

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

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

DECEMBER / JANUARY 2024

Volume 22 Number 3

- Is tower sharing the future?
- AI - what's in it for the operators?
- Where banks, telcos and insurance unite



MobileMark
antenna solutions

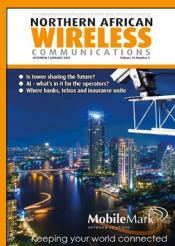
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DEC/JAN 2024
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Mobile Mark is a leading supplier of innovative, high-performance antennas to wireless companies across the globe. They have been in the wireless industry for over 36 years and have roots in the early Cellular trials.

The company design and manufacture antennas from 138 MHz-7.2 GHz. Applications include public transit, commercial trains, smart highways, mining, utilities, remote monitoring, machine-to-machine (M2M) and the Internet of Things (IOT).

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4 NEWS

- ♦ Pesaflo and Visa team up on digital payments
- ♦ NCC to limit SIM cards to 1 per person
- ♦ MTN and Ericsson partner for mobile fintech
- ♦ Telecom Egypt acquires country's first 5G license

12 WIRELESS BUSINESS

- ♦ CRAN revokes Ucom Mobile's spectrum license
- ♦ Econet Wireless calls for balanced regulation
- ♦ 60% stake of Gamcel up for sale
- ♦ DRC connected 19 schools in 2021-2023

17 ON THE NETWORK

Where banks, telcos and insurance unite

18 FEATURE

Sharing towers, solving problems

22 FEATURE

AI - what's in it for the MNOs?

25 INDUSTRY VIEW

Mobile innovation in underdeveloped nations

27 WIRELESS USERS

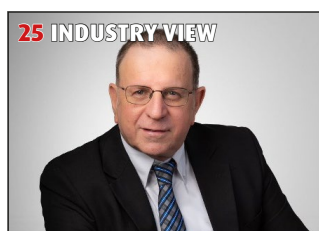
- ♦ Safeguarding at ZimParks with hybrid comms
- ♦ Africa's largest IoT conservation network

30 WIRELESS SOLUTIONS

- ♦ CSPs to gain from AI pricing software
- ♦ VSG supports wireless comms
- ♦ IoT multiband combination antennas
- ♦ RedCap modem-RF system

32 WORLD NEWS

- ♦ MTN Belarus pledges more remote towers
- ♦ Ooredoo Myanmar launches eSIM service
- ♦ Singtel partners with Starlink on maritime
- ♦ Lynk and Telikom launch Sat2Phone services



SUBSCRIPTIONS:

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Ericsson projects 3% YoY rise in mobile subscriptions

Ericsson's latest Mobility Report projects a 4% increase in sub-Saharan Africa's economic growth.

The region anticipates a 3% year-on-year (YoY) rise in mobile subscriptions for the next six years, emphasizing a 9% surge in 4G subscriptions. This growth is attributed to increased smartphone adoption, particularly affordable devices, leading to a substantial rise in data consumption.

The report underscores significant opportunities for service providers in sub-Saharan Africa, fuelled by supportive regulations and substantial investments from local and international telecom companies. The region's commitment to network infrastructure investments, driven by its youthful population and growing demand for enhanced

connectivity, is evident.

The shift toward 4G dominates sub-Saharan Africa's telecom landscape, with expectations that 4G subscriptions will represent half of all mobile subscriptions by the end of 2029. This will reshape how communities engage with digital services for education, commerce, healthcare, and social interactions.

Strategic 5G investments are underway, supported by spectrum releases in low- and mid-bands. While most subscribers will remain on 4G for several years, more than a dozen countries, mainly in Eastern and Southern Africa, already offer 5G services. Spectrum deployment and the challenge of urban areas reaching maximum capacity are highlighted, emphasizing the need for additional spectrum or densified



network coverage.

The report addresses the digital divide in rural Africa, where low Average Revenue Per User (ARPU) poses challenges for profitable macro

sites. Innovative solutions, such as tailored radio and transmission optimized for rural sites, along with Fixed Wireless Access (FWA), play a crucial role.

Pesaflow and Visa team up on digital payments for Kenyan government

Kenya's payments platform Pesaflow, and Visa, have partnered to improve digital payments within the Kenyan government.

This collaboration could significantly improve the effectiveness, transparency, and inclusivity of public services while also encouraging financial inclusion.

Pesaflow offers a single citizen profile and easy access to more than 5,000 services from more than 100 Ministries, Counties, Departments, and Agencies

within the Kenyan government. It is a division of Webmasters Kenya, the company that created the online citizen portal eCitizen, which provides a range of services to Kenyans. Pesaflow's solutions offer platforms for government services and a dependable way to collect payments from the public.

Now, the platform wants to advance its services by providing improved solutions to the public sector and citizens utilising government services via Visa's network and security infrastructure.

The partnership will focus on creating simple and user-friendly digital payment systems, including digital and virtual cards and secure gateway services.

The Visa Government Solutions team will collaborate closely with Pesaflow to digitise government services and integrate Visa solutions. The focus is on giving citizens several payment options and making it easier for the government to collect taxes, leading to better financial management, cost savings, and public services.

Anambra State considers IXP

The Anambra State Government of Nigeria is considering the establishment of an Internet Exchange Point (IXP) in partnership with the Internet Exchange Point of Nigeria (IXPN) and Internet Service Providers (ISP), according to Chukwuemeka Fred Agbata, director general of Anambra State ICT Agency.

The IXP will allow ISPs and other network operators to connect to each other and exchange traffic. This will help improve interconnectivity, reduce the cost of access, strengthen Internet penetration, develop the digital ecosystem, strengthen data security. The state also sees job prospects and overall economic growth.

This project is part of the Anambra Government's 'All About Technology and Technology Everywhere' vision aimed at establishing a digital economy that encourages key investors, innovators, and businesses to set up operations in the state. It recently removed right of way fees for telecoms operators to accelerate the deployment of broadband infrastructure. It also launched the pilot phase of its public WiFi network called 'Wi-Fi Solution.'

Telviva to enable Vodacom One Connect

Unified communications and collaboration (UC&C) company Telviva has partnered with Vodacom Lesotho to activate the Vodacom One Connect business solution, which functions similarly to a traditional business phone.

Telviva has inked a one-year technology transfer deal to help Vodacom Lesotho deploy the technology for businesses and government agencies in Lesotho.

"The Vodacom Lesotho team has introduced Lesotho's first

cloud PBX, offering technology solutions to businesses of all kinds," said Telviva CEO David Meintjes. "This technology, based on the omnichannel's key ideas, democratizes access to communication for organisations that may not be able to invest in PBX equipment. Beyond that, it is a tribute to the reality of working from anywhere, which has become the global standard since the epidemic."

According to Vodacom Lesotho

CEO Mohale Ralebitso, the One Connect solution is a significant step in the company's transformation from telecoms to technology.

"Our goal is to open up Lesotho's economy to new opportunities through digitisation, whether in agriculture, non-profit/social development, health services, safety and security, or financial services. Our mission at Vodacom Lesotho is to assist reduce expenses with integrated solutions that result in efficiency," said Ralebitso.

ICANN: South Africa beats out Nigeria and Kenya in terms of internet maturity

According to the draft final report of the 2023 Africa Domain Name Industry Study by the Internet Corporation for Assigned Names

and Numbers (ICANN), South Africa has the highest number of internet domain registrations, as well as Internet exchange points (IXPs) on

the African continent.

The report showed that SA has over 1.3 million domain names registered, and the bulk of these are in the co.za registry; Nigeria's .ng has about 183,000 and Kenya's .ke, 156,000.

The uptake of domain names locally is also affected by the individual country's ICT regulations and laws. For example, ICANN noted that fear of domain shut down by the government led to many users resorting to generic domain names.

The research indicated that high internet access costs, the lack of digital infrastructure and the fact that African internet access is primarily via mobile devices has constrained demand for domain names.

Although Africa is a very diverse region, most countries on the continent fall at the bottom of the

global rankings of digital uptake and use. For example, it said that of the 33 lowest-ranked countries in the 2023 Networked Readiness Report, all are in Africa.

In terms of Internet Protocol (IP) resources, out of the global usage, Africa accounted for only 2.4% of IPv4 and 1% of IPv6 addresses.

Nonetheless, growth in local internet infrastructure is speeding up, with 63 fully operational internet Exchange Point (IXPs) in 38 countries (up from 36 in 26 countries in 2016) and an increasing number of fully-fledged data centres being built. In 2016 the research had already confirmed that there is a correlation between the number of IXPs in a country and the maturity of the local industry, that is, countries with more IXPs had a more mature DNS industry.



Twoobii Smart Satellite services brings first bank live with LEO

Further to its 2023 incorporation of Eutelsat OneWeb LEO satellite connectivity into Twoobii Smart Satellite Services, the first bank branch of a leading digital bank has now gone live on the service, and both bank staff and customers are already reaping the benefits of always-on connectivity.

This is the first operational LEO site in Africa, representing a major milestone for satellite connectivity on the African continent. Africa's unique connectivity and infrastructure challenges often defy off-the-shelf solutions; rather, they require a more bespoke approach of the sort exemplified by Q-KON's Twoobii Smart Satellite Service, and Eutelsat OneWeb.

The solution combines anytime, anywhere connectivity with the necessary security protocols required for the transmission of bank account and financial transaction data in real time. Such is Q-KON's confidence in this ground-breaking LEO technology that the first installation has been set up in a flagship branch with a high footfall of new and existing customers, both personal and business.

The Eutelsat OneWeb/Twoobii

installation was designed from the very beginning as a fully operational site; it is not in any way a proof-of-concept model. It is being used to deliver a wide variety of complementary processes, both operational (internal) and customer-facing (external). These include intranet, software-defined wide area networks (SD-WANs), branch online management, data backhauls, staff and customer Wi-Fi and ATM services.

The digital bank in question – one of the leading providers of banking services in Africa – is reportedly delighted with the results, and actively considering rolling out the Eutelsat OneWeb LEO system to many more branches. This Twoobii LEO service will be able to provide low latency, connectivity of 50Mbps, and will be a seamless redundancy service option for fibre circuits.

Full ICASA licencing has been achieved, and customers at this flagship bank branch can now continue banking even in the event of terrestrial hardware failures or power outages. This results in a more seamless and streamlined banking experience, as the main causes of infrastructure-related



failed or delayed transactions have now been effectively eliminated.

"This fully operational LEO installation is further evidence of the utility of the Q-KON Twoobii Eutelsat OneWeb solution in financial services contexts," said Dawie de Wet, group CEO of Q-KON. "We look forward to continuing the roll-out of this LEO

connectivity solution to more bank branches to benefit the customers of our leading digital banking client."

Where banking innovation meets the latest satellite connectivity service offerings, the results have the potential to transform both banking operations, and the service delivery experienced by bank customers.

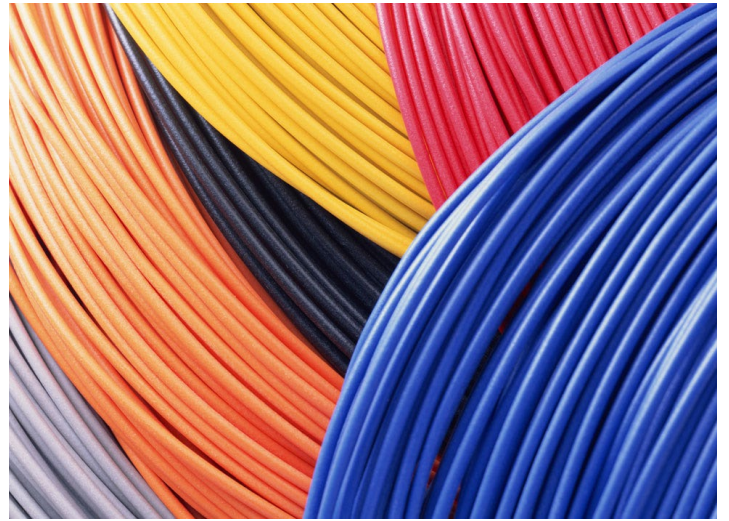
EllaLink to connect Mauritania to second submarine fibre with World Bank and EIB support

According to the Public Procurement Commission of the Ministry of Digital Transformation, Innovation and Modernization of Administration, EllaLink will be responsible for connecting Mauritania to its second submarine fibre optic cable. The decision must still be approved by the European Investment Bank (EIB), which is partly financing the project.

In August 2023 the Mauritanian government launched the call for tenders for the country's connection to a second submarine fibre optic cable. In November, the Public Procurement Commission confirmed having received offers

from the Senegalese company Sonatel, the Mauritania Submarine Link Consortium and EllaLink.

The project to connect Mauritania to its second submarine cable is supported by the World Bank and the EIB, which are contributing €10 million and €25 million respectively. The new cable will strengthen the country's national digital infrastructure, complementing the capabilities of the ACE cable to which the country connected in 2011. It should help provide populations and businesses with reliable and quality high-speed Internet connectivity, while accelerating the country's digital transformation.



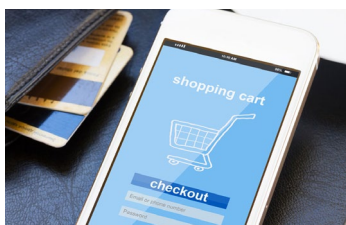
Kenya's MoMo market slowest in history

The value of mobile money transactions in Kenya reached 7.95 trillion shillings in 2023, up from 7.91 trillion shillings in 2022, recording a year-on-year growth rate of 0.5%.

This rate represents the lowest rate of growth in the value of transactions since the launch of mobile money.

The slowdown in the pace of growth is mainly explained by the increase in excise duty on mobile money transactions, which was increased to 15% last year from 12% previously.

