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

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

OCTOBER / NOVEMBER 2024 Volume 23 Number 3

- AI and Africa's MNOs
- Reshaping telecom investments
- Protecting communications infrastructure

Trusted, proven TETRA
Now in VHF band

- Extend coverage
- Reduce operational costs
- Full accessory portfolio

sepura

Going further in critical communications

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

OCT/NOV 2024
Volume 23
Number 3

CONTENTS

SUBSCRIPTIONS:
Northern African Wireless Communications is a controlled circulation bi-monthly magazine. Register now for your free subscription at www.kadiumpublishing.com
Readers who do not qualify under the terms of control can purchase an annual subscription at the cost of £110. For more information and general enquiries please contact Karen Bailey at karenb@kadiumpublishing.com or call +44 (0) 1932 886 537.

EDITORIAL:
Editor: **Amy Saunders**
Designer: **Ian Curtis**
Deputy editor: **Gerry Moynihan**
Editorial director: **Kathy Moynihan**
Contributors: **Stuart Will, Ethan Mudavanhu, Vincenzo Basile, Fabio Bianchi, Yanniv Betito**

Editorial enquiries:
amys@kadiumpublishing.com
Kathym@kadumpublishing.com
Tel: +44 (0) 1932 481729

ADVERTISEMENT SALES:
Sales: **Karen Bailey**
karenb@kadiumpublishing.com
+44 (0) 1932 481731

Production & circulation: **Karen Bailey**
karenb@kadiumpublishing.com
Tel: +44 (0) 1932 481728

Publishing director: **Kathy Moynihan**
kathym@kadiumpublishing.com
+44 (0) 1932 481730

KADIUM

ISSN No: 1751-8296

Google pledges $5.8 million for AI education in SSA

Matt Brittin, President of Google Europe, Middle East, and Africa, has announced a further $5.8 million commitment by Google.org to support AI skilling and education across aub-Saharan Africa.

The funding will support the equipping of workers and students with foundational AI and cybersecurity skills and the support of nonprofit leaders and the public sector with foundational AI skills.

Recipients of the funding include the Data Scientists Network Foundation, who will be provided with a $1.5 million grant to create a program that trains unemployed and at-risk Nigerians in digital and tech training — with the long-term goal of building advanced skills in data and AI. As part of the program, Raspberry Pi Foundation will work with Young Scientists Kenya and Data Scientists Network Foundation to roll out AI literacy education for Kenyan and Nigerian youth.

This new funding builds on the $20 million of Google.org support for organizations helping Africans develop digital skills from Google's economic opportunity initiative. In addition, Grow with Google, which is separate from Google.org, trained over 6.5 million people across Africa in 2023 alone in digital skills to help them build their career or business.

MTN's Ralph Mupita elected to GSMA Board of Directors

MTN Group President and CEO Ralph Mupita has been elected to the GSMA Board of Directors for the 2025-2026 term.

His appointment underscores MTN's commitment to being a key player in connecting the continent as well as advancing Africa's economic, social and digital transformation aspirations.

As an advocate for leveraging technology to drive economic growth and inclusion, Ralph's focus on the Board will be on driving the African agenda, particularly in relation to the G6 commitments of closing the usage and coverage gaps; increasing investments; and securing a climate-smart future.

"I am honoured to join the GSMA Board at a time of rapid developments in technology and increasing digital adoption across Africa," said Ralph Mupita, President and CEO, MTN Group. "Mobile technology will play a critical role to address the pressing challenges facing our communities and unlock the full potential of Africa, and ensuring that no one is left behind in this journey toward a more connected future."

Mali declares 15 December deadline for SIM registration

The Malian authorities, through the Ministry of Communication, Digital Economy and Modernization of Administration (MCEM), have set 15 December as the deadline for the identification of SIM cards.

Each Malian must link each of their telephone numbers to their National Identification Number (NINA). The number of SIM cards per subscriber has been set at three per telecom operator.

"In the absence of a response from subscribers by 15 December 2024 at the latest, numbers not identified by the NINA will switch to simple reception mode before the total deactivation of the SIM card and then its suspension, which will result in the termination of the subscription," said the MCEM. "The procedure with operators and Internet service providers is completely free." Through this regulatory measure, the Malian government is demonstrating its desire to secure the telecommunications sector.

By associating each telephone number with a unique identity, it aims to reduce identity theft, fraud on digital transactions and the risk of illegal activities such as hate messages, threats, scams, money laundering.

Morocco signs VHTS deal with Thales Alenia Space

Panafsat and Thales Alenia Space have signed a Memorandum of Understanding (MoU) to develop a Moroccan satellite communications system.

This system will provide very high-throughput internet services (VHTS) to 26 African countries, including 23 French-speaking nations, covering a population of 550 million across 12 million square kilometres. The project aims to bridge Africa's digital divide, offering enhanced connectivity in rural areas and supporting digital economic growth. This partnership further aligns with digitalisation goals under Digital Economy for Africa (DE4A) and Digital Morocco 2030. This is also a strategic move ahead of Morocco's hosting part of the FIFA World Cup in 2030.

"It is a privilege for Thales Alenia Space to be chosen by Panafsat to deliver this new geostationary telecommunications satellite," said Thales Alenia Space CEO Hervé Derrey.

Once in orbit, the satellite will deliver high-speed internet to drive digital transformation across Africa. Additionally, this connectivity will enable high-value services, benefiting governments, businesses, and individuals by enhancing access to essential digital resources and accelerating economic growth.

"We are delighted to be able to draw on the outstanding expertise and capabilities of a partner like Thales Alenia Space. We look forward to working together on this major project, which will bring significant benefits across the continent," said Panafsat's Chairman and CEO, Ahmed Toumi.

This comes after Morocco recently signed a deal with Israel Aerospace Industries to acquire two Earth Observation satellites to enhance its intelligence and surveillance capabilities. This underscores Morocco's interest in utilising space and satellite technologies for the country's socio-economic advancement.

First Egypt-Saudi Arabia subsea cable on the cards

Mobily and Telecom Egypt have inked an agreement to build the first Saudi undersea cable connecting Saudi Arabia and Egypt. According to Telecom Egypt, the new cable, which is completely owned by Mobily, would cross the Red Sea, connecting Saudi Arabia and Egypt.

The new subsea cable strengthens Telecom Egypt's network of subsea cable systems alongside its extensive international infrastructure to provide more dependable connectivity, handle increasing telecom traffic, and satisfy the growing demand for internet services both locally and globally. The new cable will land at two cable landing stations along the Red Sea: Sharm El Sheikh in Egypt and Duba in Saudi Arabia.

"This cable will enable Mobily to connect the Arabian Gulf and Saudi Arabia's neighboring countries to the Egyptian landing station in the Red Sea through Mobily's digital corridors. Additionally, the cable will provide connections to various subsea cable systems landing in Egypt," said Telecom Egypt in a statement. "This agreement is part of Mobily's strategy to expand its extensive infrastructure and network. The new cable builds on the company's previous investments in subsea cables, which link it to various regions around the world, further enhancing Mobily's international capacity."

"The signing of the agreement underscores our commitment to expanding our infrastructure and enhancing our capabilities both regionally and internationally, as Mobily's new cable will connect Saudi Arabia to Egypt and improve communication flexibility between the Middle East and Europe," said Salman Bin Abdulaziz Al-Badran, CEO of Mobily.

"We are confident that this commercial agreement will be a valuable addition to our ongoing efforts to support this critical sector and cater to the rising demand for capacity and connectivity," said Mohamed Nasr, managing director and CEO of Telecom Egypt.

Cellcom Guinea considers 2G, 3G and 4G licence renewal

Cellcom Guinea is considering renewing its 2G, 3G and 4G licenses. This topic was discussed during an audience granted by Rose Pola Pricemou, Minister of Posts, Telecommunications and Digital Economy, to a delegation from the company.

Cellcom's willingness to renew its licenses demonstrates its intention to remain active in the Guinean telecoms market, despite its difficulties in maintaining its position there. Its market share has fallen from 21% in 2014 to only 4.6% (out of 14 million subscribers) in the second quarter of 2024, according to data from the Postal and Telecommunications Regulatory Authority (ARPT).

These discussions come at the same time as MTN is finalizing its withdrawal from the Guinean telecoms market. While this departure of MTN could represent a growth opportunity for Cellcom.

Starlink prioritises densely populated urban capacity

Starlink is working to enhance internet capacity in Africa's densely populated urban areas as soon as possible, according to founder Elon Musk.

Starlink has temporarily banned new sign-ups in numerous African cities due to high demand for its service. The company reported that the suspension is due to an overload in network capacity caused by increased demand.

"Nairobi and neighbouring areas are currently at network capacity. This means that too many users are trying to access the Starlink service within Nairobi, and there isn't enough bandwidth to support additional residential or roaming customers now," said Starlink in a statement. "Starlink is working to restore service in the disrupted areas and a notification will be sent once the residential plan is back."

The affected areas include Nairobi, Kiambu, Machakos, Narok, Murang'a, and Nakuru. Since joining the Kenyan market, Starlink has become the country's tenth largest internet service provider. According to the most recent data from the Communication Authority of Kenya, the service has over 8,000 customers nationally, and that figure is growing.

Ericsson and Nigeria sign new 5G network deal

During an official visit to Sweden, a delegation from the Nigerian government led by its Vice President, Kashim Shettima, signed a Memorandum of Understanding (MoU) with Ericsson executives to establish collaboration in the development, deployment and innovation of 5G technology in Nigeria.

The partnership also includes an exchange of know-how and the strengthening of skills in the ICT sector. It provides for the creation of innovation hubs and technology incubators in Nigeria, as well as an improvement of digital culture and skills development in the country.

"With this MoU, we can continue to ensure the spread of 5G throughout the country, not just in key locations, and this is how we can ensure that we see the growth that we want to see in our economy," said Bosun Tijani, Minister of Communications, Innovation and Digital Economy, a member of the delegation.

As of March 2024, only 1.24% of the country's mobile subscribers were using 5G, according to the Nigerian Communications Commission (NCC). This partnership with Ericsson will therefore democratize access to this technology for a population of more than 223 million inhabitants, according to World Bank data in 2023.

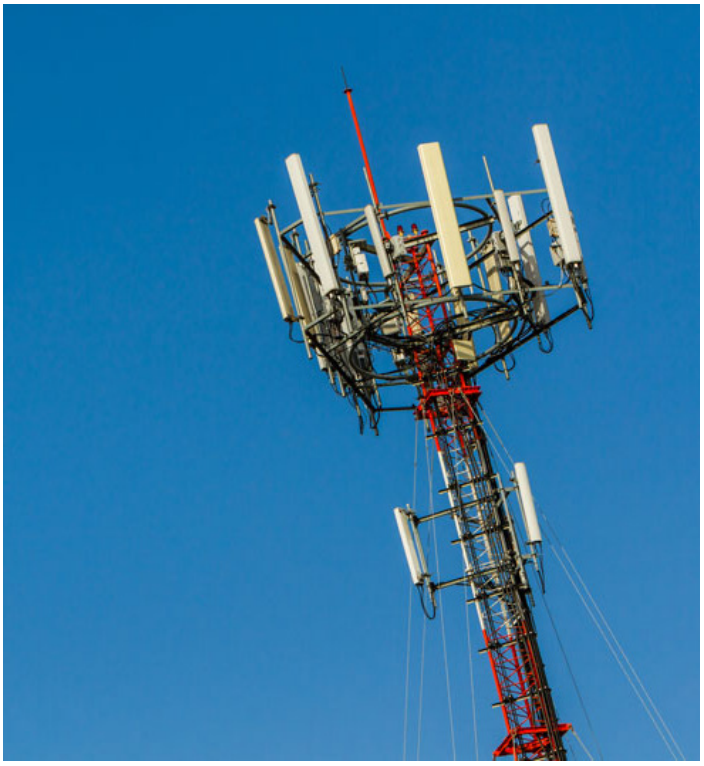
American Tower opts for smart tower monitoring

American Tower Corporation (ATC) has partnered with NEC XON, an African ICT solutions integrator, to deploy a continuous monitoring system for key telecom tower infrastructure.

This enables proactive site management and maintenance, helping ATC anticipate and resolve incidents before they occur and guarantee services to telecom operators and their subscribers.

"Power management, monitoring the energy source used, tracking the need for replenishment of diesel generators, anticipating the skills needed for interventions, as well as maintaining a workforce to meet service level agreements with operators are essential components of managing these sites. Understanding equipment failures through smart meters, sensors and IoT technologies, with effective two-way communication, is crucial," said NEC XON said in a statement.

ATC claims 4,100 telecom sites in the country, which it leases to telecom operators such as MTN. This partnership is expected to help strengthen the reliability of Uganda's telecom network, reduce disruptions and ensure optimal quality services for consumers.



Nigeria urged to make use of satellite orbital slots

Nigeria's House of Representatives has urged the federal government to urgently renew two unexploited orbital slots granted by the International Telecommunication Union (ITU).

The space positions, which are critical for satellite development, are at risk of being reallocated if they are not exploited before the 6 December deadline, a loss that could cost the country close to $400 million.

"To date, Nigeria is only using one of the three allocated orbital slots, via the NigComSat-1 satellite. The other two slots remain pending, exposed to possible reallocation by the ITU, which would not only constitute a major financial loss but also a hindrance to the technological progress and economic development of the country," said Tolani Shagaya, a Member of Parliament representing Ilorin West/Asa Federal Constituency.

A report released by the ITU in 2023 highlighted the strategic importance of orbital slots for telecommunications, broadcasting, weather monitoring, as well as national defense. The organization also noted that global demand for these slots was increasing. According to the report, each unused slot represents a risk of reallocation, a situation Nigeria must avoid, especially given the high cost of acquiring a new slot, estimated at about $200 million.

Nigeria plans to strengthen its presence in the space sector with plans to launch two new satellites, NigComSat-2a and NigComSat-2b. The only satellite currently in service, NigComSat-1, will reach the end of its life in 2026. The consequences of losing these slots can slow the development of digital infrastructure, affecting strategic sectors such as telecommunications, climate monitoring and national security, which are crucial to Nigeria's positioning in the global digital economy.

Togocom inaugurates intelligent telecom services management centre

Togocom has inaugurated an intelligent telecom services management centre (ISOC) in Lomé to facilitate real-time monitoring of network performance and quickly identify anomalies in order to improve the quality of services provided to populations.

"The ISOC plays a central role in the management of telecommunications services. Thanks to cutting-edge technologies, it will enable continuous monitoring and optimal management of network infrastructures. This centre is dedicated to proactive incident detection and equipment maintenance, guaranteeing stable and efficient connectivity for all Togolese," said Jaber Hassan, CEO of Axian Telecom.

The move was launched shortly after Axian acquired the remaining 20% of Agou Holding for $32 million, consolidating its 100% ownership in the structure that owns 51% of Togocom. It is part of a strategy to modernize infrastructure and meet growing user expectations.

According to the results of the latest satisfaction survey published by the Electronic Communications and Postal Regulatory Authority (ARCEP), Togocom outperforms its competitor Moov Africa on most indicators. However, Michel Yaovi Galley, Director General of ARCEP, stressed that the two operators still did not meet the required quality thresholds. This reminder highlights the need for market players to further improve their services to meet the standards set by the regulator.

"ARCEP pushes us to be better. In its quality of service policy, it always tells us that it regulates through data. So we took it at its word and said to ourselves that we would pilot through data," said Rai Basgeet, General Manager of Technology and Information at Togocom.

Huawei supports Benue State with smart goals project

Benue State in Nigeria has formed an alliance with Huawei Technologies to modernise its digital infrastructure.

