborative presence in Brazil since 2003, enabling local companies to access global cellular networks efficiently. floLIVE's extensive infrastructure supports foreign enterprises operating in Brazil through integration with NLT as a mobile virtual network enabler. This partnership builds on their previous joint efforts, including a March 2023 collaboration aimed at providing dual-connectivity solutions to enterprise clients, OEMs, and mobile operators in Brazil and beyond.

Peru grants spectrum licenses for 5G to four mobile operators

Peru's telecommunications landscape has advanced with four major mobile operators securing spectrum rights to deploy 5G services. Bitel, Claro, Entel, and Integratel have all obtained licenses following an auction process, while a fifth contender, Americatel, which had prequalified, did not participate in the bidding.

The spectrum auction focused on frequencies in the 3300-3800MHz band and employed a points-based system that rewarded companies based on their investment commitments rather than the highest bid amount. Vietnamese-owned Bitel emerged as the top scorer thanks to its proposal to expand coverage, earning it priority to select its preferred band segment. Bitel opted for the 3400–3500MHz band.

Bitel, the third-largest operator in Peru, has significantly increased its investments, which has contributed to its user base growing from 8.75 million at the end of 2024 to over 10.1 million by mid-2025. Meanwhile, market leader Claro secured the second-highest score and chose the 3500-3600MHz band, while Entel was awarded the 3300-3400MHz segment. Integratel acquired the 3600-3700MHz band.

Interestingly, the 3700-3800MHz block did not attract any bids, but it is anticipated that this spectrum could be utilized for private mining and port services in the future.

The investment commitments tied to these licenses, as outlined by Peru's Ministry of Transport and Communications, include extending 4G coverage to 1,221 rural communities and deploying infrastructure along 1,699km of national highways. This underscores the ongoing importance of 4G connectivity for a large portion of Peru's population, even as the country prepares to roll out 5G services.

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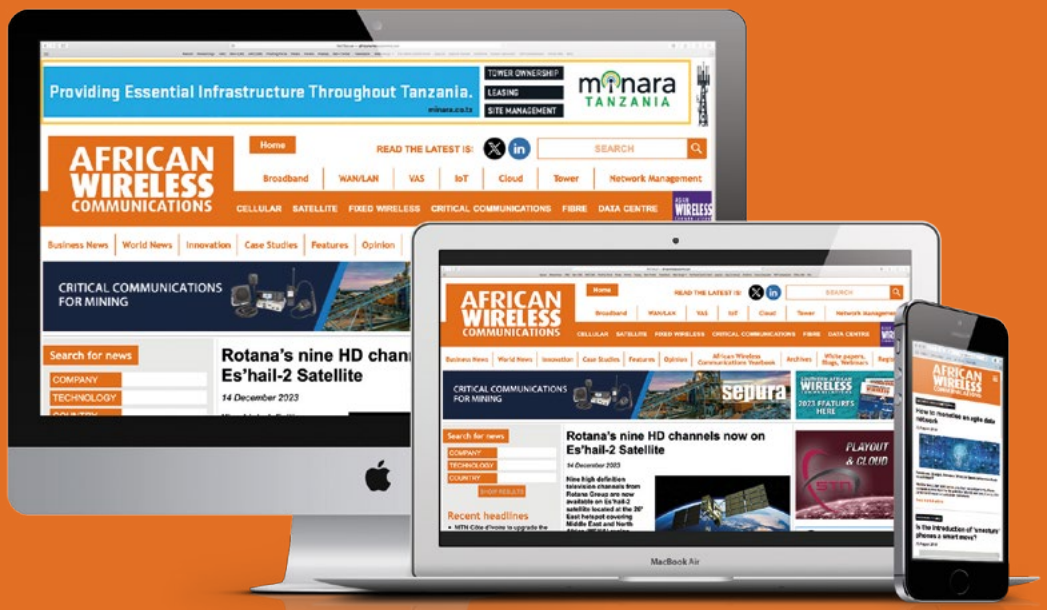

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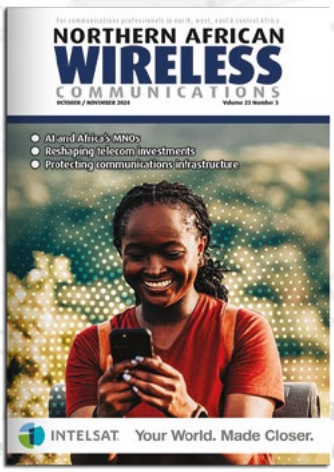

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