The Central Bank also indicated that the number of mobile money accounts recorded growth of 6% in 2023 compared to the previous year to stand at 77.3 million as of 31 December 2023.



Tunisie Telecom targets 2.5Tb capacity

Tunisie Telecom plans to increase its connection capacity to 2.5Tb by the end of 2024.

According to Lassaad Ben Dhiab, president-general director, this upgrade will be made possible thanks to three cables to which the company has interconnected.

This initiative is part of Tunisie Telecom's objective to connect Tunisia to the digital world. The company is increasing investments to strengthen its network infrastructure with an emphasis on connectivity for all, the evolution towards 5G and the development of optical fibre. It

also recently finalized its migration from IPv4 to IPv6.

The increase in connection capacity should not only allow Tunisie Telecom to improve the quality and coverage of the Internet for its subscribers, but also to support the Tunisian government's digital transformation programs.

Vodafone Ghana to rebrand to Telecel Group

Vodafone Ghana is expected to soon abandon its brand name in favour of Telecel, reflecting the identity of its new owner, Telecel Group.

Telecel Group bought the 70% majority stake held by the British company Vodafone

Group in Vodafone Ghana (Ghana Telecommunications Company Limited) around a year ago. An agreement reached between the two parties authorizes the new owner to exploit the brand identity of the former owner for a year or a year

and a half, while it develops its own brand identity.

The announced name change should allow Telecel Group to reposition the operator in the Ghanaian telecoms market and change the way consumers perceive it.

LigiData to help Ooredoo Tunisia with large-scale data management capabilities

Ooredoo Tunisia has signed a partnership agreement with LigiData to strengthen its large-scale data management capabilities. This is expected to enable the mobile operator to improve customer experience, increase revenue and boost operational efficiency.

"With the LigiData data platform, we can leverage the power of open source technology to unlock new insights from our data and drive innovation," said Mansoor Rashid Al-Khater, managing

director of Ooredoo.

This new partnership is part of Ooredoo group's strategy aimed at leading the digital transformation of its network across all its markets.

In March 2023, the company signed an agreement with Nokia for the modernization of its network infrastructure in Algeria and Tunisia.

The collaboration should allow Ooredoo Tunisia to strengthen the quality of telecoms services in order to meet the demand of its subscribers and attract new ones.

"We are pleased to partner with LigiData to implement a scalable and cost-effective data platform in our Tunisia operations," said Mansoor Rashid Al-Khater, CEO of Ooredoo. "This partnership aligns with our strategy to drive digital transformation across our operations and enhance our customer experience. With the LigiData Data Platform we can leverage the power of open-source technology to unlock new insights from our data and drive innovation."

Etisalat by e& completes Cloud RAN trials in MEA

Etisalat by e& has completed multiple Cloud RAN (Radio Access Network) trials to improve performance in the 5G ecosystem with ultra-reliable and low-latency communications.

Etisalat said that these trials, conducted for the first time in the Middle East and Africa (MEA) region, represent a significant advancement in RAN innovation and openness, facilitating interoperation between cellular network equipment provided

by different vendors.

The trial aims to enhance the 5G experience for end-users, utilising etisalat by e&'s existing mid-band carrier in the n78 (3.5GHz) band over its 5G standalone network. The technology partners have completed an end-to-end Cloud RAN L3 data call, showcasing the Cloud RAN solution using the In-Line accelerator architecture.

The trial saw Nokia's virtualised

Distributed Unit (vDU) and virtualised Centralised Unit (vCU) on the HPE ProLiant DL110 Gen11 server utilising In-Line acceleration that provides unique benefits in terms of power efficiency, scalability, flexibility, feature parity, cloud nativeness, lower TCO as well as ease of integration into any server and cloud environment.

Cloud RAN offers network operators and end-users the flexibility of deploying RAN on the same

infrastructure used for other cloud-based applications. It facilitates the use of open and interoperable RAN interfaces, along with a cloud-based software solution for the baseband computing system. The baseband computing functionality is divided into the Distributed Unit (DU) and the Centralised Unit (CU), both fully cloud-native, enabling the use of 'Commercial-off-the-Shelf' (COTS) servers.


NCC aims to limit SIM cards to one per person

The Nigerian Communications Commission (NCC) is exploring ways to limit the number of SIM cards per telecoms consumer in the country to one, according to Aminu Maida, executive vice-president.

"We will leverage data to empower consumers to make the right choice, so we can move away from the world where we have multiple SIM devices. Rather than multiplying devices and SIM cards, we envision a situation where consumers will only have one SIM card and one device," said Maida.

Maida did not specify why the NCC is seeking to limit the number of SIM cards in the country. However, the NCC has been carrying out a campaign to identify Nigerian telecom subscribers since December 2020 to combat insecurity, extortion and kidnappings in Nigeria. The campaign led to the partial blocking of 73 million SIM cards in April 2023. In December 2023, the regulator ordered the disconnection of unidentified SIM cards from February 28, 2024.

If this initiative succeeds, it could help strengthen security. It could also lead to a reduction in the subscriber base of certain telecom operators and, consequently, their revenues. Additionally, restricting the number of SIM cards per individual will make it possible to know the real number of people using mobile telephone services in the country.




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MTN and Ericsson partner for mobile fintech

MTN Group has expanded its partnership with Ericsson to boost its mobile financial services offering.

The extended partnership aims to broaden the scope of financial inclusion from first-time users to high-end business applications, utilising MTN's Mobile Money (MoMo) service on the Ericsson Wallet Platform.

The companies have previously

signed several agreements focused on improving mobile financial services in Africa. MTN has stated that it aims to improve financial inclusion among the continent's unbanked, but the firms also aim to meet the more advanced digital needs to individuals and enterprises as they evolve swiftly.

Powered by the Ericsson Wallet

Platform, MTN Mobile Money enables individuals and businesses to conduct secure and convenient banking and payment transactions directly from their mobile devices. This includes managing funds, paying merchants and utilities, as well as enabling easy access to loans and insurance services.

The partnership extension

includes a transition to public cloud deployments and the refinement of the Open API services framework, fostering the acceleration of fintech innovation in Africa.

"With 63.5 million active users, our Mobile Money platform is advancing economic empowerment across the continent," said Serigne Dioum, chief fintech officer, MTN Group.

Telecom Egypt acquires country's first 5G license for \$150 million for 15 years

Telecom Egypt has acquired the country's first 5G license from the National Telecommunications Regulatory Authority (NTRA) for \$150 million. The resource is valid for a period of 15 years.

"5G is the backbone of future technological development and, when combined with other

technologies, for example fibre optic technologies, it will revolutionize our daily lives and transform the way businesses operate," said Mohamed Nasr, general manager of Telecom Egypt.

The commercial launch of 5G by Telecom Egypt is expected to meet growing consumer demand

for high-speed connectivity and support digital transformation plans. Ultra-high speed will facilitate the use of e-learning, e-government, 3D video, telemedicine, virtual reality and augmented reality, streaming, artificial intelligence, Internet of Things (IoT).

Es'hailSat and Viasat Energy Services join forces on VSAT for MENA region

Es'hailSat has joined forces with Viasat Energy Services to provide high-speed VSAT services across the Middle East and North Africa (MENA) region.

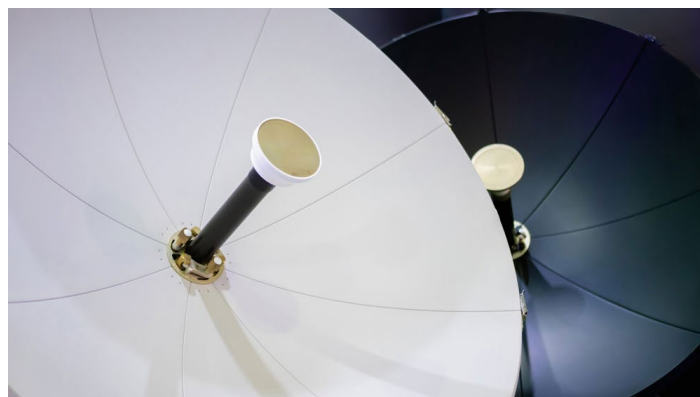
Accordingly, Viasat Energy Services is securing capacity on multiple transponders on the Es'hail-1 satellite. It will also use teleport services from Es'hailSat's facility in Doha, Qatar to provide the VSAT services.

This collaboration targets several industries requiring reliable high-speed connectivity in remote and challenging environments including government, maritime, and oil and gas.

Viasat Energy Services provides

optimised industry solutions and secure communications infrastructure and assists industrial companies in achieving the business

value of digital transformation by ensuring seamless connectivity across diverse operations and remote locations.



Airtel Africa plans massive Lagos data centre

Airtel Africa plans to establish one of the largest data centres in Africa.

The proposed facility, part of Airtel's Nxtra by Airtel data centre business, is planned for Lagos to cater to the escalating digital economy in Africa. It aims to provide open, reliable, and

sustainable data centre capacity, catering to enterprises, startups, SMEs, and government entities.

This newest set of data centres will play a key role in fostering business growth across Africa by ensuring quicker access to digital services and reducing

data management costs. The project aligns with Airtel Africa's broader strategy to establish a comprehensive network of high-capacity data centres, strategically positioned in key cities across its operational footprint, complementing existing edge sites.

Algérie Télécom and Ooredoo partner on infra sharing

Algérie Télécom has signed a memorandum of understanding with Ooredoo to improve the technological solutions and services offered on the Algerian telecoms market.

Under the terms of the memorandum of understanding, the two parties undertake to implement a partnership program setting out the clauses for the intervention of each of them, particularly in terms of sharing services and infrastructure.

This agreement is part of the public-private partnership. According to Adel Bentoumi, CEO of Algérie Télécom, it is in line with the historic operator's overall strategy, which emphasizes technological innovation and continuous improvement of service quality. For Ooredoo, the collaboration fits with the company's vision to work for the development and modernization of the ever-evolving Algerian telecoms market, said Roni Tohme, general manager of Ooredoo.



Government establishes National Broadband Alliance for Nigeria

The Ministry of Communications, Innovation, and Digital Economy has established the National Broadband Alliance for Nigeria (NBAN) to encourage collaboration in broadband development and adoption, as well as to position Nigeria at the forefront of the global digital economy.

According to Dr Bosun Tijani, Nigeria's Minister of Communications, Innovation, and Digital Economy, the ministry's focus for strengthening Nigeria's digital economy is primarily driven by connectivity, as evidenced by the infrastructure pillar of the ministry's Strategic Blueprint.

Recognising the importance

of broadband in economic development, Tijani said that the alliance will bring together key stakeholders from the public and private sectors, as well as civil society, to collaborate on developing long-term business models for driving internet adoption and consumption in critical public institutions across the country (schools, hospitals, government offices, libraries, and markets, among others).

The partnership would also promote digital inclusion and awareness to ensure that all segments of society participate in the digital economy and reap the benefits of broadband access.

The project will launch in seven

states by the end of the first quarter of 2024.

The alliance will support the implementation of a new national fibre rollout, which has many beneficial implications for vital sectors of the Nigerian economy, bridging the geographical gap by connecting remote communities and schools to the internet, improve healthcare access, promote financial inclusion, foster the growth of online businesses, e-commerce platforms, and digital services, create new job opportunities and entrepreneurial ventures, and strengthen governance and transparency.

Togocom gains finance from IFC to enhance coverage

Togocom has signed a financing agreement with the International Finance Corporation (IFC).

The branch of the World Bank focused on financing the private sector in emerging countries has agreed to grant a loan of 36 billion CFA francs to the operator, which will use it to improve the quality and coverage of its connectivity services in Togo.

Togocom will use IFC financing to modernize its telecoms infrastructure, expand its 4G mobile network and continue the extension of its fibre optic network. Part of the money will be allocated to strengthening the resilience of the network, by improving the quality and speed of the connection.

This financing agreement is consistent with Togocom's commitment to improving the quality of its services to support Togo's digital transformation.

The planned investments should allow Togocom to reach thousands of additional people in order to strengthen its position in the national telecoms market. They should also help reduce the digital divide in Togo and accelerate the government's digital transformation ambitions.

South Sudan calls for Starlink to appoint official agency for regulatory compliance

South Sudan's National Communications Authority (NCA) has asked Starlink to appoint an 'official agency' in the country



to ensure regulatory compliance and enable it to legally market its equipment and services to South Sudanese citizens.

For now, the NCA warns citizens against the illegal importation, sale, and activation of Starlink internet equipment. The regulator considers this illegal since it has neither issued a license for the company's activities nor approved its equipment. Violators will face sanctions, including fines, confiscation of equipment and prosecution in a court of law.

The launch date for Starlink's commercial services in South Sudan remains uncertain and subject to approval by regulatory authorities.

Benin joins Smart Africa Alliance

Benin is now a member of the Smart Africa Alliance, an organization that promotes the use of information and communication technologies (ICT) to accelerate economic and social development in Africa.

The initiative is part of the efforts undertaken by the Beninese government to accelerate the country's digital transformation and place itself at the heart of the ICT agenda in Africa.

A budget of 24.3 billion CFA francs has been planned for the projects of the Ministry of Digital and Digitalization for the 2024 financial year, compared to 31 billion FCFA in 2023.

By joining the Smart Africa Alliance, Benin will benefit from strengthened regional collaboration. It will be able to cooperate with other African countries which share the same vision and the same objectives

in terms of digital development. This cooperation will promote the exchange of experiences, good practices, and knowledge. The organization also guarantees access to resources and funding to support its digital initiatives.

Benin's membership in the Smart Africa Alliance should also help improve the quality and coverage of electronic communications services as well as reduce costs.