The agreement was signed during a ceremony at Huawei's headquarters in Shenzhen, China, where Hyacinth Alia, Governor of Benue State, joined Huawei executives to announce the 'Smart Benue State' program.

Huawei will help improve Benue State's infrastructure and create jobs in security, healthcare, and education.

Governor Alia expressed confidence about the partnership, saying that it will be a game changer for Benue State, with the goal of creating a prosperous and interconnected future for both the state and future generations. The initiative includes a range of developments, such as the intelligent traffic system to streamline transportation, advanced security solutions for enhanced safety and emergency response, and telemedicine services for modern healthcare delivery.

"It also includes digital learning platforms to revamp education and Smart City Infrastructure for efficient energy and resource management," added Alia.

Liberia reduces tariff floors to telcos

The Liberia Telecommunications Authority (LTA) has ordered a reduction in the tariff floors for voice and data services provided by telecom operators, which took effect on 22 October for voice, while the adjustment for data takes effect on 22 November.

This is expected to contribute to a reduction in the cost of accessing telecommunications services in the country. The minimum price that telecom operators can charge for a minute of voice calls is being increased from 0.0156 Liberian dollars to 0.0130 Liberian dollars. The price floor for data has been reduced from 0.00218 to 0.00153 Liberian dollars per megabyte.

Currently, Orange and Lonestar Cell MTN charge L$0.12 and L$0.25 respectively for voice services. The International Telecommunication Union (ITU) in a 2024 report states that the price of a gigabit of mobile internet in Liberia is 27.9% of the Gross National Income (GNI) per capita, which was $730 in 2023 (World Bank). This figure needs to be below 2% for the service to be considered affordable.

This tariff adjustment is in line with the actions taken by the LTA since the beginning of the year to protect consumers and stimulate competition in the telecoms market. In March, new regulations were put in place to strengthen the quality standards imposed on operators. At the same time, the regulator is currently conducting an in-depth study of the costs charged by operators, in collaboration with the World Bank.

A reduction in tariffs should promote better access to telecom services for the population and encourage their use. In sub-Saharan Africa, the high cost of services is one of the main reasons for the low penetration rate of mobile Internet, according to the Global Association of Mobile Phone Operators (GSMA). The ITU indicates that only 30.1% of the Liberian population, estimated at 5.4 million by the World Bank in 2023, has access to the Internet. The mobile penetration rate is 50.5%.

In addition to the cost of telecom services, Liberian citizens regularly express their dissatisfaction with the quality of services offered by operators, particularly on social networks. However, if operators are not forced to drastically reduce their rates to remain competitive, they will be able to generate additional revenue, which can be reinvested to improve the quality of services. In addition, the new regulations provide for penalties against operators in the event of non-compliance with quality-of-service standards.

"If the price floor is maintained and respected, it will allow service providers to invest further in expanding and improving the coverage of their networks, which will improve the quality of service and user experience," said Angela Cassell Bush, Acting Chair of the LTA.

Safaricom denies sharing customer information with police

Safaricom has strongly denied allegations that it aids suspected law enforcement officers-led abductions by sharing customer information with Kenyan police.

The company reaffirmed its commitment to customer data privacy, stating that customer data is only provided when lawfully mandated by a court of law.

"We respect our customers' privacy and adhere strictly by the country's data protection laws. As such we do not share any customer data unless explicitly required of us via a court order," said Safaricom in a statement.

The statement follows recent accusations alleging that the telco gave the police free access to sensitive customer information, including Call Data Records (CDRs), which they used to trace down individuals accused of committing crimes, infringing on their privacy rights. Safaricom pointed out that CDRs do not provide real-time location or movement information about clients.

"That for information purposes a customer's CDR does not show any live location and movements of customers but is generated after a call is terminated and for text messages once they are sent or received and this is for purposes of billing only," said Safaricom.

Starlink stalls Nigerian price increase

Starlink has temporarily suspended its recent increase in monthly subscription fees for Nigerian users following backlash and regulatory scrutiny over a recent price adjustment.

On 1 October, Starlink raised Nigeria's residential monthly subscription rate from NGN 38,000 to NGN 75,000, attributing the increase to inflationary pressures. Additionally, new Starlink kits saw a 34% hike, from NGN 440,000 to NGN 590,000. The premium business plan subscription remained at NGN 50,000, with hardware costs set at NGN 3,079,257.

The Nigerian Communications Commission (NCC) responded to Starlink's pricing adjustments, noting that the company's unilateral decision to raise subscription fees in Nigeria violated established regulatory protocols. Reuben Muoka, Director of Public Affairs at the NCC, confirmed that Starlink had not received the necessary regulatory approvals before implementing the increase.

"The decision by Starlink to unilaterally review its subscription packages upwards did not receive the approval of the NCC," said Muoka.

The NCC stated that Starlink's price increase contravened Sections 108 and 111 of the Nigerian Communications Act (NCA) 2003, which mandate regulatory oversight on tariff adjustments to protect consumers and maintain market stability. The commission has reportedly initiated pre-enforcement actions against the company and called for regulatory compliance to safeguard subscriber interests.

Starlink explained its decision and assured customers charged the increased amount would receive a one-time credit to cover the difference: "Last month, we increased the monthly service price for Starlink in Nigeria to account for inflation, helping us maintain operations and continue delivering reliable service. Today, we are temporarily suspending this price increase as we navigate regulatory challenges. If you've already been charged at the higher rate, a one-time credit will be applied to your account to cover the difference. You also have the flexibility to cancel your service at any time. We remain committed to providing high-speed internet in Nigeria, but we need regulatory support to make the improvements necessary for a better customer experience. Without these approvals, our ability to continue delivering service is at risk. Thank you for choosing Starlink and supporting our mission to bring affordable, high-speed internet to more people around the world."

The notice provides some relief to subscribers, indicating that those charged the increased rate for October will be credited to match the previous rate. Following this update, Starlink's website now shows that the monthly subscription cost for residential service has reverted to NGN 38,000, although the cost of Starlink hardware remains at NGN 590,000.

Kenya's Communications Authority updates mobile phone requirements

To ensure integrity and tax compliance of the mobile devices in Kenya, the Communications Authority of Kenya (CA) has notified all stakeholders, including mobile network operators, involved in the local assembly, importation, distribution as well as connection of mobile devices to local networks, that with effect from 1 January 2025, the following requirements will apply for all mobile phone devices in Kenya:

1. Local assemblers: All local device assemblies must upload the International Mobile Equipment Identity (IMEI) Number of each assembled device to the KRA-provided portal. This will ensure that all locally assembled devices are tax compliant.
2. Importers: All mobile phone importers (sale, testing, research or any other purpose) will be required to disclose the International Mobile Equipment Identity Number in their respective import documents submitted to the Kenya Revenue Authority (KRA). This disclosure is mandatory for the registration of the devices in the National Master Database on Tax-Compliant Devices.
3. Retailers and Wholesalers: Retailers and wholesalers of mobile devices must ensure that they only retail or distribute mobile devices that are tax compliant. The Authority will provide the means by which the tax compliance status of mobile devices can be verified before purchase by retailers or end-users.
4. Mobile network operators: Mobile network operators must ensure that they only connect devices to their networks after verifying the tax compliance status through a whitelist database of compliant devices, which will be provided by the Authority. Operators will also be required to provide for the grey-listing of non-compliant devices to facilitate regularization within a prescribed period, failure to which the devices will thereafter be blacklisted.

The new requirements will only apply to all devices imported or assembled in the country from 1 November. All existing devices that will be on the mobile networks by 31 October 2024 will not be affected.

Senegal gets to work on e-government project

The Ministry of Communication and Digital Economy has inaugurated the steering committee of the Program for the Promotion of the Digitalization of Public Administration (PRODAP).

Led by Sénégal Numérique and benefiting from support of Euro29 million from German Cooperation, this program will improve the efficiency of public services.

"PRODAP will set up a one-stop shop to simplify administrative procedures, supported by a cutting-edge data centre and a sovereign cloud. Initiatives such as the development of a government architecture, an administrative intranet, as well as critical services (taxes, treasury, communities) will strengthen Senegal's digital sovereignty and promote digital inclusion," said the ministry.

PRODAP is an extension of the Senegal Digital 2025 plan, aimed at accelerating the digitalization of administrative procedures. Its launch marks a step in Senegal's new digital transformation strategy, the 'New Technological Deal.' Focused on four major pillars, this strategy aims to position Senegal as a leading digital hub in Africa by 2034.

Moov invests 14 billion old ouguiyas

Moov Mauritel has launched an investment program of 14 billion old ouguiyas to strengthen its telecoms infrastructure.

The seven-month initiative has resulted in a significant improvement in voice and Internet quality across the entire national territory.

A monitoring mission carried out between December 2023 and January 2024 by the Regulatory Authority (ARE) showed that the quality of services provided by electronic communications operators to their users is clearly below the standards in force, in several cities, localities and roads. The government has therefore threatened to impose heavy sanctions on telecom operators.

In addition to a three-month reduction in current licenses, the financial penalties incurred are 127 million ouguiyas for Mattel, 313.2 million ouguiyas for Mauritel and 100.2 million ouguiyas for Chinguitel. A new control mission was launched in September to verify possible improvements and apply the measures provided for by law in the event of persistent non-compliance.

MobileMark
antenna solutions

Wireless Solutions for Exploration, Mining, Fleet Tracking & Surveillance

Mobile Mark is a leading supplier of innovative, high performance antennas to wireless companies across the globe. We've been in the wireless industry for over 30 years and have our roots in the early Cellular trials. Today, we benefit from enhanced design capabilities and expanded production capacity – along with a greater understanding of new and emerging markets such as mining and exploration.

Modern mining operations rely on a battalion of vehicles, ranging from massive extraction vehicles to modest-sized material transport trucks. These vehicles operate in tough environments where high vibration is a frequent wear and tear challenge. Mining companies throughout Africa have relied on our rugged, foam-filled mobile antennas for consistent connections. Mobile Mark's infrastructure antennas have been used for rapid deployment and redundancy coverage for effective wireless coverage in isolated settings.

www.mobilemark.com | enquiries@mobilemarkeurope.co.uk | (+44) 1543 459 555

Somalia's operators deepen humanitarian collaborations

Hormuud Telecom, Golis Telecom, and the GSMA have moved to deepen their collaboration with NGOs by developing a strategy to fully harness mobile technology for humanitarian efforts.

A workshop was held in partnership on the International Day for Disaster Risk Reduction to demonstrate how leveraging mobile and digital technologies, such as early warning systems, can be life-changing for vulnerable and remote communities. Hormuud and regional operator Golis pioneered the use of ringtones for critical alerts in Somalia, delivering life-saving instructions.

Mobile technology has played a key role in transforming Africa, with mobile money highlighted as a crucial tool for livelihoods and humanitarian aid in Somalia. The World Bank estimates that over three-quarters (76%) of Somalians use mobile money daily. Hormuud Telecom operates the EVC Plus mobile money platform, while Golis has developed Sahal. Humanitarian organisations have tapped into these platforms to deliver financial aid.

"For the past two decades, telecom providers have been the backbone of Somalia's economy. Mobile money has helped young people become entrepreneurs, enabled families to purchase essentials, and allowed farmers to bring their goods to market," said Hormuud Telecom CEO Ahmed Yusef. "As Somalia faces challenges like climate change and rising food insecurity, we believe that by working closely with our humanitarian and development partners, mobile connectivity can play an even greater role in uplifting communities and driving sustainable development."

"The telecommunications industry is the non-state sector with the largest contribution to Somalia's economy and development. Our efforts to understand client needs and invest in cutting-edge technology have brought us to where we are today," said Golis Telecom Mobile Money Director Khalif Hassan Isse.

Talking critical

Stuart Will, TCCA TETRA Industry Group

The role of LMR in hybrid networks within critical operations

As industries grapple with increasingly complex critical operations in challenging environments, the demand for reliable, secure, and efficient communication systems is intensifying. While the spotlight increasingly falls on technologies renowned for high-speed capabilities, such as broadband, Land Mobile Radio (LMR) continues to play a vital role. Instead of viewing these technologies as competing forces, hybrid network solutions that combine LMR with broadband offer an advanced, cost-effective, and resilient option for ensuring seamless communications in the most demanding situations.

Hybrid networks are emerging as a preferred approach for organisations looking to protect workers within critical operations. By blending the strengths of different network types—specifically, LMR with LTE/5G—they provide flexibility, redundancy, and cost-efficiency that neither technology can achieve alone.

Hybrid networks enable organisations to leverage both private and public infrastructures, creating scalable solutions that can adapt to fluctuating operational demands. This is particularly relevant for environments like rail networks or mining sites, where bandwidth requirements can vary depending on user numbers, data volume or task complexity.

By utilising both networks, operators can efficiently meet fluctuating bandwidth demands without compromising performance or communication quality. The ability to scale operations seamlessly also positions hybrid networks as a future-proof solution, adaptable to growing operational needs.

Reliability is non-negotiable in critical communications, where system failures can have severe consequences. Hybrid networks excel in this area by integrating multiple network types, allowing traffic to be dynamically routed between LMR and broadband systems in real-time. This ensures continuous operation even in the event of network outages or infrastructure failures.

In environments where communications infrastructure is often spread across difficult terrains, maintaining uninterrupted communication is paramount. A hybrid network can automatically manage failovers without human intervention, ensuring that essential operations remain online. LMR provides the foundation of reliability with its robust, dedicated channels, while LTE/5G supplements it with additional bandwidth for data-heavy applications. The result is an operational safety net that reduces the risk of communication failures during emergencies or high-demand situations.

One of the most compelling reasons for adopting a hybrid network approach is its cost-effectiveness. Fully redundant broadband systems in challenging environments can be prohibitively expensive, requiring significant investments in infrastructure, ongoing maintenance, and support. However, hybrid networks balance this by utilising standard internet connections alongside private, dedicated networks like LMR, reducing the need for entirely redundant systems.

Organisations can deploy LMR to handle critical voice communications, ensuring secure and reliable operations, while reserving LTE/5G for high-speed data transmission where necessary. This reduces capital expenditure while maintaining a comprehensive communication solution. Particularly in industries like transportation or energy, where operational budgets are tightly managed, hybrid networks offer a way to deliver world-class communication capabilities without the cost burden of building extensive broadband-only infrastructure.

Hybrid networks also optimise performance by deploying network gateways closer to the action, whether it's a wind farm or a sprawling mining site. This minimises routing paths, enhancing data transfer speeds and reducing latency—critical factors for real-time decision-making. At the same time, hybrid networks maintain robust security controls, leveraging both LMR's established strength in secure communication and the encrypted capabilities of LTE/5G, making hybrid networks particularly suited to operations where both efficiency and protection of sensitive data are critical.

With the integration of next-generation technologies like 5G, hybrid networks are uniquely positioned to support advanced applications that are becoming essential in modern critical operations. These include real-time data analysis, video streaming, augmented reality (AR), and enhanced situational awareness—applications that require not just speed but also consistency and resilience in data transfer.

For example, in an offshore wind farm, LTE/5G could be used to support real-time video feeds from drones inspecting turbines, while LMR facilitates direct voice communication between the drone operator and maintenance crews. By using a hybrid network, the operation can simultaneously manage both advanced, data-intensive applications and critical voice communications without interruption, significantly boosting operational efficiency and safety.

Amid all the hype surrounding LTE/5G, it's important not to overlook the enduring value of LMR in critical communications. LMR has long been the backbone of voice communications in industries that rely on reliable, instant communication in isolated or hazardous environments. Its dedicated spectrum ensures that LMR channels are never congested, providing uninterrupted service even in the most challenging conditions.

