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

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

APRIL / MAY / JUNE 2025

Volume 24 Number 1

- Embracing the circular economy
- Autonomous TowerCos
- The future of network automation

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NORTHERN AFRICAN
WIRELESS
COMMUNICATIONS

APR/MAY/JUN 2025
Volume 24
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About Telesat

Backed by a legacy of engineering excellence, reliability and industry-leading customer service, Telesat (NASDAQ and TSX: TSAT) is one of the largest and most innovative global satellite operators. Telesat works collaboratively with its customers to deliver critical connectivity solutions that tackle the world's most complex communications challenges, providing powerful advantages that improve their operations and drive profitable growth.

Continuously innovating to meet the connectivity demands of the future, Telesat Lightspeed, the company's state-of-the-art Low Earth Orbit (LEO) satellite network, has been optimized to meet the rigorous requirements of telecom, government, maritime and aeronautical customers. Telesat Lightspeed will redefine global satellite connectivity with ubiquitous, affordable, high-capacity, secure and resilient links with fibre-like speeds. For updates on Telesat, follow us on LinkedIn, X, or visit www.telesat.com

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Northern African Wireless Communications is a controlled circulation bi-monthly magazine. Register now for your free subscription at www.kadiumpublishing.com
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ISSN No: 1751-8296

Niger and World Bank reignite partnership to develop Smart Villages

Niger and the World Bank have resumed discussions on the "Smart Villages for Rural Growth and Financial Inclusion" project, an ambitious initiative aimed at bridging the digital divide and fostering rural development across the country.

On 3 June, Minister of Communication and New Information Technologies, Adji Ali Salatou, welcomed Han Fraeters, the World Bank's resident representative, along with project manager Sawadogo Alain, to advance this collaboration.

Launched in 2021 with a $100 million budget, the project aims to connect over 6,000 villages — serving approximately 1.9 million people currently lacking telecom coverage. It envisions establishing digital centres and developing fintech services tailored specifically to rural communities, supporting local economies and improving social services.

With about 83% of Niger's population living in rural areas (per 2023 World Bank data), the initiative is critical for unlocking rural potential through technology. Currently, internet penetration remains low — around 16.9% as of early 2024, with even lower rates in rural zones — limiting opportunities for economic growth, education, healthcare, and social inclusion.

If successfully implemented, the smart villages could serve as catalysts for sustainable rural development, helping Niger to reduce inequality and promote inclusive growth. This renewed focus on digital inclusion underscores Niger's broader strategy to harness innovation for social and economic transformation, ensuring that rural populations are not left behind in the country's digital future.

Ericsson and Orange Maroc to modernise network infrastructure in Morocco

Ericsson and Orange Maroc have announced a strategic partnership aimed at upgrading and expanding Morocco's core network infrastructure, marking a significant step toward the country's transition to 5G Standalone (SA) technology.

This collaboration is aligned with Morocco's Digital 2030 strategy, which seeks to propel innovation, enhance connectivity, and foster digital transformation across various sectors.

Building on a relationship that spans over two decades, the partnership will leverage Ericsson's cutting-edge dual-mode 5G Core and Cloud Native Infrastructure solutions. These technologies are designed to increase network capacity, improve performance, and deliver a superior customer experience for Orange Maroc's broad range of services.

"Our partnership, which spans over 20 years, reflects a shared commitment to delivering connectivity that truly meets the needs of Moroccans. By integrating advanced technologies like Ericsson's dual-mode 5G Core and Cloud Native Infrastructure, we're focused on enhancing network capacity and customer experiences," said Majda Lahlou Kassi, Ericsson's Vice President and Head of Customer Unit West and South Africa.

The alliance highlights a joint focus on innovative services such as mobile broadband, Fixed Wireless Access (FWA), gaming, and industrial connectivity — key components of Morocco's digital future. Both companies expressed appreciation for their teams' dedication to this ambitious project, which aims to build a resilient, future-proof infrastructure that supports both consumer and enterprise needs.

This partnership underscores a shared vision to accelerate Morocco's digital transformation, ensuring the deployment of robust, scalable, and intelligent networks capable of supporting emerging technologies and a wide array of innovative applications.

Côte d'Ivoire to connect 1,000 healthcare and educational institutions

The Ivorian government announced plans to connect more than 1,000 secondary schools and healthcare facilities to high-speed internet by the end of 2025.

This initiative aims to promote the use of smart platforms for online learning, telemedicine, digital administrative management, and to strengthen digital skills training in schools — key to preparing the economy for the future.

The project forms part of broader government programs, including the National Rural Connectivity Program (PNCR), the Digital Acceleration Program, and the Support Project for Electronic Administration (PARAE), all focused on modernizing digital infrastructure and increasing inclusion, especially in rural areas.

It also aligns with the National Artificial Intelligence Strategy (SNIA) launched last March, which seeks to leverage AI for ethical, sovereign, and inclusive development. With internet penetration exceeding 40%, expanding connectivity in schools and health facilities is essential for deploying AI-driven solutions such as telemedicine, digitized medical records, and remote consultations.

If successful, this initiative will lay the foundation for a more modern, accessible, and efficient public service. It could benefit a significant portion of the 3,590 secondary schools registered in 2024. In the health sector, improved connectivity will enhance access to telehealth and remote diagnostics.

Nigeria implements mandatory outage notifications for consumers

The Nigerian Communications Commission (NCC) has announced that telecom operators must now inform consumers of major network outages through media channels. This new directive aims to enhance transparency, ensure timely resolution, and improve the overall consumer experience.

A dedicated platform has been established where operators must detail the causes of outages, affected areas, and estimated recovery times. For planned outages, consumers are to be notified at least one week in advance. In cases where outages last over 24 hours, operators are required to provide proportional compensation, such as extending service packages.

Edoyemi Ogor, NCC's Director of Network Technical Integrity, emphasized that transparent communication fosters accountability and helps combat sabotage of telecom infrastructure.

Recent platform data shows Glo experienced outages since 20 May in parts of Adamawa and Taraba due to fiber optic issues, while 9mobile faced disruptions since 23 May in Borno caused by power outages. MTN remains relatively unaffected, with only six incidents in the past week. However, past disruptions, such as MTN's two-week outage in Kogi State last April, highlight ongoing challenges.

While the initiative promotes transparency, critics note it remains reactive, lacking mechanisms to prevent or speed up outage resolution. Its effectiveness depends on operator cooperation and consumers' access to the platform. Additionally, the focus on major outages may overlook persistent issues affecting users in rural areas, and the platform's impact hinges on consumers' awareness and ability to use it effectively.

Uganda embarks on first collaborative shared-infrastructure 'Internet-for-All' pilot

Uganda has taken a bold step toward harnessing the internet's potential to transform its society and economy.

Sombha Solutions Store, Veea Inc, and BG Titan Group (BGT) unveiled the country's first collaborative, shared-infrastructure 'Internet-for-All' prototype network. This innovative proof-of-concept responds to a call from the Uganda Communications Commission (UCC) for industry leaders to move beyond competition and embrace unprecedented collaboration.

"What we're achieving today aligns perfectly with UCC's vision — turning competitive barriers into opportunities for collaboration. With shared infrastructure, every provider can deliver world-class connectivity, bringing the digital future to all Ugandans," said Haruna Nyanzi Lule, CEO of Sombha Solutions Store.

"Consumer empowerment and universal digital access are at the heart of our regulatory approach. By promoting transparent, affordable, and shared infrastructure models like this, we aim to foster healthy competition and ensure all Ugandans can participate fully in the digital economy," said Julianne Mweheire, Director of Economic Regulation, Content, and Consumer Affairs at UCC.

Veea's broadband access platform, which integrates Wi-Fi, multi-access backhaul, edge computing, and cybersecurity into compact VeeaHub devices, plays a central role in this initiative.

"By deploying resilient infrastructure and innovative technologies, we are accelerating Uganda's modernization. This collaborative model isn't just Uganda's blueprint — it's a catalyst that could soon inspire similar transformations across East Africa," said Adam Bicha, Vice President of BG Titan Group in Uganda.

Nigeria's NCC developing comprehensive cybersecurity strategy to safeguard telecom sector

The Nigerian Communications Commission (NCC) is actively working to bolster the country's telecom industry against escalating cyber threats by developing a robust national cybersecurity framework.

Aminu Maida, NCC's Executive Vice Chairman, announced this initiative during a recent regulatory meeting in Lagos, emphasizing the urgent need to enhance cybersecurity protections as Nigeria's telecom sector continues to grow rapidly.

Nigeria's telecom landscape has expanded dramatically — from fewer than 500,000 lines in 2001 to over 172 million active subscribers and 141 million internet users today — making the industry a prime target for cybercriminals. Maida highlighted that this surge in connectivity, while fuelling economic progress, has increased vulnerabilities, especially as government infrastructure becomes a key target for cyber-attacks.

The new cybersecurity framework aims to establish a unified and resilient security posture across the telecom sector, focusing on safeguarding infrastructure, protecting consumer data, and ensuring privacy. It will set baseline cybersecurity standards for operators, covering incident reporting, risk management, information sharing, and engagement with regulators. The framework also seeks to build industry-wide expertise in anticipating, identifying, responding to, and recovering from cyber incidents, as well as proactively preventing future threats.

Maida referenced a UN Economic Commission for Africa report, noting that a 10% increase in cybersecurity maturity could significantly boost per capita GDP across Africa, underscoring the economic importance of strengthening cyber defenses. The NCC's efforts will build upon existing regulations, such as the Nigerian Data Protection Act of 2023 and the Cybercrime Prevention Act of 2015, to enforce stricter security measures in critical sectors.

Babagana Digima, head of the Cybersecurity Framework Development Committee, stressed the importance of conducting a comprehensive baseline assessment of Nigeria's current cybersecurity posture before implementing new protections. He emphasized that cybersecurity is now a mandatory component for industry resilience, especially as emerging technologies like Open RAN, network virtualization, AI-driven cyber threats, and quantum cryptography introduce new risks.

The proposed framework will categorize telecom licensees based on their risk exposure, allowing for tailored security controls — particularly for operators managing sensitive data or critical infrastructure. A draft version of the framework will soon be shared with industry stakeholders for review and feedback, signalling Nigeria's proactive approach to creating a safer, more secure telecommunications environment.

Vitel Wireless achieves major milestone in Nigeria

Vitel Wireless, Nigeria's first Mobile Virtual Network Operator (MVNO) to be assigned a dedicated number series (0712) by the Nigerian Communications Commission (NCC), has reached a groundbreaking milestone in the country's telecommunications landscape. The company has successfully established interconnectivity with all the major Mobile Network Operators (MNOs) in Nigeria — MTN, Airtel, Globacom (Glo), and 9mobile — marking a historic first for an MVNO in the nation.

This achievement means that Vitel Wireless subscribers can now make and receive calls seamlessly across Nigeria's leading networks, significantly enhancing the user experience and setting a new standard for MVNO operations. The accomplishment underscores the rapid progress of Nigeria's burgeoning MVNO sector, which has gained momentum following the NCC's licensing of 46 such operators. Vitel Wireless has already distinguished itself through several industry firsts, including being the first to obtain a dedicated numbering plan and routing codes for both national and international calls. The company also pioneered the launch of a location awareness network in Africa and developed a comprehensive strategic rollout plan for nationwide coverage.

Kenneth Emeka Nwabueze, Chairman and CEO of Vitel Wireless, expressed pride in this historic achievement, noting that it demonstrates what is possible for MVNOs in Nigeria. He highlighted the importance of NCC's support and guidance in facilitating this milestone, which brings the company's full nationwide network closer to reality. Nwabueze emphasized that Vitel Wireless's experience and innovative approach are opening new opportunities within Nigeria's telecom sector, creating a pathway for others to follow.

The interconnectivity was achieved through a combination of direct fibre connections with some MNOs, complemented by indirect routing through third-party providers. The process was a collaborative effort involving engineers from Vitel Wireless, Wireless Technology Labs (WTL), and Interconnect Clearinghouse Nigeria (ICN), working closely with their counterparts at the major networks. This collective effort underscores the industry's commitment to enhancing connectivity and expanding service delivery across Nigeria.

Vitel Wireless entered a nationwide pilot phase in May 2025, with plans for a full commercial rollout scheduled for July 2025. The company aims to deliver next-generation mobile services that will reach millions of Nigerians, further transforming the country's telecom landscape. This milestone not only highlights the company's innovative spirit but also signals a new chapter for Nigeria's telecom industry, marked by increased competition, improved service quality, and broader access to advanced mobile solutions.

Women in Africa remain among the most digitally excluded globally

New data from the 2025 GSMA Mobile Gender Gap Report highlights the ongoing global gender gap in mobile internet use, especially in low- and middle-income countries (LMICs). It underscores that barriers such as digital literacy, safety concerns, data affordability, and access to smartphones continue to hinder women's digital inclusion.

The report reveals that approximately 885 million women in LMICs still do not use mobile internet, with nearly 60% of them residing in sub-Saharan Africa and South Asia. While mobile internet serves as a vital lifeline for women in these regions — providing access to health, education, and financial services — the rate of female adoption has stagnated, leaving 235 million fewer women connected compared to men.

Claire Sibthorpe, Head of Digital Inclusion at GSMA, noted that although the gender gap narrowed significantly between 2017 and 2020, recent years have seen little progress. In 2023, the gap slightly narrowed to 15%, but by 2024, it remained largely unchanged at 14%. The most pronounced disparity is in Sub-Saharan Africa, where women are 29% less likely than men to use mobile internet.

"It's disheartening that progress in reducing the mobile internet gender gap has stalled," said Sibthorpe. "The digital divide is rooted in socio-economic and cultural factors that disproportionately impact women."

GSMA estimates that closing the gender gap by 2030 could add $1.3 trillion to GDP across LMICs and generate $230 billion in revenue for the mobile industry. The report, supported by funding from the UK FCDO, Sida, and the Gates Foundation, emphasizes the urgent need for targeted investments and policy measures to bridge the digital divide and ensure that no woman is left offline.

"The mobile internet gender gap won't close on its own," said Sibthorpe. "Addressing this issue requires concerted social, economic, and cultural efforts to create an inclusive digital environment for women."

Burkina Faso to deploy 800 telecom towers by 2026

The Burkinabe government has announced an ambitious plan to deploy 800 telecom towers by 2026, aiming to connect previously unserved dead zones and accelerate the country's goal of widespread connectivity by 2027. Of these, 250 sites will be part of the Digital Transformation Acceleration Project (PACT DIGITAL), with the remaining 550 financed by the Universal Access and Service Fund (FASU).

This initiative is part of a broader effort to cover 1,000 dead zones nationwide within three years, up from 183 connected zones by 2022 at a cost of approximately $10.7 million. Current coverage rates stand at 85% for 2G, 64% for 3G, and 46% for 4G, with internet penetration estimated at 17% in 2023. Mobile phone ownership is high, with about 55.9% of the population owning a device and roughly 27.5 million SIM cards for a population of 23.4 million.

Chad and Cameroon sign agreement to enhance telecommunications interconnection

Chad and Cameroon have signed a memorandum of understanding aimed at improving their telecommunications interconnection, with the goal of boosting digital integration by lowering communication costs and enhancing service quality for users in both countries. The agreement was ratified during the recent visit of Chadian officials to Cameroon.

A key focus of the collaboration is the optimisation of existing infrastructure, particularly fibre optic networks, to increase the capacity of cross-border links to 100Gbps and improve their reliability.

"Cameroon is committed to activating the Nana-Mbéré segment within two weeks and finalizing the Yagoua-Bongor connection before the end of June 2025. This will provide Chad with a secondary exit and help prevent interconnection disruptions on the Yagoua-Kousséri-N'Djamena route," said the Chadian Ministry of ICT.

This partnership reflects both nations' desire to align their telecom policies concerning regulation, cybersecurity, and spectrum management. It also supports the regional ambitions of the Economic Community of Central African States (ECCAS) and the African Union (AU) for greater digital integration.

AfDB invested $2.92 billion across Africa over 10 years

The African Development Bank (AfDB) has invested US$2.92 billion between 2015-2024 to connect over 66.5 million people to basic ICT services, primarily focusing on Africa's most remote regions.