M-Pesa suffers multiple outages

M-Pesa has been experiencing challenges in January, impacting on pay bill services and bank transfers.

Local rumours have spread that the problem was caused by the Kenya Revenue Authority's attempts to connect M-PESA with its systems. KRA and Safaricom reportedly refuted the allegations.

The failure has sparked concerns about the country's overreliance on a single mobile money service. Businesses, governments, and the general people rely on the mobile money platform to carry out their operations.

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Going further in critical communications



Mawingu extends connectivity in Kenya

Mawingu has extended its network to Taveta Town in Taita Taveta County, Kenya, enhancing its connectivity offering for households and businesses, and marking a significant stride towards the company's vision of making meaningful internet access available to all Kenyans.

"Our expansion into Taveta Town marks another milestone met towards our long-term vision of making meaningful connectivity accessible to more Kenyans. The digital economy in the country is rapidly expanding and we want to support more Kenyans to tap into the knowledge and connections that it provides," said Faruk Ramji, CEO, Mawingu.

Already operational in 26 counties and with more than 15,000 active customers, Mawingu remains committed to connecting towns and urban centres which have not been well served and generally neglected by other providers.

"We aim to continue providing connectivity access to these areas, which have traditionally not been given primary priority due to the high capital cost and logistical complexities involved in ensuring a stable, reliable, and affordable service. This is in line with our long-term vision of offering meaningful Internet connectivity, at very competitive price points comparative to other service providers, by building sustainable, flexible infrastructure in underserved regions," said Ramji.

The company is also testing fibre in some existing markets as it seeks to further improve internet quality.

"Mawingu's aim is not to simply drop an Internet cable at someone's doorstep," said Ramji. "We seek to help our customers access new opportunities for work, education, entertainment, and social connections through the power of the internet. Our company's mission is driven by this very purpose: Open Opportunities."

Mawingu seeks to combine wireless and fibre technology, as well as solar power, to distribute low-cost, affordable, and reliable internet to its customers.



Talking critical

TCCA's TETRA Industry Group, chaired by TCCA Board member Francesco Pasquali



TETRA, a resilient force shaping critical communications

The landscape of communication infrastructure is evolving, presenting significant opportunities for many industries to embrace advanced technologies. This is contributing to the growing adoption of TETRA-based (Terrestrial Trunked Radio) critical communication solutions in the region and is a testament to TETRA's continuous commitment to innovation. Seamlessly blending its proven heritage with innovative advancements, TETRA is not only becoming known for its excellence in reliability, interoperability, and security, but also for its ability to cost-effectively meet current demands while anticipating and addressing future challenges.

But why TETRA?

Reliability amidst connectivity challenges
TETRA's robust infrastructure guarantees reliable communication, even in the face of network congestion or interference. This resilience is not just a technological feat; it is a validation of TETRA's unwavering strength in maintaining communication channels during critical situations, which is vital for worker safety and emergency response.

Interoperability for collaboration

When interoperability is non-negotiable, TETRA's open standard architecture ensures seamless integration with existing communication systems. This interoperability is a game-changer, enabling efficient communication between different entities.

Security in the face of threats

The increasing digitisation of operations across diverse industries in the region has amplified the concerns around protection against potential breaches in industries where confidentiality is paramount. TETRA's ongoing commitment to offer the highest level of embedded encryption means it is uniquely positioned to support and mitigate these security concerns. Whether in the realm of public safety, utilities, or government services, TETRA protects sensitive information and safeguards against unauthorised access.

Scalability for the future

The continent's rapid technological advancement demands solutions that can scale with evolving needs. TETRA's inherent

scalability makes it a future-ready choice for communication requirements across industries. Whether it is the expansion of essential utilities or the integration of smart technologies, TETRA's flexibility ensures that it can grow alongside the dynamic landscape of the African market.

User-friendly

Whether in densely populated urban areas or remote and challenging terrains, TETRA's intuitive design facilitates seamless operation even in high-stress situations or where effective communication is integral to operational efficiency. Allowing industry professionals and end-users alike to easily navigate and operate the communication system and harness its full potential.

TETRA's impact on key industries in Africa

TETRA's pedigree and innovative edge cement its leadership in dynamic African markets, making a continuous commitment to cutting-edge critical communication solutions. The cost-effectiveness of infrastructure and services further enhances its appeal.

This commitment to providing efficient and budget-friendly solutions underscores TETRA's understanding of the economic considerations inherent in Africa's diverse markets, positioning it as a comprehensive and value-driven choice for industries seeking innovative critical communication solutions.

Revolutionising renewable

As Africa strives to meet its escalating energy needs, the spotlight shifts to renewable sources, with solar and wind power taking centre stage. With seamless coordination, remote monitoring, and robust security features, TETRA solutions play a pivotal role in enhancing operational efficiency, safety, and overall effectiveness ensuring swift emergency response, interconnectivity across facilities, and integration with smart technologies. Its scalability aligns with the sector's growth, making TETRA a crucial component in advancing the renewable energy market across the continent.

Modernising mining

As part of a broader effort to modernise and optimise mining operations, the African mining industry is increasingly adopting critical communication solutions to enhance safety, operational efficiency, and coordination

in often remote and challenging environments. TETRA's real-time communication, interoperability, and efficient emergency response, significantly contribute to improved overall operational resilience.

Uplifting utilities

For utility companies delivering essential services, TETRA plays a crucial role in providing secure and interoperable communication even within diverse terrains. Its resilience ensures seamless communication, enhancing the reliability of critical infrastructure. This improved communication technology boosts operational efficiency for utility companies and ensures consistent delivery of essential services like electricity and water, meeting the growing demand in Africa.

Industrial symbiosis

TETRA's influence reaches into heavy industries like manufacturing and construction, where it seamlessly integrates with existing communication systems, streamlining operations and enhancing safety. Beyond communication facilitation, TETRA is becoming essential for intricate industrial processes. In environments emphasizing precision and coordination, TETRA's impact is evident in improved communication, streamlined operations, and enhanced safety protocols, contributing significantly to the overall efficiency of heavy industries.

Ensuring public safety

For government agencies and public services in Africa managing urban infrastructure, as well as disaster response agencies coordinating relief efforts, TETRA's adaptability and interoperability are indispensable. The technology ensures that critical information flows seamlessly across different departments, facilitating swift and coordinated responses to emergencies and public service needs, and ensuring the welfare and safety of the public in densely populated areas or remote, challenging landscapes.

Conclusion

In an era where technology is the driving force behind progress, TETRA's ability to adapt and innovate ensures it remains at the forefront of critical communication solutions, adding a layer of dynamism to its increasing importance in the African market.

Communications Authority of Kenya appoints new director general

David Mugonyi has been appointed director general of the Communications Authority of Kenya (CA).

"Mugonyi brings a wealth of experience and expertise to his new role, having amassed 23 years of distinguished service across the public service, media, and strategic communications," said CA board chairperson Mary Mungai.

Mugonyi succeeds Ezra Chiloba, who resigned from the office in October 2023 after being suspended for alleged misuse of position and conflict of interest.

"We look forward to working closely with Mr. Mugonyi as the organisation continues to play a central role in shaping and regulating the communications landscape in Kenya," said Mungai.

Ghana launches five-year strategic communications plan

The National Communications Authority of Ghana (NCA) has launched its five-year strategic plan for 2024-2028.

The document aims to guide the regulator's operations over the next five years to boost productivity, align the Authority's objectives with resources, improve communication and collaboration.

The plan was developed by the NCA in collaboration with the Ministry of Communications and Digitalization and stakeholders. It is structured around four key strategic pillars: research, innovation and process improvement; coordination and stakeholder engagement; strengthening human resources; resource management.

"I am impressed by the strategies to thrive and contribute in a globally competitive and rapidly changing environment. This means we will create an enabling environment for Ghanaian solutions to compete with other global solutions," said Ursula Owusu-Ekufu, minister of communications and digitalization.

Better regulation should accelerate the development of the sector and strengthen competition between the different players, particularly telecommunications operators. This is expected to ensure enhanced connectivity services for consumers and businesses alike at affordable prices. It would also facilitate investments to extend services to underserved or connectivity-deprived areas, in urban, rural and remote regions.



Airtel Zambia suffers second service disruption in two months

Airtel Zambia has recorded its second service disruption in two months. The previous disruption prompted authorities to compel the mobile operator to compensate clients.

Sending money from bank to wallet, making payments to national power utility, ZESCO, and pay-TV DSTV, and utilising partner USSD codes were among the services disrupted. Some consumers reported losing global roaming while abroad, despite having paid for the service.

"Airtel Networks Zambia Plc has restored all service applications that have not been unavailable due to a system failure," said Yuno Nachali-Kambikambi, Airtel Zambia's head of corporate communications. "The company would like to sincerely apologise to its esteemed customers for the inconvenience that this (outage) caused and highly appreciates the patience and support shown by all our valued customers."

Gambia approves 60% stake sale of Gamcel

The Gambian government has given the green light for the sale of a 60% stake in the public mobile operator Gamcel, to private investors.

The privatization of Gamcel was proposed as part of the restructuring and repositioning of the public company.

The company has lost 70% of its market share to its competitors over the last decade. In 2019, it expressed an urgent need for capital injection or risked ceasing to operate.

Econet Wireless calls for balanced regulation

Due to severe inflationary pressures, Econet Wireless has called for balanced regulation, a crucial step given the rising operational expenses caused by inflation and the shift to using the US dollar.

"It's essential to find a middle ground where tariffs remain practical for the business without becoming unaffordable for consumers," said

Tatenda Ngowe, Econet Group's company secretary. "Regional benchmarks reflect that local telecommunication tariffs remain much lower than the region, despite the country's cost structures being more demanding and access to foreign currency for infrastructure deployments being a significant challenge for local businesses."

"In order to maintain the quality of services amidst increased usage rates, there is a need for prices that support the business, especially when inflation affects capital spending," said Ngowe. "Implementing cutting-edge network technology, optimising spectrum utilisation, and increasing network density is necessary to manage growing data traffic and maintain a resilient network."

Telkom Kenya and Airtel Kenya fined by CA for 2022/2023 performance

The Communications Authority of Kenya (CA) has imposed penalties on Telkom Kenya and Airtel Kenya for poor quality of service at the end of the 2022/2023 financial year.

The operators have performance rates of 65% and 79% for a regulatory threshold of 80%. Safaricom is at near 90%.

"Airtel Kenya Networks and Telkom Kenya failed not only to meet their coverage targets, but also a number of key quality of service indicators, particularly the 'unsuccessful call ratio' and key internet data indicators, which are an indicator of Internet coverage and availability/accessibility, respectively," said the report.

Telkom Kenya and Airtel are reportedly struggling to find a place in a market dominated by Safaricom, which at the end of the 2022/2023 financial year held 66.1% share of the mobile telephony market compared to 27.2% for Airtel and 3.8% for Telkom. Additionally, Safaricom controls 62.8% of mobile broadband subscriptions and 97.1% of mobile money users.

"Service quality is considered to be a product of market investment levels, investment levels are considered a product of subscriber numbers and

revenue generation, and market balance and trust of consumers are a product of regulatory interventions," said the CA in a statement.

Accordingly, the CA has pledged to pursue regulatory interventions that will balance the market and ensure the success of the different players.

Despite escaping financial penalty from the CA, Safaricom also recorded a drop in its quality of service (QoS) for a third consecutive year. Safaricom's end-to-end QoS performance, which measures communication services' overall quality and reliability, dropped from 95.68% in 2020/2021 to 95% in 2021/2022. In 2023, this number dropped to 87.60%.



Sunil Taldar named Airtel Africa's new CEO

Olusegun Ogunsanya is to retire as Airtel Africa's CEO. He joined the group in 2012 and ran operations in Nigeria for telecoms and mobile money services until 2021 when he became group CEO.

For the first 12 months after 'retirement,' he will be on hand to advise Airtel Africa's new CEO, Sunil Taldar, as well as its chair Sunil Bharti Mittal and the board.

Taldar joined Airtel Africa in October 2023 as director for transformation, bringing over 30 years' experience in the fast-moving consumer goods and telecoms sectors. Taldar will work alongside Ogunsanya before assuming the role of CEO on 1 July.

After 'retirement' Ogunsanya will also become the Airtel Africa Charitable Foundation's inaugural chair, responsible for sustainability initiatives and charitable operations across its African

footprint. The foundation's objectives will focus on promoting digital inclusion, financial inclusion, access to education, and environmental protection. Airtel Africa confirmed the foundation will be a separate legal entity and be independent of the Airtel Africa Group.

"The board is delighted to appoint Sunil Taldar as the group's next CEO," said Mittal. "His industry experience, strategic vision, constant customer focus and proven record of delivery will enable him to deliver our strategic objectives and to lead the Group in the next stages of its development."



CRAN revokes Ucom Mobile's spectrum licence

The Communications Regulatory Authority of Namibia (CRAN) has revoked the telecoms spectrum licenses it had awarded to Ucom Mobile. The service provider is accused of failure to comply with license conditions.

According to CRAN, Ucom Mobile has accumulated a total debt of N\$19.28 million in unpaid royalties. Additionally, the company has failed to efficiently use the allocated spectrum.

This decision by the regulator follows the failure of the mediation processes it initiated to resolve the situation in the name of consumer protection.

Furthermore, CRAN has decided to grant Ucom Mobile a period of six months until June 2024 to facilitate the migration of its approximately 1,000 customers to other operators and carry out an orderly cessation of its activities.

DRC government connected 19 schools over 2021-2023 period

The Congolese government has invested around four billion CFA francs over 2021-2023 to connect 150 'white zones' and 19 schools to the internet. This investment is part of the Congolese government's ambition to improve electronic communications coverage and reduce the digital divide in the country.