Additionally, LMR systems are designed with built-in redundancy and resilience, ensuring that they remain operational during power outages, natural disasters, or network failures. In contrast, LTE/5G networks may be vulnerable to congestion, latency, or complete outages in high-demand scenarios. For operations where every second counts, such as a mine site facing a potential hazard, LMR's reliability remains irreplaceable.

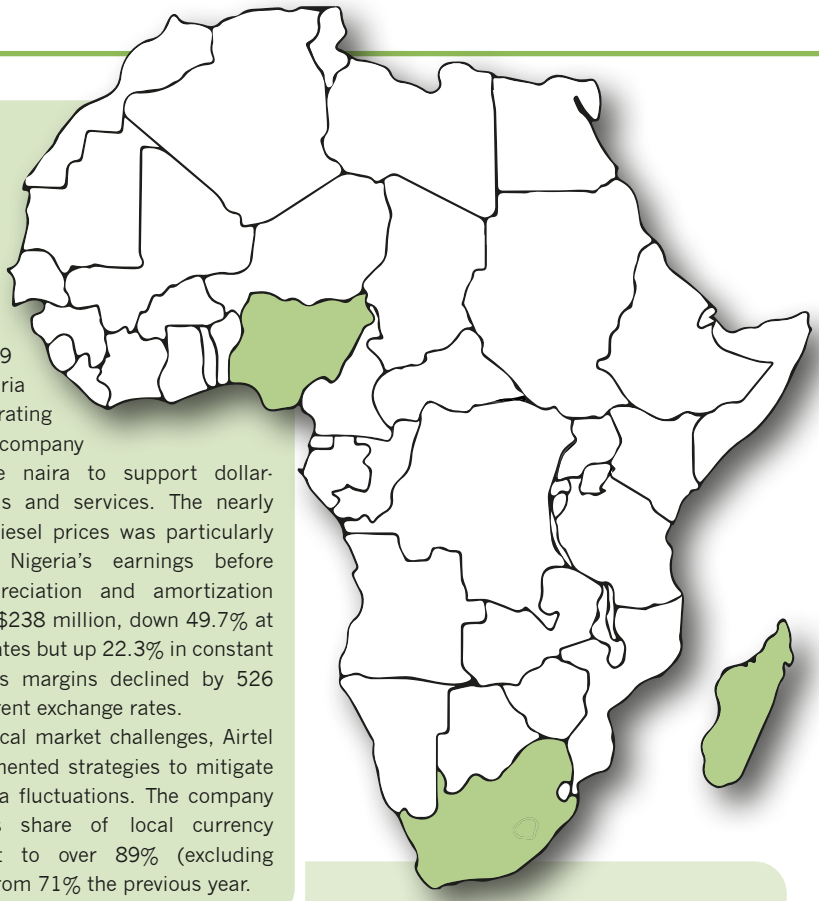
Rather than viewing LMR and broadband as opposing technologies, organisations are increasingly recognising the value of hybrid network solutions. By integrating the best aspects of both, hybrid systems deliver unparalleled agility, reliability, and cost-efficiency.

For industries like transportation, energy, and mining, which operate in challenging environments with little room for error, hybrid networks offer a robust, future-proof communication infrastructure. They provide the flexibility to scale operations without significant additional costs, the resilience to withstand outages and infrastructure failures, and the performance needed to support both traditional voice communications and cutting-edge applications.

As we move forward, hybrid networks will continue to be the communication backbone for critical operations, ensuring organisations can operate with confidence in even the most demanding environments. Hybrid solutions offer the perfect balance of reliability, security, and cost-effectiveness, making them indispensable to the future of critical communications.

Stuart Will's work for TCCA is sponsored by DAMM Cellular Systems

Airtel Nigeria shows sustained growth



Airtel Nigeria is showing sustained growth, particularly in the internet sector, despite a challenging macroeconomic environment marked by the depreciation of the naira and inflation.

In the first half of the 2025 financial year, ending September 2024, Airtel Nigeria had 48.7 million customers, representing a slight increase of 0.2%. The number of internet customers increased by 8.6% to 26.3 million. This growth, combined with an increase in usage per customer, led to an increase in Internet revenue of 44.4% in constant currency to $229 million. Internet usage per customer increased by 36.0% to 8.1GB per month (compared to 5.9GB in the prior period), while smartphone penetration increased by 6.2% to 48.5%. Smartphone internet usage reached 10.9GB per month, compared to 8.6GB in the prior period.

The company's general revenue was $489 million, up 35.6% in constant currency terms. However, depreciation of the naira resulted in a 44.3% decline in reported revenue, to a loss of $389 million. Airtel Nigeria also saw its operating expenses rise. The company had to pay more naira to support dollar-denominated goods and services. The nearly 90% increase in diesel prices was particularly damaging. Airtel Nigeria's earnings before interest, tax, depreciation and amortization (EBITDA) stood at $238 million, down 49.7% at current exchange rates but up 22.3% in constant currency terms. Its margins declined by 526 basis points at current exchange rates.

In the face of local market challenges, Airtel Nigeria has implemented strategies to mitigate the impact of naira fluctuations. The company has increased its share of local currency denominated debt to over 89% (excluding localization debt) from 71% the previous year.

MTN SA completes world first deployment of SDB microwave solution

MTN South Africa and Huawei have completed the world's first commercial deployment of the SDB IBT 2D microwave solution in Johannesburg.

This breakthrough solution leverages Super Dual Band (SDB) and two-dimensional intelligent beam tracking (IBT 2D) to prevent pole shaking from affecting link stability in dual-band scenarios.

With a large portion of its territory on a plateau, South Africa is typically exposed to intense sunlight. Separately, the considerable temperature difference between day and night can lead to deformation of towers across the country, typically monopole and mast towers. This deformation degrades the performance of existing large-capacity SDB transmission links (the E-band frequencies sub-system particularly) and has a negative impact on services. Given that it is difficult to obtain tower space and permission for installing two separate antennas for one physical link at a single site, the new IBT-capable SDB antenna fulfils an urgent market need.

Huawei launched the innovative SDB IBT 2D solution that allows a single antenna to support dual-band transmission via both traditional band and E-band. The solution also supports two-dimensional IBT function, which enables vertical sway and horizontal twist to be adjusted in real time to counteract the shaking, warping, and deformation of poles and towers caused by sunshine or wind. The co-deployment of this solution with MTN SA in Johannesburg marks its first commercial deployment in the world.

Through this deployment, the SDB IBT 2D solution helps MTN SA address periodic fading and unstable performance of microwave links caused by periodic pole deformation, while also enhancing the anti-shaking performance of SDB links. This guarantees 100% reliable transmission and expands SDB deployment scenarios by 66% for MTN SA. Deploying this new antenna occupies less space on a tower than installing two separate single-band antennas. Additionally, the IBT function removes restrictions on tower type and antenna installation height and ensures that services are always online. The SDB IBT 2D solution will enhance MTN SA's site construction by providing large-capacity and consistently stable transmission.

"We are dedicated to delivering the best network and services for users by adhering to high construction standards," said Rodney Reddy, Transmission Planning Senior Manager, MTN SA. "IBT solution helps us solve link problems caused by the external environment to ensure stable service running. It is now an essential solution for our E-band network construction."

"We are committed to continuous innovation in microwave transmission," said James Zeng, President, Huawei's Microwave Product Line. "We offer high-quality microwave transmission solutions tailored to multiple complex scenarios. Our latest SDB IBT solution supports stable transmission even in complex weather conditions, enabling customers to build high-quality networks to exacting standards."

Comoros and Madagascar consider ICT collaboration

Oumouri Mmadi Hassane, Comorian Minister of Posts and Telecommunications, recently hosted Helaina Stein, head of the Comoros at the United States Embassy in Madagascar, to consider collaboration between the two countries in the sectors of information and communication technologies and the digital economy.

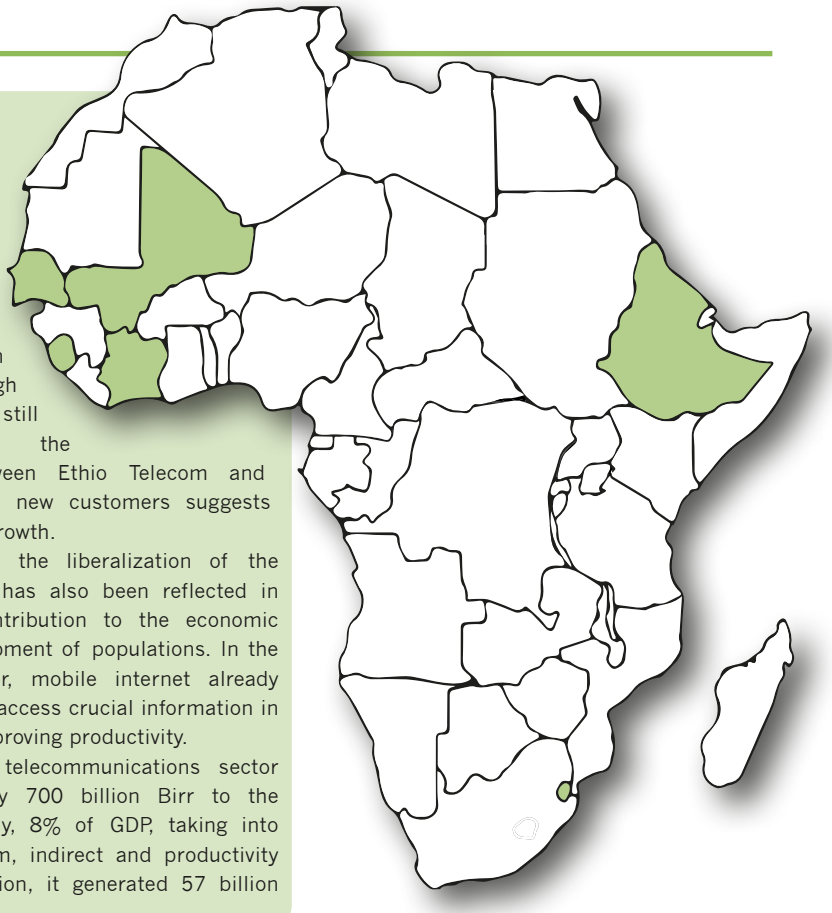
Oumouri Mmadi Hassane highlighted the importance of training and retaining Comorian technological talents in various ICT fields including programming, cybersecurity and artificial intelligence.

This initiative comes a few weeks after the African Development Bank (AfDB) granted $10.5 million for the implementation of the Comorian Economy Digitalization Support Project. It is part of the 'Comoros Emergent 2030' plan and the 'Comoros Numérique 2028' strategy, which aim to harness the potential of ICTs for the country's economic development. According to data from the International Telecommunications Union, the Comoros had a score of 46.5 out of 100 on the ICT Development Index in July 2024. This score is below the average score for Africa, which was 50.3.

The moves come a few weeks after Telma Madagascar became the first operator to launch a 5G commercial network in the island country.

"5G will transform how we use and adopt technology and will have a huge impact on businesses and society in Madagascar," said Telma Madagascar CEO, Patrick Pisal-Hamida.

Ethiopia's mobile service costs finally reach acceptable 2% monthly GNI levels



Mobile service costs in Ethiopia are now in line with the recommendations of the International Telecommunication Union (ITU), falling below 2% of monthly gross national income (GNI) per capita.

In 2017, they still represented nearly 12% of GNI. This transformation is the result of the liberalization of the telecoms market, initiated in October 2022 with the launch of Safaricom's commercial activities. According to the GSMA, the price of telecoms services has decreased by 70% in the country.

Telecom liberalization has not only impacted service prices but also contributed to an improvement in network coverage. The 3G network coverage rate, which was around 63% in 2020, has jumped to almost 100% in 2022. 4G network coverage has more than doubled in two years, from 2021 to 2023. From around 5% in 2019, it has increased to almost 15% in 2021, then to 20% in 2022 and already reached 40% of the population in 2023. Although this coverage is still considered low, the competition between Ethio Telecom and Safaricom to win new customers suggests sustained future growth.

The impact of the liberalization of the telecoms market has also been reflected in an increased contribution to the economic and social development of populations. In the agricultural sector, mobile internet already allows farmers to access crucial information in real time, thus improving productivity.

In 2023, the telecommunications sector contributed nearly 700 billion Birr to the Ethiopian economy, 8% of GDP, taking into account ecosystem, indirect and productivity impacts. In addition, it generated 57 billion Birr in taxes.

Ivory Coast's telecommunications sector sees 30% year-on-year growth

In 2023, the Ivorian telecommunications sector achieved a turnover of 1,219 billion FCFA, an increase of 29.68% compared to the 940 billion FCFA recorded in 2019, according to Guy-Michel Kouakou, the Director of Telecommunications Regulation at the Telecommunications Regulatory Authority of Côte d'Ivoire (ARTCI).

This turnover is the result of substantial investments, estimated in 2023 at 244.4 billion FCFA and devoted mainly to the development of telecommunications infrastructure. These investments have made it possible to deploy 30,240km of optical fibre as of 31 March 2024, covering 8,080 localities out of a total of 8,518, which represents a coverage rate of 94.86%.

The mobile phone penetration rate, which reached 181.1%, also demonstrates the positive impact of these investments. In addition, internet access has reached 74% of households in 2023, marking an increase of 21% compared to 2022.

Mobile phone ownership rates are high, with 99% of households and 66% of individuals, or about 17.9 million people. Although mobile phone use is widespread in all regions, some rural areas have slightly lower usage rates, raising challenges for digital inclusion.

Paratus Eswatini joint venture launched to install Starlink services

Paratus Group has furthered its sub-equatorial expansion with the launch of Paratus Eswatini through a joint venture with Real Image.

The new company has been created to provide and install Starlink services initially. In 2023, Paratus was announced as a reseller across Africa of Starlink global LEO (low Earth orbit) satellite services.

The MD of Paratus Eswatini and founder in 1996 of Real Image, Ali Resting says that Starlink while services have been available in Eswatini for a few months there have been some installation and supply issues on the ground.

"The good news is that Paratus Eswatini has stock available and, critically, a full technical team ready to meet demand," says Resting. "We are also engaging with some of the local installers to provide them with the training and accreditation they need. We have already conducted several site surveys and now that the Starlink license has been signed off by the regulator (ESCCOM) we will roll out the Starlink service across the country."