This achievement results from targeted investments in digital infrastructure, supportive regulatory frameworks, digital skills development, and backing for innovative tech companies.

Key projects include the Central African Backbone, which linked several Central African nations via terrestrial and submarine cables, enabling the deployment of thousands of kilometres of fibre optic cables, establishing technical sites, increasing internet penetration and significantly lowering data costs. Additionally, broadband networks in East Africa have improved international connectivity.

Despite progress, Africa still faces a substantial digital divide, with only about 12% of rural areas having internet access. To address this, the AfDB has mobilised public funds, promoted public-private partnerships and implemented risk-sharing mechanisms to attract private sector investment.

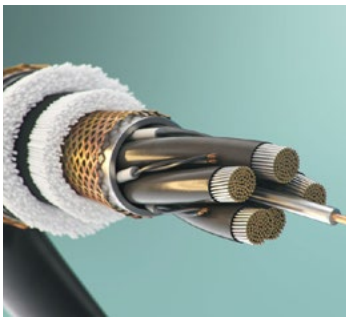
These efforts are already making a tangible difference: farmers access real-time market and weather data, remote communities benefit from digital education and telemedicine and mobile coverage continues to expand, fuelling Africa's participation in the Fourth Industrial Revolution.

Algeria to phase out copper network by 2027

Algeria is set to overhaul its telecommunications infrastructure by phasing out its aging copper network by the end of 2027, replacing it with modern fibre optic technology.

The decision to shift to fibre optics stems from the limitations of the existing copper network, which was primarily designed for traditional telephony. Today, it no longer meets the demands of modern internet usage, often resulting in slow connection speeds and frequent outages. Fiber optics, by contrast, transmit data at the speed of light, ensuring faster and more reliable connectivity without loss of quality.

As the world increasingly relies on digital services such as teleworking, videoconferencing, e-education, and telemedicine, the demand for high-speed internet has surged. The adoption of fibre optics is seen as a crucial step in meeting these evolving needs.



Widespread fibre deployment supports broader national goals, including fostering innovation and digital transformation. He highlighted efforts to enable start-ups to develop advanced digital solutions, accelerate the digitization of government and public services, and promote sectors like artificial intelligence, the Internet of Things, and big data analytics. Additionally, the move aims to enhance financial inclusion by expanding electronic payment systems and bolstering the digital economy.

Ghana launches first phase of Girls-in-ICT training

The Ministry of Communication, Digital Technology and Innovations (MOCDTI) has officially inaugurated the initial segment of its Training of Girls (ToG) programme, a key component of the broader Girls-in-ICT initiative, aimed at empowering young women in the Volta Region.

The launch ceremony marked the beginning of training sessions across nine districts, including North Danyi, Ketu North, Ketu South, Kpando, Afadzato South, Hohoe, Anloga, Akatsi North, and Keta.

This inaugural phase focuses on equipping 1,000 girls from all 18 districts within the region with fundamental ICT skills and digital literacy. The programme offers participants training in coding, basic computer operations, and other digital skills designed to spark interest in STEM careers and address the gender digital divide prevalent in many communities. Through this initiative, the government seeks to foster confidence and inspire young women to pursue opportunities in the digital economy.

"If we, as a constituency or a people, wish to truly develop, then ICT must be the foundation of that development," said Hon. Sebastian Deh, Ghana's Member of Parliament for the area.

"This training is not just about acquiring knowledge — it's about becoming vessels of transformation," said Hon. Killian Donkor, the Municipal Chief Executive.

Peter Nartey, Zonal Coordinator of the Ghana Investment Fund for Electronic Communications (GIFEC), stressed the importance of inclusive digital access for national growth. He reiterated the dedication of Minister Samuel Nartey George to ensure that no girl is left behind in Ghana's digital transformation journey. Nartey described the Girls-in-ICT programme as a vital initiative for unlocking the potential of young women and fostering confidence, marking a significant milestone in the country's pursuit of inclusive participation in the digital economy.

Talking critical

Joseph Mehawej, Regional Director, DAMM, member of TCCA's TETRA Industry Group

TETRA and broadband: better together

At first glance, they look like competing technologies. Narrowband TETRA versus broadband, moving towards true critical broadband. For organisations facing the challenge of upgrading a critical communications network, do they stay with what they know works, or commit to the technology of the future?

The answer is that both TETRA and broadband are technologies of the future. TETRA will keep doing what it does brilliantly, and broadband will bring additional capability. They will bring a better future by working together.

Built to talk

During the late 1980s, the development project that evolved into TETRA was given one objective. Create a digital radio infrastructure that guarantees voice calls will be transmitted and heard 100% of the time, with a zero failure rate.

The specific task TETRA had to enable, under any conditions, all the time, without a single failure, was 'shoot/no shoot.' The scenario sees a sniper, weapon trained on a suspect, awaiting that order in that precise form of words.

The challenge was to ensure that the word 'no,' would always reach its destination and always be audible, no matter how noisy or chaotic the scene. The noise-suppression technology developed to enable this is the bedrock of TETRA. It is unmatched by any other system.

Built to share data

Broadband was developed to share data. It was given no specific task. It evolved to fulfil a desirable function: to enable the digital universe. We are living in that universe now, with broadband as an increasingly indispensable tool.

Data is the DNA of broadband. Voice is the DNA of TETRA. Broadband was built for open borders and the free exchange of information. TETRA was built to protect people and property, and for the restricted exchange of information. Put them together and they become more than the sum of their parts.

Evolution and revolution

TETRA was specifically developed for the most critical of critical communications: the 'shoot/no shoot' scenario. When the TETRA standard was launched in 1998, there was nothing comparable in terms of voice clarity, stability, resilience and availability. There still isn't. In the meantime, it has continued to evolve.

1998 is a very long time ago in broadband terms. Back then, 'the web' was only just beginning to become a household word. We still had dial-up modems offering 54kbps. We were solidly in Web 1.0 and ready for the first dot.com bubble. Fast forward 27 years and the digital revolution has transformed the web. The computing power of 1998 would barely open an app today.

Interoperability

This is where the two complementary technologies meet. TETRA is vastly complex. It has taken 40 years of the finest minds in telecommunications engineering to achieve the level of voice call quality and security it supports today. For critical communication that relies on voice, there is no comparable option.

With broadband, added-value functions like livestreamed video, drone images, AI analysis and filtering, and push-to-talk apps are enriching critical communications with new and valuable functionalities. The most powerful and effective systems combine the best of both.

Sharing stability and security

TETRA was specifically designed to communicate life or death calls, the original protocols made the infrastructure as close to 100% secure as radio technology allows. Broadband was not built for that purpose, and online security is a multi-billion-dollar industry for that reason. But this does not prevent broadband from being integrated into the secure world of TETRA critical communications. As long as the gateway is secure, broadband can bring all its power to the network.

Resilience and availability

A critical communications system must keep functioning, whatever happens. For this reason, TETRA systems are routinely designed with eight hours of battery backup. If a hurricane has torn down the power lines or an earthquake collapsed a building on top of the local substation, this buffer allows time to get the grid back up and running or to find alternate power sources.

In a disaster scenario, hybrid TETRA-broadband networks will keep running when pure broadband systems may not. They will be hostage to whatever backup the mobile networks have defined. This is typically 30-60 minutes but can be as little as zero. In hybrid configuration, both technologies can continue to do what they are best at, whatever the conditions.

Better together

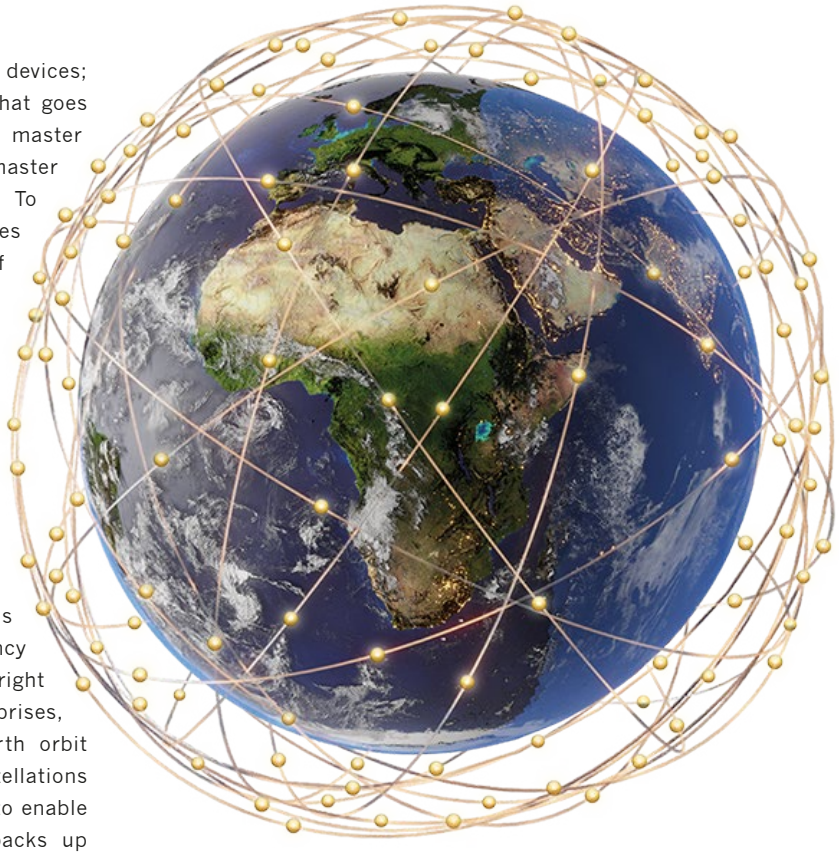
For networks that rely on stable and resilient voice communication – that is, all critical communication networks – the best achievable solution is to combine the voice power of TETRA with the data power of broadband. Where that is not possible for cost or logistical reasons, TETRA will remain the default technology for critical communication as long as voice remains the primary mode of human interaction.

TETRA's growth trajectory is twofold: it is supporting the refreshment of existing public safety networks while simultaneously driving the digitalization path in transportation, utilities, and critical industrial sectors globally. What is particularly noteworthy is how TETRA has transcended its European roots, which represent 49% of the total TETRA market. Omdia has observed how Asia is the fastest growing region, and now represents 23% of the TETRA market, followed by the growing adoption in the Middle East, and American markets.

TETRA is a continuously evolving narrowband standard that provides the backbone of critical communication systems worldwide. For mission-critical users requiring group voice communication and messaging services using narrowband technologies on dedicated frequencies, TETRA remains the optimal multi-vendor interoperable choice.

Find out more about the benefits and potential of TETRA, and its implementation around the world, at Critical Communications World, 17-19 June 2025 in Brussels, Belgium – www.critical-communications-world.com

LEO Satellites and the Collaborative Edge



Modern enterprises generate and process massive amounts of data. The volume of real-time data they generate often exceeds the latency and uninterrupted connectivity requirements of traditional centralized data centers and cloud models. To optimize efficiencies and downtime, many businesses are now exploring edge computing to process large amounts of time-sensitive data more efficiently.

Large-scale edge computing places compute and storage resources close to where data is generated, such as by various devices, including the rapidly expanding Internet of Things (IoT). This is especially useful in enterprise applications.

Yet even then, everything cannot be accomplished through a single edge server. Applications will often need to talk to other edge computing devices; there will still be data that goes back and forth to the master cloud or wherever the master application is held. To accommodate, enterprises need a massive amount of low-latency, high-speed connectivity to edge computing devices, often called the collaborative edge.

Gartner predicts that by 2025, 75% of enterprise-generated data will be created outside of centralized data centers. That means far more low latency bandwidth is required, right now. Fortunately for enterprises, next-generation, low Earth orbit (LEO) satellite constellations now offer the capability to enable a mesh network that backs up operations to guarantee resiliency or expand operations, delivering carrier ethernet-level performance at the lowest latency and highest speed. And depending on geography, at a lower cost than fibre.

How an enterprise-class LEO network supports the collaborative edge

Unlike some LEO systems designed around business-to-consumer services, we designed Telesat Lightspeed as an enterprise-class LEO network from day one. It is a truly global service designed for communications service providers seeking a superior choice for connecting rural and hard-to-reach areas. Enterprise-class means delivering high throughput connectivity with guaranteed service level agreements that include defined committed information rates, packet loss, and jitter, as well as service availability and low latency performance that is on par with terrestrial fibre.

This global, MEF-certified Layer 2 Carrier Ethernet network in space is possible due to next-generation technology such as software-defined networking and optical inter-satellite links (OISLs) that connect each satellite to form a mesh network in space. Telesat Lightspeed LEO satellites can support multi-gigabit per second data links and are 35 times closer to Earth than GEO satellites, resulting in low latency connectivity.

That's precisely what is required for the collaborative edge. Telesat Lightspeed ensures that telecom and cloud service providers can provide their customers with a city-like broadband edge experience. Such connectivity can support collaborative edge operations anywhere, from urban hospitals and smart cities to manufacturing

Glenn Katz, Chief Commercial Officer, Telesat

environments. It will be especially useful for industries with remote operations that may struggle with current coverage limitations.

For instance, the maritime sector can't rely on best-effort internet connectivity to connect edge data to and from ships at sea for future autonomous shipping applications. Many autonomous commercial vessels at sea will generate massive data requirements while underway. Although some of that data can be managed locally, each ship will require a land-based digital twin replica for the network operations center (NOC). These connections must have low latency to minimize the delay in transferring data, such as real-time video, which may be crucial to safety and operational integrity.

The same goes for mining, another data-intensive sector increasingly reliant on IoT devices and on-site video for real-time operational analysis, safety, monitoring equipment for predictive maintenance, and other efficiency requirements. Mining companies must backhaul their vast amounts of data to a collaborative edge or a cloud-based corporate data center environment. And, of course, the government and defense sectors have myriad use cases for collaborative edge architectures, from supporting deployed troops to monitoring national security to tracking critical infrastructure.

> "Unlike some LEO systems designed around business-to-consumer services, we designed Telesat Lightspeed as an enterprise-class LEO network from day one."

Requirements for Collaborative Edge Networking

So, how does an enterprise determine the best telecommunication provider to make their collaborative edge a reality? When evaluating potential partners, companies need to consider these five network specifications:

- Minimum Guaranteed Data Rate, otherwise known as Committed Information Rate (CIR)
- Maximum Latency
- Maximum Jitter
- Maximum Packet Loss
- Guaranteed Availability

These commitments should be backed by service level agreements (SLAs).

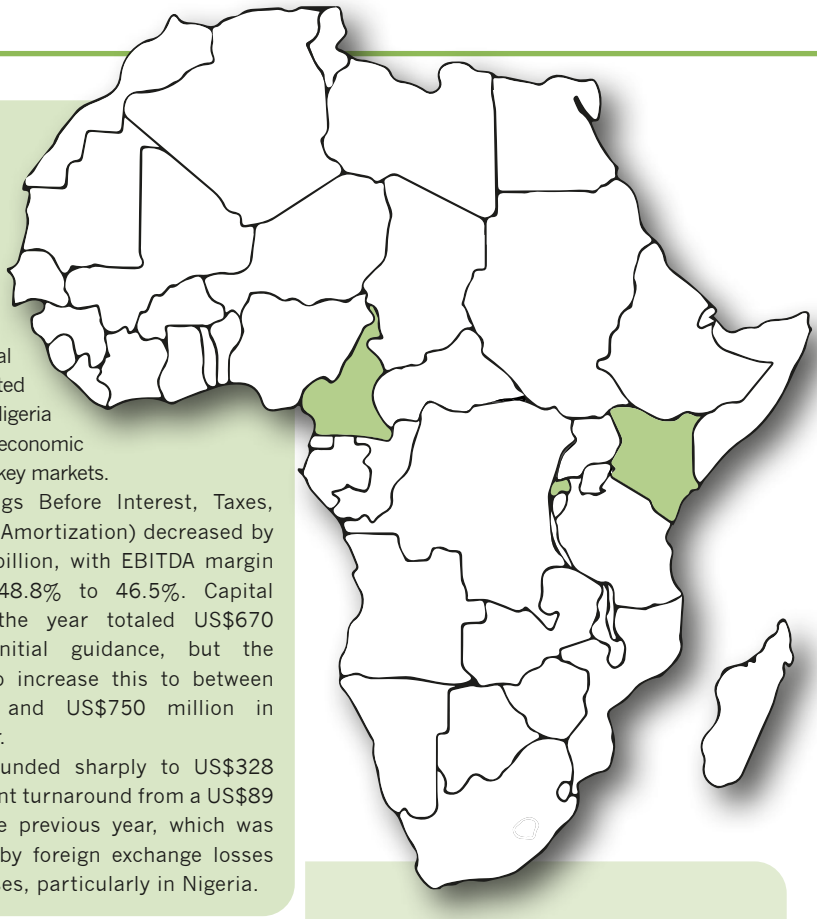
It's also best to understand which companies will provide MEF standard layer 2 Carrier Ethernet services or similar, and what types of user terminals and interconnect requirements are required. Potential LEO network providers should follow industry standards and be as interoperable as possible with telecommunication companies' networks. The LEO network should also accommodate the full range of Star, Mesh, or Star/Mesh network topology. Telesat Lightspeed is designed to comply with all these requirements.