Furthermore, the Fund for Universal Access and Service of Electronic Communications has set itself the objective of connecting more than 100 schools, interconnecting ministries and public institutions over the next five years. The institution counts on the support of the World Bank and other local partners.

"FASUCE is a tool to support the digital inclusion of the entire population. Its aim is to enable different populations, throughout the national territory, to benefit fully, without any discrimination, from the services offered by electronic communications," said the Post and Electronic Communications Regulatory Agency (ARPCE).

Orange Madagascar acquires 15 year global licence for Euro 30 million

Orange Madagascar has acquired a global license from the Malagasy state at a cost of Euro 30 million, reported Tahina Razafindramalo, minister of digital development, posts and telecommunications.

The new license is valid for 15 years and enables the company the right to operate in all segments of the Malagasy telecoms market. The company will now be able to offer on the wholesale and retail markets, all telecommunications services, capacity resale and infrastructure rental for all types of services, on all types of support, whether copper, radio, fibre or satellite, and in all modalities, fixed, portable or mobile.

The global license awarded to Orange was created in April 2023 as part of the policy of total liberalization of the new information and communication technologies sector implemented by the Malagasy government. The initiative aims to remove barriers and encourage investments in all segments of the sector and to promote better competition and reduce consumer prices.

The acquisition of Orange's global license broadens its scope and gives it more means to strengthen its competitiveness. This should facilitate modernization, improvement of network quality and coverage, without forgetting the deployment of new services.

Globacom and MTN work to resolve debt dispute

Globacom and MTN Nigeria are working to resolve their long-standing dispute over interconnection debt, according to the Nigerian Communications Commission (NCC), which plays the role of mediator between the two parties.

On 8 January, the NCC authorized MTN to partially disconnect Glo from its telecoms network for non-payment of interconnection debts. The regulator gave both parties ten days to find common ground. After this period, it would be impossible for subscribers to make calls to MTN, but they will be able to receive them.

However, following this latest agreement, the NCC suspended the gradual disconnection of Globacom from the MTN network for a period of 21 days while the two companies resolve all outstanding issues. The regulator says that 'interconnection debts must be settled by all operating companies as a necessary part of meeting the regulatory obligations of all licensees.'

Togocom gains extended support from IFC

The International Finance Corporation (IFC) has extended a €55 million loan to Togolese mobile operator and AXIAN Telecom subsidiary Togocom to increase access to quality mobile connectivity and assist the country's digital transformation.

IFC will provide Togocom with a loan structured with the participation of Société Générale Benin through its branch Société Générale Togo and Ecobank Togo to assist the telco in modernising its infrastructure. This will hasten the rollout of its 4G network, increase its fibre network, and improve the quality and speed of data traffic.

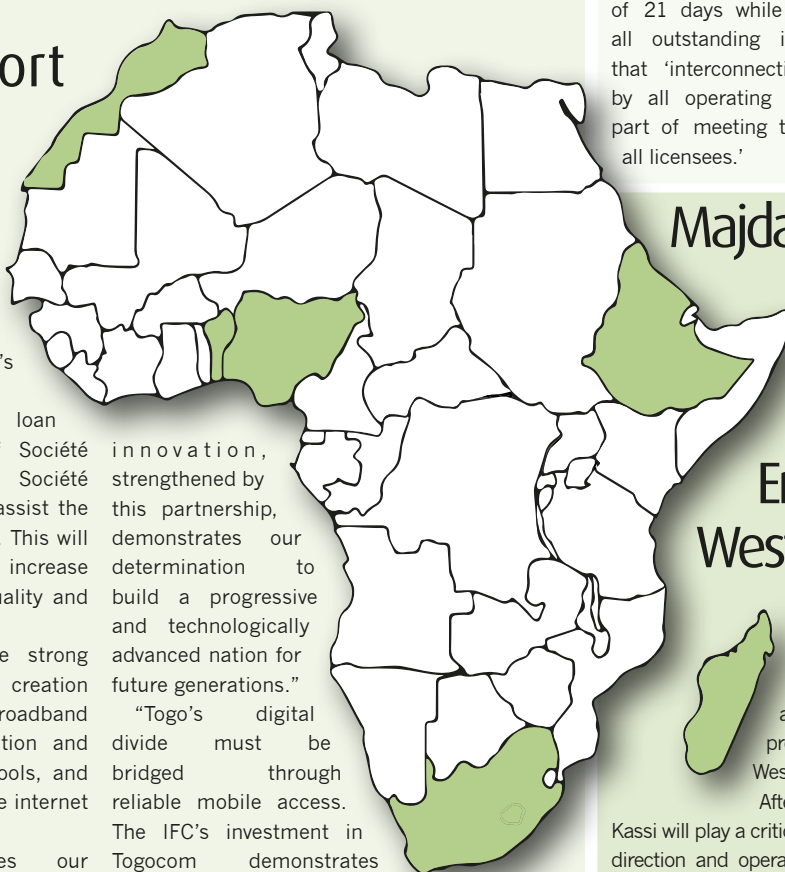
The agreement aims to promote strong growth, social inclusion, and job creation by providing mobile and fixed broadband connectivity to 95% of the population and ensuring that 95% of hospitals, schools, and all public administration buildings have internet access by the end of 2025.

"This investment demonstrates our commitment to consistently championing economic development and digitalisation in Togo," said Pierre Antoine Legagneur, CEO of Togocom.

"The partnership with IFC marks a decisive step to improve access to equipment and high-speed internet and also to generate economic opportunities for our population," said Cina Lawson, Togo's minister of digital economy and transformation. "Beyond its economic impact, digital tools have the potential to enhance the daily lives of our citizens, and facilitate access to education, healthcare, and targeted social assistance. Togo's commitment to digital

innovation, strengthened by this partnership, demonstrates our determination to build a progressive and technologically advanced nation for future generations."

"Togo's digital divide must be bridged through reliable mobile access. The IFC's investment in Togocom demonstrates our commitment to supporting Togo's efforts to advance its digital transformation strategy to foster growth, social inclusion, and job creation," said Olivier Buyoya, IFC regional director for West Africa.



Majda Lahlou Kassi appointed VP and head of Ericsson West Africa and Morocco

Majda Lahlou Kassi has been appointed as Ericsson's vice president and head of Ericsson West Africa and Morocco.

After nearly 25 years at Ericsson, Kassi will play a critical role in directing the strategic direction and operational excellence of Ericsson's business in this region. This will entail providing Ericsson's customers with the most advanced and innovative solutions that will develop connectivity and, ultimately, society throughout West Africa.

"She has extensive knowledge of telecoms and information technology," said a statement from Ericsson. "Majda was previously Head of Networks Solutions at Ericsson West Africa and Morocco, where she led a team responsible for driving client network evolutions across 13 countries."

"My focus is to support our customers, enabling their success while leveraging our technology and services to drive Ericsson's growth in the region," said Kassi.

Ethio Telecom's H1 revenues expanded 26% yoy

Ethio Telecom generated revenues of 42.86 billion birr during the first half of the 2023/2024 financial year which ended 31 December 2023, a 26% increase compared to the first half of the previous financial year when the company generated 33.8 billion birr.

The operator attributes this performance to the efforts it has made to diversify and increase revenues, optimize its costs and use its resources efficiently. During the half-year, its earnings before interest, taxes, depreciation and amortization (EBITDA) reached 19.77 billion birr. The company also generated a net profit of 11 billion birr, a growth of 14%.

During the period, the total number of subscribers reached 74.6 million. Mobile telephone subscribers reached 71.7 million, while fixed broadband subscribers reached 688,300, landline subscribers hit 834,000, and the number of data and internet users landed on 36.4 million. Telebirr, the historic operator's mobile money service, now has 41 million users.

Paratus South Africa to offer Eutelsat OneWeb connectivity

Paratus South Africa has signed a new partnership agreement with Eutelsat OneWeb to strengthen its satellite connectivity services.

The company will now be able to offer its customers low Earth orbit (LEO) satellite services, in addition to the GEO services it already offered.



Talking satellite

Daniel Batty, space & policy analyst, Access Partnership



ESIMs in Africa – what do they have to offer?

Earth Stations in Motion (ESIM) are no longer considered a novel concept. ESIMs have been providing satellite connectivity to moving objects via small-mounted satellite antennas for countless years; in fact, the very concept of inflight connectivity has moved away from being a luxury to now becoming an expected service amongst many travellers. However, ESIM technology applications go far beyond inflight connectivity.

ESIMs can broadly be categorised into three groups based on the type of vehicle they are mounted on: aeronautical ESIMs mounted on aircraft; land ESIMs mounted on mobile land vehicles; and maritime ESIMs mounted on ships. Despite their specific classifications, these ESIMs share the common purpose of extending connectivity to moving objects where they would otherwise not have access to other network options. The primary focus of ESIM technology is to expand connectivity to otherwise unconnected areas, including remote areas of the ocean, high altitudes in the sky, or rural land regions.

ESIM regulation

At present, ESIMs are still working towards harmonisation in the global regulatory framework. National authorities, regional groups, and the International Telecommunication Union (ITU) all have a say in how ESIMs are regulated. Chiefly, at the international level, Resolutions 156 (WRC-15) and 169 (WRC-19) govern ESIMs communicating with geosynchronous orbit (GSO) satellites operating in the Ka-band. These harmonisations are narrow in scope and leave a wide range of applications uncovered.

It is also important to note that these Resolutions are not compulsory for national authorities to implement; each country has the discretion to decide whether or not to adopt them. However, Resolutions are generally complied with and marked as a standard for global collaboration and harmonisation.

ESIMs, by their nature, often traverse

international borders, requiring collaboration and harmonisation between countries and regulators, particularly those with large and busy seaports and airports.

ESIM at WRC-23

The World Radiocommunication Conference 2023 (WRC-23) marked an important conference for ESIM, with Agenda Items 1.15 and 1.16 both seeing successful outcomes.

Agenda Item 1.15 sought to harmonise the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with GSO space stations in the fixed-satellite service (FSS) globally, in accordance with Resolution 172 (WRC-19). Agenda Item 1.16 on the other hand aimed to study and develop the technical, operational, and regulatory measures, as appropriate, to facilitate the use of the frequency bands 17.7-18.6GHz, 18.8-19.3GHz, and 19.7-20.2GHz (space-to-Earth), along with 27.5-29.1GHz and 29.5-30GHz (Earth-to-space) by non-GSO FSS ESIM, while ensuring due protection of existing services in those frequency bands, in accordance with Resolution 173 (WRC-19).

Agenda Item 1.15 in particular created a globally harmonised framework for aeronautical and maritime ESIMs communicating with GSO FSS in the 12.75-13.25GHz range.

ESIM for Africa

ESIMs play a pivotal role in bridging connectivity gaps, especially in areas with limited or unreliable traditional communication infrastructure. Given that Africa is a continent with approximately 30,500km of coastline as well as large regions that lack reliable or existing terrestrial connectivity, ESIMs could provide the following key benefits:

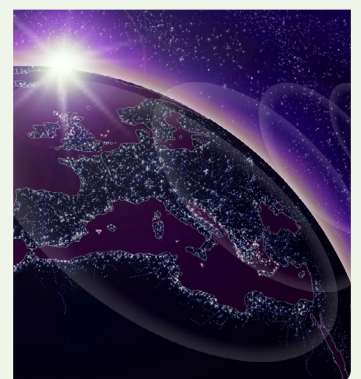
1. ESIMs by their nature are flexible and mobile – this means they can be rapidly deployed to where they are most needed. In the case of land ESIMs, this can be a temporary solution to connect a rural village, school, or government building before either more fixed satellite services or terrestrial services can be deployed. Additionally, this flexibility allows ESIMs to plug

connectivity gaps in times of national crises, such as a natural disaster that has destroyed or damaged terrestrial connectivity infrastructure.

2. ESIMs enhance the transport and logistics sectors for all three categories of freight: land, sea, and air. ESIMs ensure these transport vehicles are connected and provided for real-time tracking to ensure the safety and proper functioning of logistics vehicles, regardless of how remote the terrain. The expanded connectivity brings added value to the logistics sector and minimises the risk of loss from accident, piracy, or any other event which results in the loss of freight.

3. ESIMs deployed to remote areas for short- to medium-term durations can bring access to a suite of internet and e-government services to the most remote villages and towns of the continent. This can facilitate government census operations, assist in the registration of citizens, and provide support to rural health care workers for vaccine tracking and other healthcare initiatives. These services are all enhanced by expanded connectivity and allow governments to plan service delivery operations more effectively and efficiently.

In summary, ESIMs have an important role to play in Africa, and ensuring the effective and harmonised regulation of their use and deployment across the continent should be a priority for African regional communities and neighbouring countries.





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The financial fusion: where banks, telcos and insurance unite



CG Selva Ganesh, VP, CEO South Africa, In2IT Technologies

In today's rapidly evolving financial services landscape, the once-distinct boundaries separating banks, telecommunications companies (telcos), and insurance providers have become increasingly blurred. This convergence is driven by a multitude of factors, including the proliferation of data, the growth of the Internet of Things (IoT), and innovative business models.

The driving forces

One of the primary drivers behind the convergence of banks, telcos, and insurance companies is the brand presence and wide-established infrastructure that telcos and insurance companies bring to the table. This provides a strong foundation for collaborative efforts in the financial sector.

Digitisation is another critical factor pushing this convergence. As customers increasingly embrace digital payment transactions and online banking, the financial industry must adapt to meet their evolving needs. Additionally, affordable telco connectivity services and technological advancements in connectivity speed are creating an environment ripe for collaboration.