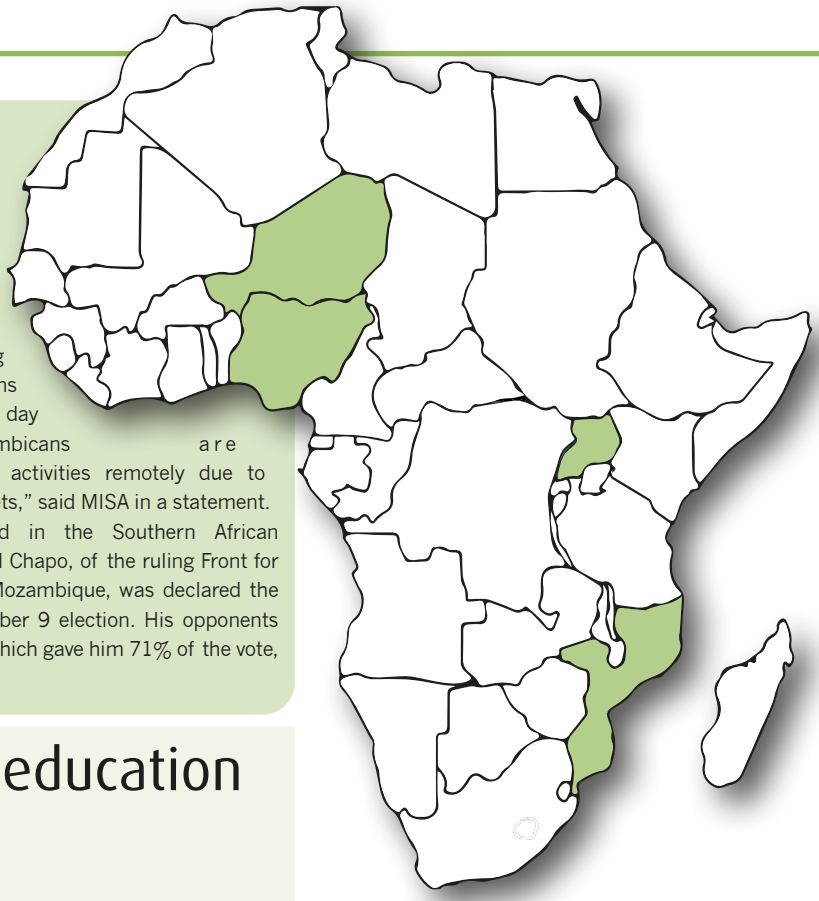
The market is ripe for a professionally installed Starlink service to be introduced as it is the most affordable connectivity option available.

"While the understanding is that Starlink is ideal for remote and underserved parts of the country, because of the high cost of connectivity anywhere in Eswatini, we are poised to serve customers in towns and cities as well as in the rural areas – indeed, we are receiving dozens of enquiries every day about the Starlink service," says Resting.

"Not only are we expanding into a key southern African territory, but we are also, critically, making our contiguous network service offering across the whole region even stronger. We have an unequalled offering whereby we can tailor network services packages for any enterprise requiring a fast, robust and reliable connection in Africa and to the rest of the world. Paratus Group is delighted to be opening in Eswatini and especially because we will be connecting more and more people across the continent of Africa," says Chief Commercial officer of Paratus Group, Martin Cox.

Starlink currently provides services to thousands of business locations and serves customers in a multitude of capacities, including primary enterprise connectivity, replacement of 4G and VSAT, backup, interim setup, and emergency services.

"This JV further cements our expansion plans. By forming a new company in Eswatini, with a professionally run operation and 24/7 local technical and sales support, we are again asserting our commitment to provide excellent service and infrastructure. This is another big step on our journey to unlock potential and, most importantly, to connect more people to the internet and to a world of possibilities," adds Paratus Group CEO, Schalk Erasmus.



Mozambique's government tampers with internet...

Mozambique has joined a list of African countries that have used internet censorship to address political problems.

This is reportedly the first time Mozambique's government has tampered with the internet and the measure has been strongly critiqued by the media and human rights organisations. According to the Media Institute of Southern Africa (MISA Mozambique), Internet Outage Detection and Analysis verified that internet speed in Mozambique was reduced, particularly on Friday.

"After violating freedom of the press and expression through police violence, the government is once again violating freedom of expression by limiting citizens from circulating and exchanging information through digital platforms, as well as limiting business operations and social life, on a day when many Mozambicans are carrying out their activities remotely due to violence in the streets," said MISA in a statement.

Protests erupted in the Southern African country after Daniel Chapo, of the ruling Front for the Liberation of Mozambique, was declared the winner of the October 9 election. His opponents allege the results, which gave him 71% of the vote, were inflated.

ProFuturo advances digital education programme to Nigeria

American Tower (ATC) and ProFuturo, a digital education programme promoted by the Telefonica Foundation and Spanish not-for-profit banking foundation la Caixa Foundation, have announced the expansion of their alliance to Nigeria to foster digital inclusion in schools in Africa.

After a successful roll-out in Kenya, the expansion of the programme to Nigeria aims to continue transforming children's education through technology with the global objective of reducing the educational gap. This global agreement between ATC and ProFuturo aims to support underserved communities by implementing social programmes that enhance quality of life and promote equitable access to the digital world.

With this expansion to Nigeria, the collaboration is set to positively impact nearly 30,000 children from vulnerable communities in Kenya, Nigeria and parts of Latin America by providing quality digital education through innovative educational projects supported by technology. This project not only covers the education to be received by the students but also the training to be delivered to more than 1,000 teachers who will facilitate the roll-out of the training to children in Africa and Latin America.

"Education with technology has enormous potential to help reduce the educational gap, thanks to its reach and capacity for inclusion, bringing high-quality content to the most difficult environments, which would be very difficult to access in any other way," said Magdalena Brier, Managing Director of ProFuturo.

RCC to acquire 60% of Uganda Telecommunications Corporation Limited

The Ugandan government has signed a memorandum of understanding (MoU) with Rowad Capital Commercial LLC (RCC), which allows RCC to acquire 60% of the shares in the state-owned Uganda Telecommunications Corporation Limited (UTCL), while the government retains 40%.

"We have entered into an agreement as a government and our new partner Rowad will work with us to manage UTCL. As you know, UTCL has faced enormous challenges and we have been looking for a partner that we will work with and that can inject financial resources to revive the company so that it is a strong and viable business," said Minister of ICT and National Orientation Chris Baryomunsi.

The partnership is part of the government's efforts to revitalize UTCL since the latter acquired incumbent operator Uganda Telecom Limited (UTL) in November 2022 for 356.8 billion Ugandan shillings. UTL was majority-owned by Libyan group LAP Green with a 69% stake, while Uganda held only 31%.

LRCC's investment in the capital is expected to enable UTCL to benefit from significant investments in financial resources and technical expertise, which are crucial to modernising its digital infrastructure.

Niger ponders interconnecting tax centres

In Niger, the General Directorate of Taxes is considering digitalizing and interconnecting its operational centres to facilitate and improve the mobilization of internal resources.

The institution is in discussions with the public operator Niger Telecoms about a potential collaboration. A partnership between the DGI and Niger Telecoms would aim to leverage the technical expertise of the incumbent operator to address connectivity issues observed in tax centres, particularly in remote areas. A joint committee has been set up to address the technical aspects of the project, with solutions already being considered for the Dosso and Tahoua regions.

The initiative is part of the broader framework of the modernization of tax services in Niger. The DGI has already implemented several digital tools, including the e-SISIC platform which allows taxes and duties to be declared and paid online, and the certified electronic invoicing system (SECeF). These systems aim to improve the efficiency of tax collection and facilitate procedures for taxpayers. The connectivity of tax centres will optimize the use of these tools on a national scale.

This news comes a few weeks after a proposed merger Niger Telecoms and Zamani Telecom, formerly known as Orange Niger.

Schneider Electric helps transform village of Gwakwani

Schneider Electric has formed part of the University of Johannesburg's UJ for Societal Impact project which has over the last 10 years worked tirelessly to bring life-changing services to the village of Gwakwani and which has now expanded to Matatani, and Mbodi, all situated in the Vhembe district in Limpopo.

Schneider Electric has - since the project's inception in 2014 - partnered with UJ to provide essential services such as clean water, affordable energy, connectivity, and access to quality education, directly aligning with the United Nations Sustainable Development Goals (SDGs).

Over the past decade, Schneider Electric and UJ have transformed Gwakwani village by improving access to clean water, renewable energy, and education. A solar-powered borehole supplies water, reducing malaria risks and enabling vegetable farming for income. Solar-powered lamps had also replaced paraffin lamps, allowing children to study after dark, while a solar streetlight was installed to enhance safety.

Furthermore, a containerised crèche, equipped with the village's first TV, provides early childhood education, and a solar-powered off-grid bakery has generated jobs and income by supplying bread to neighbouring communities. Solar cold storage was also introduced to enhance the bakery operations.

"It is essential for the success of these type of collaborations to have a reputable industrial partner such as Schneider Electric. Without industrial support we would not be in the position to make such a substantial social impact as demonstrated through the greater Gwakwani project," says Professor Johan Meyer, Associate Professor, Electrical and Electronic Engineering Science at UJ.

"A collaboration of this kind, one between private industry and academia, has had many advantages, and with the commitment to sustainable solutions, collective knowledge and skill sets, a legacy has been created to be proud of for many years to come – a future re-imagined for Gwakwani and surrounding villages," says Carina van Zyl, Corporate Citizenship Leader at Schneider Electric.

Talking satellite

Ethan Mudavanhu, data governance manager, Access Partnership

Navigating spectrum utilisation: complexities and opportunities

The advent of 5G technology was once sold as a transformative force in the ever-evolving telecommunications landscape, with claims that it could revolutionise mobile communications and enable futuristic applications like autonomous vehicles and remote surgery. However, the fervour surrounding 5G seems to have dwindled, leaving many anticipated use cases unfulfilled despite the actual deployment of the technology.

This shift has prompted a critical examination of the crucial element at the heart of this technological revolution: spectrum utilisation. Effective regulatory policies governing the allocation, usage, and management of radio frequencies are key to unlocking the true potential of 5G in the second half of the year.

The spectrum battle

At the recent World Radiocommunication Conference 2023 (WRC-23), a significant clash emerged between technology companies and telecom operators over the 6GHz band. Operators argued that the entire 6GHz band (5,925-7,125MHz) should be dedicated to International Mobile Telecommunications (IMT) to meet national connectivity goals and the growing spectrum demands of both 5G and the anticipated 6G rollout. In contrast, technology companies sought to delicense and allocate portions of the band for WiFi, claiming it would spur innovation in unlicensed usage.

WRC-23 designated the 7,025-7,125MHz (100MHz) band for IMT in Region 1, allowing telecom operators to acquire it through auctions for their 5G and 6G ventures. Concurrently, the upper 6GHz band was reserved for unlicensed use, such as WiFi. This decision means that both telcos and tech companies will influence national implementations. Additionally, WRC-23 approved new studies in 4GHz, 7-8GHz, and 15GHz for additional mid-band spectrum for 4G, 5G, and 6G.

While telcos celebrated, concerns about the underutilisation of current 5G spectrum remain. Discussions often focus on allocating new bands. However, the efficiency of deployed spectrum for 5G applications is a critical but often overlooked consideration. This article assesses existing spectrum utilisation, particularly in Africa, where WRC-23 decided to release more spectrum in Region 1.

The impact and current landscape

A survey conducted by Access Partnership on the 5G rollout and utilisation across Kenya, Namibia, Nigeria, and South Africa reveals a diverse landscape of progress and challenges. In Kenya, Safaricom and Airtel are leading the 5G rollout, with Safaricom extending coverage to 21 out of 47 counties and Airtel launching services in 16 counties. Namibia recently granted 5G licences, utilising the 700 and 800MHz bands. Nigeria has made substantial progress, with over half a million 5G subscriptions and MTN Nigeria operating in the 3.5GHz band across 13 major cities. In South Africa, 5G infrastructure deployment is active, with increasing population coverage despite urban-rural disparities and challenges such as infrastructure vandalism.

These findings illustrate varied levels of 5G deployment and utilisation. Namibia's recent licence grants indicate the initial stages of a 5G rollout, while Nigeria's rapid subscription growth highlights strong market uptake. Kenya's telecom operators are actively expanding their networks, whereas South Africa faces issues related to security and equitable access.

Lessons and recommendations

While strides have been made, challenges such as infrastructure vandalism and rural coverage gaps persist. Optimising existing 5G bands and addressing specific regional hurdles are crucial for unleashing the full potential of 5G technology. The case studies highlight the need for a holistic approach, considering both urban and rural dynamics, to ensure the equitable distribution and utilisation of 5G across diverse jurisdictions.

It is prudent to conclude with recommendations addressing the lessons gleaned from the case studies if we are to utilise the realised spectrum and fulfil the potential of 5G and, inevitably, 6G:

1) Balancing profitability and inclusiveness in 5G deployment

Deploying 5G involves balancing private profitability and public inclusiveness. The profitability threshold for mobile operators is around 10%, contingent on factors like macroeconomic dynamics, competition, and regulatory frameworks. However, geographical disparities, especially in remote areas, pose challenges. Bridging this gap requires focusing on expanding 4G connectivity to underserved areas while investing in affordable 5G equipment for a sustainable transition.

2) Investment challenges in 5G infrastructure

Achieving widespread 5G connectivity demands substantial investments in spectrum, radio access networks (RAN) infrastructure, transmission, and core networks. A standalone 5G network is needed to deploy applications like autonomous vehicles and remote surgery. While leveraging existing infrastructure can reduce costs, some countries lack the necessary infrastructure and require new investments.

3) National security concerns in 5G deployment

5G is a catalyst for innovation and economic growth but also poses security risks. The interdependence of national security and 5G objectives means any threat to 5G networks is a risk to national security. Implementing strong risk management measures, adhering to standards, and promoting engagement and cooperation are essential for a secure and reliable system.

4) Efficient use of current spectrum

To maximise the potential of 5G, it's crucial to efficiently utilise current spectrum before seeking additional allocations. Strategies include spectrum refarming, dynamic spectrum sharing, and advanced network planning. Regulatory frameworks should incentivise efficient technologies, while public-private partnerships can enhance spectrum management and innovation. By adopting these approaches, countries can lay a solid foundation for future connectivity advancements.

INTELSAT
Your World. Made Closer.

Thousands of towers connecting millions of users across Africa are enabled by Intelsat services and solutions.

Even when delivering service to the most hard-to-reach places, MNOs count on Intelsat to provide the quality solutions needed to meet customer expectations and the support to ensure services are brought up and stay up.

Learn more at
intelsat.com/unifiednetwork

Reshaping telecom investment in a next-generation world

Vincenzo Basile and Fabio Bianchi, Arthur D. Little

Telcos face a key business challenge – greater competition is bringing down revenues while they are under pressure to invest more to meet customer needs. Over the long term, this is financially unsustainable. Essentially, traditional telco efficiency programs that focus only on cost reduction through analyzing costs and budgets, redesigning processes, and adopting automation are no longer enough in a next-generation world. How can telcos reshape investment to meet changing needs, wherever in the world they operate?

Understanding the pressures on operators

Four key factors are widening the gap between revenues and required investment:

1. **Regulatory pressure**
   Regulatory interventions are increasing to support various objectives, such as creating more competitive markets with lower customer costs and providing with higher-quality services and experiences.
2. **Growing technology complexity**
   The rapid evolution of technology is adding new layers and network components, increasing the need for capital expenditure (CAPEX) spending to compete with rivals.
3. **Market hyper-competition**
   Competition is lowering average revenue per user as operators offer generous deals to attract customers, with consequent low margins reducing resources to reinvest in the network.
4. **Mounting data traffic volumes**
   Data traffic is constantly growing, due to streaming, 5G devices, and fixed wireless access (FWA). Huge capacity expansions are required to maintain the same quality of service, necessitating higher CAPEX for investments and operating expenditure (OPEX) spending on maintenance.

Taking a new approach to telecoms investment

To bridge the gap, operators need to take a new approach, starting with a focus on new metrics. When prioritizing network investments, operators have traditionally focused on metrics such as speed and coverage, as these are seen as vital to customer retention. Although meeting customer needs is crucial, two other critical key performance indicators (KPIs) are now equally important when making investment decisions:

1. **Network reliability and quality**
   Currently, customers are generally satisfied with modern networks that deliver speeds of 50Mbps or higher and offer consistent coverage, so they are unlikely to perceive or value any future improvements. Operators should focus on reliability and quality, shifting from coverage and speed to pursuing network resilience based on achieving operational and infrastructure-led excellence and running service-centric operations.
2. **Network sustainability**
   The telco sector is seeing an increasing focus on sustainability from stakeholders, including investors and regulators. Operators must therefore ensure that their technology investments support this objective. To deliver this, many telcos have modified their CAPEX appraisal process, for instance, setting aside ring-fenced funds for projects that offer sustainability benefits.