Technology Transforming Connectivity Options

Next-generation LEO constellations are part of an explosion of innovation in space technology that is continuing to accelerate. This creates new avenues for economically bringing needed bandwidth to hard-to-reach communities anywhere in the world.

The future in space is right around the corner. It is likely that within the next decade, compute edge-type capabilities could run applications on LEO satellites and provide direct-to-satellite backhaul. As enterprises chart their strategic direction for the next decade and more, the collaborative edge combined with powerful next-generation LEO constellations can help imagine entirely new connected environments - wherever they need to operate. ■

TELESAT™



Airtel Africa returns to profit

Airtel Africa reported a return to profitability in its latest financial year, driven largely by an increase in its subscriber base, even as currency devaluation across its markets continued to impact its financial performance.

The company announced an 8.7% year-on-year increase in total customers to 166.1 million, supported by a 4.3 percentage point rise in smartphone penetration to 44.8%. The number of data users grew by 14.1% to 73.4 million, with data consumption per customer rising 30.4% to 7GB. This growth contributed to a 15.4% increase in data ARPU (Average Revenue Per User) in constant currency terms.

Mobile money services also saw strong growth, with Airtel Money's subscribers increasing by 17.3% to 44.6 million, and ARPU rising by 11.4% in constant currency.

Operational investments included the deployment of 2,583 new mobile sites and the expansion of network capacity through approximately 3,300 km of fibre optic cables across its markets.

Revenue for the year declined slightly by 0.5% to US$4.96 billion, mainly due to currency devaluation. However, in constant currency, revenue grew by 21.1%. The strongest growth was recorded in the final quarter, supported by tariff hikes in Nigeria and signs of macroeconomic stabilization across key markets.

EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) decreased by 5.1% to US$2.3 billion, with EBITDA margin narrowing from 48.8% to 46.5%. Capital expenditure for the year totaled US$670 million, below initial guidance, but the company plans to increase this to between US$725 million and US$750 million in the upcoming year.

Net profit rebounded sharply to US$328 million, a significant turnaround from a US$89 million loss in the previous year, which was heavily impacted by foreign exchange losses and derivative losses, particularly in Nigeria.

Cameroon's telecom regulator initiates audit of Camtel's national fibre network

Cameroon's telecommunications regulator has announced the launch of an operational audit of Camtel's national fibre optic network, amid rising concerns over service quality from mobile operators such as MTN and Orange.

Camtel, a state-owned enterprise, manages the country's approximately 12,000km terrestrial fibre infrastructure. While MTN and Orange operate their own mobile networks, they heavily depend on Camtel's backbone for data transmission and interconnection.

Both telecom providers have frequently attributed service outages and disruptions to fibre cuts in Camtel's network, a claim Camtel has consistently denied.

Philemon Zoo Zame, Director General of the Telecommunications Regulatory Board (TRB), announced a restricted bidding process to select an independent firm tasked with conducting the audit. The project budget is estimated at $604,450, and the chosen company will have up to six months to complete the assessment.

This initiative follows numerous customer complaints about frequent fibre cuts, unstable internet speeds, and network instability. The audit aims to evaluate the current operational state of Camtel's infrastructure, identify technical bottlenecks, and recommend measures to enhance network performance and reliability.

The TRB hopes that the audit will ensure Camtel's backbone meets industry standards, thereby supporting better quality services for end users and licensed telecom operators alike.

IHS Holding sells Rwandan tower portfolio to Paradigm Tower Ventures

IHS Towers has announced an agreement to sell its 1,465 tower sites in Rwanda to Paradigm Tower Ventures for an enterprise value of $274.5 million. The transaction is expected to close in the second half of 2025, subject to government and regulatory approvals.

"Our decision to sell our Rwanda operations was carefully considered within our broader portfolio strategy, highlighting the value of our Rwanda assets," said Sam Darwish, Chairman & CEO of IHS Towers.

"Rwanda presents a high-demand market for shared wireless infrastructure. We look forward to building a customer-focused business providing high-quality, secure infrastructure to mobile operators," said Stephen Harris, Co-founder of Paradigm Tower Ventures.

Currently, IHS Towers manages more than 39,000 towers across eight emerging markets, including Brazil, Cameroon, Colombia, Côte d'Ivoire, Nigeria, Rwanda, South Africa, and Zambia. Notably, in December, IHS announced the sale of its 70% stake in Kuwait-based IHS Kuwait Limited to Zain Group for approximately $230 million.

Kenya launches 940km fibre cable deployment

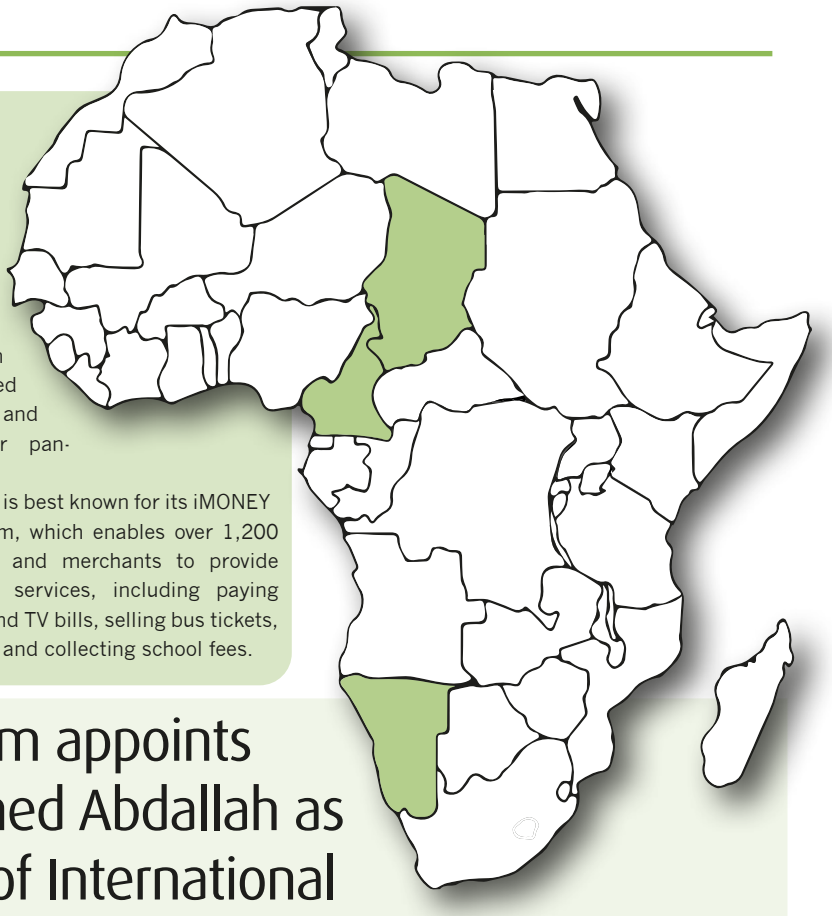
The Kenyan government has begun deploying 940km of fibre optic cable to bolster the country's digital infrastructure, with financial backing from the World Bank.

This fibre optic network is part of the Horn of Africa Corridor Development Project (HoAGDP). It will serve the counties of Isiolo, Meru, Garissa, Wajir, and Mandera, which border Ethiopia and Somalia. The project entails laying 740km of fibre along the Isiolo-Mandera corridor, complemented by an additional 200km in urban areas and for connecting public institutions.

The government's broader goal is to deploy 100,000km of fibre optic cable nationwide by 2032, aiming to provide broadband access across the country. The network is expected to connect approximately 40,000 schools and other educational institutions, 20,000 government facilities, and 13,000 healthcare centers. It will also serve homes, businesses, and rural communities. In April 2023, the World Bank approved a $390 million loan to fund the first phase of the Kenya Digital Economy Acceleration Project, which includes the fibre optic rollout.

The Kenyan authorities see this investment as a way to reach underserved and unserved populations, reduce the digital divide, strengthen infrastructure support sustainably, enhance business continuity, and promote equity by ensuring disadvantaged groups are included.

iFUTUR prepares to expand across WAEMU region



Nigerian fintech company iFUTUR is gearing up to extend its services into other WAEMU (West African Economic and Monetary Union) countries.

"This approval represents a significant milestone in our pan-African vision. Our goal is straightforward: to make financial services accessible everywhere by transforming local neighbourhood stores into multi-service points for communities," said CEO Sidikou Boubacar.

As the first Nigerian fintech to attain PCI DSS certification — an accreditation essential for issuing bank cards and safeguarding sensitive data — iFUTUR has always been ambitious about regional expansion. Since launching in 2015, the platform has focused on improving financial inclusion for Niger's unbanked population and now has broader pan-African ambitions.

In Niger, iFUTUR is best known for its iMONEY technology platform, which enables over 1,200 authorized agents and merchants to provide a range of local services, including paying electricity, water, and TV bills, selling bus tickets, offering insurance, and collecting school fees.

Comoros grants frequencies for 5G deployment

The Comorian government has awarded frequencies to Comores Télécom and Yas Comores to deploy 5G technology nationwide. The government promises faster, more reliable connections and an enhanced digital experience for the population. Once operational, 5G could significantly accelerate the country's digitalization strategy.

A 2021 study by Dell Technologies highlighted that 5G offers transmission speeds up to 100 times faster than 4G, with lower latency and increased network capacity — enabling advanced applications that require real-time connectivity and supporting sector modernization.

The National Regulatory Authority for Information and Communication Technologies (ANRTIC) stated: "5G will transform sectors such as education, health, financial services, and economic development."

This initiative aligns with the government's vision to position the Comoros as a key player in the digital revolution by 2030, leveraging ICT to drive economic growth, social transformation, and sector diversification. The strategy emphasizes infrastructure sharing and expanding beyond traditional telecommunications.

However, operators currently only possess frequency permits; no timeline for deployment or widespread service has been announced. Additionally, the high costs of implementing 5G — estimated between $3 billion and $8 billion for full national coverage, according to a 2022 Ericsson study — pose significant challenges.

To bridge this gap, the government is implementing the Comoros Digitalization Support Project (PADEC), funded by the African Development Bank and the Islamic Development Bank. The €22.53 million initiative includes building a data centre, establishing a digital administration platform, and creating a data interoperability and exchange platform.

Vodacom appoints Mohamed Abdallah as leader of International Markets and Vodafone Egypt

Vodacom Group has announced the appointment of Mohamed Abdallah as the Chief Executive Officer of Vodacom's international markets and Vodafone Egypt.

This strategic move marks a key milestone in Vodacom's ongoing efforts to streamline its operations, foster growth, and improve customer experiences in alignment with its Vision 2030 ambitions.

Currently serving as CEO of Vodafone Egypt, Abdallah will now take on a broader regional leadership role, overseeing operations in Egypt as well as other African markets including the Democratic Republic of Congo (DRC), Lesotho, Mozambique, and Tanzania. This unified leadership structure aims to drive operational excellence and strategic growth across Vodacom's key markets.

Under this new arrangement, Abdallah will oversee the CEOs of Vodacom DRC, Lesotho, Mozambique, and Tanzania, all of whom will report directly to him. Abdallah will continue to report to Vodacom Group CEO Shameel Joosub.

"Mohamed is a seasoned executive with a strong record of delivering results. His leadership will be vital as we expand our international portfolio and deepen our purpose-led strategy across Africa," said Joosub.

Abdallah, who joined Vodafone Egypt in 1998, has held numerous senior roles, including enterprise and consumer business director. Under his leadership as Vodafone Egypt CEO, he delivered significant growth across consumer, business, and financial services, strengthening Vodafone Egypt's market position.

"Taking on this position is an honour. I am passionate about driving connectivity and innovation to empower individuals and businesses across Africa. Vodafone Group is uniquely positioned to shape Africa's digital future, and together with Vodacom's talented teams, we will work to build a more inclusive digital society that accelerates socio-economic development across the continent," said Abdallah.

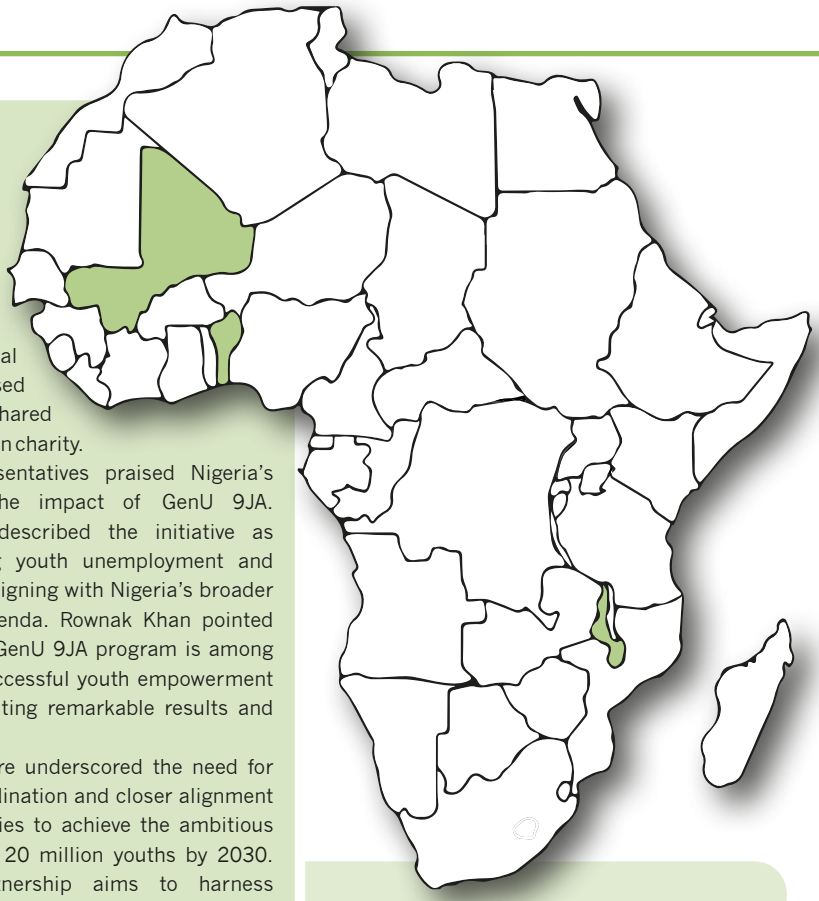
Namibia engages stakeholders to align with SADC's new broadband speed standards

The Ministry of ICT's Executive Director, Audrin Mathe, convened a meeting with service providers and industry stakeholders to discuss implementing the Southern African Development Community's (SADC) new broadband speed directive.

SADC has urged member states to adopt minimum broadband speeds of 25 Mbps for downloads and 3 Mbps for uploads.

Currently, Namibia's minimum broadband speed stands at 2 Mbps, highlighting the need to review and enhance the country's connectivity infrastructure. The consultation represents a significant step toward aligning with regional standards and strengthening Namibia's digital competitiveness.

Nigeria and UNICEF to empower 20 million youth with digital skills by 2030



The Nigerian government has reaffirmed its commitment to empowering young people through digital skills development, announcing a partnership with UNICEF aimed at training and equipping 20 million youths by the year 2030.