Mobile penetration plays a crucial role in this convergence, particularly in rural and semi-urban regions. It allows banks and insurance companies to expand their customer base and provide services to previously underserved populations. As these driving forces continue to gain momentum, the

lines between these industries will continue to blur.

The benefits and challenges

This convergence brings a host of potential benefits and challenges. Telcos see fintech as a lucrative revenue stream, while the finance industry views telco infrastructure

to protect this data and ensure it is utilised responsibly.

The role of the digital revolution

The digital revolution, characterised by cheaper connectivity, data processing, and storage, serves as the catalyst for convergence. Innovative technologies such as mobile banking, online banking, AI-powered virtual assistants, and contactless payments through mobile devices are at the forefront of this transformation. Personal finance management tools empower customers to take control of their financial lives, further enhancing their experience.

Regulatory implications

Regulatory and legal implications are crucial in this convergence, especially in cross-border money transfers. Governments and industry stakeholders are diligently working on regulations to prevent anomalies in transactions, strengthen anti-money laundering processes, and secure mobile phones and SIM cards from potential compromises.

Disruption of traditional business models

Traditional telcos are transitioning into 'Techcos,' diversifying their revenue streams as traditional voice and data revenues decline. Financial services are contributing to telcos' revenue and brand loyalty, particularly within unbanked communities. Companies like Vodafone, MTN, and Orange are leading the way by building strong fintech customer bases and even establishing Mobile Virtual Network Operator (MVNO) setups.

Enhancing customer experience

The convergence of banks, telcos, and insurance companies directly impacts customer experience. Strategies that include leveraging data, understanding usage-based patterns, and creating a collaborative ecosystem are crucial to retaining and satisfying customers. These strategies enable cross-banking services and tap into previously underserved markets.

Future trends and developments

Looking ahead, we can expect to see further evolution in the convergence of these sectors. Digital banking will continue to grow, and AI-powered customer service and support will become increasingly prevalent. Trends like usage-based banking and business model innovation will reshape the financial services industry, ensuring a customer-centric, dynamic future.

The convergence of banks, telcos, and insurance companies in the financial services sector is driven by digitisation, data proliferation, and innovative technologies. While it offers numerous benefits, including enhanced customer experiences and financial inclusion, it also presents challenges in terms of data security and regulatory compliance. As the convergence continues to evolve, businesses must adapt to remain competitive in this dynamic landscape. The financial services industry of the future will be marked by digitisation, cybersecurity, outsourceable functions, business model innovation, and technology investment. ■





Is tower sharing the answer to connecting Africa?

Africa's tower industry remains in its infancy, blighted by economics, poor supporting infrastructure, unreliable power, and complex regulatory hurdles. Is infrastructure sharing the answer to the continent's extensive connectivity challenges?

Africa's tower market is booming as the race to connect the entire population with 3G, 4G and even 5G is well and truly on.

"The towerco industry in Africa and the Middle East is relatively nascent compared to the rest of the world and therefore we see plenty of opportunity in these regions, particularly as mobile remains under-penetrated today and populations continue to expand," says Tom Greenwood, CEO, Helios Towers.

"The vast number of tower infrastructure providers that are firmly entrenched in Africa, with more to come as the region continues to go through iterations of telecom growth, can

only mean one thing," opines Sumedha Tatke, director – marketing and product management, Tarantula. "Tower sharing is not just prevalent, but it is also a necessity to support sustainable and profitable growth of tower infrastructure across the continent."

Africa's tower landscape

Infrastructure sharing offers a whole host of opportunities including CAPEX and OPEX savings; improved network coverage, particularly in remote and rural regions; and reduced environmental impact by minimizing the need for redundant

infrastructure and energy consumption.

"We expect to see tower sharing grow across Africa as mobile network operators seek to reduce capex and accommodate growing mobile data traffic levels, particularly as they move up the technology curve, from 2G to 3G to 4G," confirms Greenwood.

"Several multinational companies have been involved in promoting tower sharing across the continent and most MNOs are taking the opportunity to sell off these assets and then lease them at a relatively low OPEX," says Andrew Edmondson, chief executive officer, Insite Towers. "Some countries have made significant progress

in adopting these practices, while others are still in the early stages but seem likely to join in with the tower sharing model.”

“Operators can minimize capital expenditure on tower infrastructure and focus on growing their networks as well as providing customer satisfaction,” agrees Tatke. “Towercos can benefit from having multiple tenants sharing their tower sites and optimize both capex as well as risk of deploying expensive towers. They can provide value-added services such as power and security to provide an attractive offering to MNOs. The environmental impact is also a huge benefit, with shared infrastructure contributing to environmental sustainability by minimizing the need for additional towers and reducing the overall carbon footprint of the telecommunications industry.”

The model can, in some cases, also lead to improved competition and market growth: “tower sharing can foster healthy competition by allowing multiple operators to provide services in the same area, leading to improved service quality and options for consumers,” says Edmondson.

Across the continent, governments have a key role to play in advancing the tower sharing model. According to Edmondson, some may implement policies to encourage tower sharing as part of broader initiatives to enhance connectivity and promote economic development.

However, “regulatory frameworks may not always be conducive to efficient tower sharing. Policies related to infrastructure sharing and colocation can vary across countries and may pose barriers,” adds Edmondson.

“With regulatory requirements and government policies varying greatly over multiple markets in Africa, towercos must spend extra efforts in ensuring that tower sharing is both profitable and sustainable,” says Sumedha Tatke, director – marketing and product management, Tarantula. “Rural areas in Africa frequently cannot support easy access or power to remote areas, making it difficult to deploy and share telecom infrastructure. Moreover, with limited connectivity across rural areas, ROI on shared infrastructure may be lower. For MNOs, tower sharing can be a challenge in areas where they may risk losing network coverage or market share.”

Despite the wealth of opportunities and benefits inherent in the tower sharing model, hefty challenges remain, limiting its adoption. Myles Freedman, business operations director, Extensia, notes that although in most African countries (38 as of January 2024), “the sharing of mobile telecoms infrastructure has been integrated into market regulations, this common-sense approach is slow to fully materialize on the continent, due in particular to the attachment of operators to retaining their dominant positions and fears of anti-competitive practices on the part of regulators, underlines a report published on December 9 by Ecofin Pro.”

According to Freedman, the telecom operators present above all want to gain as much market share as possible and establish their domination.

“Having a larger commercial footprint is for them the guarantee of a larger subscriber base and therefore greater revenue. As a result, sharing a few physical telecom sites is still tolerable, but allowing competitors to exploit its technical presence to reach previously exclusive market niches is more delicate, even for a fee. The revenues generated as the only player present in a market niche are more interesting.”

Sharing is caring

Moving to shared tower infrastructure is no simple task, and a significant decision for CSPs; as such, careful consideration is essential.

According to Edmondson, ensuring compliance with local regulations and policies governing shared tower infrastructure must be one of the first steps in any colocation deal. It’s vital that CSPs understand any legal requirements or restrictions related to tower sharing in the specific regions of operation.

“First and foremost, the regulatory landscape in the market of operation should be supportive of tower sharing agreements,” agrees Tatke. “The relevant guidelines need to be studied and licenses must be procured in order to move to shared towers.”

A clear business model is another must, which adequately defines the strategy for shared infrastructure – is the focus cost savings, enhanced network quality, or broader coverage? Clearly defined SLAs and agreements are needed between the involved parties, with parameters established for network performance, uptime, maintenance responsibilities, and dispute resolution mechanisms.

This includes “assessing the redundancy and reliability of the shared infrastructure; and implementing backup and failover mechanisms to ensure uninterrupted services in case of equipment failures or other issues,” says Edmondson.

“MNOs need to develop robust and sustainable framework agreements with the tower infrastructure owners with ironclad dispute resolution mechanisms, simple exit clauses, and future-proof commercials,” adds Tatke.

Technical compatibility must also be assessed, given the different network equipment and technologies at play. As per Edmondson, “operators must ensure that shared infrastructure can support the diverse needs of multiple service providers without compromising network performance.”

“CSPs also need to consider the technical feasibility of shared infrastructure, making sure that it supports the required and future capacity, fibre backhaul, and technology requirements of the network,” highlights Tatke.

Other factors that must be considered include safety and security measures to protect the tower sites; well-defined operations; and maintenance procedures from both the CSP and infrastructure providers to maintain the health of the site, and community impact of the shared infrastructure.

Engaging with local communities and stakeholders to address any concerns they may have regarding shared tower infrastructure, and the environmental impact, are key to success.

“Last but not least, a thorough cost-benefit analysis is required to assess the financial implications of shared tower infrastructure, ensuring that it is both cost-effective and generates ROI,” says Tatke.

“Mobile operators typically obtain efficiencies when transitioning to a shared tower infrastructure provider,” adds Greenwood. “This is because the removal of duplicate generators, power systems and steel saves time and resources, which ultimately drives a more efficient partnership – both in terms of financial cost as well as reducing carbon emissions.”

However, CSPs must fully “understand the financial implications of shared tower infrastructure and evaluate the potential savings in terms of capital and operational expenses versus the costs of implementing and maintaining the shared infrastructure,” shares Edmondson.

Developments in design

Tower design has advanced in leaps and bounds in recent years, and with infrastructure sharing taking the African continent by storm, designs are changing with the times...

Edmondson believes that the infrastructure sharing model impacts modern tower design by emphasizing cost efficiency, space optimization, regulatory compliance, technological adaptability, aesthetic considerations, streamlined maintenance, enhanced accessibility, security, safety, and interference management.

“Designing towers with these factors in mind can facilitate the successful implementation of infrastructure sharing among multiple service providers,” says Edmondson.

“The newest technological advances in tower manufacturing and construction have progressed rapidly to support the multi-tenant tower sharing model,” asserts Tatke. “To start with, towers are well equipped to support multiple antenna mounts, equipment cabinets, and transmission lines from each of the operator tenants.”

Modern towers are designed taking into consideration not only the physical dimensions of the equipment to be hung on the mast, but also environmental factors such as wind load and terrain.

“They can easily accommodate different technology standards, frequencies, and equipment configurations used by various operators. This adaptability ensures that the tower can support the evolving needs of multiple tenants,” continues Tatke. “Additionally, shared cabinets can also be provided to install on-ground equipment. However, robust control mechanisms must be implemented to ensure secure and conflict-free access by each of the tenants.”

“Towers designed for infrastructure sharing should be scalable to accommodate the evolving needs of multiple operators,” agrees Edmondson.

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"This includes considerations for additional antennas, equipment, and power requirements as technology advances."

One important tenet for shared towers and their design is the inclusion of interference management; designers must account for optimal separation between antennas to minimise interference between different operators' equipment, requiring stringent planning.

Edmondson explains how, "in some regions, regulatory authorities encourage or mandate infrastructure sharing to reduce environmental impact and avoid the proliferation of towers. Tower designs that facilitate sharing can expedite regulatory approvals."

The role of digital twins

While engineering design tools and structural analysis applications enable tower owners to design and build towers, newer applications such as digital twin software takes the tower fully into the digital world.

"These tools are able to record and capture actual tower data through drones, drawings, or Lidar, and render a digital, 3D view of the as-built tower," says Tatke. "They can identify equipment installed on the tower, simulate additions, moves, or changes of equipment on the tower, and provide an instant visual assessment of the tower capacity. When combined with centralized asset management systems, digital twin software can provide a visual source of truth for towercos and MNOs alike to identify tower sharing opportunities. This leads to a seamless and friction-free experience for towercos and MNOs to collaborate effectively on the shared infrastructure."

The implementation of digital twins can play a significant role in enhancing tower sharing opportunities throughout Africa.

"Digital twin technology will enable us and other tower companies to better understand the real-time structural capacity of each tower," says Greenwood. "This supports quicker roll-out of new colocations. It would also mean in-person site visits in advance of installation are no longer required."

Indeed, "advancing tower technologies like digital twins can lead to more efficient, flexible, and cost-effective tower management. This, in turn, can create a conducive environment for increased tower sharing opportunities, fostering collaboration and resource optimization within the telecommunications industry," adds Edmondson.

Providing efficient resource management, digital twins create a virtual representation of physical towers, allowing operators to monitor, analyse, and manage them in real-time. With this technology, says Edmondson, operators can optimize resource allocation, ensuring that each tower operates at its maximum capacity.

"Digital twin technology will support efficiency within the industry," agrees Greenwood. "For instance, it could help with predictive maintenance and imaging, which would be

inputted directly into a digital database that more efficiently enables decision makers to view real-time information and make quicker decisions."

Notably for the tower sharing model, digital twins can facilitate interoperability between different network operators and technologies, making it easier for multiple operators to share the same infrastructure seamlessly. Meanwhile, enabling dynamic configuration to adapt to changing network demands means that tower sharing can be optimized by adjusting parameters such as antenna orientation, frequency allocation, and power levels based on real-time requirements.

Digital twins can also assist in ensuring regulatory compliance by providing a comprehensive overview of tower operations: "this transparency can streamline the regulatory approval process for tower sharing agreements," says Edmondson.

Will colocation meaningfully connect Africa?

Offering more efficient, cost-effective, and wider availability of mobile networks than ever before, infrastructure sharing heralds a new era for delivering meaningful connectivity to every African.

"Without a doubt, tower infrastructure is the answer to meaningfully connecting the continent, where the mobile penetration is only around 50%," declares Greenwood. "Tower sharing enables MNOs to rollout their coverage faster and more cost-efficiently than they could on their own."