A framework to reshape telecom investment

These factors mean that operators need to put in place a new framework to guide spending to ensure ROI. There should be less emphasis on spending reductions and more on targeting investments geographically and over time. This framework should be built on five levers:

1. **Geolocated tailored services**
   Instead of a blanket approach to network CAPEX, operators need to evaluate their spending on a geographical basis, centered on the three KPIs of commercial drivers (population density, GDP and market share), technology drivers (mobile voice, mobile data, fixed line voice and data), and customer experience drivers (complaints and churn).
   They must also evaluate their complete service portfolio on a geographical basis to meet the diverse and varied demands of their region. They should tailor the quality of service (including throughput and latency) and the portfolio itself at an access node level (i.e., the mobile site). This analysis should be based on a financial evaluation of required CAPEX/OPEX versus expected revenues generated by the forecast customer base, competition, and customer requirements and expectations at a local level.
2. **Technology transformation**
   Technology surely drives costs up; however, it can also bring costs down. Automation, AI adoption, and equipment modernization are fundamental levers to speed up processes, reduce operational costs, and improve customer experience. An emphasis on adopting modular, reusable, cloud-native, and AI-ready architectures supports scalability and modernization for both developing and developed markets.
3. **Vendor management**
   Effectively managing vendors is a classic approach to delivering cost savings. However, often more can be done. Well-structured sourcing and negotiation strategies built on a thorough analysis of strengths, weaknesses, opportunities, and threats (SWOT) should form the foundation of strong vendor management, especially when operators must rebalance costs and revenues.
4. **Infrastructure as a service**
   Many mobile and fixed operators have implemented physical or virtual company separations, splitting themselves into a network company (NetCo) and a service company (ServCo). The NetCo can generate new revenue streams by offering its infrastructure as a service more widely to other telcos and non-telcos.
5. **Building partnerships**
   Establishing partnerships with vendors or market players enables operators to create an ecosystem where they can cost-effectively offer a wider portfolio of services to their customers or increase volumes to decrease costs through economies of scale. Opening their network to other companies through APIs allows operators to create an ecosystem where third-party developers and businesses can leverage their infrastructure, leading to increased innovation, expanded service offerings, and enhanced customer experiences.

A next-generation approach to telecom investment

Telcos need to rethink their business models and quickly adopt a new, bottom-up, data-driven framework to address the widening gap between stagnant revenues and increasing investments. That means they need to take a more holistic approach, built from the bottom up and focused on local needs. This will enable them to stay within budgets, better manage costs and deliver for customers. ■

Protecting Africa's critical national infrastructure

Africa's telecommunications infrastructure continues to come under threat from physical and cyber-attack. While the motivation varies, the result is the same...

The very real threat faced by Africa's telecommunications industry continues to blight the delivery of reliable communications across the continent, negatively impacting government, businesses and consumers alike.

In Nigeria, 2023 saw repairs and revenue losses from damaged cables estimated at almost N27 billion. In South Africa, Vodacom annually loses some R100 million to mobile tower battery theft and infrastructure vandalism; Telkom's estimated losses from vandalism and theft are R7 billion per year; and MTN spent R33 million in 2023 to account for damages and theft.

Pressure points

The threats to Africa's telecommunications infrastructure are not limited to one key area; theft, vandalism and sabotage are a concern to all.

"There is a multitude of equipment that is prone to theft and vandalism, with the major ones being copper cabling, diesel generators, battery banks and fuel," says Christopher Greaves, researcher, Middle East & Africa, TowerXchange. "There have even been cases of entire cell towers being deconstructed, from the steel all the way to the concrete (but in rare cases)."

"Power backup systems, including diesel generators, solar panels, and batteries, are especially vulnerable due to their high value in black markets," explains Martin Machira, Manager projects and Business development, Galooli East Africa. "Fuel theft and dismantling of generator parts are common. Copper cables are frequently stolen due to high resale value and weak regulations.

Copper theft is one of the most widespread threats to telecommunications infrastructure in Africa, but fuel is another top contender. Many sites rely on diesel generators to ensure consistent power supply, especially in rural or remote areas. Power generators, too, are often

targeted due to their resale value · Nigeria is a hotspot for generator theft due to the country's notorious power supply challenges.

"Copper and fuel are highly vulnerable in Nigeria and Africa as a whole, particularly due to high demand in the informal/black markets. These items are easy to steal and have significant market value," adds Michael Ike Enebeli, Director of Sales & Business Development, Galooli West Africa.

"Beyond the site itself, a significant amount of theft of fuel takes place within the supply chain such as on route and at supply depots," says Greaves. "The risk of theft varies by market, with Nigeria and South Africa being the biggest (although this is also correlated to the amount of cell towers); but every telecom tower operator in Africa is at risk of theft."

TowerCos beware

Africa's telecommunications ecosystem is large and varied, comprising TowerCos, MNOs, data centres, ISPs, fibre operators, WISPs, etc. – each of whom face different levels of threat depending on their role, location, and the infrastructure they manage.

"You could argue that TowerCos view vandalism as a bigger threat because passive infrastructure management is their core service offering. Moreover, TowerCos must meet stringent SLA targets of 99.9% upwards in most cases which are impacted by the theft of power equipment that can lead to downtime," says Greaves.

"TowerCos face the biggest threat due to the large number of remote physical infrastructures they manage, which makes them vulnerable to downtime from theft and vandalism. This can lead to network outages and loss of revenue, damaging their reliability," agrees Enebeli.

Machira, too, concurs that TowerCos are at the highest risk of physical theft and vandalism, particularly concerning their energy assets: generators, rectifiers, solar panels, and backup batteries.

That's not to say that others in the communications industry are not also vulnerable. While MNOs don't always directly manage physical infrastructure, they are deeply affected by any disruptions. Downtime at towers impacts their ability to provide services like voice, data, and mobile money, leading to customer dissatisfaction and revenue loss.

Data centres, on the other hand, are heavily reliant on consistent, high-quality power, thus face the same threats of fuel, generator and battery theft as TowerCos, and are particularly vulnerable to power outages by the nature of their offerings. Moreover, as data centres become more important to digital infrastructure, and cellular networks become increasingly utilised for business communications and financial transactions, both face heightened risks of cyber-attack.

"MNOs and data centres are more susceptible to cyberattacks, also facing significant risks from network outages due to vandalism at their sites, leading to financial losses," agrees Machira.

Government assistance

Governments and regulators play a crucial role in securing telecommunications infrastructure, particularly as the digital economy becomes increasingly central to Africa's development.

"I understand that in some markets such as Nigeria there has been a push for the government to recognise digital infrastructure as 'critical,' which would apply stricter punishments that may deter organised crime," highlights Greaves.

Indeed, August 2024 saw a major step forward in securing its digital infrastructure with the release of the official 'Designation and Protection of Critical National Information Infrastructure Order, 2024,' within which damage to telco towers, switch stations, data centres, satellite infrastructure, and fibre, was criminalised. 'Bosun Tijani, Minister of Communications, Innovation, and Digital Economy, said that this initiative will significantly reduce the risks posed to technological systems, networks, and infrastructure.

"Criminalising vandalism is a positive step, but enforcement and the will to prosecute remain challenges," notes Enebeli. "Without active prosecution and the implementation of remote monitoring tools, telecom infrastructure owners continue to face significant risks."

"Governments should establish a National Communications Infrastructure database that contains a list of critical infrastructure and their locations," asserts Machira. "Additionally, they should provide physical security controls for key infrastructure in high-risk areas, such as border towns."

To effectively address the challenges posed by theft, sabotage, and cyber threats, governments and regulators must adopt a holistic and multi-faceted approach of stronger regulatory frameworks featuring national telecommunications security policies; harmonised regional regulations; and to mandate security-by-design in new infrastructure projects.

Of course, prevention is better than cure. With unreliable power supply inarguably one of the biggest vulnerabilities for telecommunications infrastructure in Africa, governments should expand and improve electricity grids and support renewable energy solutions with financial incentives. And, when prevention proves ineffective, either through weak law enforcement or outdated legal frameworks, a stronger stance with tougher penalties is required.

Indeed, Enebeli is in full support of

The cybersecurity threat

The threat to telecommunications infrastructure across Africa is pretty serious. Telcos are central to how we all communicate, so they've become a major target for cybercriminals. With the rise of digital services in Africa, the risk is even greater. A successful attack on a telecom company could disrupt services on a massive scale, affecting everything from business operations to emergency services. That's why the pressure to secure these networks is constantly increasing.

The more connected devices we have, the harder it is to secure networks. IoT devices — smartphones, wearables, smart home gadgets — are great for convenience, but they can also open up more vulnerabilities if not properly secured. Many IoT devices don't have the best security features, so they can be used as entry points by hackers. It's like having more doors and windows in a house — if one isn't locked properly, someone could slip in unnoticed.

Managing the risks in protecting critical infrastructure requires staying ahead of threats with a proactive approach. Organisations need to regularly scan their networks for vulnerabilities and conduct penetration tests to find weak spots. Using real-time monitoring tools to keep an eye on potential threats is essential. Plus, having a solid incident response plan helps contain any breaches quickly. Finally, training employees on cybersecurity awareness ensures that they're prepared to spot and avoid common attacks, reducing the chance of downtime or unexpected costs. One of the best things a network operator can do is implement real-time monitoring. This gives them visibility into what's happening in their network at all times and helps detect unusual behaviour early. Combining this with strong access controls — where only authorised people have access to certain parts of the network — can go a long way in protecting their assets.

Governments and regulators need to step up by enforcing tougher cybersecurity regulations. They should require telcos to meet high security standards and encourage collaboration across the industry to share threat information. Supporting businesses by providing financial incentives to adopt the latest security technology could also help. Lastly, regular audits would ensure that companies are complying with security regulations and keeping their systems up to date.

Ultimately, the responsibility for protecting these vital networks is shared. Telcos are responsible for securing their systems, but governments and regulators need to make sure they're following strict guidelines. End-users also play a part in keeping things safe — by practicing good cybersecurity habits, like not clicking on suspicious links. At the end of the day, protecting infrastructure requires everyone to do their part.

Reon Siyaya, Cybersecurity Account Manager, ESET Southern Africa

governments creating and enforcing criminal laws against vandalism to "raise awareness about the dangers of vandalism and establish national guidelines and minimum-security standards for telecom infrastructure."

Notably, a lack of public awareness about the importance of telecommunications infrastructure is a factor contributing to theft and vandalism. To counteract this, local governments can launch campaigns to educate the public about the critical role telecommunications infrastructure plays in everyday life and economic development, reducing the incentive for local communities to engage in or tolerate infrastructure theft and vandalism; and involve communities living near telecom infrastructure in protecting it.

"Engaging local communities is highly effective," opines Machira. "Jobs in network maintenance and educating communities about the benefits of connectivity can significantly reduce vandalism. By supporting local communities, MNOs enable social programs and improve quality of life, creating a sense of ownership over the infrastructure.

Enebeli agrees that involving local communities has a significant impact, especially in rural or underserved areas: "communities are more likely to protect infrastructure when they feel a direct benefit from it. However, this should be part of a broader strategy that includes technologically advanced measures."

"We have seen that involving local communities have been an effective solution to reducing vandalism," observes Greaves. "Rural infrastructure providers have utilised this technique quite extensively to successfully reduce theft within local communities and add an additional layer of protection for sites that would otherwise not have the commercial viability to install expensive anti-theft solutions."

Keeping the networks up

To protect critical telecommunications infrastructure and ensure network uptime, a structured, multi-layered risk management strategy must be established – one which identifies potential threats, assesses vulnerabilities, mitigates risks through preventative measures, and continuously monitors and adapts to new challenges.

"There is no easy solution, but there are ways to mitigate the risks such as using GPS tagging for fuel convoys, implementing smart locks that provide better control over site access, and also a host of digital solutions that can quickly identify and alert network operations centres to break-ins," shares Greaves. "A lot of theft takes place internally across a very large supply chain, so reducing multi-tiered outsourcing and putting pressure on suppliers and third parties to implement stricter controls of their workforce are also important mitigants. However, this all comes at a cost, and it can be challenging to identify the business case and ROI on investing in anti-theft solutions."

> "Telcos are central to how we all communicate, so they've become a major target for cybercriminals. With the rise of digital services in Africa, the risk is even greater. A successful attack on a telecom company could disrupt services on a massive scale, affecting everything from business operations to emergency services. That's why the pressure to secure these networks is constantly increasing."

Machira believes that organisations should implement real-time monitoring systems, network operating centres, and rapid-response teams to prevent theft and damage. Regular preventive and corrective maintenance is crucial, along with access controls to ensure only authorised personnel access infrastructure sites. Indeed, the one biggest preventative measure a network operator can take to protect its assets is to adopt "remote asset monitoring systems (RAMS) like Galooli provides, that deliver real-time data and facilitate preventive and corrective maintenance are critical for mitigating risks," notes Machira.

Developing a risk management framework, implementing physical and cybersecurity measures, securing reliable power supply, and building redundancy into the networks are all vital actions to take in keeping the network up – however, of the utmost importance is the ability to continuously adapt and evolve in the face of new threats.

Responsibility rests

The responsibility for protecting critical telecommunications infrastructure is shared among several key stakeholders, including governments, law enforcement, and operators. Each has a specific role, but ultimately, a collaborative approach is necessary for effective protection.

The government holds the primary responsibility for establishing a regulatory framework, ensuring national security, and providing the necessary policies to safeguard critical infrastructure. Without policies and regulations, national security efforts, and cross-border cooperation, it is impossible for infrastructure owners to adequately protect their investments.

In a technical sense, says Greaves, responsibility lies with "the infrastructure owner, or sometimes if management is outsourced to a third-party security company or managed service company, it would be them," says Greaves. "However, I don't think the solution can be solved by a single part of the ecosystem, and reducing theft will require the collaborative efforts of the infrastructure owner, tenants, law enforcement, government, local communities and importantly the supplier ecosystem."

"Protecting telecom infrastructure is a shared responsibility among governments, law enforcement, operators, and local communities. A coordinated approach is essential for success," agrees Machira.

To enable this, "governments must create laws and provide oversight, law enforcement should enforce these regulations, operators must implement security measures, and local communities can safeguard infrastructure by reporting suspicious activities," concludes Enebeli. ■

AI and Africa's MNOs

Classical and GenAI are reshaping telecommunications as we know it – so what do operators need to know?

AI is significantly reshaping the telecommunications landscape, from network optimisation and customer experience through to security and new business models.

"AI is already transforming the telecommunications industry, enabling telcos to enhance service quality, boost customer satisfaction, and rapidly introduce innovative products and services," shares Dominic Smith, Marketing Director, Cerillion. "Many telecom companies are now leveraging AI-driven chatbots and virtual assistants to deliver immediate customer support, efficiently handling routine issues through automated digital channels, while allowing customer services personnel to focus on more complex or high-value tasks."

"The technology shows potential to significantly improve network management and optimisation. Many of our customers have already told us how AI-powered solutions are empowering them to enhance their network performance, increase operational efficiency, and elevate customer experiences," adds Lucky La Riccia, Vice President and Head of Cloud Software and Services at Ericsson Middle East and Africa.

Reshaping the landscape

With AI, telcos can automate routine tasks such as traffic routing, fault detection, and network maintenance, while AI-enabled predictive maintenance can anticipate hardware failures and optimise performance, reducing downtime.