The initiative was unveiled during a high-level meeting at the Presidential Villa in Abuja, attended by Vice President Kashim Shettima and key UN officials, including Mohammed Fall, UNICEF's resident and humanitarian coordinator; Rownak Khan, UNICEF deputy representative; and Celine Lafoucriere, head of UNICEF's Lagos field office.

Vice President Shettima announced that he will chair the board of Generation Unlimited Nigeria (GenU 9JA), a collaborative platform designed to help Nigerians aged 10 to 24 transition from learning to earning through access to digital opportunities. He emphasized that the program presents a vital avenue for youth empowerment and economic participation and highlighted the importance of building sustainable, mutually beneficial partnerships based on respect and shared interests, rather than charity.

UNICEF's representatives praised Nigeria's leadership and the impact of GenU 9JA. Mohammed Fall described the initiative as pivotal in tackling youth unemployment and digital exclusion, aligning with Nigeria's broader Renewed Hope Agenda. Rownak Khan pointed out that Nigeria's GenU 9JA program is among UNICEF's most successful youth empowerment models globally, citing remarkable results and high youth impact.

Celine Lafoucriere underscored the need for strengthened coordination and closer alignment with national policies to achieve the ambitious target of reaching 20 million youths by 2030. Overall, the partnership aims to harness digital skills as a driver for youth inclusion, economic opportunity, and Nigeria's broader development goals.

EXA Infrastructure strengthens leadership team to drive strategic growth across the continent

EXA Infrastructure has announced significant leadership appointments aimed at supporting its ambitious growth plans.

Robert McCabe has been named Chief Commercial Officer, joining earlier this year alongside Kate Hennessy as Chief Financial Officer and Ts Narayanan as Chief Technology and Information Officer. These strategic changes underscore EXA's commitment to expanding its global footprint and enhancing its industry leadership through the expertise of highly respected professionals.

Robert McCabe brings over 27 years of experience in the telecom sector, most recently serving at Colt Technology Services, where he led business transformation initiatives focused on agile, high-bandwidth solutions. His new role will be pivotal in scaling EXA's network capabilities and delivering cutting-edge solutions for enterprise and hyperscale clients worldwide.

Kate Hennessy boasts more than 25 years of experience in telecommunications and digital infrastructure. Prior to joining EXA, she was CFO at Verne Global, a Nordic data centre provider powered by renewable energy, where she played a key role in establishing the finance function, fueling business growth, and securing debt financing for expansion. Her background also includes 15 years at Liquid Intelligent Technologies, holding leadership roles including Group CFO and Chief of M&A.

Ts Narayanan, with a career spanning 38 years across the UK, Nordics, and India, has held executive roles within the Telco Service Provider and System Integrator sectors. Most recently, he served as CIO at Colt and GTT, where his expertise in systems and technology transformation will be crucial in enhancing customer experience and driving innovation within EXA's infrastructure.

"As we continue to evolve as the digital infrastructure partner of choice, bringing Robert, Kate, and TS into our leadership team signals our intent to lead the industry through this next phase of growth. Their proven leadership and deep industry expertise will be instrumental in shaping our future," said Jim Fagan, CEO of EXA Infrastructure.

These leadership changes follow EXA's recent acquisition of Aqua Comms and highlight the company's ongoing commitment to delivering resilient, future-ready network infrastructure capable of supporting the evolving needs of global digital ecosystems.

Ethio Telecom and Bankai Group to enhance international voice services in Ethiopia

Ethio Telecom has announced a strategic partnership with Bankai Group, a global provider of telecom technology, voice wholesale, and digital transformation solutions, to serve as its preferred international call termination partner in Ethiopia. The agreement, effective from 1 June, signifies a major step toward strengthening Ethiopia's international voice ecosystem.

The partnership excludes voice traffic originating from Saudi Arabia, the United Arab Emirates, Sudan, Jordan, Somalia, and Djibouti, reflecting specific regional traffic arrangements.

According to Ethio Telecom, this collaboration aims to enhance call quality, ensure compliance with regulatory standards, and safeguard the integrity of international voice traffic. The company emphasized that working with Bankai Group aligns with Ethiopia's broader digital transformation goals, focusing on delivering high-performance, fraud-resistant voice services across key global corridors.

"Together, Ethio Telecom and Bankai Group are committed to providing reliable, secure, and innovative telecom solutions that support Ethiopia's digital growth and improve connectivity with the world," said Frehiwot Tamiru, CEO of Ethio Telecom.

Malawian MNOs to launch subscriber verification in July 2025

Malawian telecom operators are set to launch a campaign to verify their subscriber base. The Malawi Communications Regulatory Authority (MACRA) announced that the regulations governing this process are nearing finalization.

Under the new rules, the national identity card will be the sole document accepted for SIM card registration. Each individual will be limited to a maximum of ten SIM cards per mobile operator, while businesses may register up to 30 SIM cards per network — though these limits may be revised as needed. The regulations also include provisions for special cases, such as minors, whose SIM cards can be registered by their parents or guardians.

MACRA explained that the campaign aims to clean and update the existing database as part of Malawi's broader digital transformation efforts. The country has seen a rapid increase in electronic communication adoption: according to DataReportal, mobile subscriptions rose from approximately 8.6 million in early 2020 to 13.2 million by early 2025. Similarly, internet users grew from 2.8 million to nearly 4 million over the same period.

However, this growth has been accompanied by a rise in fraud related to communication channels. A 2023 survey by MACRA revealed that 85.5% of Malawians received fraudulent calls requesting money or banking details. About 33.4% had been victims of identity theft, and 18.2% received phishing emails. Additionally, 12% experienced 'SIM swapping,' where fraudsters transfer a victim's phone number to another SIM to intercept calls, messages, and security codes.

Ahead of the registration exercise, MACRA is engaging with stakeholders — including community and religious leaders — to raise awareness about the new regulations. The regulator has not yet specified how long the SIM card verification campaign will last. Similar initiatives in countries like Nigeria, Ghana, and Benin have seen non-compliant SIM cards blocked by authorities.

Talking satellite

Tristan Wood, founder of Livewire Digital

Closing the digital divide with hybrid connectivity

Whilst for most people, having an internet connection was once one of life's luxuries, today it's a non-negotiable essential requirement. Yet, as Tristan Wood, founder of Livewire Digital says, millions of people remain unconnected, and unless the telecom industry acts fast, that number will only climb.

Terrestrial networks have taken us far. Copper, fibre, GSM 3G, 4G, and now 5G services have transformed global communications. But despite their transformative role, they were never going to be ubiquitous on their own. Vast tracts of our planet, from deserts, forests and oceans, remain off-grid. Even in localities closer to mainland UK, where you might expect coverage, such as the Isle of Sheppey, Papa Stour and Rathlin Island, still live with no readily available means of accessing the web or other data services. And even in those areas where infrastructure is well developed and integral to daily work, service outages and not-spots reveal just how fragile terrestrial systems can be. It takes only one downed mast, a blown or flooded power transformer, or simply an overloaded network, and entire communities can be plunged into digital darkness.

In the face of these gaps, the spotlight has turned to satellite – and rightly so. The emergence of low Earth orbit (LEO) networks like Starlink and OneWeb has opened up exciting new possibilities and allowed millions to access the web reliably. In fact, at this year's Mobile World Congress in Barcelona, telecom magnate Sunil Bharti Mittal, who owns a major stake in OneWeb, championed satellite integration as the next frontier.

But here's the catch. No single network, terrestrial, satellite or otherwise, can deliver on the promise of always-on, everywhere connectivity. That's why true hybrid connectivity, which seamlessly integrates multiple high-speed networks in real-time - such as fibre, Viasat, StarLink, Oneweb, Spacesail satellite services and local cellular services - into one unified solution, is crucial.

This kind of technological innovation does not simply toggle between networks, it bonds them together via Software Defined Networking (SDN) – seamlessly and in real-time, to deliver the most reliable, efficient connection at any given moment. Any form of bearer can be brought into the mix and bonded, including cellular, GEO, LEO, Wi-Fi, 5G/LTE, 4G, etc.

The benefits of this true hybrid connectivity are clear and have been championed by Inmarsat in its NexusWave connectivity solution, to support digitalisation and crew welfare initiatives by transforming ships into floating offices and homes, even from the middle of the vast oceans. What's more, hybrid networks are already proving to be lifesaving and are already used in the UK in parts of the national health service – in particular on 'connected ambulances,' allowing fast, easy access to the data that matters during life's most critical moments.

A lifeline for the unconnected

We talk a lot about the 'digital divide.' But for many, the gap is not simply about speed, it's about access to critical services like education, healthcare and commerce.

Hybrid networks truly have the power to change the world for the better. Imagine a rural clinic using bonded 4G and satellite to conduct live telemedicine consultations, or a disaster relief team deploying a portable hybrid system to coordinate rescue operations where infrastructure has been obliterated. These scenarios are not mere hypotheticals, they are already beginning to happen, and there has never been a more exciting time to be in telecommunications than now.

There's also a commercial case to be made. Telcos are under increasing pressure to deliver more bandwidth, more uptime and more reach, all while constraining costs. By offering hybrid connectivity 'as-a-service,' providers can monetise resilience and deliver greater value to enterprise and government clients alike. Evidently, this is not simply about altruism, it's smart business.

The time to act is now

We are on the very cusp of a technological revolution. But if we don't accelerate the integration of satellite into mainstream telco strategies, we risk leaving millions behind and undermining our own systems in the process.

The telecoms industry has always thrived on innovation. Now it is time to look beyond boundaries and reframe how we think about networks – not as competing silos but as complementary assets in a cohesive system.

Let's bridge the connectivity gap, not with promises, but with proven, practical solutions that work for everyone. After all, being connected is not just about convenience, it's about equality, resilience and the ability to participate in modern life.

Autonomous TowerCos add a new layer to African telecoms

Amir Turalić, Chief Product Officer, ZIRA Group

As the demand for voice and data traffic continues to grow across Africa, MNOs must ensure the necessary infrastructure is in place. However, this requirement can affect their operational efficiency and profitability. To tackle this challenge, many MNOs are adopting a delayering strategy, which involves dividing their networks into separate, self-governing entities. An example of the benefits of delayering is the emergence of tower companies. The success of these tower companies relies on the presence of a dedicated Business Support Systems (BSS) platform. With these systems in place, Africa's MNOs will be better positioned to optimise their networks and prepare for evolving customer demands for the future.

Optimising operations

Mobile networks in Africa account for up to 98% of all voice and data traffic across the continent, making them the primary means of voice and internet connections. Since 2020, there has been a significant increase in data traffic, primarily due to the COVID-19 pandemic, which led to more people working and learning from home and a rise in the use of online services such as mobile commerce and mobile banking.

Meeting customers' rapidly changing behaviours and demands can be costly for MNOs. Moreover, while Africa's mobile infrastructure will primarily rely on GSM and 3G technologies in the foreseeable future, a shift to LTE and 5G will be necessary as network demand increases. This transition will require considerable investment.

As MNOs wrestle with changing demands, rising costs, and the complexities of migrating from GSM and 3G to LTE and 5G, they will seek ways to optimise operations and improve efficiency.

For many, delayering may be a viable solution. This process involves separating the traditional telecoms model's governance, financial accountability, and organisational structure into three distinct units (or layers). These layers are made up of the ServeCos, which manage the retail side and what the MNO sells to end-users. The NetCos, which are responsible for the core network and technology stack. And finally, the InfraCos, which oversee the MNO's hardware and assets, including cell towers.

The advantages of delayering are substantial. By reassessing operational structures in this manner, African MNOs can enhance their operational efficiency, free up capital, and invest in next-generation connectivity in anticipation of future demand.

The TowerCo example

The efficiency of delayered assets and their focus on a specific aspect of telecommunications appeals to investors and can lead to increased cash flow for businesses. Analysts note that pure-play ServeCos, NetCos, and InfraCos tend to outperform traditional telecom companies. For example, tower companies, or TowerCos, can operate their sites approximately 40% more efficiently than conventional telcos, making them attractive partners. It's no surprise that TowerCos have achieved a ROIC (return on investment capital) of 10-15% over the past two decades, while traditional telcos have struggled to break even on their cost of capital.

Independent TowerCos specialise in operating neutral hosts and 'passive' wireless network infrastructure, like mobile towers. By sharing towers with multiple tenants, they improve coverage, reduce MNOs' overall costs, and enable MNOs to pass those savings on to end-users. TowerCos' business model also allows them to find more innovative solutions, sustain growth, and assist partnering companies in maintaining a competitive edge. Importantly for MNOs throughout Africa, independent TowerCos will play a crucial role in enabling 5G and expanding mobile network coverage across the continent.

Complex challenges

The evolution of TowerCos from traditional telecom companies has allowed them to focus exclusively on infrastructure, significantly improving efficiency. However, this transition has left them susceptible to challenges that standalone businesses face in complex operating models.

Successful TowerCos must manage multiple tenancies at a single site, support complex business models, and execute intricate quotation processes with numerous variables. Traditional telcos use a BSS - a set of software programmes designed to manage partnerships, customer and service orders, products, and services – to support such processes. But, while practical, these systems were not designed for the complexities of a TowerCo's operations.

TowerCos rely on efficiency and adaptability, but traditional BSS often fail to meet unique industry requirements, such as passive infrastructure leasing, collocation enablement, and support for new technologies like small cells and edge computing.

To maximise efficiency and establish profitable partnerships, TowerCos need dedicated BSS solutions tailored to their specific needs. Relying on manual workarounds and patches can lead to substantial and unnecessary investments of time, effort, and money, ultimately undermining the efficiency that makes them so profitable.

Advantages of dedicated BSS

A purpose-built BSS solution enables TowerCos to fully capitalise on the business opportunities presented by Africa's evolving connectivity landscape. A BSS designed specifically for TowerCos can streamline the lead-to-cash process by automating each step, from initial customer engagement to final transactions.

TowerCos can integrate OSS (Operational Support Systems), BSS, and ERP systems to ensure data flows smoothly across segments. This integration is crucial for coordinating complex operational processes required for next-generation networks like 5G and LTE.

BSS solutions also improve customer interactions with robust order capture and management capabilities, enabling quick and accurate responses to service requests. They optimise billing and financial operations, guaranteeing correct invoicing and payment for services rendered.

Additionally, a dedicated BSS platform supports complex business models, allowing for tailored service offerings and effective management of contract lifecycles. These systems also provide detailed analytics and reporting tools to identify performance trends and operational efficiencies, which are crucial for making informed decisions on asset utilisation and future investments.

Seizing opportunities

By incorporating the capabilities of a modern, integrated, and modular BSS solution, TowerCos can streamline their foundational operational processes and adapt to Africa's rapidly evolving telecommunications landscape.

Of course, TowerCos are just one example of how delayering, supported by a dedicated BSS, can help MNOs maximise the efficiency and commercial potential of their business models. With huge changes on the horizon, Africa's MNOs should act now to seize the opportunities available by optimising and streamlining their operations for greater efficiency and profitability. ■

The MVNO moment: rewriting the connectivity playbook

From digital inclusion to fintech fusion, Africa's MVNOs are carving out a bold new future for wireless communications...

In the race to connect Africa's billion-plus population, a quiet revolution is reshaping the continent's telecom terrain — one that doesn't involve building towers or laying cables. Mobile Virtual Network Operators (MVNOs) are stepping up as agile disruptors, digital enablers, and vital partners in delivering inclusive, innovative, and cost-effective communication services.

The impact of MVNOs is starting to ripple through the markets — from bustling cities to the most remote corners of the continent. And they're doing it without owning the traditional infrastructure that mobile network operators (MNOs) have long controlled.

Instead, MVNOs are leveraging unused network capacity, bundling mobile access with financial services, and deploying cutting-edge tech like eSIM, AI, and cloud-native platforms to reach populations that mainstream telcos often overlook.

Satya Mekala, Wireless Technology Labs

Africa: fertile ground for MVNO growth

Unlike in Europe or North America, where MVNOs often emerge in saturated markets to undercut on price or provide boutique customer service, Africa's MVNOs are answering a more fundamental call: connectivity as a catalyst for empowerment.