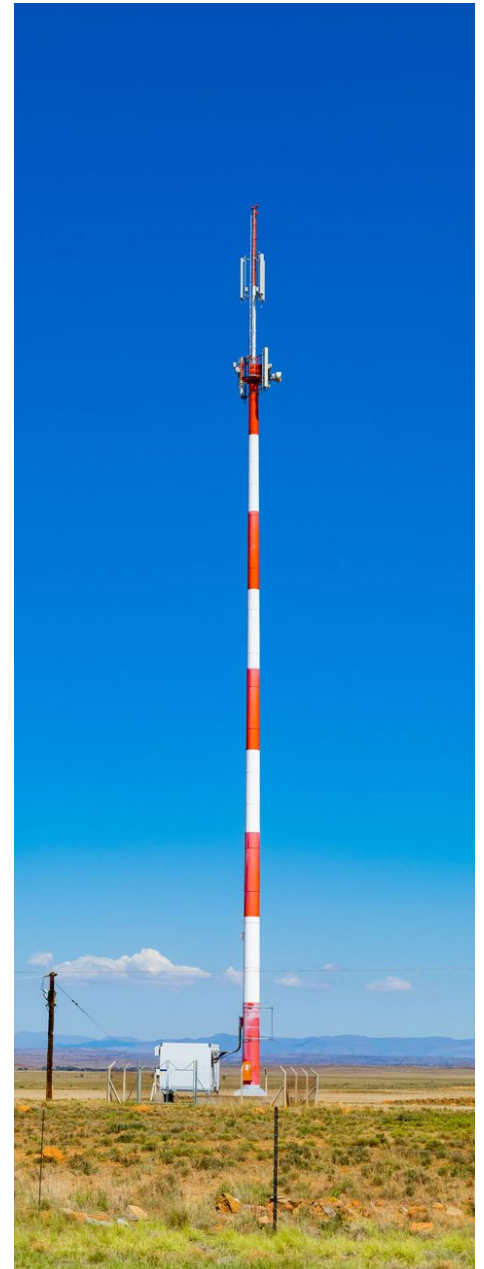
However, Edmondson believes that "tower infrastructure sharing is a crucial component in improving connectivity in Africa, but it's not the sole solution. Africa faces challenges in terms of geographical diversity, economic disparities, and regulatory issues that require a multi-faceted approach."

"While tower sharing may not be the single answer to pan-African connectivity, it will play a crucial role to increase coverage and infrastructure across the continent and can help in minimizing some of the challenges," agrees Tatke. "Shared telecom infrastructure enables operators to grow at scale while realizing economical efficiencies by sharing the infra costs."

When it comes to delivering truly meaningful connectivity, engaging with local communities to identify the specific needs and challenges of different regions and stakeholders is crucial.

Here, digital inclusion programmes are required. "Addressing the digital divide requires not only physical infrastructure but also initiatives that promote digital literacy and affordable access to devices. Connectivity is only meaningful when people can effectively use the available resources..." shares Edmondson.

Shared tower infrastructure facilitates faster and more efficient network deployment, enabling operators to quickly extend their coverage, especially to underserved and remote/rural areas. But that's not the only benefit of



infrastructure sharing specific to meaningfully connecting Africa.

"It allows for the efficient use of resources such as land, power, and backhaul connectivity. This optimization helps reduce the environmental impact and makes infrastructure deployment more sustainable," explains Tatke. "Sharing towers reduces environmental impact, and it also provides a fail-safe mechanism to support load balancing in case of failures. Lastly, the cost savings associated with tower sharing can free up resources for additional investments in expanding network capacity and improving the quality of services, further enhancing connectivity."

While tower infrastructure sharing is an important aspect of improving connectivity in Africa, "a comprehensive approach that considers technological advancements, regulatory frameworks, community engagement, and digital inclusion programs is necessary for meaningful and sustainable results," concludes Edmondson. ■



AI – what's in it for the continent's mobile operators?

AI is taking the world by storm – but what are the implications for Africa's mobile operators?

Artificial Intelligence (AI) is, without a doubt, the technology story of the year for 2023 following the historic launch of ChatGPT in November 2022. Across the globe, AI is expected to deliver numerous benefits to mobile network operators (MNOs), addressing challenges and offering new opportunities for enhancing growth and efficiency. While investments to date have been focused on the western world, Africa stands to leapfrog other regions and dive straight into AI/ML for mobile.

"AI is gaining huge traction amongst the 200+ global membership of the Mobile Ecosystem Forum, irrespective the area(s) of mobile they

are active in," says James Williams, director of programmes, Mobile Ecosystem Forum (MEF). "It's a topic on everybody's lips, but from what I have seen this year, MNOs are in pole position to benefit more than most from what is undoubtedly disruptive technology."

Maintaining the network

AI is already making a significant impact on mobile networks across the continent. MTN plans to migrate to Microsoft's Azure's cloud computing platform to tap into ML and AI to deliver operational efficiency across its footprint;

while MTN Benin and Ericsson have entered a partnership to deploy AI and ML solutions to address throughput degradation and provide improved customer satisfaction.

AI algorithms can analyse network performance data to optimise coverage, capacity, and reliability, and can predict and prevent network equipment failures by analysing historical data and identifying patterns that may indicate potential issues.

It can automate routine tasks, such as network maintenance and troubleshooting, leading to operational cost savings. Additionally, predictive analytics can help operators to allocate

resources more efficiently, optimising capital and operational expenditures.

"Alongside new network deployments, AI drives automation behind dynamic real-time network optimisation. This includes optimising coverage, managing capacity, and ensuring the efficient and most effective use of scarce spectrum resources," agrees Daniel Batty, space and spectrum policy analyst, Access Partnership.

"The primary benefit I see is the real ability at long last to make sense of the huge amount of 'dark data' MNOs generate," says Williams. "Getting a superb handle on behavioural patterns, and really getting clear insights within their networks by tasking AI to do so, will bring MNOs much closer to what their customers REALLY need. At the end of the day, it means being able to increase revenue and margin, all whilst providing a neat competitive edge."

"AI may also enhance physical infrastructure itself when paired with IoT sensors enhancing predictive maintenance through forecasting and predictive analytics," adds Batty. "This allows the detection of fault vectors before they materialise, allowing them to be assessed and repaired, thereby increasing the longevity of the network infrastructure."

With cybersecurity an increasing threat in Africa amidst rampant digitalisation – and on a continent where just 10% of businesses utilise cybersecurity tools – AI stands to benefit MNOs by identifying and mitigating potential security threats in real-time, protecting both the network and customer data, and in turn cutting customer churn.

Moreover, AI algorithms can detect unusual patterns in user behaviour, helping operators identify and prevent fraudulent activities such as SIM card cloning, subscription fraud, and unauthorised network access.

AI can also be used to tackle the digital divide; smart network planning, for example, and the use of low-cost, energy-efficient technologies, can help extend connectivity to rural and underserved areas.

"AI models may play a significant role in developing network deployment strategies to bridge the digital divide and plan network

South Africa – developing skills in AI

A collaboration between Microsoft South Africa and the Youth Employment Service (YES) is bringing an innovative AI training initiative that will empower 300,000 young South Africans with digital skills, fostering a future of innovation, employability, and economic growth.

YES, and Microsoft have jointly curated and developed customized training materials, offering a training path that caters to various levels of AI exposure and computer science knowledge. The platform educates all youths, fostering AI skills development from novice to expert levels and increasing awareness. An introductory AI learning module was designed to offer young people a foundational understanding of AI, emphasizing its practical purpose and value.

YES CEO Ravi Naidoo emphasized the partnership's commitment to equipping young people with digital skills for future-focused sectors and careers, with the significant number of beneficiaries highlighting the scale of impact they aim to achieve.

"Practically, this partnership aims to boost job creation and enhance employability, contributing to the establishment of a digitally inclusive economy in the country," said Naidoo.

Microsoft Africa president Lillian Barnard said that the collaboration with YES not only addresses youth unemployment, but also fosters a culture of innovation and employability through digital skill development: "in line with Microsoft's AI strategy, emphasizing innovation, empowerment, and responsibility, it forges a global talent pool for digital enterprises. Youth completing YES training gain AI awareness and career potential, enhancing their work opportunities."

expansion in the most efficient and cost-effective way," agrees Batty. "At the network level, AI enhances the design of complex networks allowing for innovative deployment models such as picocells. These low-powered networks allow for strong coverage in densely populated areas, such as Lagos or Johannesburg."

Outside of network management, and perhaps one of the hottest topics in AI today, is its application on the consumer end, streamlining customer service in finance, transportation, manufacturing, and retail, among other markets. MNOs stand to gain hugely through the deployment of AI for front-facing applications, cutting operating costs and augmenting valuable insights.

"AI enhances customer services through virtual assistants and chatbots to assist with loading data, changing SIMs and any other variety of customer query. This frees up human resources within the MNO to be tasked with more difficult queries," says Batty.

"AI can help boost effectiveness of technology, decrease power consumption, more rapidly identify network elements that are on course

to fail well before they actually do, etc.," adds Williams. "For me though, it's really that ability to get to know your customers so much better and at a pace and scale that only recently would have been inconceivable."

Capitalising on VAS

Stalling core service revenues amidst increased commoditisation prices of mobile and data and competing technologies like fibre and satellite becoming increasingly accessible and affordable, are leaving Africa's MNOs in a tricky spot with declining profitability. Accordingly, many are incorporating VAS – be it mobile money, gaming, OTT, etc. – into their ecosystem.

AI stands to play a key role here for operators refining their VAS offerings, helping drive monetisation further. AI-powered analytics can provide insights into customer behaviour, preferences, and usage patterns, enabling MNOs to enhance customer experience, personalise services, and offer targeted promotions.

"Deepening those insights into what clients really want and understanding how to effectively bundle and price offerings across what are constantly evolving markets provides any CSP with great foresight," explains Williams. "This does not mean AI alone is the 'silver bullet' solution to what is such a complicated area, but it moves the game along more than anything else in practically decades."

These AI-driven insights can help identify new revenue streams by offering personalised and innovative services.

"AI can assist in developing many VAS which may in turn be monetised or provided as a free service, depending on the model adopted by the CSP," concurs Batty. "AI can help personalise the user experience for CSP client by developing an understanding of the client and their interests, needs and uses of the CSPs services. This is done through behavioural analysis to understand patterns and trends from the clients' use



Daniel Batty



James Williams

of the service.”

Moreover, with some operators straying into the VAS sphere for the very first time amidst challenging market conditions, “the modelling capabilities AI provides should mean fewer mistakes need to be made in the real world before coming up with the optimal VAS monetisation strategy. It’s an exciting time for CSPs of all sizes. Remember, AI is not just something reserved for big organisations with deep pockets. AI levels the playing field a lot and has practically done so to a large extent overnight,” shares Williams.

The human element

It is too early yet to predict the impact AI will have on Africa’s operators.

“However, the potential for vastly improved personalisation, customer support and network optimisation are there,” says Batty. “AI can empower large operators to provide a suite of services tailored to African markets and entrepreneurs. This may include low bandwidth services targeted at the informal sector, integrations of mobile money, and innovative buy-now-pay-later schemes to accommodate an

“Getting a superb handle on behavioural patterns, and really getting clear insights within their networks by tasking AI to do so, will bring MNOs much closer to what their customers REALLY need.”

unbanked population.”

“The possible impact includes a vastly increased service base making it easier to provide personalised services to the informal sector increasing the flow of trade. This in turn contributes to uplifting communities,” adds Batty.

Sub-Saharan Africa’s MNOs have recently begun to employ AI at different levels, from improving network operations and customer services to achieving efficiencies and cost savings. As a result, vendors like Monty Mobile are creating new AI-enabled products to make the technology more accessible and to drive larger-scale deployments.

Google also recently announced six AI projects on the continent out of the Google Labs in Accra, Ghana, which include mapping buildings for governments and organisations; forecasting floods in 23 African nations; predicting locusts for crop safeguarding with InstaDeep and the Food and Agriculture Organization of the UN; improving maternal health outcomes with AI-aided ultrasound; helping people with non-standard speech make their voices heard through transcription tools; and increasing childhood literacy with an AI-based reading tutor app and website.

Thus, AI adoption across the continent is indisputably on the rise. However, miraculous though it may seemingly be, AI cannot solve all pain points, and doesn’t mean that fewer human resources will be required - in many cases, perhaps the opposite.

“The skillset of team needs to move with the times and education on all things AI is something that needs to accelerate across practically all type of stakeholder, across mobile,” explains Williams. “People will have to adapt.”

Additionally, MNOs must note the inherent risks associated with the use of AI, namely ensuring data privacy and security. Further, Batty highlights that, as MNOs begin implementing AI to make decisions on consumer contracts or interact with consumers through customer support, it is important that the AI is used ethically: “this requires MNOs to implement internal guidelines and policies on the use of

AI ensuring that accountability is established and fairness and transparency in the decision-making process. This also requires the consistent monitoring of the algorithm to track biases and possible discriminatory decisions.”

All things considered, Williams believes that AI’s impact will be profound - and that change will come a lot faster than expected.