"We have seen firsthand how AI can be an ally to MNOs in tackling their most persistent challenges. By deploying more intelligent solutions, MNOs can optimise network resources dynamically in real-time, effectively managing congestion and ensuring seamless connectivity," says La Riccia. "AI-driven analytics can proactively identify customer churn risks. This allows operators to engage at-risk customers before they leave. Meanwhile, machine learning models can analyse transaction patterns in mobile financial services to detect anomalies in the fight against fraud, thereby significantly reducing potential losses."

"Telcos consistently face the issue of stranded and underutilised assets based on the network footprint," adds Seshan Krishnamurti, Vice President - Sales, Africa Region, Covalensedigital. "AI can help with asset lifecycle management from the viewpoint of recovery, and redeployment (e.g. upgraded enterprise CPEs) as well as faulty asset valuation (though it is not monetisation, it can help avoid write-downs and any associated market impact)."

The rollout of 5G, too, is deeply intertwined with AI, which can be used to manage the complex and dynamic nature of 5G networks, including massive data flows, multiple connected devices, and diverse application requirements. And, as more data is processed at the network edge, AI is used to make real-time decisions in applications like autonomous vehicles, smart cities, and industrial IoT, which require ultra-low latency and high reliability.

"For 5G to make sense, digital transformation use cases from various industry sectors are essential and AI is at the heart of this transformation, touching every business priority across customers, products, operations, employees, ESG," explains Krishnamurti. "In telecoms, AI has delved into the world of network operations and customer engagement where various data elements related to behaviour are used to train algorithms - initially for detection and prediction and in some cases trigger relevant action."

"As more countries transition to 5G - with its faster speeds and reduced latency - telecom operators are being presented with new complexities. Today's AI technologies can transform these complexities into opportunities, bringing together big data with unique network domain expertise to deliver unprecedented benefits for network operations and more," says La Riccia.

Making money

One of the most hotly anticipated advantages of AI adoption for MNOs is monetisatoin. AI can analyse individual customer data to offer highly personalised services, such as custom data plans or premium content packages, leading to higher customer engagement and increased average revenue per user (ARPU).

Indeed, Krishnamurti believes that AI can help MNOs "understand customer behaviour nuances to tailor product/service offerings and the experience. Creating a higher bundle with immersive experience in gaming with the associated higher pricing, device sales, etc., personalises the offering to the affluent; while the same technology can be used for immersive learning offered to the less affluent through community centres from a wholesale perspective. The first option offers higher ARPU while the second one creates higher volumes, offsetting the lower margins."

"With smartphone usage surging, operators can utilise AI to analyse network traffic and application data to create personalised offerings that drive customer engagement and support higher retention rates," agrees La Riccia. "AI also enables dynamic pricing models based on real-time demand and network resource availability. This helps operators to maximise their revenue potential. Moreover, the

integration of AI can facilitate the development of more innovative services for both consumers and enterprise customers. By embedding AI into traditional service offerings and operations, operators can ultimately achieve new business models while lowering operational costs."

According to Smith, many telcos struggle to turn a marketing proposal for a new product or promotion into the necessary Business Support System (BSS) configuration required for monetisation: "in fact, numerous ideas never progress beyond the planning stage because the process of building, testing and launching new products is slowed down by outdated systems and workflows. GenAI is a game-changer, enabling telcos to develop and launch products and services much faster by bridging the gap between marketing and operations. It allows companies to move directly from brainstorming to product testing and validation, using natural language and image recognition to create catalogue configuration within seconds. With GenAI, CSPs are now fully equipped to compete with the digital service providers by embracing a 'fail fast' approach to launching and monetising new products and services."

Implementation obstacles

While AI has the potential to significantly improve business strategy and operations for MNOs, factors like technical and financial barriers and organisational and cultural resistance are hindering adoption.

"Operators need to evaluate whether their current infrastructure is ready to support AI functionalities, which may involve investing in computing and storage capabilities," confirms La Riccia. "Cybersecurity and regulatory compliance are equally critical as operators must safeguard consumer data amid an expanding digital landscape. Operators would also do well to establish trust in AI through explainability and human oversight. Incorporating mechanisms that promote trustworthiness will enhance stakeholders' confidence in AI adoption, especially as the user base grows."

Data remains a key barrier to AI adoption, too. AI relies on high-quality, large datasets to train models and generate insights. Some MNOs may face challenges in collecting, curating, and managing the necessary data for AI solutions - and inaccurate, incomplete, or siloed data can result in poor model performance.

Indeed, "the speed of change in the digital era requires strategy to be fluid and adaptable; the single biggest asset allowing for this flexibility is data and the quality of that data," shares Krishnamurti. "In many areas of the world, the quality of the data suffers from being inaccurate, average-poor quality and not always easily accessible."

"One challenge is the gap between some companies' digital transformation ambitions and their capacity to realise those ambitions quickly. This gap can be driven by macroeconomic challenges that delay investments, or the lack of ecosystem collaborators necessary to spur innovation. Evolving regulatory environments and the lack of adequate ICT infrastructure - especially in rural areas – can further exacerbate such issues," confirms La Riccia.

AI implementation and maintenance also require specialised expertise in data science, machine learning, and AI technologies. Alas, there remains a global shortage of such skilled professionals, and MNOs may struggle to hire or retain talent capable of managing complex AI projects.

"Moreover, competition for the skills comes not only from within the industry but across multiple industries; in the short term, skills movement, knowledge transitions create gaps, not easily filled," agrees Krishnamurti.

To support the widespread adoption of AI within the telecommunications ecosystem, there is a need to invest in training and reskilling the current workforce, which requires time, resources, and a willingness to adapt to new ways of working. ■

How standards-driven satellite innovation can accelerate Africa's digital transformation

Yanniv Betito, EMEA Regional Vice President of Sales and Business Development, Telesat

To the outside world, much of Africa – especially the sub-Saharan – is a remote continent rich in natural beauty and resources but light on the technological progress that many countries take for granted. That perception is increasingly outdated: the region's technology economy is seeing significant growth, with a sharp rise in mobile services penetration, innovative public-private partnerships, and investments in information and communications technology (ICT) leading the way. The World Trade Organization (WTO) even projects that African digital service exports could reach around $74 billion between 2023 and 2040, with annual growth exceeding 7%.

The region, however, still faces challenges in the form of underdeveloped ICT infrastructure and resources, and a lack of online connectivity: 57% of sub-Saharan African residents live in rural areas. The African Development Bank Group reports that over 640 million Africans have no access to energy, so the electricity access rate is the world's lowest at just over 40%. Only 37% of Africans are connected to the internet, compared to 67% of the world's population.

Yet given the diverse and challenging terrain – including an abundance of large mountains, deserts, and dense forests– efforts at terrestrial connectivity often pose prohibitive logistical and cost challenges. Fortunately, advanced satellite communication (SATCOM) is emerging as a viable and affordable option.

Changing the game

Previously, SATCOM was approached as a last resort for reaching remote populations; it was considered too complex and slow to implement – and requiring too much satellite technology-specific expertise to successfully pull off. But this impression is rapidly shifting: African governments are expected to launch 72 satellites over the next five years with 28 in the next five years, representing $2.56 billion in manufacturing spending. Overall bandwidth demand in sub-Saharan Africa – including that for the satellite industry-utilizing C-band, Ku-band and wide-beam Ka-band – is expected to rise steadily through 2027, with frequent double-digit percentage growth rates year-over-year according to the Analysys Mason (previously NSR) Global Satellite Capacity Supply and Demand report, 19th Edition report.

Leading consulting firm Space in Africa attributes the continent's increasing demand for satellite technology as rooted in government and industry recognizing space capabilities as critical tools for socio-economic development, national security, environmental monitoring, disaster management and infrastructure development.

> "Bandwidth demand in sub-Saharan Africa – including that for the satellite industry-utilizing C-band, Ku-band and wide-beam Ka-band – is expected to rise steadily through 2027, with frequent double-digit percentage growth rates year-over-year."

There is exploding demand for communication satellites, which are essential for providing broadband and broadcasting services to serve businesses, citizens and government to foster economic growth and social well-being. In fact, Africa's growth rate of fixed broadband subscriptions were among the highest in the world at 11% – compared to 7% globally. And, there is plenty of room for additional growth, as Africa's 12% fixed broadband penetration rate shadows the global rate of 63%. SATCOM's ease of deployment could contribute and/or accelerate the adoption of satellite connectivity.

The introduction of low Earth orbit (LEO) satellite networks, fueled by ubiquitous, high-throughput, low-latency connectivity, and coupled with disruptive pricing, are entirely changing the space-based connectivity equation. A key advantage of LEO technology lies in its ability to provide 'virtual fibre' backhaul connectivity to extend the reach of non-terrestrial networks (NTNs) to remote or underserved areas where it is difficult or cost-prohibitive to deploy fibre.

The low latency connectivity of LEO networks means telecommunications service providers will be able to provide SD-WAN and IP services, cloud connectivity, and advanced applications beyond the footprint of their core terrestrial networks. This, however, will depend on the frictionless integration of satellite connectivity. And that requires interoperability.

A standards-based approach

Previously, interoperability was not possible due to satellite networks' proprietary characteristics. The deployment process was manual and labor-intensive, required in-house satellite expertise, and could extend over weeks or even months. This situation has changed significantly as several satellite operators and ground system providers adopt what are known as MEF standards.

MEF (formerly Metro Ethernet Forum) is a non-profit industry forum of technology providers seeking to develop standards, certifications and application programming interfaces (APIs) in empowering enterprise digital transformations. The Forum promotes the MEF Standards for Layer 2 Carrier Ethernet, which support interoperability among network operators (including satellite-based), service providers, vendors and customers.

Leveraging MEF standards unlocks the potential of terrestrial and NTN service orchestration. NTNs need to be fully API-driven and require standards-based automation between ecosystem players at both business and operational levels. MEF has developed standards-based Lifecycle Service Orchestration

(LSO) business and operational process APIs that uniquely provide the high fidelity, plug-and-play interoperability, and extensibility required by service providers to 'invest once' and efficiently scale implementations with many partners and services. In this way, Telecom service providers will now deliver standard connectivity using Carrier Ethernet services over satellite in the same way that they deliver all their other enterprise services.

Beyond just MEF, there is increasing support for adopting standards-based approaches to build next-generation SATCOM capabilities while containing costs. Industry and government leaders must commit to partnering on standards that will more effectively and efficiently pave the way for satellite innovation.

One important partnership is already underway: in July 2023, the Global Satellite Operators Association (GSOA) announced that satellite and mobile industry professionals have been working for years to bring satellite into mobile standards, resulting in the 3rd Generation Partnership Project (3GPP). 3GPP will support the use of non-terrestrial networks (NTN) in these standards, to enable full interoperability between satellite and terrestrial – including mobility procedures across both network components. This will allow mass-market smartphones and IoT devices to connect seamlessly with satellite networks when out of range of terrestrial connectivity.

Several telecom operators have already signed agreements with satellite constellation operators to support direct-to-device service. There is a wide range of capabilities utilizing both terrestrial and mobile satellite spectrum enabled through these partnerships. For example, AST Space Mobile has partnered with AT&T and Verizon to provide voice and data services; Starlink D2D is working with T-Mobile on direct to device SMS and messaging; Apple is partnering with GlobalStar on emergency and iMessaging; Lynk has preliminary partnerships with 40 mobile network operators.

The project will especially benefit rural, unserved and underserved areas – including sub-Saharan Africa – in an effort to dramatically increase online access. In the near future, 3GPP is expected to improve uplink and downlink connectivity between satellites and mobile devices, while enhancing mobility between non-terrestrial and terrestrial networks through smoother, quicker handovers.

Reaching the edge

MEF standards-based satellite networks are also needed to support effective edge computing – where devices in remote locations process data at the 'edge' of the network. As more devices are used in industries that comprise a large part of the African economy, more edge-processed data will need to be transferred either to other edge devices or to another remote location (such as a central or headquarters facility).

Agriculture is a prime example. Low cost, sensor-based Internet of Things (IoT) devices are poised to increase agricultural production, with millions of devices across enormous tracts of land generating volumes of data on water usage, nutrition density and other environmental factors affecting crop growth. As more African farms will benefit from implementing autonomous IoT, applications like on-the-ground video surveillance and tracking the status of new autonomous farm vehicles in motion will greatly expand high data rate satellite broadband implementations.

Mining is another data-intensive sector that is increasingly reliant on IoT devices and on-site video for real-time operational analysis, safety, monitoring equipment maintenance and other efficiency requirements. African mining companies will need to backhaul those vast amounts of data to a collaborative edge (including multiple other networked edge devices), or even to a cloud or data center environment.

Yet getting adequate internet coverage to rural and remote locations is challenging and expensive; costly fibre-based solutions will simply not be an option. Fortunately, the growth of advanced LEO satellite constellations now offers the capability to enable a space-based mesh network to support modern, cloud services with guaranteed resiliency. Such networks will deliver carrier ethernet-level performance at the lowest latency and highest speed that large-scale edge computing environments require. And that level of connectivity can support collaborative edge operations anywhere across the African continent.

A dynamic and promising future

There is great opportunity for tech industry companies and other enterprises to drive dramatic growth throughout the vast and diverse African economy. To take the next, critical steps of a digital transformation, SATCOM providers are more than ready to collaborate with government and telecommunications partners throughout Africa to develop and implement standards-based approaches. With this, Africa will emerge as an increasingly connected source of innovation – and inspiration. ■

Tower Xchange

Meetup MENA

3 - 4 February 2025
Shangri-La Hotel, Dubai, UAE

The exclusive meeting place for the MENA digital infraco industry

#TowerXchange | #TowerXchangeMENA

3 events 1 week, collaboration with
Capacity Middle East and Datacloud

www.towerxchangemena.com

Tower Xchange
a techoraco brand

Nigeria scores solar-powered public Wi-Fi courtesy of HFCL

Nigeria, known as Africa's largest oil producer, faces formidable challenges due to its poor internet infrastructure. The country grapples with building a robust connectivity network, complicated by challenging geography.

The digital divide has been a persistent challenge in the country, limiting widespread internet access for a significant portion of the population. Despite the increasing ownership of mobile devices, accessibility and affordability remain key barriers, particularly in rural areas and underserved urban communities.

Amidst this backdrop, the demand for internet access for e-commerce, education, and communication surged. In a landscape where reliable internet access remains a pressing need, the deployment of public Wi-Fi solutions in Nigeria stands as a pivotal step towards bridging the digital gap as a response to escalating demands for e-commerce, education, and communication.

Power problems

The primary impediment in providing seamless Wi-Fi connectivity was Nigeria's persistent erratic power supply. This instability hindered network expansion into rural areas and increased operational costs for network operators. The unreliability of electricity hampers the establishment of a robust connectivity network crucial for meeting escalating demands in e-commerce, education, and communication sectors. Limited backhaul options further compound this issue, creating a pressing need for innovative solutions to bridge the digital gap and stimulate socio-economic growth.

The decision to deploy public Wi-Fi therefore focused on finding a solar-powered solution capable of providing sustained power to the network, ensuring seamless connectivity despite the challenges posed by Nigeria's unreliable power infrastructure.

Sustainable public Wi-Fi

HFCL embarked on a pioneering endeavour, collaborating with local ISPs to implement a comprehensive public Wi-Fi solution. This deployment aimed to bridge the connectivity gap by leveraging scalable technology tailored to the unique characteristics of each area, offering seamless and ubiquitous internet access to communities where traditional connectivity options were limited.