"The rise of MVNOs in Africa is largely driven by the increasing population and demand for inclusive connectivity, underserved niche markets, and innovative digital services. Affordable smartphones, rising internet penetration, and government-backed initiatives for universal access are strong enablers in this growth trajectory," explains Engr. Morenikeji Aniye, CEO of Hotspot Networks.

"Africa's MVNOs growth is driven by the need to extend services to previously unconnected or underserved segments — particularly in rural or low-income areas," confirms Jeegar Swaly, Co-founder and VP of APAC & Africa, floLIVE. "The growing interest from non-telco entities (banks, brands, fintechs, etc.) reflects a broader shift toward bundling mobile connectivity with digital services."

Africa is home to the youngest and one of the fastest-growing populations in the world. It also has a complex mix of high urban growth and vast rural areas with limited infrastructure. This duality is giving rise to MVNOs tailored for both the digitally ambitious and the digitally forgotten.

Moreover, "regulators across Africa are actively opening markets to innovative MVNOs, recognizing their role in expanding connectivity and increasing competition. In South Africa, for example, MNOs are beginning to view MVNOs as strategic partners to help monetize excess network capacity. Similarly, in Nigeria, higher-tier MVNOs (Tier 4 & 5) have been granted rural licenses, enabling them to invest in radio infrastructure and engage in revenue-sharing agreements with MNOs," says Satya Mekala, CEO of Wireless Technology Labs (WTL). "Given Africa's price-sensitive market, MVNOs have significant opportunities to offer low-cost communication services bundled with essential financial, educational, and sector-specific solutions. By integrating these value-added services, MVNOs can position themselves as compelling alternatives to traditional MNOs, driving greater adoption and connectivity across the continent.

According to Danielle Rios, Acting CEO of Totogi, the data speaks volumes: "Nigeria's Communications Commission recently awarded 40+ MVNO licenses across five tiers, demonstrating strong regulatory commitment to this model. South Africa has seen similar momentum, with companies like TelkomONE, Rain, and Virgin Mobile pioneering the MVNO market and paving the way for newer entrants. This isn't just a Nigerian or South African phenomenon — it's part of a continent-wide recognition that traditional MNO-only markets aren't serving all potential customers effectively."

Enabling Africa's MVNO uprising

Africa's connectivity challenges are forcing MVNOs to get creative — not just in business models, but also in their technology stack.

With public cloud infrastructure now available across the continent, African MVNOs can build on a fundamentally different technology stack with three critical components, namely public

cloud elasticity, cloud-native BSS solutions, and AI-powered operations.

"This technology foundation allows African MVNOs to achieve what was previously impossible: world-class customer experiences on modest budgets. The infrastructure model isn't about owning assets but orchestrating them intelligently through cloud-enabled platforms — perfect for markets where ARPU is low and competition is fierce," claims Rios.

According to Aniye, shared infrastructure models such as tower sharing, Network-as-a-Service (NaaS), and satellite backhauls are critical for MVNO viability: "cloud-native platforms allow MVNOs to scale quickly, reduce costs, and innovate without heavy capital expenditure. The use of virtualized core networks and open APIs also facilitates better integration with MNOs and service providers, creating a flexible, plug-and-play ecosystem."

Further, "Africa's leadership in mobile financial services presents a unique advantage for MVNOs. By integrating mobile wallets, microloans, and insurance through partnerships with digital financial platforms, MVNOs can differentiate their offerings and create added value beyond basic connectivity," adds Mekala.

"From the infrastructure perspective, IaaS will work well in some countries in Africa and not so well in others," notes Seshan Krishnamurti, Vice President - Sales, CovalenseDigital. "Besides power and data centre infrastructure, cultural aspects of behaviour, own vs. rent, etc. will influence short-term decision-making."

But perhaps no technology has democratized access faster than the eSIM, which Gregory Gundelfinger, CEO of Telna, states is "tailor-made for this rapidly changing environment. Even people living in remote areas can easily download a SIM card. There are no physical logistics required — activation is done digitally."

This becomes crucial in regions where postal systems are spotty, retail infrastructure is weak, and the digital divide is as much about distribution as it is about affordability.

MVNOs are also capitalizing on intelligent network selection. According to Swaly, Africa's telecom environment is highly fragmented, spanning regions with limited 2G coverage to urban areas adopting 4G and early-stage 5G. Supporting MVNO growth in such diverse conditions requires adaptable, scalable, and cost-efficient solutions.

"No single mobile network operator provides complete nationwide coverage across African countries," shares Swaly. "To ensure reliable connectivity, MVNOs must enable multi-network access with dynamic network selection and Intelligent IMSI switching to connect to the strongest local signal. By enabling dynamic IMSI and network selection, MVNOs can offer seamless, regulatory-compliant, high-availability services across Africa."

A shift from competition to collaboration

The telecom world hasn't always been cozy with outsiders, but the mood is shifting. Across Africa, MNOs are increasingly realizing the strategic value of partnering with MVNOs rather than competing with them.

"In today's environment, there is much more of the 'Big brother MNO' to 'little brother' MVNO which is perceptible," says Krishnamurti. "However, the nature of business transformation and the flattening ARPUs in standard consumer services, business models relating to multiple supply side partners, reseller channels are growing in a big way. Many operators are looking to create a much more agile, market-sensitive reseller channel, while they focus on ramping up the infrastructure, security, scale and solutioning/product side more."

"Currently in Nigeria we have less than 50 licensed MVNOs and we hope to see support from MNOs as we see in most African countries where there is a shift from competition to collaboration," shares Gundelfinger. "The MNOs are increasingly viewing MVNOs as strategic partners to expand reach, optimize unused capacity, and cater to segmented markets. MNOs are becoming more enthusiastic about the idea of partnering with MVNOs to explore digital and eSIM-enabled solutions. These collaborations allow MNOs to tap into innovative business models that bundle connectivity with value-added services."

From white-label launches to revenue-sharing deals, the partnership models are getting smarter: "wholesale agreements, white-label solutions, managed services, and fintech collaborations — these are all win-win models in Africa," says Mekala.

"The most promising trend is MNOs shifting from viewing their networks solely as consumer products to seeing them as platforms that become more valuable with each new service provider," says Rios. "This platform thinking transforms MVNOs from risky ventures into low-risk innovation opportunities, allowing MNOs to support diverse experiments in the market without betting heavily on any single approach."

Examples abound: Cell C partners with FNB Connect and me&you Mobile in South Africa; MTN collaborates with IoT-focused MVNOs for agriculture and fleet services; and Equitel in Kenya merges mobile banking with connectivity through Airtel.

Yet, challenges remain: "MVNOs operating across multiple countries face a significant hurdle: the need to integrate separately with each MNO," highlights Swaly. "It results in a fragmented model that is technically complex, time-consuming, and costly. A growing number of MVNOs are being launched by non-telco players such as banks, retailers, and fintechs. These organizations leverage their existing customer bases to offer bundled digital and mobile services, but they too encounter scaling challenges when expanding beyond a single market."

To address these challenges and foster smoother partnerships, Swaly reports that several business models have emerged as particularly effective:

- Pay-as-you-grow models that reduce upfront investment and align costs with growth.
- White-label solutions, allowing brands to quickly enter the market under their own name with minimal infrastructure.
- Managed service models, where MVNEs or MNOs handle technical and operational aspects for the MVNO.
- Value-added service bundles tailored to niche segments — for example, including low-cost international calls to specific countries for migrant workers.

Krishnamurti adds that the MVNE insulates the MVNO from the complexities of network integration and performance while offering the tools to customise value propositions (product innovation, commercial order management, pricing, etc.) and create a brand presence as a network service provider.

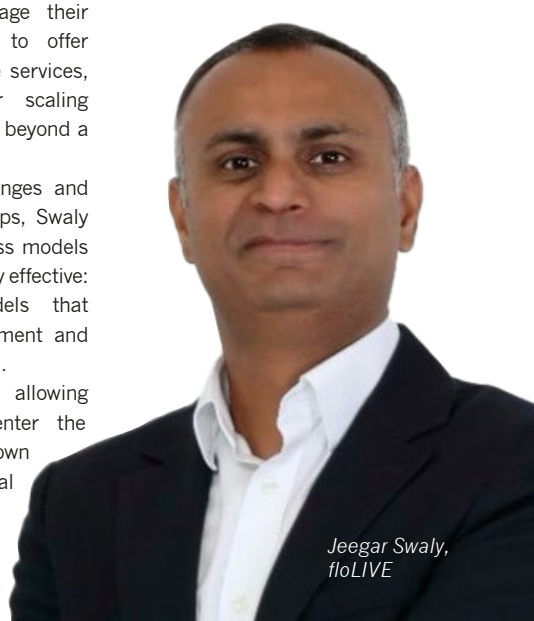
"The MVNE also does the aggregation and offers wholesale pricing," notes Krishnamurti. "The Digital BSS/SaaS BSS allows MVNOs and even small ISPs aspiring to move into the MVNO/Integrated Digital Service Provider space the freedom to create a unique experience linked to their brand."

Policy plays a pivotal role

No conversation about MVNOs is complete without addressing the regulators who shape the sandbox.

"Regulatory frameworks in Africa are evolving to support this dynamic environment. Progressive policies that promote digital identity, spectrum sharing, and network interoperability are critical," shares Gundelfinger. "Policymakers can further nurture a sustainable MVNO ecosystem by encouraging transparency, fostering competitive practices, and simplifying licensing processes. This supportive regulatory landscape is essential for unleashing the full potential of eSIM-enabled MVNOs."

Engr. Morenikeji Aniye, Hotspot Network Limited



Jeegar Swaly, floLIVE

"Though there's a long way to go, regulatory advancements are gradually shaping a competitive MVNO landscape, with countries like Nigeria, South Africa, and Kenya leading the way," says Mekala.

Each country has addressed this differently. Nigeria NCC's MVNO Licensing Framework (2022) introduced five tiers, ranging from resellers (Tier 1) to full-service MVNOs with infrastructure investment (Tier 5). Higher-tier MVNOs can deploy their own radio networks in underserved areas and share revenue with MNOs. Meanwhile, South Africa's ICASA has encouraged MVNO growth by requiring MNOs like Cell C to open their networks, enabling brands like FNB Connect and Mr. Price Mobile to enter the market. Finally, Kenya's CA has supported MVNOs like Equitel, which combines mobile banking and telecom services, while Rwanda's telecom framework encourages infrastructure sharing and has licensed MVNOs like KTRN to enhance connectivity.

Aniye warns that "more needs to be done to lower entry barriers, enforce fair wholesale pricing, and ensure transparent interconnect agreements. Policymakers can accelerate MVNO adoption by encouraging infrastructure sharing, providing spectrum access incentives, and supporting innovation hubs focused on rural connectivity."

"Across Africa, the regulatory landscape is highly fragmented. While some countries have proactive MVNO frameworks, others lack MVNO-specific licensing or have unclear policies on issues like wholesale access terms, numbering, data localization, and permanent roaming," agrees Swaly. "One major gap is the lack of distinction between human (retail) and machine (IoT) connectivity. In countries with strict KYC regulations — where each SIM must be registered to an individual — IoT deployments (e.g., smart metering) face operational and compliance challenges, as the SIM user is not always the owner."

Data sovereignty and roaming regulations also present significant roadblocks, particularly for MVNOs looking to scale across borders or offer cross-border IoT services.

"To support a more competitive and sustainable MVNO ecosystem, policymakers should prioritize the creation of clear, tiered licensing frameworks that lower barriers to entry," explains Swaly. "Enforcing fair and transparent wholesale access agreements, encouraging infrastructure sharing, and harmonizing regional regulations would enable more players to enter the market and scale across borders. Aligning MVNO policy with broader goals — such as digital inclusion, financial access, and IoT adoption — can help drive innovation and unlock the full potential of MVNOs to serve underserved populations and niche use cases across Africa."

What's next: a virtual tsunami

Over the next few years, MVNOs in Africa will evolve from basic resellers to full-service digital operators, offering everything from eSIM provisioning to AI-driven customer engagement.

"Technologies like 5G and edge computing will unlock new verticals such as smart agriculture, remote healthcare, and IoT-based logistics. Cloud-native infrastructure will empower nimble MVNOs to compete effectively, while AI will optimize network performance, user personalization, and fraud prevention, creating a smarter, more inclusive telecom ecosystem, predicts Aniye.

Meanwhile, Mekala envisions a future packed with mobile finance and IoT: "more MVNOs will integrate mobile payments, microloans, and insurance, leveraging Africa's mobile money dominance. IoT-enabled connectivity for smart agriculture, logistics, and fleet management will also grow. Tiered licensing in Nigeria and infrastructure sharing in Rwanda will allow MVNOs to invest in their own radio infrastructure, particularly in underserved areas."

However, "many African markets will continue operating primarily on 3G and 4G for the foreseeable future, with 5G deployments concentrated in urban centres. The transformative technologies for MVNOs won't be radio technologies but intelligence technologies that maximize the value of whatever connectivity is available," says Rios.

The tech stack, too, is set for a major upgrade: "5G, AI-based automation, and cloud-native platforms will influence how MVNOs operate and scale," notes Swaly. "With satellite connectivity complementing traditional cellular networks, we may see the rise of specialist MVNOs focused on mission-critical or remote use cases."

Rios believes that AI will level the playing field between large and small operators: "Nigerian MVNOs launching this year won't need massive data science teams to deliver personalized subscriber experiences — they'll leverage cloud-based AI platforms that provide enterprise-grade intelligence out of the box. This AI advantage will be particularly vital in Africa's volatile markets where customer retention is a constant challenge."

"The widespread adoption of 5G will unlock unprecedented speeds and connectivity options, while cloud-native networks and AI will streamline operations, optimize customer experiences, and enhance network efficiency," agrees Gundelfinger. "This evolution will not only lower operational costs but also spur innovation in service delivery, ensuring that MVNOs remain agile in meeting the diverse needs of African consumers and businesses."

Indeed, Africa's MVNOs are likely to experience substantial growth and transformation over the next several years, fuelled by technology, market dynamics, and regulatory changes. As they adapt to the increasing demand for data services, leverage partnerships, and focus on customer-centric approaches, MVNOs will play an essential role in enhancing connectivity and digital inclusion across the continent. ■

Danielle Rios, Togoti

Closing the loop: embracing the circular economy

In an industry built on speed and constant innovation, sustainability might seem like a strange bedfellow. Yet, for telecommunications companies, device manufacturers, and tech lifecycle partners, the circular economy isn't just a noble idea — it's becoming a business-critical imperative.

The telecom sector is responsible for a growing share of the world's electronic waste (e-waste), from smartphones all the way through to cell towers and server racks. With millions of devices sold each year and infrastructure expanding at pace — particularly in emerging markets — the question is no longer whether the sector should engage with sustainability, but how to do so effectively.

Cue the circular economy: a system that replaces the traditional 'take-make-dispose' model with one focused on repair, reuse, refurbishment, and recycling. By extending the lifespan of products and materials, companies can reduce environmental impact, improve cost efficiency, and even unlock new revenue streams.

For Julia Evans, Group Operations Director at TXO, this approach is foundational: "as Africa's telecoms landscape continues to expand at pace, sustainable infrastructure solutions are crucial," she says. "Embracing a circular economy approach gives organisations across the continent the tools to extend asset life, reduce environmental impact, and build networks that are both cost-effective and resilient."

Central to circularity

With their vast customer bases and constant contact points, telecom and mobile companies are well-placed to drive change — not only through products, but also through messaging and incentives.

"From a consumer perspective, these companies are uniquely positioned to influence the behaviour of their customers and through this to promote sustainable practices," says Mark Williams-Wynn, CTO of EWaste Africa. "Practical ways that they can promote sustainable practices include incorporating design-for-repair and design-for-reuse principles in their devices to ensure longer product lifespans and facilitate easier refurbishment. To influence the behaviour of their customers, they can implement take-back schemes, rental models, or device subscription services to increase the return and responsible handling of used electronics."