“Africa is a continent with 1.5 billion people, but it is not one country. Indeed, 54 countries make up the continent and with over 75 languages with more than one million speakers (never mind the estimated 1,000+ others!), AI provides a great opportunity to cut through so much complexity these dynamics alone create, to help deliver clearer strategies and offerings at a rate never before seen in human history,” says Williams. “But don’t forget the human element. Humans will absolutely be needed to ensure the benefits of AI can truly be realised.” ■

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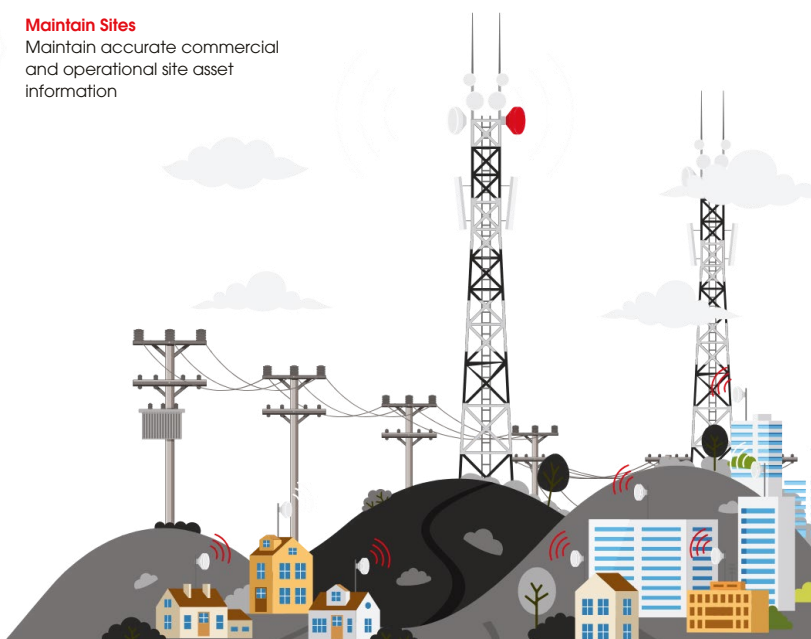
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Mobile innovation in underdeveloped nations

Yisrael Nov, EVP sales, Parallel Wireless

Mobile networks have come on in leaps and bounds in recent years with the shift from 3G, to 4G, and now, in some regions, 5G. Leapfrogging earlier technologies has meant that Africa's operators have benefited from the trial and error experiments performed in other world regions, giving them a major step up...



emerging markets as perpetual followers and put them at a permanent technological disadvantage by forcing them to always play 'catch up.'

Leapfrogging

Underdeveloped nations are characterized by having unique cultural, environmental, political, and commercial landscapes. Due to the generally low ARPU, in comparison with other markets, telecom operators in those regions have limited resources to invest in infrastructure, whether for maintenance or for upgrades.

The geography and terrain that characterize the rural areas in those regions can result in the absence of crucial physical infrastructure. The lack of access roads, for example, makes onsite installations trickier, while a weaker utility infrastructure results in an inconsistent, yet relatively expensive, power supply. This is one of the factors that can delay technological development, unless an innovative approach is taken to ensure smooth, continuous operation. Even in denser areas where the demand might be higher and the users more advanced, the power grid can be spotty and unreliable.

When mobile communications appeared, they completely disrupted the 'catch up' model, as underdeveloped countries realized that they had an opportunity to 'leapfrog' straight to mobile to provide digital services sooner and thus narrow the technological gap that favours developed nations. 'Leapfrogging' is the term applied when traditional stages of development are skipped over in favor of a quicker shift to newer technologies or new opportunities for economic growth. In this case, instead of rolling out landlines for telecommunication and broadband internet, which would have taken decades at huge cost, it became easier, faster, and more

reliable to prioritize the installation of cell sites and mobile devices. In the context of the digital revolution, leapfrogging has allowed societies and nations to rapidly incorporate digital, knowledge-based services and high value-add production into their economy.

Pursuing their own path

Parallel Wireless' presence in underdeveloped regions started with helping to connect the unconnected by delivering the most cost-effective, efficient solution for rural coverage (defined as areas in which one site provided coverage for up to 1,000 inhabitants). For example, in the last few years we have established a footprint in Africa with a solution that meets the special requirements of rural regions such as support for transmission over satellite and equipment powered by standalone power sources (e.g. solar). Later, this footprint was expanded, with solutions that include 2G, 4G and now 5G, reflecting the diversity of the network.

Operators in these regions have fewer in-house resources available for developing and upgrading the network, so 5G adoption is still sparse and even 4G is limited to densely populated areas. On the other hand, there is a growing realization that connectivity and broadband are not a luxury, but a necessity for the population to enjoy the fruits of a global economy. The cost of satellite communication (multi-beam and LEO satellites) is decreasing, and it is therefore more accessible, improving the business case for connecting additional sites to a satellite backhaul. We have also noticed more interest in the power of AI to impact the industry by making networks smarter, more reactive, and more efficient.

Operators in underdeveloped nations need to be able to innovate faster to capitalize on

For many years, worldwide adoption of innovative technology followed a predictable path.

It started with early-adopter countries, who have the infrastructure and consumer culture for evaluating, testing, and phasing in 'the new' while relying on the old. Next in line were the developed, wealthy markets that had the technical skills and the financial muscle to bear the risks of new technology as well as the competitive environment that drove them to do so. And finally came the emerging markets, underdeveloped nations who could simply follow the adoption models that were established in other countries, allowing them to enjoy proven solutions and practices at economy-of-scale prices.

This logical progression, a trickle-down approach to technology, made sense when the duration of a typical adoption cycle was measured in decades. While this was a good way to ensure worldwide adoption, it cemented the position of

the latest improvements in cost-reduction and efficiency. They may need to leapfrog again and learn from the trials and tribulations that

opportunities to upgrade their networks without being locked-in to the roadmap and feature velocity of a single vendor.

“When mobile communications appeared, they completely disrupted the ‘catch up’ model, as underdeveloped countries realized that they had an opportunity to ‘leapfrog’ straight to mobile to provide digital services sooner and thus narrow the technological gap that favours developed nations.”

carriers in more advanced countries have gone through, instead of repeating them. The fact that their networks are still relatively small and new already puts them in a better position to embrace smarter network components faster.

Where will they leap to?

While the drivers of innovation may be different than in mature markets, innovation is still crucial for carriers in underdeveloped nations as they must find new ways to offer advanced digital services to low-income customers. This has led to interest in ORAN, as more and more MNOs realize that the best way for them to speed up innovation and optimize their investments is to break their reliance on proprietary hardware and gain the flexibility to innovate the way they need to. The ORAN ecosystem has grown and is now fully capable of providing MNOs with a range of

Another direction that carriers in underdeveloped nations need to leap towards is power savings. Given the price-sensitivity of their markets and their power-hungry networks spread over large distances, carriers need such solutions sooner rather than later. Rising energy costs severely threaten the viability of advanced services in their market. Parallel Wireless, whose strength is mobile network energy conservation, has started to see new opportunities due to the rises in energy unit costs and cell-site power consumption. From a network management standpoint, our All-G solution is attractive for many companies who seek efficient, high-performance solutions that can manage a complex, heterogeneous network from a single system.

The focus of MNOs in these regions is to aspire to self-managing networks, with automation and zero-touch solutions that minimize the need

for manual intervention. By deploying solutions that provide enhanced logging and tracing capabilities, they can improve the deployment and network maintenance efficiency.

The challenges of operators in emerging, underdeveloped markets include maintaining the flexibility to react in a very dynamic market. As the market expands and matures, competitive pressures from new entrants, evolving regulatory policies and fluctuations in demand for capacity all require operators to maintain network agility. This means that carriers cannot afford to ‘blindly’ deploy new cell sites, they need a smarter, more centralized approach towards network resource management.

Eliminating gaps, creating opportunities

As mobile communications have become an essential component of the global economy, countries that traditionally have been slow to adopt new technology have realized that they have an opportunity to significantly close the gap between them and more developed countries with fully-digital economies. The economical upside of taking a bold approach to the adoption of technology, of leapfrogging over earlier generations of mobile communications to newer paradigms, will be very significant for governments, citizens and the mobile network operators who serve them. ■



Safeguarding staff and wildlife at ZimParks with hybrid communications

Zimbabwe Parks and Wildlife Management Authority (ZimParks) is the main Government agency for wildlife conservation, managing approximately five million hectares of land. From 2020-2021, widespread poaching was seen in the parks because of a pandemic-impaired local economy and an absence of tourists in the parks.

Wildlife-human conflicts were on the increase. In 2020, there were more than 50 injuries and 60 deaths. ZimParks was in dire need of a way to improve the safety of park rangers and reduce wildlife poaching activities.

Cross park communications

To better equip its staff - especially its 'boots on the ground' rangers - with the essential tools they need to cope with potentially dangerous situations, ZimParks teamed up with Hytera to build a communication and dispatch system that allows the staff to be mobilised effectively and efficiently across the massive parks. Hytera also provided digital two-way radios to the rangers for park-wide radio communication.

"We have rangers who are doing their jobs very effectively on the ground," said Fulton Mangwanya, director general of ZimParks. "They are our boots on the ground. But they are facing a lot of challenges as they do their work; poachers want to injure and kill them as do the animals they are protecting. So, the best way for us to actually help the first line of defense effectively is to provide effective communications. As GSM coverage is not available in all the parks, radio communication is essential in helping protect wildlife and tackle law enforcement issues."

Hytera delivered ZimParks a convergent communication solution that integrates both broadband and narrowband technology. A large number of Hytera DMR digital handheld radios, mobile radios, DMR repeaters, dual-mode advanced



radios, manpack repeaters, and a SmartDispatch system were supplied.

The entire Hytera radio network covers all the parks managed by ZimParks except NW Matebeleland Region; the goal is to cover all the parks in the near future.

The Hytera PD48X and PD78XG portable radios - known for their robust and rugged design - feature GPS positioning functions and were offered to the rangers. In digital mode, the PD48X can support continuous operation for around 16 hours. Rangers can text each other if they do not want to make a sound to disturb the animals. These two models also support both analogue and digital channels to ease the financial pressure brought by digital migration.

The Hytera PDC760 dual-mode radio, a DMR LTE hybrid device that offers the ideal platform for critical voice and broadband data services, is enabling the rangers to make calls over DMR or public cellular network and enjoy multimedia services such as video recording/streaming, photo taking and other services that a smartphone provides.

Meanwhile, the Hytera manpack repeater, a digital/analogue portable repeater that is compatible with the DMR standard that is compact for easy transport, can be carried by the rangers conveniently. It supports a range of power supply options to guarantee uninterrupted communications when the rangers are on an extended patrol.

Emergency situations are not unusual at ZimParks. Hytera's SmartDispatch system supports multiple data services, GPS positioning

services, and safety features, which together with PDC760, which can access both narrowband and broadband networks and with front/rear cameras, enable instantly visualized dispatching.

"We are committed to supporting ZimParks' efforts to tackle poaching and enhance the safety of rangers," said Mark Zheng, director of Hytera Southern Africa. "Wildlife conservation is crucial to a sustainable future and we are glad that our radios are making contributions to this. We wish ZimParks all the best in their ongoing efforts to protect wild animals and will continue to work with them closely."

A promising partnership

As a result of the partnership between Hytera and Zimparks, Zimbabwe recorded a decline in wildlife poaching in 2022, with a total of 36 key wildlife animals being poached in 2022, down from 42 in 2021.

Moreover, staff reported that they were extremely satisfied with the new technology.

"The remoteness of the area, the absence of cellphone signal coverage, and the nature of our work with high chances of encountering armed and dangerous wildlife criminals as well as dangerous animals, reptiles, and insects, make the work of rangers all the more challenging," said Theresa Makunike, one of ZimParks' rangers. "However, my training, as well as reliable Hytera radio communication coverage in the area, give me the confidence to engage with the poachers - and work in the excessive heat." ■



NRT and CCF rollout Africa's largest IoT conservation network

Northern Rangelands Trust (NRT) and Connected Conservation are safeguarding Kenya's most vulnerable species and natural resources with Africa's largest landscape-wide IoT conservation network.

The project is advancing wildlife and natural resource conservation using LoRaWAN IoT sensors and networks to collect, monitor and analyze real-time environmental data on a captivating scale. This data is coupled with analytics and conservation tools to help safeguard wildlife populations, promote peace, and empower community-led conservation.

NRT's IoT conservation network was the first of its kind in Kenya and has been made possible by Connected Conservation Foundation (CCF), bringing together a coalition of private and public sector partners including NRT, Cisco, Actility, 51 Degrees, and EarthRanger.

Changing the conservation game

LoRaWAN IoT technology has emerged as a game-changing solution for natural reserves that require robust signal coverage over vast and hostile environments, which often have zero connectivity.

The technology allows battery-powered sensors to communicate via a long-range, ultra-low data rate connection, resulting in longer battery life. Additionally, LoRa sensors are a fraction of the cost compared to satellite-enabled solutions – transforming the way conservation programs operate.

The IoT network currently covers 22 of NRT's community-led conservancies and four private reserves, (Lewa Wildlife Conservancy, Ol Jogi, Loisaba and Borana) with plans to bring more on board to increase coverage across the region. Over 190 new sensors have been deployed to all parks, with a further 250 scheduled.

"This IoT network is a game-changer for conservation efforts in Northern Kenya," said NRT's CEO, Tom Lalampaa. "We can now monitor our conservancies on a scale that was never possible. It is empowering our community-led conservancies to share, make decisions and collaborate in their conservation efforts."

"This cross-conservancy, IoT conservation network is changing the way private and community-led conservancies work together," said Sophie Maxwell, executive director of Connected Conservation Foundation. "Shared real-time information for large connected landscapes is helping secure threatened species, manage essential ecosystem services and benefit local communities."

Data from the ranger, vehicle and wildlife sensors are helping rangers monitor and respond to threats to prevent poaching, share information on vulnerabilities, bolster conservation management strategies and promote peace and security between ethnic communities.

"Our ongoing work with CCF, and other partners to deliver the largest landscape-wide IoT conservation network is part of Cisco's Partnering for Purpose initiative," said Chris Panzeca, senior director, global strategic partner sales at Cisco. "This network demonstrates the power of innovative technologies to support conservation efforts. Together, we are driving positive impact – creating safe havens for animals and empowering local communities."