Accordingly, HFCL strategically deployed a network of indoor and outdoor Wi-Fi Access Points across high traffic locations within Nigeria. The deployment of Indoor Access Points ensured reliable connectivity within confined areas. Meanwhile, Outdoor Access Points were tailored to withstand harsh environmental conditions, providing seamless connectivity in open spaces despite challenging weather.

HFCL integrated Smart Solar PoE Power Supply Devices within the network infrastructure, which operates on the principle of SMPS (Switched Mode Power Supply), converting solar and AC mains input into a constant 48V DC output. It features a built-in LiFePO4 battery, offering 12 hours of backup for POE equipment, thereby ensuring uninterrupted connectivity even during power outages.

This innovative approach not only ensured consistent operation of the Wi-Fi Access Points but also aligned with environmental sustainability goals, reducing dependency on conventional power sources and contributing to a greener, more resilient network infrastructure. It was more like a clean energy power solution while simultaneously delivering free internet access.

Revolutionising connectivity

The deployment of indoor and outdoor Wi-Fi Access Points significantly expanded connectivity reach across targeted locations in Nigeria, bridging the gap for communities with limited connectivity options.

Despite initial concerns about data costs being prohibitive, the increased availability of public Wi-Fi solutions facilitated greater access to information for individuals who previously found data expenses too burdensome. By providing equitable access to information and online resources, these solutions played a crucial role in reducing disparities and fostering digital inclusion among diverse socioeconomic groups, thereby narrowing the divide in information accessibility.

Integration of Smart Solar PoE power supply devices fortified network stability, mitigating disruptions caused by erratic power supply. Incorporation of solar solution based advanced PoE devices aligned with environmental sustainability goals, reducing dependency on conventional power sources.

The seamless integration of solutions resulted in a frictionless user experience, eliminating connectivity barriers and streamlining access to internet services. Indeed, the solutions played a pivotal role in enhancing socio-economic opportunities by providing reliable and accessible internet access for e-commerce, education, and communication. Overall, this transformative deployment signifies a monumental leap in Nigeria's connectivity landscape, facilitating efficient, secure, and widespread internet access crucial for empowering communities and driving socio-economic progress.

"Through our deployment of public Wi-Fi and Smart Solar PoE solutions in Nigeria, we've tackled power challenges head-on. Our strategic approach ensured uninterrupted internet access, bridging connectivity gaps and optimising network performance. Coupled with a focus on sustainable solutions, this solution supports reliable connectivity, transforming the digital landscape for enhanced socio-economic growth," said Suneet Saxena, Senior VP, Sales & Business Development, HFCL. ■

BLU benefits from 'LTE in a Box'

In June 2013, BLU was one of three Ghanaian-owned companies to receive a Broadband Wireless Access (BWA) license to launch a new 4G LTE network. Despite Ghana's already saturated mobile market, the BWA licenses were only made available to companies that were 100% owned and operated in Ghana.

The license came with a strict deadline to launch LTE services within 18 months of the award date. BLU's leadership knew that they would face fierce competition from the other LTE license holders, and that it would not simply suffice to be the first to enter the new market; new customers and their loyalty would be won on service differentiation, network speed and reliability, and affordability.

A proven, easy-to-install solution that would not only meet their ambitious deadlines, but that would also enable them to capture the greatest market share early on by delivering the most compelling service offerings, a fast, reliable network, and a sophisticated customer experience, was required. BLU also wanted assurance in the investment of a long-term core network solution that could readily adapt and evolve in a fast-changing market.

LTE in a box

BLU chose Alepo to provide a pre-integrated core network and IT solution for LTE and WiFi, along with Alepo's expert professional services to connect the solution smoothly into BLU's multi-vendor network environment. Alepo already offered proven integration with BLU's LTE RAN vendor (Huawei) and WiFi Hotspots vendor (Airspan) in production environments, which contributed to a faster and smoother deployment.

"With our tight deployment deadlines, it was imperative that we choose a solutions provider like Alepo, whose proven, market-ready solutions meet our immediate goals today while also being able to flex and adapt to our ever-evolving network and business," said Ekow Thomson, COO at BLU.

Alepo delivered to BLU a complete 'LTE in a Box' solution that offered a rapid deployment time for advanced LTE and WiFi Hotspot data services. Being tested and proven pre-integration enabled a faster deployment time – in most cases, 90 days or less from contract signing to launch.

The solution combined Alepo's high-performance Evolved Packet Core, including advanced policy and charging control (PCRF, OCS), Alepo's BSS/OSS suite, Service Enabler, and Alepo's Carrier AAA infrastructure together on a single, pre-integrated platform. The end-to-end solution gave BLU full support for the delivery, monetisation, and customer experience of multi-play LTE and WiFi hotspot services.

Indeed, BLU can now launch the most advanced and differentiated LTE and WiFi hotspot data services, including Zero-Rated apps; time and volume-based data plan; holiday-specific rates and charging; data gifting and sharing across accounts; WiFi Hotspot access with LTE subscription; WiFi Hotspot pass for new or casual users; tiered Video on Demand and content packages; group and family plans; turbo boost – bandwidth on demand; and rollover unused time or volume.

As part of the complete, pre-integrated solution delivered to BLU, Alepo also implemented its customer selfcare tools: a web portal and a mobile app for Androids and iPhones. Here, BLU subscribers can register for services, purchase new or additional packages, access BLU's Video on Demand portal, top up or pay invoices, and fully manage their accounts in a completely convenient and independent way, whether on LTE or WiFi.

Day one monetisation

Alepo's 'LTE in a Box' gives operators everything they need to deliver and monetise data services, so that they can make their networks profitable from day one. Alepo works in a truly agile development environment so that operators can launch quickly without being blocked by customisations, which are rolled out according to an established timetable.

As part of its competitive differentiation, BLU wanted to launch with Video on Demand services over LTE. To do this, BLU deployed a full video content delivery system from GorillaBox, which required provisioning, as well as advanced policy and charging to ensure accurate delivery and monetisation of the services. Alepo provided interoperability testing and integration with GorillaBox to create 'BluBox.' Subscribers can purchase different packages of IPTV services through the Alepo Registration Portal in conjunction with their LTE data services, all of which can be managed through the Alepo Web Self-Care portal. BLU customers can also access limited free content in BluBox before purchasing an IPTV package.

With the 'LTE in a Box,' BLU was assured in its immediate needs and long-term investment; and was able to launch ahead of its regulatory deadline with the most advanced 4G data plans, including video on demand, tiered bandwidth speeds, app bundles, and more. ■

Corero CORE offers cloud-based infrastructure protection

Corero Network Security has launched a new cloud-based availability protection platform, CORE, designed to seamlessly enhance a company's existing security infrastructure. It delivers advanced defence, leveraging existing infrastructure, offering flexibility and cost-efficiency to keep an organization secure and agile.

Corero CORE leverages comprehensive data lake(s) by gathering feeds from multiple sources across a network and generating AI/ML-assisted insights, turning isolated security events into actionable intelligence. This enables smarter coordination across a customer's network, making their ecosystem more resilient against threats to service availability.

Vendor-agnostic and highly adaptive, Corero CORE effortlessly integrates with third-party tools and existing infrastructure. In its initial release, CORE delivers real-time rich traffic analytics, threat intelligence, application layer protection, and anti-bot DDoS defense, ensuring services are available and secure.

"We are incredibly excited to bring this cutting-edge platform to market, expanding our capabilities and helping customers optimize their security investments," said Carl Herberger, Chief Executive Officer at Corero Network Security.

Designed as a SaaS platform for ultimate flexibility, Corero CORE bridges visibility and protection gaps without adding complexity. It optimizes security investments and offers peace of mind with a subscription-based model that reduces vendor lock-in. Ideal for businesses seeking enhanced availability and traffic visibility, Corero CORE allows organizations to stay ahead of threats and maximize their network's potential — all without additional hardware.

Smallest and lowest power SiP for cellular IoT

Nordic Semiconductor has announced the general availability of its nRF9151, a system-in-package (SiP) it claims offers 'the smallest and lowest power' solution for cellular Internet of Things (IoT) projects — which can be used as a dedicated modem or an application microcontroller.

The nRF9151 SiP, measuring just 12×11mm, features a single Arm Cortex-M33 core running at up to 64MHz, 256kB of static RAM (SRAM), and 1MB of flash memory, plus Arm's TrustZone and CryptoCell security technologies — allowing it to act as a primary application processor in a variety of projects, or to run as a communications processor next to a more powerful microcontroller or microprocessor.

The nRF9151 is around 20% smaller than the nRF9161 and adds support for Power Class 5 20dBm on top of Power Class 3 23dBm, as well as along with full compatibility with 3GPP Release 14 LTE-M/NB-IoT and 1.9GHz DECT NR+. For the longest of long-range communication, Nordic has pledged support for satellite communication in an updated firmware.

Nordic has also launched the nRF9151 Development Kit (DK), a development board that breaks out the SiP's features into an easily-accessible

form factor — including support for using its general-purpose input/output (GPIO) headers on Arduino UNO-format pin headers. The board is ready, complete with a bundled SIM card with pre-loaded data allowance, and comes with an embedded SEGGER J-Link for programming and debugging — usable also with external targets, if desired.

"I'm excited that the nRF9151 is now entering production because we know our customers and many other IoT developers demand a highly integrated, compact, and low power LTE-M/NB-IoT and DECT NR+ solution," said Nordic's Øyvind Birkene. "Not only does the nRF9151 bring class-leading performance to cellular IoT, but Nordic is also the only global company to offer a complete cellular IoT solution. We are eager to also close gaps and bring global coverage through the upcoming NTN support."

Latest wireless transceiver cut energy costs and boost computation power

EnOcean's new TCM 600 and TCM 615 wireless transceivers provide significantly more memory and much higher computation power while reducing energy consumption.

The TCM 615 provides a simple, compact, and cost-effective way to add EnOcean radio communication functionality to OEM customer solutions. It is pin-to-pin compatible with the previous TCM 515 device and uses the same, well-established ESP3 interface protocol. Users can therefore directly upgrade existing designs from TCM 515 to TCM 615 without the need for hardware or software redesign, and thereby immediately benefit from the latest functionality.

With the TCM 600, customers can combine their own application with the latest EnOcean radio communication technology in the same module. This solution is therefore ideal for implementing in space-constrained wireless applications such as ultra-compact relays and dimmers.

TCM 600 and TCM 615 implement the open, industry-leading EnOcean radio communication standard ISO1453-3-10 and ISO14543-3-11. This standard is characterized by high reliability and very low power consumption thanks to the use of small, redundant messages making them ideal for energy harvesting and low power applications.

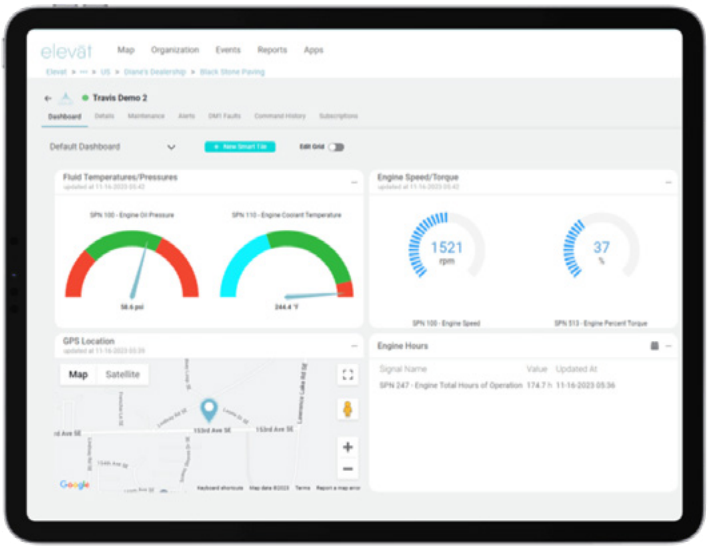
"This latest wireless device family further extends the leadership of EnOcean products in creating a smart, connected and sustainable world. With a significant performance boost, TCM 600 and TCM 615 enable differentiated applications based on the latest EnOcean technology," said Matthias Kassner, vice president product marketing at EnOcean GmbH.

Elevāt's Ecosystem Management Platform simplifies IoT OEM communications

Elevāt has launched its enhanced Ecosystem Management Platform rollout, marking a significant step forward in OEM communication, asset management, and operational efficiency.

The enhanced platform focuses on creating seamless communication across OEM networks, integrating a range of stakeholders, including dealers, service teams, partners, and asset owners into a unified ecosystem. Elevāt's solution supports the flow of critical information, enabling stakeholders to collaborate more effectively, optimize service coordination, and enhance operational performance.

"Our industry is evolving rapidly — from connecting machines, to connecting businesses, to connecting entire ecosystems. Our enhanced platform is designed with this at its core. We understand that the ability to maintain clear communication across all levels of the OEM ecosystem is vital. We are not just connecting machines, we're empowering businesses to make faster, informed decisions while strengthening relationships across their entire network," said Adam Livesay, Co-Founder of Elevāt.



Key benefits of Elevāt's Ecosystem Management Platform include streamlined communications across all touchpoints in the OEM ecosystem, ensuring all stakeholders stay aligned and informed throughout the service lifecycle; ecosystem-wide dashboards for tracking condition-based alerts, DM1s, maintenance reminders, and service requests; a streamlined service request system with real-time tracking and updates, enabling faster and more efficient handling of service needs similar to a ticketing system; and scalability designed to support growing ecosystems, easily integrating new assets, users, and partners as business needs evolve.

The Ecosystem Management Platform is tailored for the interconnected industrial environment, enabling proactive communication and data sharing, reducing downtime, and ensuring operational excellence.

World's first AI-powered 5G indoor FWA

ZTE Corporation has launched the world's first AI-powered 5G indoor FWA. This cutting-edge solution offers a 20% increase in bandwidth efficiency and a 30% reduction in network congestion, ensuring more reliable and high-performance connections even in the most demanding environments.

Equipped with a 13dBi ultra-high-gain antenna, the ZTE G5 Ultra leverages AI-driven bandwidth optimization, AI QoS management, and AI signal tracking technology to deliver seamless, robust connectivity, positioning it as a game-changer in the market. Empowered by the new Wi-Fi 7 technology with a peak data rate of up to 19Gbps, users will benefit from enhanced network reliability, making it perfect for high-bandwidth activities such as HD streaming and remote work.

ZTE has also showcased a future-ready 5G-A outdoor FWA, ZTE G5F, designed to provide ultra-high-speed connectivity with peak data rates of up to 10Gbps. This next-generation device supports Sub6G and mmWave carrier aggregation and dual connectivity, allowing users in both urban and rural areas to enjoy a top-tier 5G experience.

Look out for...

From windows to base stations

JTower recently announced the deployment of a new glass antenna, created with glassmaker AGC and NTT Docomo.

The first was installed on a window in Tokyo's Shinjuku district, and, according to Shota Ochiai, a marketing manager at AGC, is "the world's first antenna that turns a window into a base station that can be attached to a building window inside and turn the outdoors into a service area without spoiling the cityscape or the exterior appearance of the building."

5G networks, lauded for their high-speed low latency capabilities, require many more base stations than older generations of mobile networks to achieve the same coverage. Accordingly, to expand 5G footprint without installing unsightly equipment, Japanese companies are now developing transparent glass antennas that allow windows to serve as base stations that can be shared by several carriers.

NTT Docomo uses transparent conductive materials as the basis for its antenna, sandwiching the conductive material along with a transparent resin, in between two sheets of glass. The WAVEANTENNA antenna can be engineered according to the thickness of the glass to reduce the attenuation and reflection of the radio signals being absorbed and emitted.