Yolandi Holm, National On-Site Manager at EnviroServ, agrees, noting the dual responsibility to educate and act: "telecommunications companies, device manufacturers, and others in the communications market can play a key role in promoting a circular economy by focusing on sustainability through material reuse, recycling, and product longevity."

Awareness campaigns are fundamental to shifting consumer habits and ensuring devices don't end up in landfills — or worse, in informal and unsafe recycling operations.

"As key players in communications, these companies also have a critical role in educating consumers about the circular economy," shares Williams-Wynn. "They can educate on what the circular economy is, why it matters, and how individuals can contribute through their everyday habits. This includes raising awareness about the environmental and social impacts of e-waste, and the importance of responsible consumption."

Building better from the start

Not all e-waste is created equal. Some devices are designed to last, while others barely survive a two-year contract a.k.a. planned obsolescence. That's why the principles of eco-design are essential.

"From conceptualisation to design, they can think of the circular economy," says Holm. "Implementing recycling programmes for end-of-life products ensures valuable materials are recovered, while reducing e-waste. Additionally, adopting sustainable manufacturing practices and using eco-friendly materials helps reduce environmental impact throughout the product lifecycle, supporting a circular economy and minimising waste."

Williams-Wynn breaks it down further: "this could include incorporating design-for-repair and design-for-reuse principles in their devices to ensure longer product lifespans and facilitate easier refurbishment as well as implementing take-back schemes, rental models, or device subscription services to increase the return and responsible handling of used electronics."

In practice, this might mean ditching glue in favour of screws, using modular components that can be easily replaced, or choosing materials that can be cleanly separated during recycling.

Julie Evans, TXO

Holm highlights another innovation: digital passports, which provide transparency into a product's material sourcing and environmental footprint, "enabling owners to make informed decisions about the sustainability of their devices."

From take-back to take-forward

When it comes to technology take-backs, theory is good, but practice is better. Fortunately, several companies are already piloting or scaling successful circular economy initiatives in telecoms.

"Recycling electronic equipment results in carbon emission reductions approximately equivalent to the weight of the equipment," explains Williams-Wynn. "Reuse or refurbishment has an even greater impact, with an order of magnitude higher reduction in emissions."

"Companies like Vodafone and Ericsson have implemented schemes to recover and refurbish old devices, reducing the need for new products and minimising e-waste. These efforts not only reduce the carbon footprint associated with manufacturing new devices but also conserve valuable resources like metals and plastics," notes Holm.

It's not just about recovery — it's about reinvention: "additionally, some companies have shifted to using recycled materials in the production of new devices, further reducing their environmental impact," adds Holm.

These initiatives not only reduce resource demand but also help businesses meet regulatory and ESG commitments.

The power of partnerships

One company can't go circular alone. The circular economy thrives on collaboration across manufacturers, telecoms firms, waste management providers, and policy makers.

"The circular economy thrives on collaboration, between telecoms companies, manufacturers, and technology lifecycle partners," says Evans. "By embedding eco-design, improving asset tracking, managing networks sustainably and investing in end-of-life recovery, the industry can repurpose equipment, reduce waste and maximise value."

Yolandi Holm, EnviroServ

However, Williams-Wynn notes that not all relationships are friction-free: "manufacturers are often hesitant to support refurbishment, viewing it as a threat to new device sales." But, he argues, that's a misconception. "Refurbished devices often reach a different market segment — consumers who may not afford new devices but aspire to own that brand, particularly in the case of premium models."

As such, partnership is the way forward. "Manufacturers can provide certification or training to recycling organisations, ensuring refurbishment is carried out to a high standard and protects brand integrity. Telecommunications companies can further support this ecosystem by assisting with training efforts and reintroducing certified refurbished devices into the market, helping close the loop and make circular models more commercially viable."

Holm emphasises that deeper partnerships can also lead to better infrastructure: "partnerships between telecommunications companies, manufacturers, and recycling organisations can make recycling more worthwhile by investing in the necessary equipment for efficient recycling. By engaging on shared sustainability targets, these collaborations can drive the reduction of reliance on virgin materials. Manufacturers can adapt their products to use fewer virgin materials, turning to readily available sources and recycled resources instead."

This creates a virtuous loop of shared investment, shared value, and shared sustainability.

Barriers and breakthroughs

Going circular isn't all green halos and glory. The road is paved with challenges — from consumer perception to logistical hurdles and regulatory red tape.

"One major barrier is consumer perception, with refurbished or pre-owned devices often being viewed as inferior, which leads to many customers preferring lower-quality new devices over high-quality refurbished ones. Additionally, due to a lack of awareness, customers may be hesitant to adopt circular models such as device rental, fearing they'll lose access to older devices when upgrading," says Williams-Wynn.

There's also the issue of traceability. "These devices are often passed down through multiple users, making it hard to trace their origin," notes Williams-Wynn. Without tracking, many end-of-life devices are simply dumped — lost to the loop.

To counter this, education is key. One of the key challenges telecommunications companies face in shifting towards a circular economy model is educating consumers about the importance of sustainable practices.

"Information sharing is crucial, as consumers need to understand the potential dangers of improper disposal and the benefits of recycling. To address this, companies can implement strategies to educate consumers on the facilities that handle e-waste, from production to end-of life, ensuring that all stakeholders are aligned with circular economy principles," says Holm.

Indeed, "raising awareness about the benefits of refurbished devices, the value of circular economy practices, and proper end-of-life management can help shift perceptions and encourage more responsible consumer behaviour," adds Williams-Wynn.

Regulatory challenges also play a significant role, with government regulations such as e-waste bans from landfills pushing companies to rethink their practices.

"To overcome these obstacles, telecommunications companies should engage in proactive strategies, such as investing in recycling infrastructure and adhering to strict sustainability guidelines," says Holm. "This would not only comply with regulations but also align with circular economy goals, ensuring that materials are reused and resources are conserved for the long term."

Circularity as a growth strategy

The circular economy offers a compelling, realistic path for the telecom industry to reduce waste, increase efficiency, and build resilient, future-proof networks. It's not just about recycling — it's about rethinking the entire product lifecycle, from design to disposal and beyond.

As always though, there's an elephant in the (board)room: profitability. Can circularity deliver on the bottom line?

According to Evans, absolutely: "refurbishment plays a key role in this model, offering carbon savings of up to 93% compared to buying new."

Those carbon savings translate directly into cost savings — on raw materials, production, logistics, and even brand equity. In regions like Africa, where access and affordability remain key challenges, circular models open new doors.

"This demonstrates how circular practices can reduce environmental impact and support digital inclusion and greener growth both across Africa and on a global scale," says Evans.

Through collaboration, education, and bold investment in sustainable practices, the telecoms sector can become a leader in circular transformation — connecting the dots between innovation and environmental responsibility. ■

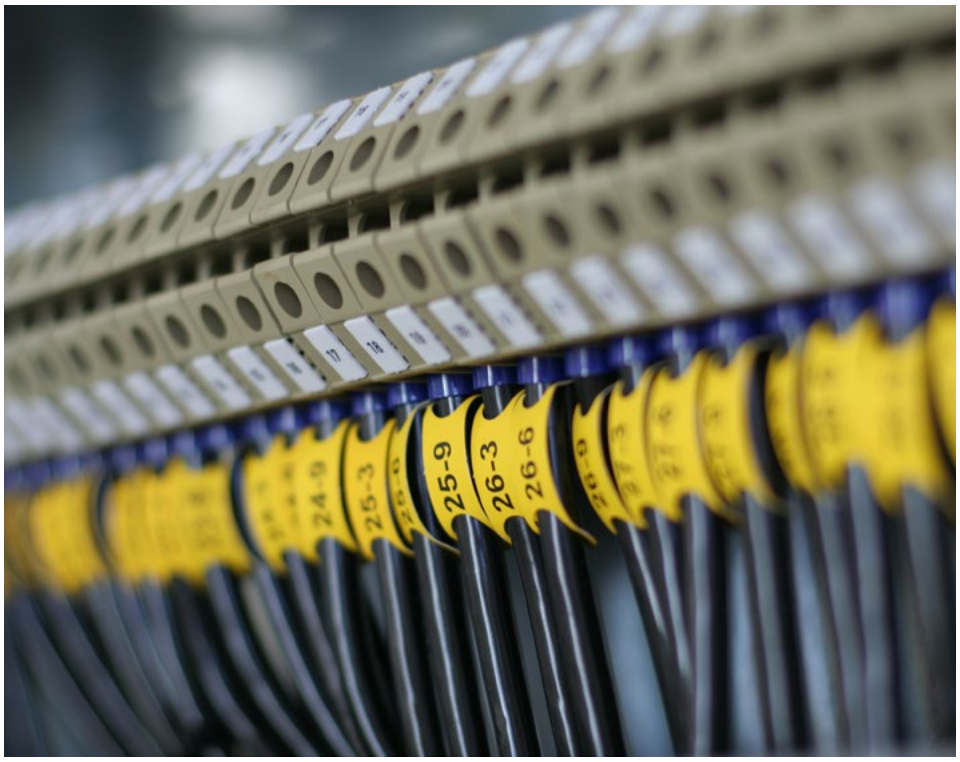
Mark Williams-Wynn, EWaste Africa

The future of network automation in Africa

Samar Mittal, Vice President and Head of Cloud and Network Services MEA, Nokia

Automation is reshaping industries worldwide, and for Africa's mobile network operators (MNOs), its potential is immense. From optimising processes and improving cost efficiency to enhancing customer experience, automation is revolutionising network management. By reducing operational timelines and human errors, automation allows MNOs to deliver services faster, optimise network performance, and drive monetisation.

In Africa, where telecom operators manage a wide spectrum of technologies — ranging from 3G to cutting-edge 5G — automation serves as a unifying force that enhances operations regardless of where an operator is on its technological journey. Zero-touch automation, artificial intelligence (AI)-driven efficiencies, and predictive network maintenance are becoming essential components for ensuring long-term competitiveness and sustainability.



The measurable benefits of automation

Quantifying the impact of automation varies depending on an operator's level of investment, but early results demonstrate significant returns. Nokia's work with Safaricom Kenya, for example, has shown that AI-driven energy-saving solutions can lead to notable cost reductions. In some transformation projects, process efficiencies have improved by 50-60%, enabling faster service delivery and better customer satisfaction.

Automation is a journey, not a one-time implementation. Operators that strategically invest in automation progressively unlock new benefits. By reducing the time required for anomaly detection and correction by 20-30%, automation enhances network stability, minimises disruptions, and improves service quality. As MNOs continue down this path, their ability to monetise services and enhance customer experiences will continue to expand.

The core reasons for automating networks in Africa are clear: efficiency, cost savings, and improved customer experiences. With rising energy costs and inflationary pressures affecting the continent, operators must find ways to optimise resources and reinvest savings into network expansion.

Additionally, automation helps operators meet the growing demands of consumers. If a process that once took weeks can now be completed in days — or even hours — customer satisfaction improves dramatically. Faster service provisioning, reduced downtime, and proactive network maintenance all contribute to a more competitive telecom landscape in Africa.

The pitfalls of a piecemeal approach

One of the key lessons learned from global automation projects is that a fragmented, piecemeal approach does not yield sustainable results. Operators that deploy automation without a clear long-term blueprint risk investing in tools that become obsolete as network architectures evolve.

Today's networks are transitioning to cloud-native functions (CNFs) and software-defined architectures. Without a long-term vision — spanning at least 5-10 years — automation efforts may lack scalability and integration potential.

Instead, MNOs should define a holistic automation strategy that considers multi-vendor environments, interoperability, and future-proofing. A structured roadmap ensures that each investment contributes to a broader transformation, enabling operators to seamlessly integrate new technologies and maximise their automation ROI.

Overcoming cost concerns amidst hyper-automation

Many African MNOs operate within tight financial constraints, leading to concerns about the capital expenditure (CapEx) required for automation. However, automation does not demand an all-at-once investment. Instead, operators can take a phased approach — starting with low-hanging fruit in their automation journey and reinvesting savings into further improvements.

The industry follows the TM Forum's automation maturity model, which ranges from Level 0 (manual

processes) to Level 5 (full hyper-automation). By gradually advancing from basic automation to AI-driven closed-loop networks, operators can reap incremental benefits without overwhelming their budgets. The key is to start with strategic automation implementations that generate immediate efficiencies, then use those gains to fund the next stage of automation.

Indeed, as automation maturity increases, the industry is moving toward hyper-automation — a zero-touch, zero-wait, zero-trouble and zero-trust model that eliminates human intervention. In this model, networks are self-monitoring and self-healing. AI and machine learning detect anomalies, diagnose issues, and implement corrective actions without manual oversight.

Globally, some of the most advanced operators are already reaching Level 3 and Level 4 automation, with plans to achieve full hyper-automation in the coming years. While African MNOs are at different stages in their automation journey, they are quickly progressing. Given the continent's scale, population growth, and increasing demand for digital services, there is no reason to believe that African operators will stop at intermediate levels of automation. Instead, they are likely to push forward toward full automation to meet market demands and enhance network resilience.

Automation beyond telecom

While network automation is primarily associated with telecom operators, its benefits extend to other industries. In Africa, automation is gaining traction in sectors such as public safety and mission-critical communications, utilities, railways and manufacturing.

Automation is also becoming a critical component for data centres. As Africa's data centre industry expands to meet the continent's growing cloud computing and digital storage needs, automation is playing a vital role in infrastructure management, bandwidth optimisation, and service provisioning. The use cases in data centres differ from traditional telecom automation, but the underlying principles of efficiency, security, and cost optimisation remain the same.

Of course, with increasing digitisation comes heightened security risks. Automation is not just about efficiency — it is also a crucial tool for strengthening cybersecurity. By leveraging AI-driven threat detection and response mechanisms, networks can identify and neutralise threats before they escalate. Security automation ensures that African MNOs and enterprises are not only optimising their networks but also safeguarding them against evolving cyber threats.

Africa's automation trajectory

Looking ahead, Africa's automation journey is poised for significant growth. Over the next 5-10 years, operators will continue advancing toward higher levels of automation, driven by the need for efficiency, cost savings, and improved customer experiences.

Automation will not stall at Level 3 — it will continue evolving, mirroring global trends. With the increasing adoption of AI, cloud-native functions, and predictive analytics, African operators will accelerate their automation initiatives, positioning themselves as leaders in the global telecom landscape.

The future of network automation in Africa is not just about improving efficiencies — it is about transforming the industry, driving innovation, and shaping the digital future of the continent. Those who embrace automation with a clear, strategic vision will be the ones to thrive in the next era of telecommunications. ■

Connecting Côte d'Ivoire with the RuralStar solution

Côte d'Ivoire, situated just above the equator and south of the Tropic of Cancer, enjoys a unique combination of geographical benefits and a favourable climate. The nation's flat terrain and low elevations, which do not exceed 400 meters, offer fertile plains and plateaus ideal for extensive agricultural development. The tropical climate ensures abundant sunshine throughout the year, creating optimal conditions for cultivating high-quality crops such as cocoa, coffee, cashews, and rubber — key products for both domestic and international markets.

Despite its agricultural potential, Northern Côte d'Ivoire faces significant challenges in network connectivity. With nearly 47% of the population living in rural areas, the agricultural sector is crucial for both employment and economic stability. However, due to a lack of infrastructure, many rural residents are effectively cut off from essential communication services, including voice calls, text messaging, and internet access. This isolation hampers local economies, obstructs e-commerce initiatives, and stifles necessary digital transformations within the agricultural industry.

Tackling network gaps

In response to these pressing connectivity issues, Huawei has partnered with the Ministry of Communications of Côte d'Ivoire, supported by funding from the World Bank. The initiative aims to erect 155 base stations across remote villages in Northern Côte d'Ivoire, using Huawei's innovative RuralStar solution. This low-cost, efficient system features a 2G+3G network architecture designed specifically for rural areas.

Huawei's RuralStar solution is designed for versatility and ease of installation. Its standardized architecture allows for deployment on poles ranging from 18-35m tall, tailored to the local terrain. This makes it an excellent choice for cost-effective construction without sacrificing quality. Additionally, the maintenance process is simplified through a base station controller (BSC) established in a central data hub, significantly reducing manual maintenance costs and complexities.