"The glass antenna uses our proprietary technology to smooth out the disruption in the direction of radio waves when they pass through a window," added Ochiai.

Compatible with frequencies in the sub-6GHz band, the WAVEANTENNA's lower frequency ranges penetrate walls and buildings better than the higher bandwidth mmWave portions of the 5G spectrum. As such, these next-generation glass antennas could prove a real boon to expanding 5G coverage, particularly within dense urban regions, especially amidst growing infrastructure sharing.

"I don't think the idea for using transparent conductive materials as an antenna existed before," said AGC's general manager Kentaro Oka. "The durability of the antenna was significantly increased by placing the conductive materials between glass."

Transpetro opts for next-gen network

Marlink will supply its Sealink NextGen network solution for Brazil's biggest crude and product tanker operator, Transpetro.

The hybrid solution includes Marlink's global VSAT integrated to the high throughput, low latency Starlink solution together with MSS as back-up. The installation will include Marlink's XChange network management platform to enable software-defined application routing, WiFi and VoIP services as well as secure crew access onboard.

All services will be monitored and managed by Transpetro using a Marlink customer portal with corporate traffic routed to Transpetro HQ using a virtual private network. The installation process is scheduled to start in October on multiple vessels with completion estimated in first quarter of 2025. The integration will enable Transpetro to take advantage of digital possibilities including collaborative workflow and voyage optimisation tools, online training resources and remote maintenance.

"Transpetro recognises that efficient and compliant vessel operations require a new approach to onboard network solutions," said André Pereira, Telecom and IT Project Manager, Transpetro. "Combining Starlink LEO services for our crew with high quality VSAT solutions provides the platform for our digital fleet strategy."

"Marlink is delighted to have won the opportunity to provide complete managed solutions to Transpetro and support its process of digital transformation," said Tore Morten Olsen, President Maritime, Marlink. "This is an important achievement in the Marlink strategy to enable and further extend digital possibilities for merchant shipping and energy customers in South America."

CVT ups connectivity for Alaskan village of Tatitlek

Copper Valley Telecom (CVT) has announced a major step forward in connectivity for Alaska's remote coastal regions.

With support from the U.S. Department of Agriculture's (USDA) ReConnect Program, CVT will bring high-speed fibre internet access to the village of Tatitlek and surrounding communities in the Chugach Census Area.

This project builds on the successful 2020 completion of the 'Fiber to the Home' initiative, which brought 25/3Mbps fibre-based internet to the village of Tatitlek, a first for off-grid Alaskan communities. Now, thanks to a $16.5 million USDA ReConnect Program grant, CVT will extend subsea fibre from Valdez to the remote community of Ellamar, continuing all the way to Tatitlek. This new subsea fibre will replace the existing microwave signal that currently connects these communities to Valdez. The microwave link, while crucial for initial connectivity, has bandwidth limitations that have been increasingly strained as internet usage has grown over the years. The new fibre infrastructure will provide 1Gbps download and 1Gbps upload speeds, ensuring reliable, future-proof internet access for more than 140 residents in the region.

Tatitlek is home to indigenous communities that have long maintained subsistence lifestyles, and the harsh climate, with average winter temperatures near freezing and frequent heavy precipitation, presents logistical challenges. Snowfall and storms can disrupt transportation and communication, making high-speed internet access even more critical for education, healthcare, business, and staying connected with the broader world.

By replacing the microwave signal with subsea fibre, CVT's new infrastructure will significantly improve internet performance and reliability. It will also support essential services, providing high-capacity connections to local schools, healthcare providers, and tribal government facilities. This leap from the current 25/3Mbps service to 1/1Gbps speeds will empower the community to take full advantage of remote learning, telemedicine, and small business opportunities, helping the residents of Tatitlek and surrounding areas thrive despite their geographic isolation.

Equinix to invest US$500 million in Thailand's DC market

Equinix will invest around US$500 million in phases over the next ten years to cash in on Thailand's busy data centre scene, starting with two new IBX data centres in Bangkok.

The US$500 million figure includes Equinix's recent purchase of land in the Bangna area of Bangkok for US$34 million. The site, which covers over 18,700 square meters, is located next to the main transport route connecting the airport and the city centre, giving it access to the existing Bangkok interconnection ecosystem. Equinix plans to build two International Business Exchange (IBX) data centres on the Bangna campus that it says will provide more than 3,375 cabinets at full build out.

The investment is the latest step in Equinix's Asia-Pacific expansion strategy, following its recent entry into the Philippines in July via a deal to buy three data centres from Total Information Management (TIM). Equinix also kicked off expansion projects in Hong Kong, Malaysia and India earlier this year.

Narit Therdsteerasukdi, secretary general of Thailand Board of Investment, said that Thailand's proximity to Cambodia, Laos, Myanmar and Vietnam, along with its Cloud First-Policy, has spurred an "unprecedented" surge in demand for greater digital interconnectivity that will fuel long-term growth of digital infrastructure for the region.

"The next decade will see accelerated shifts in supply chains and migration to the cloud, with manufacturing and digital economic production diversifying across Thailand and the rapidly growing CLMV sub-region," said Therdsteerasukdi. "Thailand has emerged as a prime investment destination in this supply chain transformation, attracting substantial investments in prominent industrial clusters, particularly in cloud services, electronics and electric vehicle sectors."

"Thailand stands at the forefront of digital growth in Southeast Asia, with immense untapped potential as it becomes a key player in the region's digital economy," added Cyrus Adaggra, VP of corporate development for Asia-Pacific at Equinix. "Equinix's entry in Bangkok is yet another milestone advancing our overarching strategy to enhance interconnection across Thailand and Southeast Asia."

India's cellular operators question existing licence fees

The Cellular Operators Association of India (COAI), which includes Reliance Jio, Bharti Airtel and Vodafone Idea, has questioned the continuation of licence fees in their present form.

Operators currently pay an 8% licence fee to the government, which includes a 5% universal service obligation (USO) levy. The COAI has suggested that the licence fee paid by them to the government should be reduced to 0.5% to 1% of the gross revenues.

COAI states that the payments made on the basis of the AGR (adjusted gross revenue) by telecom service providers to the government, need to be reconsidered under the changed regime and circumstances, as has evolved in the sector. It points out that it may have been appropriate to have a license fee when licences were bundled with the spectrum - but spectrum was delinked from the licence in 2012 and is currently assigned using a transparent and open auction procedure.

Service providers pay a substantial amount for the right to use spectrum. At the same time, however, payments are also charged based on the AGR on service providers, which, says the COAI "is a double whammy for them, given the huge investments made towards procuring the spectrum."

"The licence fee, at best, should cover the cost of administration of the licence only, which is to the order of 0.5% to 1% of the gross revenues, instead of the 8% paid currently," said COAI director general SP Kochhar.

As well as AGR-related payments, the operators also pay CSR, GST and corporate tax. The industry feels that abolition or reduction of the licence fee-related payments would allow the operators to put revenues back into networks for upgrades and expansion and would further enable faster digital inclusion, especially in remote areas.

Sutel restarts 5G spectrum auction

Regulator Sutel has reportedly restarted the country's 5G spectrum auction process, following the dismissal by The Comptroller General of the Republic (CGR) of most of the objections of Instituto Costarricense de Electricidad (Grupo ICE), the Costa Rican government-run electricity and telecommunications services provider.

There was apparently an error in the annex to the specifications, relating to coverage guarantees. This was one of ICE's objections and one of the few to be accepted. The error has now been corrected.

However, ICE also objected to spectrum caps, which effectively mean that it can't compete for more mid-range spectrum – 1GHz to 6GHz. This, along with most other ICE objections, has been rejected. ICE has so far held up the auction process with this argument twice. Now, however, Sutel aims to resume with the new deadlines and will be able to receive applications from bidders interested in the spectrum.

Nokia to coordinate SUSTAIN-6G lighthouse project

The Smart Networks and Services Joint Undertaking (SNS JU) has selected Nokia to be the coordinator of the SUSTAIN-6G lighthouse project.

The SNS-JU is a public-private partnership funded by the European Commission. Nokia will lead a consortium of innovators that will identify how 6G can play a key role in building a sustainable future, addressing not only environmentally sustainable, but also economically and societally sustainable technologies.

One of the main goals of SUSTAIN-6G is to develop new solutions for meeting sustainability challenges using the toolkit that 6G will offer. The consortium will devote considerable time to working out use cases for three targeted areas, drawn from the United Nations' Sustainable Development Goals:

- **Energy smart grid:** The consortium will explore how 6G could be used to create microgrids that manage electricity demand. SUSTAIN-6G will also investigate the use of AI technologies for real-time control of distribution networks. This could lead to more efficient and resilient grids that minimize disruptions while providing the flexibility to draw energy from diverse sources as the world transitions to renewables like solar and wind.
- **E-Health and telemedicine:** The consortium will generate new ideas on how 6G can make digital health more inclusive. 6G infrastructure could not only provide a far-reaching infrastructure for securely transmitting and analyzing medical data, but it also could be the foundation for new home-based online assessment services. These networks could improve the diagnosis and treatment process in underserved communities. Meanwhile AI could help detect disease outbreaks at early stages.
- **Agriculture:** The consortium will investigate how 6G connectivity could be allocated on a temporary basis to enable smart agricultural applications that require high bandwidth, sensing, telemetry, data analytics and automation. For instance, 6G's edge cloud capabilities could be harnessed to handle high-priority farming-equipment automation tasks during harvests or provide advanced processing capabilities that integrate data from field sensors, climate stations, soil analysis and satellite imagery to provide contextualized information during the growing season.

SUSTAIN-6G has broad representation from industry and academia. The consortium includes network equipment and services vendors, communications services providers, industrial equipment manufacturers, European research institutions and universities, and many small-and medium-sized enterprises. SUSTAIN-6G will kick off in January of 2025 and is scheduled to complete its work in 2027.

"The UN Paris Agreement committed the world to combatting climate change. Every industry must do its part. SUSTAIN-6G will show how the communications industry will apply the next generation of networking to creating that sustainable future, overcoming not just environmental challenges but societal and economic challenges as well," said Peter Merz, Vice President of Nokia Standards.

Bharti Airtel's optical network completed

Ribbon Communications has successfully completed a long-haul DWDM project to upgrade Bharti Airtel's optical transport network.

Airtel has deployed Ribbon's Apollo 9600 suite of programmable and open optical transport platforms, which support C+L bands, across its 30,000km network.

The upgrade provides Airtel with 51.2Tbps of long-haul network capacity, which will enable Airtel to deliver 5G mobile backhaul and high-speed connectivity more cost-effectively and meet its growing bandwidth requirements.

"By integrating Ribbon's state of the art optical transport technologies, we can now meet our customers' growing demand for 5G and high-speed connectivity, positioning us to successfully execute our long-term business strategy," said Airtel CTO Randeep Sekhon.

Airtel is also using Ribbon's Muse platform to enable operator-defined workflow automation, which enhances operational efficiency with real-time network monitoring and management.

Ribbon CEO Bruce McClelland said that its modular solutions would enable Airtel "to precisely meet their service needs, easily accommodate traffic growth and adopt new technologies while delivering high quality connectivity to their massive customer base."

"Airtel is one of the world's leading providers and we're proud to have partnered on this significant deployment. Our highly modular, powerful, versatile and secure solutions will enable them to precisely meet their service needs, easily accommodate traffic growth and adopt new technologies while delivering high quality connectivity to their massive customer base," added McClelland.

UK's mobile users frustrated with network outages

Network outages were cited as the biggest frustration for 16% of UK respondents of a report from Ookla, which surveyed over 1,000 UK smartphone users.

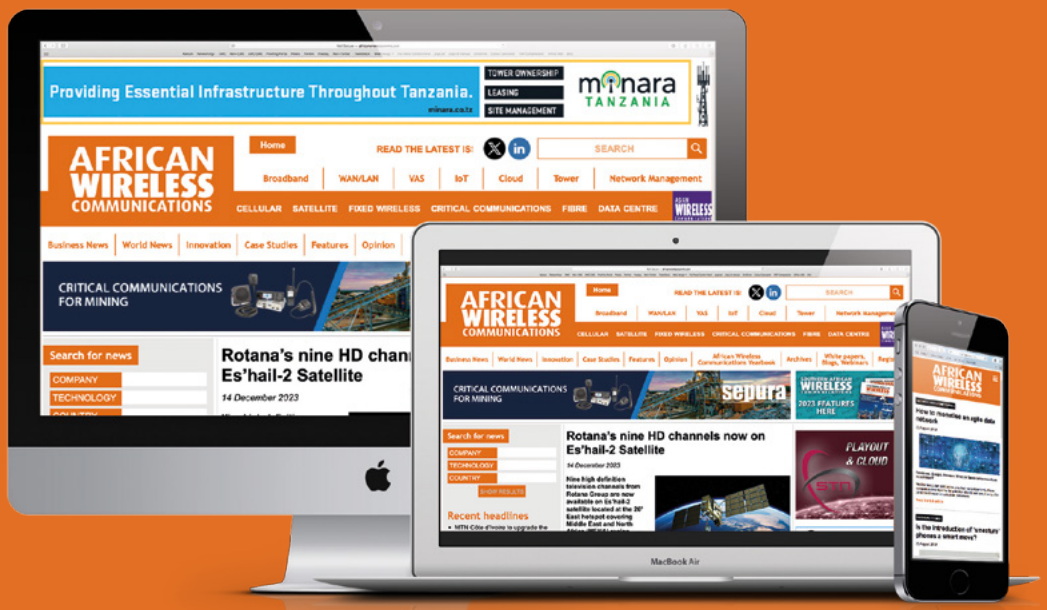
Slow-loading web pages and interrupted video streams were listed as affecting 38% and 19% of users respectively, and 26% of respondents said that they are likely or very likely to switch operators within the next year.

54% cited cost savings as their primary motivation for jumping ship, while 20% said they wanted better bundled content, 32% faster network speeds, and 27% better reception.

In terms of what operators can do to better placate all these frustrated customers, the report claimed 89% of respondents said receiving notifications and status updates about network issues is important or very important to them. Overall having a faster network and receiving better coverage were more important than promotional offers to the respondents.

"As network outages and cost concerns mount, UK smartphone users are more inclined to consider switching providers," said Luke Kehoe, industry analyst for Europe at Ookla. "Mobile operators in the UK need to differentiate themselves by addressing these pain points — specifically network quality and outage management — to better serve their customers and reduce churn. Ongoing frustrations with slow-loading webpages and interrupted video streaming highlights the importance of addressing bread-and-butter quality of experience (QoE) issues, even on faster 5G networks. Operators that can demonstrate the superior coverage and performance credentials of their networks, including ensuring there is proactive communication when outages arise, have a clear strategic opportunity to win the hearts of frustrated consumers."

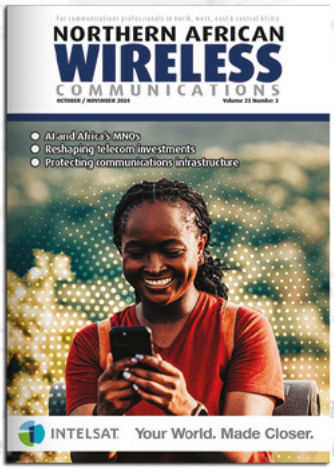
AFRICAN WIRELESS COMMS.COM



for African wireless communications, as it happens

www.africanwirelesscomms.com

For in-depth features, expert opinion, industry viewpoints and more



Register for your regular copy of the Southern or Northern African edition