Contrary to the stereotype that lower cost equates to lower quality, Huawei's RuralStar delivers reliable performance at an affordable price. Each base station utilizes a low-power, outdoor baseband unit (BBU) alongside omnidirectional antennas, covering distances of 3-5km. With outdoor microwave technology, RuralStar maintains a remarkably low power consumption of only 60 watts, ensuring consistent data transmission and network reliability.

Sustainable and eco-friendly solutions

Huawei's RuralStar not only addresses connectivity needs but also promotes environmental sustainability. The solution harnesses Côte d'Ivoire's abundant sunlight to power stations using solar energy, boasting a standby time of up to 48 hours. This commitment to eco-friendly practices ensures stable network operations while supporting sustainable development goals.

The introduction of Huawei's RuralStar solution has transformed rural communities in Northern Côte d'Ivoire by providing vital internet access. Farmers can now communicate easily with family members and gain knowledge about agricultural practices, ultimately boosting productivity and income. The implementation of e-agriculture initiatives has enabled farmers to access broader markets, alleviating poverty and enhancing the overall quality of life.

As Côte d'Ivoire continues to harness the benefits of connectivity, the positive effects of Huawei's RuralStar initiative will resonate well into the future. By bridging the digital divide, Huawei is not only enabling local economic growth but also nurturing a more equitable and connected society. The impacts of this pioneering project showcase how technology can foster opportunities and uplift communities that were once left behind. ■

Widening digital horizons with Washa Wi-Fi

In the vibrant heart of Nairobi, Kenya, a transformative initiative called Washa Wi-Fi emerged, driven by Syokinet. With a mission to enhance digital accessibility, this community-centric project sought to provide high-speed Wi-Fi in public spaces. By doing so, Syokinet aimed to empower communities and foster economic growth in bustling areas such as bus stations and marketplaces, where connectivity was crucial for everyday activities and business transactions.

Facing the connectivity challenge

As Syokinet embarked on this ambitious venture, they quickly realized the challenges that lay ahead. To augment their existing fibre network, the company sought to install a high-speed Wi-Fi service across Nairobi's high-traffic zones. They aimed to offer affordable internet packages to a wider audience, yet the infrastructure deployment proved to be an uphill battle. One of the most significant hurdles was the lack of accessible AC power at the public utility poles designated for installation. Prior attempts to create an internal solar power solution with various components became costly and unsustainable, threatening the project's viability.

Recognizing the need for a more effective strategy, Syokinet formed a partnership with Optace Networks, the Kenyan distributor of Fuzion Power Technologies' FTP-300. Together, they implemented a cutting-edge solution tailored to the unique challenges of Nairobi's urban landscape. The FTP-300 device represented a breakthrough in solar technology: a smart, rugged, and easily deployable product that seamlessly combined reliable solar power with Power over Ethernet (PoE) capabilities.

In addition to the FTP-300, Optace Networks collaborated with Syokinet to design a complete hotspot solution using Cambium Networks' cnPilot e510 Wi-Fi access points. These access points were expertly integrated with the FTP-300, enabling both power and data connectivity. Enabled by solar energy, this setup empowered swift and efficient deployment of Wi-Fi networks with fibre backhaul wherever sunlight was available. The streamlined installation process required minimal planning, allowing Syokinet to quickly affix the equipment to poles and activate services.

Central to the success of this initiative was the Cambium ONE Network, a comprehensive platform that streamlined network management across diverse environments. Bringing together an array of technologies from the edge to the cloud, this robust framework integrated Wi-Fi, switching, network security, SD-WAN, and outdoor fixed wireless infrastructure. Managed through the cnMaestro™ system, Cambium ONE Network provided a single pane of glass for intelligent automation, application visibility, and control. Its automation features were designed to speed up deployment and enhance operational efficiency, addressing the IT resource and skill shortages faced by many enterprises. Proactive problem detection and resolution minimized downtime, alleviating the troubleshooting burden on IT personnel and ensuring optimal network performance.

Transformative results

The integration of the FTP-300 and Cambium Networks' access points yielded remarkable improvements. One of the most significant benefits was cost efficiency; the solar power solution drastically reduced reliance on AC power, which not only lowered deployment costs but also increased scalability. The effort also facilitated quick deployment: the plug-and-play functionality of the FTP-300 and its seamless integration with Cambium's access points allowed for rapid setup with minimal planning. As a result, high-density access points provided robust and extensive Wi-Fi coverage in high-footfall areas, dramatically elevating user experiences and internet accessibility.

The collaboration with Fuzion and Cambium Networks created substantial benefits, both for Syokinet and the communities they served. Simplified management through the Cambium ONE Network afforded Syokinet the ability to focus on customer service rather than technical issues, enhancing operational efficiency. This newfound connectivity in public spaces not only fostered economic growth but also championed digital inclusion and empowerment for local residents. Additionally, the three-year warranty on FTP-300 products reassured Syokinet, allowing them to invest confidently in long-term infrastructure projects that would shape the digital future of Nairobi.

"We are thrilled to partner with Fuzion and Cambium Networks in deploying cutting-edge, sustainable Wi-Fi solutions across Nairobi and Mombasa. This initiative is not just about connectivity; it's about empowering communities and driving economic growth through," says Ian Kasyoki, CEO of Syokinet. ■

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High-capacity, cost-effective optical transport

PacketLight Networks has announced the launch of their latest innovation — the PL-8000G 10 x 800G Transponder — designed to meet the escalating demand for high-capacity, cost-efficient optical transport infrastructure.

This cutting-edge device supports ten 800G transponders, empowering service providers to deliver a diverse array of high-speed services — including 800GbE, 400GbE, and 100GbE — over ultra-capacity 800G DWDM wavelengths, thereby maximizing network efficiency and scalability.

The PL-8000G seamlessly integrates erbium-doped fibre amplifiers (EDFA) and an advanced Optical Switch (OSW), enhancing network resilience by compensating for fibre attenuation and enabling automatic protection switching in the event of fibre failures — an essential feature for mission-critical applications. Its modular, stackable architecture aligns with PacketLight's pay-as-you-grow philosophy, allowing operators to expand their networks incrementally without the burden of restrictive licensing fees. This design ensures a smooth transition as optical networks evolve, safeguarding investments for hyperscalers, cloud providers, telecom operators, and government agencies seeking future-proofed solutions.

Ideal for supporting ultra-low-latency, high-bandwidth GPU cluster interconnectivity, the PL-8000G is perfect for AI and ML applications, cloud-scale data center interconnects (DCI), and hyperscale deployments. It also functions as a last-mile aggregation platform for managed 100GbE, 400GbE, and 800GbE services, optimizing transport efficiency across diverse network segments.

Supporting ZR and ZR+ standards, the PL-8000G enables economical optical transport across metro, regional, and long-haul networks. It offers a clear demarcation point between client services and the DWDM transport layer, with comprehensive optical and service performance monitoring to ensure optimal operation. Designed for multi-vendor environments, it supports OpenZR+ and OpenROADM interoperability, facilitating seamless integration with third-party routers and switches. Additional features include robust line and service performance monitoring, remote management via out-of-band OSC, and field-replaceable components for straightforward maintenance, making the PL-8000G a versatile and future-ready solution for high-capacity optical transport needs.

The next evolution in semiconductor testing

Smiths Interconnect has announced the launch of its latest advancement — the DaVinci Gen V test socket. This cutting-edge component is designed to provide ultra-reliable and high-precision testing for semiconductor chips essential to the development of artificial intelligence, 6G communications, and advanced computing technologies.

The DaVinci Gen V plays a vital role in the manufacturing process by rigorously evaluating semiconductor chips to ensure they deliver consistent and dependable performance. These chips are foundational to a wide array of modern applications, including AI accelerators, automotive systems, and the upcoming global rollout of 6G networks.

Addressing two core challenges in the industry — impedance tuning and signal integrity — the DaVinci Gen V represents a significant leap forward in semiconductor testing technology. Impedance tuning, which optimizes signal transfer, and signal integrity, which measures the quality of electrical signals as they traverse circuits, are critical for the performance of next-generation devices. With this new socket, Smiths Interconnect offers manufacturers enhanced speed, reliability, and compatibility — key ingredients for pioneering technological advancements.

Designed to keep pace with the rapidly evolving landscape of integrated circuits, the DaVinci Gen V supports unprecedented high-speed data transmission, reaching up to 224 Gbps using PAM4 signalling for AI applications and exceeding 100 GHz for 6G communications. These capabilities are vital for managing the surging volumes of data transfer required by modern systems. Additionally, it accommodates the increasing complexity of contemporary integrated circuits, supporting a 40% growth in the size of next-generation ASICs—powerful chips that integrate multiple circuits into a single 'system on a chip.'

Anticipating the rapid progression of semiconductor technology — where bandwidth and computational power are doubling approximately every two years — the DaVinci Gen V is built with future-proofing in mind. Its seamless integration with existing testing hardware allows manufacturers to upgrade without extensive overhauls, reducing development cycles and speeding time-to-market.

Symphonic mobile clock generator with integrated MEMS resonator

SiTime Corporation recently launched its innovative SymphonicTM mobile clock generator, the SiT30100.

This groundbreaking device features an integrated MEMS resonator, delivering highly accurate and resilient clock signals tailored for 5G, GNSS, and IoT applications such as smartphones, tablets, laptops, and asset trackers. Designed to withstand extreme environmental conditions, the Symphonic clock generator not only enhances system reliability but also plays a pivotal role in enabling next-generation connectivity, unlocking a projected served addressable market (SAM) of $2 billion over the next five years.

Key features of the SiT30100 include four outputs capable of 76.8 MHz, 38.4 MHz, or 19.2MHz, suitable for baseband, RF, and GNSS applications. Its integrated MEMS resonator provides a smaller, single-chip solution that measures only 2.22 mm², streamlining design and reducing system complexity. The device incorporates a high-precision temperature-to-digital converter (TDC) with a UART interface, enabling real-time temperature compensation and achieving frequency stability as low as ±0.5 ppm. It demonstrates superior dynamic stability under airflow and thermal shock conditions, crucial for maintaining performance in mobile environments. Multiple Output Enable pins allow system power optimization and EMI reduction by selectively powering clock outputs. Operating across a temperature range of -30°C to +90°C (with options for wider ranges upon request), the SiT30100 is engineered for demanding applications requiring robust, precise timing.

Ultra-rugged high-precision GNSS/INS receivers from Sepentrio

Septentrio has announced the AsteRx RB3 GNSS receiver and the AsteRx RBi3 GNSS/INS (Inertial Navigation System).

Engineered for the most demanding and rugged conditions, these IP69K-rated receivers feature the toughest housing and components Septentrio has developed to date, ensuring reliable high-accuracy positioning even in the harshest environments. Both units have undergone rigorous testing and validation according to ISO standards, confirming their resilience against extreme mechanical, environmental, and electrical stresses.

Powered by cutting-edge multi-frequency GNSS technology, the AsteRx RB3 and RBi3 deliver centimetre-level accuracy, maintaining precise positioning amid heavy shocks, vibrations, and challenging surroundings where traditional GNSS signals may falter. Their exceptional robustness makes them ideal for machine guidance applications in construction, mining, port automation, and other industrial automation scenarios where reliability and durability are paramount.

The rugged design allows these receivers to be mounted directly onto heavy machinery or chassis, offering flexible placement options to simplify installation and maximize system uptime and productivity. The RBi3 version leverages FUSE+ technology to combine a high-performance GNSS engine with an industrial-grade inertial sensor, delivering enhanced positioning accuracy and orientation data, including heading, pitch, and roll. In a dual-antenna configuration, the receivers provide GNSS-based heading with sub-degree accuracy, available immediately from startup, ensuring rapid, precise orientation data.

The future of multiband, multiprotocol public safety communication

Tait Communications has unveiled the TM9900 Multiband Multiprotocol Mobile Radio, a groundbreaking solution engineered specifically for the demanding needs of public safety agencies.

Complemented by the portable TP9900 radio, the Tait 9900 series stands out as the premier choice for P25 communications, seamlessly supporting DMR and analogue channels across a broad spectrum of frequencies including VHF, UHF, 7/800MHz, and 900MHz. This innovative series is designed to elevate community safety by enabling superior interoperability among first responders, educational institutions, utilities, and other public sector organizations.

The Tait 9900 series delivers seamless multiband performance, offering configurable operation on any combination of VHF, UHF, 700/800MHz, and 900MHz bands. Customers benefit from flexible ordering options and can deploy single, dual, or multiband configurations both at purchase and later. Notably, the bands are not locked, allowing for reconfiguration at any time to meet evolving operational requirements.

Designed with user convenience in mind, the TM9900 offers the widest array of control head options within its class, enabling users to select the interface that best suits their operational needs. This versatility accelerates installation times and reduces fleet upgrade costs. Control head choices include local dash mounts, remote kits, integrated 4W speakers, and an optional keypad microphone, complemented by a rugged 15W external speaker compatible with any Tait control head.

The TP9900 portable radio exemplifies mobility and durability, recognized as the lightest multiband portable available. It features a high-capacity battery and a compact, ergonomic design built to withstand demanding environments. Its enhanced grip and intuitive control layout ensure ease of use, even while wearing gloves, empowering first responders with reliable, portable communication in critical situations.

A key feature of the Tait 9900 series is its advanced multiprotocol capability, bridging the interoperability gap between P25 and DMR standards. During emergencies, effective communication among diverse organizations — such as police, fire services, utilities, schools, coastguards, and transportation agencies — is vital. The 9900 series facilitates seamless communication across these standards, ensuring rapid coordination and improved community safety. Supporting a comprehensive range of operations — including Analog Conventional, P25 Conventional, P25 Trunking (Phase 1 and 2), DMR Tier 2 Conventional, and DMR Tier 3 Trunking — the series allows users to transition effortlessly between modes by simply changing channels.

Look out for...

Detecting cable sabotage

As concerns over deliberate sabotage of subsea fibre optic cables escalate, a wave of innovative solutions is emerging to enhance the security of these vital conduits for global internet data.

Companies like Optics11, Viavi Solutions, and AP Sensing are leading initiatives to transform subsea cables into sophisticated sensor networks capable of detecting disturbances indicative of potential sabotage incidents. Utilizing the inherent properties of optical fibre cables — originally designed for data transmission via laser light pulses — scientists and engineers have found methods to repurpose them as real-time monitors for various underwater events.

These advanced systems can pinpoint activities above the cables, such as vessel movements, anchor drops, and even marine life interactions. By detecting changes in light polarization — an effect influenced by external disturbances — these sensor networks can provide critical information about the nature and location of incidents. Notably, the technology can estimate the size and trajectory of vessels passing overhead, offering valuable data that can be cross-referenced with satellite imagery and Automatic Identification System (AIS) records.

Despite inherent limitations in range due to environmental noise, deploying signal repeaters and listening devices along the cables significantly enhances detection capabilities. While existing technology might only detect disturbances hundreds of meters away, innovative approaches could extend the range and accuracy of monitoring efforts. Notably, using retired cables or designing new cables as dedicated sensors could facilitate comprehensive marine traffic monitoring and incident detection.

With 150-200 faults occurring yearly due to both sabotage and accidental damage, leveraging technology to improve detection is essential.

Digicel Vanuatu commits to expanding mobile coverage to 99% of the population

Digicel Vanuatu has signed its fifth undertaking to extend its mobile network coverage to an estimated 99% of the country's population, in line with its Universal Access Policy (UAP) commitments.

This new pledge underscores the telco's dedication to overcoming the country's geographical challenges, as Vanuatu consists of over 80 islands spread across approximately 1,300km. According to ITU data, 4G coverage in Vanuatu reached 90% by the end of 2023.

Beyond expanding coverage, the project will also enhance access to Digicel's MyCash mobile wallet, e-learning platforms, e-health initiatives, and digital financial services — aimed at unconnected and under-resourced communities.

"This is a significant step toward ensuring nearly everyone in the country can benefit from mobile connectivity. By extending core services, we can support economic growth, improve healthcare, expand educational opportunities, and promote financial inclusion for thousands of Ni-Vanuatu," said Gary Sue-Fong, CEO of Digicel Vanuatu.

Claro Colombia embarks on nationwide antenna modernization to enhance 5G and sustainability

Claro Colombia has announced a comprehensive plan to modernize more than 10,000 antennas across the country.

This year, Claro will upgrade over 1,000 antennas by simplifying hardware and modernizing key components such as basebands, power amplifiers, and antennas. The company aims to complete the full modernization of all its antennas by 2028.

The initiative is designed to improve customer experience and boost infrastructure efficiency while also reducing environmental impact.

"Our goal is to deliver the best possible experience to our users, with expanded 5G coverage, faster speeds, and enhanced service stability. Simultaneously, we are modernizing our infrastructure with streamlined, more efficient hardware, which helps lower our carbon footprint," said Rodrigo de Gusmao, President of Claro Colombia.

Since the start of the project, Claro reports a significant increase in data traffic — over 25% — and a substantial adoption of 5G technology, which now accounts for 33% of total traffic in the upgraded areas. The modernization has also resulted in a 21% improvement in energy efficiency at the new base stations.

The upgrade enables the integration of multiple technologies — ranging from 2G to 5G — on a single infrastructure, providing greater capacity and efficiency with less equipment deployment. This ensures customers will benefit from higher quality voice and data connections with greater stability. Additionally, Claro plans to accelerate its 5G deployment, aiming for 60% of all antennas to support 5G by 2028.

Mexico revises telecommunications law to address censorship concerns

Mexico's proposed new telecommunications law has undergone modifications following widespread controversy over one of its provisions, which critics argued could enable censorship on digital platforms.

The government has reportedly removed Article 109 from the law to prevent misinterpretation. This article had permitted authorities to request the temporary blocking of digital platforms that did not comply with certain legal obligations. The vague language raised concerns among commentators who feared it could restrict freedom of expression.

The law aims to strengthen national sovereignty, limit foreign influence in Mexican media, and overhaul the country's telecommunications regulatory framework. Its goals include promoting digital connectivity and expanding internet access, as approximately 15 million Mexicans still lack internet connectivity.

However, the controversy surrounding Article 109 has overshadowed these objectives. Criticism has come not only from local organizations and opposition parties but also from the Office of the UN High Commissioner for Human Rights in Mexico.

Some speculate that recent US government anti-immigration advertising — described by President Sheinbaum as discriminatory and racist — may have influenced certain provisions of the bill, including efforts to restrict such ads.

Additionally, the Institute of Telecommunications Law (IDET), a Mexican civil association, has raised concerns about other aspects of the law. It argues that certain provisions violate multiple USMCA commitments — particularly those safeguarding regulatory independence and fair competition. IDET warns that new restrictions on cross-border data flows could spark international disputes and that hefty fines on digital platforms might cause some major tech companies to reconsider operating in Mexico.

Viasat and BMW demonstrate satcoms for vehicles

Viasat and BMW claim to have successfully demonstrated the ability for vehicles to connect via satellite (non-terrestrial networks) for emergency messaging and hazard warnings. This technology aims to complement existing terrestrial 4G and 5G connectivity solutions — many modern cars already feature similar capabilities.

The demonstration, which involved members of the 5G Automotive Association (5GAA), took place in Paris and included the first live, on-road traffic test of 5G-V2X Direct technology for detecting vulnerable road users (VRU) in real traffic conditions. It also showcased the current capabilities of Vehicle-to-Network (V2N) services.

5GAA members — vehicle manufacturers BMW Group and Stellantis — as well as technology partners including Anritsu, Cubic³, Deutsche Telekom, HARMAN, Jember, LG Electronics, Qualcomm Technologies, Rohde & Schwarz, Rolling Wireless, Skylo, VEDECOM Institute, and Viasat, participated in the NTN satellite connectivity demonstration. Achieving seamless integration and smooth switching between NTN and terrestrial networks for voice communication is a complex task, but one that many future vehicles will be equipped with. Drivers in the future may not even notice when their vehicle switches from terrestrial to satellite connectivity, a feature that could be critical in emergency situations.

Anritsu, Keysight Technologies, Rohde & Schwarz, and MediaTek provided advanced test equipment for performance verification of the satellite connectivity. For the first time on public roads, Valeo — collaborating with Marben — demonstrated 5G-V2X Direct, where two vehicles shared sensor data to trigger warnings about pedestrians crossing at an obstructed intersection.

This demonstration highlighted how 5G-V2X Direct (based on 3GPP Release 16) can enhance safety for vulnerable road users by leveraging sensors and camera feeds from surrounding vehicles to alert drivers. Such technology is expected to be widely adopted in commercial vehicles starting between 2026-2029, according to the 5GAA Visionary 2030 Roadmap.

Further public road demonstrations involved V2N technology to protect road users. Members like Nokia, Orange, Stellantis, Valeo, and VEDECOM Institute showcased interoperable V2X platforms where vehicles, mobile apps, and smart intersections — equipped with cameras and connected via 5G networks — shared collective perception data to improve safety.

Members including Rohde & Schwarz, S.E.A, Keysight, and Orange presented Next Generation Emergency Call (NG eCall) verification and network performance assessments. The event, hosted by Telecom-Paris, underscored how 5GAA is developing new safety standards and innovative automotive connectivity solutions in Europe and globally.

Arabsat to lease capacity on Lightspeed LEO constellation

Saudi Arabia's Arabsat and Canada's Telesat have announced the signing of a term sheet under which Arabsat will lease multi-gigabit capacity from Telesat's upcoming Lightspeed Low Earth Orbit (LEO) satellite constellation.

Building on a Memorandum of Understanding (MoU) signed last year, this term sheet establishes the framework for integrating Telesat Lightspeed's LEO services into Arabsat's multi-orbit satellite network. The capacity will be supported by committed information rates (CIRs) and service level agreements (SLAs), ensuring reliable performance.

Both companies expect to finalize definitive agreements by December 2025.

Telesat Lightspeed is envisioned as a constellation of 198 LEO satellites, primarily targeting enterprise and government sectors. Telesat has booked 14 launches with SpaceX to begin deploying satellites in the middle of next year, with plans to complete the entire constellation by mid-2027.

Arabsat's President and CEO, Alhamedi Alanezi, stated that incorporating Lightspeed's LEO capacity alongside its existing geostationary satellites will enable the delivery of robust, seamless broadband connectivity solutions across enterprise, telecom, government, and mobility markets.

"By offering both LEO and GEO services, as well as integrated multi-orbit solutions, we are paving the way for a new era of connectivity," said Alanezi. "Multi-orbit satellite systems and terminals will position Arabsat at the forefront of digital transformation—delivering faster, more reliable, and cost-efficient connectivity tailored to the diverse needs of each industry."

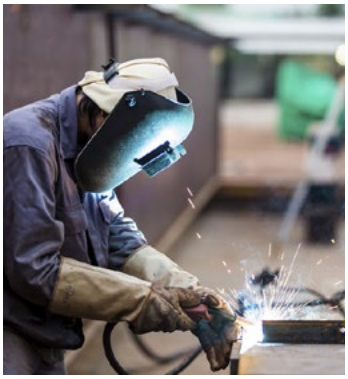
"In addition to the security and reliability inherent in Lightspeed, Arabsat will gain unprecedented flexibility to design, manage, and control services for their customers through Telesat's interoperable lifecycle orchestration systems," said Telesat's President and CEO, Dan Goldberg.

Space42 opens first HAPS manufacturing facility in MENA region in Abu Dhabi

Space42 announced the opening of Mira Aerospace's new high-altitude platform station (HAPS) manufacturing facility in Abu Dhabi, marking the first such facility in the Middle East and North Africa (MENA).

The 4,500-square-meter plant aims to produce over 20 HAPS UAVs annually to support civil, environmental, and defense applications.

This facility will enhance Mira Aerospace's research, development, and commercialization efforts for HAPS technology, which is experiencing rapid growth. Khaled Al Marzooqi, CEO of Mira Aerospace, highlighted the increasing global demand and Space42's strategic investments to solidify its leadership in this market.



The opening follows recent milestones, including a partnership with local testing hub XRange in February 2025 for UAV trials and the development of payloads for Earth observation and telecoms, supporting environmental monitoring, disaster response, urban planning, and agriculture. Notably, Mira successfully demonstrated 5G connectivity via HAPS in October 2023.

This new facility is part of Space42's broader strategy to expand vertically integrated manufacturing and data infrastructure. The company is also collaborating with ICEYE to co-produce LEO Earth observation satellites in the UAE, having launched two satellites so far, with the latest reaching orbit in January 2025.

Modirum and State Networks Finland to launch real-time video services on Virve 2

Modirum and State Networks Finland (Erillisverkot) have announced a strategic partnership to deploy advanced, real-time group video services on Finland's next-generation nationwide public safety network, Virve 2.

This collaboration introduces a state-of-the-art video platform designed to enhance situational awareness, operational coordination, and decision-making for authorities and organizations in safety-critical environments.

Modern public safety operations require rapid, secure access to live field information. Modirum's NSC3 Group Video Service facilitates the secure transmission of live video, audio, and location data between field units and command centres — enabling faster responses, improved coordination, and ultimately saving lives.

Already operational across several Finnish public safety agencies, the platform supports various video inputs, including body-worn cameras, vehicle-mounted systems, drones, and fixed surveillance units. Built for demanding environments, NSC3 ensures reliable, real-time collaboration for first responders and mission-critical personnel.

"For data security reasons, videos captured by public authorities must not traverse commercial networks. Together with Modirum, we've developed a centralized, secure Group Video Service that provides highly reliable, encrypted live video transfer from the field to command centres," said Tuomas Ahlfors, Product Manager at State Networks (Erillisverkot).

"The Group Video Service has become a vital operational tool, significantly enhancing situational awareness and resource coordination. It enables more agile deployments and improves crisis response capabilities," said Mauri Kataja, Account Manager at State Networks.

"We are proud to partner with State Networks, a European leader in secure public safety infrastructure. Their dedication to innovation and national resilience aligns perfectly with our mission to deliver AI-driven, mission-critical platforms that strengthen operational capabilities in demanding conditions," said Tero Silvola, CEO of Modirum.

India's TRAI proposes up to 4% AGR fee for satellite internet operators

The Telecom Regulatory Authority of India (TRAI) announced on Friday its plan to impose a fee of up to 4% of adjusted gross revenue (AGR) on satellite internet providers over a five-year period for the use of spectrum allocated to them for satellite broadband services.

According to TRAI, both geostationary and non-geostationary satellite operators will be subject to a minimum annual fee of INR 3,500 per MHz, with the maximum fee capped at 4% of their AGR.

Non-geostationary satellite operators — such as Eutelsat OneWeb and Starlink — will also need to pay an additional INR 500 per subscriber annually for urban areas. Rural and remote regions will be exempt from this subscriber fee, and the government may consider subsidizing satellite terminals in these areas.

TRAI further recommended that spectrum in the Ku, Ka, Q/V, L, S, and C bands be allocated for five years, with the possibility of a two-year extension. This proposal follows extensive consultations initiated in September 2024 when TRAI issued a discussion paper on spectrum assignment terms for satellite internet services.

Although the proposal requires approval from the Department of Telecommunication's Digital Communications Commission and ratification by the cabinet, it signals TRAI's preference for spectrum allocation through administrative processes rather than auctions.

India's leading telecom operators — Bharti Airtel, Reliance Jio, and Vodafone Idea — have expressed concerns, arguing that an auction process would be fairer, as administrative allocation could give satellite broadband providers an unfair advantage by enabling them to offer cheaper services.

TRAI Chairman AK Lahoti emphasized that satellite broadband is viewed as a complementary service rather than a competitor to terrestrial networks: "there is a significant difference between the capacity of terrestrial and satellite networks, so they are not in direct competition."

TRAI's recommendations came just a day after Starlink received a Letter of Intent from India's Department of Telecommunications (DoT) for a satellite communications license. However, Starlink still needs approval from the Indian space regulator, IN–SPACe, before launching services.

All licensees will also need to adhere to a comprehensive set of security requirements, which the DoT revised last week. Spectrum allocation for satellite services remains pending, with the DoT having provisionally assigned spectrum to OneWeb and Orbit Connect in October 2024 for testing purposes.

Globe Telecom uses AI to cut costs

Globe Telecom has announced that leveraging artificial intelligence (AI) has contributed to reducing its operating expenses, with further AI-driven initiatives in the pipeline to deepen its integration across the company.

Globe highlighted how AI has optimized internal processes, allowing employees to perform tasks more quickly, accurately, and cost-effectively. A key example is the GenAI Quality Audit tool, which replaced manual quality checks and reduced annual auditing costs from millions of pesos to just PHP 2,000 per month.

The adoption of AI has helped the company achieve a 4% year-on-year decrease in total operating expenses, falling from PHP 19.8 billion in the first quarter of 2024 to PHP 19.1 billion in the same period of 2025. Looking forward, Globe aims to utilize AI to improve customer experiences through hyper-personalized services tailored to individual preferences and needs.

To foster innovation, the company has established a dedicated space for employees to experiment with AI tools, including Gemini for Workspace, ChatGPT Enterprise, and its proprietary Retrieval-Augmented Generation (RAG) toolkit.

According to Globe, its employees have developed over 400 bots and AI co-pilots designed to boost productivity and streamline operations across various departments.

"At Globe, we don't want to just follow the AI trend — we aim to build something sustainable with it," said Carl Cruz, Globe's President and CEO. "We see AI as a long-term enabler that not only helps our team work smarter and faster but also transforms how we serve our customers by delivering more responsive, efficient, and meaningful experiences. It's not just about internal efficiency; it's about laying the right foundations to create lasting customer impact."

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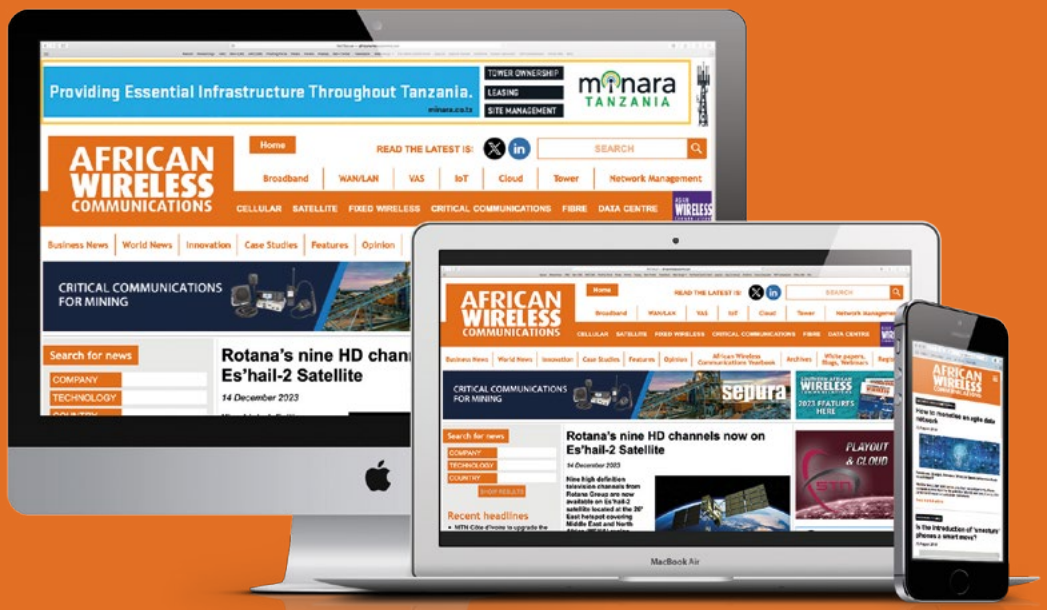

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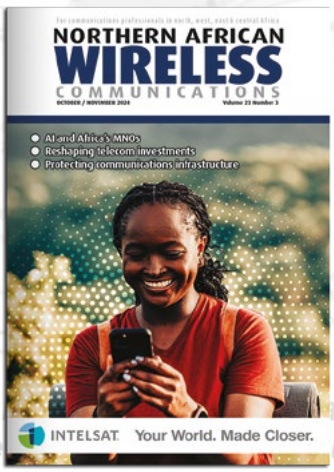

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