Managing natural resources

2022 saw extreme drought in East Africa, sweeping away grasslands, water, local food, and animals. NRT has huge challenges to sustainably manage its natural resources and to pre-empt and reduce both human and wildlife conflicts.

The IoT network supports the plugin of livestock and environmental sensors to monitor foraging conditions, track livestock movements, and observe water levels that threaten the successful co-existence of wildlife and local people. Additionally, this natural resource tracking data will help validate the effectiveness of NRT's protected areas and help unlock new revenue streams by verifying community rangeland management for carbon projects.

Combined, this massive IoT undertaking will contribute vital digital infrastructure, to help Kenyan partners measure and achieve the Global Biodiversity Targets set out at COP15 – to protect 30% of the planet for nature by 2030.

For this project, the comprehensive LoRaWAN network management uses Actility's ThingPark platform to efficiently manage gateways, integrate sensors, monitor network operations and regulate the flow of data to application servers.

"Few individuals readily connect wildlife conservation and IoT; however, the pairing is indeed a perfect match," said Olivier Hersent, CEO at Actility. "Wildlife protection is an ideal use case for LPWAN IoT, given the vast territories to monitor, the necessity for long-lasting, low-cost sensors and the requirement for secure technology to combat poaching. We are delighted and proud to witness LoRaWAN and ThingPark playing a pivotal role in supporting this remarkable preservation endeavour."

Bringing peace to Kenya

NRT empowers 43 indigenous communities in Northern Kenya to manage their conservancies and maximize nature-based economies. Fair and transparent access to connectivity and IoT sensors is providing both private and local community-led conservancies with a boost in knowledge to prevent poaching, pre-empt human-wildlife conflict and halt habitat loss.

In fact, NRT reported that the provision of real-time data, digital radio communications and cross-conservancy network collaboration, has helped accomplish a reduction in poaching and human-wildlife conflict. This has helped boost Black rhino numbers by 10% in Kenya.

Now, Kenya is one of the few places in the world where black rhino populations are on the rise. But with this success comes an urgency to establish safe and connected rangelands for these critically endangered species to roam. This project has enabled innovative ways to monitor the rhino population and has helped bring the removal of fences between conservancies, creating larger, connected habitats for rhinos.

"These technologies are helping us achieve our goal of securing wildlife populations and bringing peace to the region," said Samuel Lekimaroro, NRT's director of wildlife protection. ■



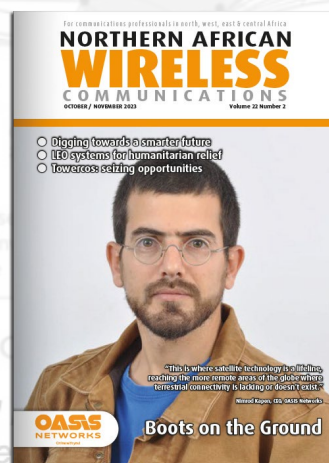
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CSPs to gain from AI-enabled pricing software

The new Amdocs CPQ Pro, a next-generation configure-price-quote software, enables communications service providers (CSPs) to offer advanced enterprise services for all business types by leveraging generative AI capabilities.

Underpinned by Amdocs' pioneering telco-grade generative AI platform, amAIz, CPQ Pro aligns with Amdocs strategy of advancing generative AI co-pilot use cases across the communications industry, bringing reduced time to market, enhanced efficiency, and next-level customer experience through service differentiation

across its products and services portfolio. This launch also builds on previously announced strategic partnerships with Microsoft and NVIDIA, further bringing generative AI capabilities into Amdocs' CES portfolio.

"We believe in generative AI's ability to transform the telecom industry and enhance experiences for enterprises and consumers alike," said Anthony Goonetilleke, group president of technology and head of strategy at Amdocs. "CPQ Pro is one of the industry's first generative AI-infused CPQ applications meticulously crafted

for CSPs. It empowers our customers to capture and accelerate enterprise revenue opportunities, extending beyond just connectivity to encompass new digital and e-commerce services and network-based value-added services."

Designed specifically for CSPs, Amdocs CPQ Pro advanced capabilities include a telco-native generative AI co-pilot that delivers a streamlined enterprise sales experience, including the ability to easily create proposals with innovative solutions, optimized pricing, and summarized agreements with

terms and conditions, reducing the overall sales process duration. Improved service delivery time and accuracy which may drive cost reduction, potentially resulting in enhanced profitability, bringing new, monetizable opportunities to life. CPQ Pro also offers partner ecosystem monetization, enabling CSPs to build compelling, partner-enriched B2B solutions, empowering sales teams to create unique offerings for customers; as well as certified pre-integration with sales, ordering, fulfilment and billing systems to deliver a seamless end-to-end experience.

Nebula246 radio now supports 2G devices

Baicells Technologies' Nebula246, a high-power outdoor radio, now offers cellular connectivity for supporting 2G user devices. The low-cost, compact Nebula246 radio offers an attractive platform for mobile operators to continue supporting their legacy 2G customer base while offering them an attractive software upgrade path to 4G/LTE.

Many regional markets still rely heavily on 2G wireless services as their critical lifeline. These legacy connectivity services are used by large numbers of wireless subscribers and will need to be maintained until an eventual upgrade to next generation services is made.

Globally, 2G devices remain popular and in widespread use due to their broad availability and low-cost. As a result, service providers continue to balance the need for network upgrades to the next 'G' against the need to continue offering a 2G wireless service that many of their wireless subscribers still expect. The Nebula246 offers a network solution with an attractive ROI by enabling operators to bridge the support of legacy 2G subscribers

today while providing an attractive upgrade path when customers are ready tomorrow.

The Nebula is an all-in-one, easy to deploy platform that supports 40W total power for extended coverage range. The functionality is based on the 3GPP R12 standards supporting GSM bands 3 (1800MHz) and 8 (900MHz) to user devices. It can also be used as a cost-effective platform for offering IoT connectivity.

The radio offers a TR-69 interface for integrating into existing management platforms allowing for a smooth introduction into an existing operating environment. Redundant BSC (Base Station Controller) configurations are supported to maintain a high service availability. Longer term, the platform's 2G subscriber capacity will continue to increase and with just a software upgrade, the ability to support 4G/LTE connectivity. The Nebula246 is an economic friendly 2G onramp to 4G services and beyond.



IoT multiband combination antennas for 4G/5G/WiFi/GPS

Fairview Microwave has launched an innovative series of IoT multiband combination antennas, setting a new industry standard for vehicle, fleet, and base station connectivity.

Designed to serve the crux of reliable mobile networks, these antennas come equipped with elements that cover 4G, 5G, WiFi and GPS bands, all unified under a single radome. This advancement is particularly crucial for critical service providers such as emergency teams, first responders and fleet management. By facilitating a steadfast link between moving vehicles and dispatch centres, Fairview Microwave ensures seamless communication even in the most challenging scenarios.

"Our aim has always been to ensure unhindered communication, especially for those on whom countless lives depend, such as first responders and emergency service providers," said Fairview Microwave product line manager Kevin Hietpas.

The antennas come with FAKRA and SMA connectors with 17ft cable leads, making installations and connectivity more efficient. An IP69K rating validates its indoor/outdoor compatibility, ensuring durability and resilience against challenging environmental conditions. Additionally, its MIMO capabilities signify a superior data transmission rate, and the

UV stabilized ABS construction ensures longevity, available in both black and white to cater to diverse aesthetic preferences.

With dedicated ports for 4G/5G, WiFi and GPS (supporting up to 10 leads), network configurations become both versatile and robust. The inclusion of GPS/GNSS with an LNA, amplified by a 26dB gain, ensures optimal location tracking and precise navigational support. Moreover, the indoor/outdoor IP69K rating is a testimony to its durability and adaptability.

"These IoT combination antennas fortify our commitment to powering the next generation of mobile network solutions," said product line manager Kevin Hietpas. "Our aim has always been to ensure unhindered communication, especially for those on whom countless lives depend, such as first responders and emergency service providers. This product echoes that sentiment."



VSG supports HF wireless communications

Keysight Technologies has launched a new compact, four-channel vector signal generator (VSG) capable of signal generation up to 8.5GHz with 960MHz of modulation bandwidth per channel.

The N5186A MXG is the next-generation high-performance VSG in Keysight's X-Series signal generator portfolio, offering the multiple, individually complex signals needed for dense wideband multichannel applications.

Evolving technologies in wireless communications and radar applications demand higher frequency coverage using complex modulation schemes like MIMO, beamforming, and multiplexing

to maximise data throughput. Testing these applications requires signal generation instruments that maintain excellent modulation quality when working with greater bandwidths. To achieve higher frequencies, greater bandwidths, and more complex modulation schemes, network and design engineers typically need more bench space for additional test equipment and fixtures.

The Keysight N5186A MXG addresses this challenge by simplifying complex setups with reduced external connections and up to four channels in a compact 2U form factor. As the world's first signal generator to feature

an embedded reflectometer, the N5186A MXG delivers extremely accurate signals to the device under test (DUT).

By providing consistent and repeatable results, the N5186A MXG vector signal generator is an ideal solution for a broad range of applications. The MXG's custom DAC application-specific integrated circuits (ASICs) use DDS to deliver precise signals to minimise distortion and meet the evolving standards for component and module design. In addition, the embedded reflectometer expedites the setup process to correct for the match of the DUT, enabling a faster time-to-test.

World-first commercial release 17 5G RedCap modem-RF system

Qualcomm has launched the world's first commercial release 17 5G RedCap modem-RF system. The Snapdragon X35 5G Modem-RF System will enable the expansion of the 5G ecosystem by enabling global mobile network operators and OEMs

to enable new devices, form factors, and experiences.

The Snapdragon X35 brings a new class of 5G that bridges the complexity gap between high-speed mobile broadband devices and extremely low-bandwidth internet of things (IoT) devices. RedCap will enable smaller and more cost-efficient 5G devices and provide longer battery life, thanks to their reduced complexity.

"5G RedCap is one of the primary pillars of 5G Advanced and is key to the evolution of 5G. It bridges the capability and complexity gap between the extremes in 5G

today, and can enable a broader set of devices and services as well as enhance system performance and efficiency," said Gautam Sheoran, vice president and general manager, wireless and broadband communications, Qualcomm Technologies, Inc. "We're pleased to deepen our collaboration with global mobile operators and OEMs to advance the 5G ecosystem, enabling a new and wide range of premium- and entry-level use cases."

Commercial mobile devices powered by Snapdragon X35 are expected to launch by the first half of 2024.



Septentrio's smart antennas enable machine automation for heavy industry

Septentrio has launched new smart antenna for machine automation and control in construction, precision agriculture and logistics.

The AntaRx smart antenna is enclosed in a ruggedized housing, can handle high levels of shocks and vibrations and is ready for operation in harsh industrial environments. This multi-frequency receiver delivers high-accuracy RTK positioning down to the centimetre level. Equipment manufacturers and system integrators can benefit from the versatile offering including INS (Inertial Navigation

System) integration, dual antenna mode, and 4G cellular communication.

"AntaRx combines the renowned positioning quality of Septentrio with a high-quality antenna, in a rugged and compact housing for simplified installation. The product targets industrial applications such as construction and mining, offering a high degree of robustness validated through extensive testing against industry standards," said Silviu Taujan, product manager at Septentrio. "AntaRx is available in several configurations, either

as a GNSS smart antenna or as a GNSS/INS smart antenna system, integrating an industry leading IMU (Inertial Measurement Unit)."

Septentrio's full machine control GNSS receiver portfolio integrates Septentrio's GNSS+ algorithms, including advanced multipath mitigation, which allows uninterrupted operation in challenging conditions such as near high structures or machinery. High update rate and low latency ensure accurate plan execution during fast movement or rotation.

Look out for...

5G drones - the future of critical communications

In the wake of a disaster – be it natural or manmade – restoring communications is critical to relief and recovery efforts. While terrestrial technologies are often damaged or overloaded during such times, satellite has long proven a reliable (if pricey) alternative.


Today, a new option is on the horizon. High speed communications delivered by unmanned aerial vehicles (UAVs) or drones are under development across the world for application in disaster recovery, defence, government & military, utilities, agriculture, etc. The 'drone in a box' architecture features self-deploying drones that can be operated remotely, fulfilling their mission, before returning to the box to recharge.

One such company making great strides in this area is Nokia Drone Networks, which at the end of 2023, achieved the first FCC-certified 5G-connected drone-in-a-box solution with Rohde & Schwarz in North America. This represents a significant step in providing a proven, industrial-grade 4G/5G drone solution built for reliable Beyond Visual Line of Sight (BVLOS) operations.

Highly resilient connectivity is critical to remote drone operation, real-time streaming of data collected during a drone mission, and BVLOS operation using a large set of 3GPP spectrum bands. Research and development efforts have pushed the boundaries in terms of RF design and connectivity performance. Innovative features such as full network connection redundancy, multi-operator support and hot failover also feature.

Nokia and Rohde & Schwarz originally joined forces in 2022 with an MoU to embed Rohde & Schwarz QualiPoc 4.9G/LTE and 5G network measurement capabilities into the Nokia Drone Networks platform. Extending the cooperation to device testing and certification, Nokia collaborated with Rohde & Schwarz to complete the FCC's rigorous requirements for R&D component testing. The R&S CMX500 radio communication tester from Rohde & Schwarz was utilised in the Nokia Bell Labs Global Product and Compliance Laboratory for extensive radiated and conducted emissions testing.

MTS Belarus pledges more remote base stations

 MTS Belarus continues to upgrade its mobile communication in various regions of Belarus through the implementation of RAN Sharing.

The operator has announced its commitment to improving communication quality in 350 remote settlements across Belarus by adding new sectors to existing base stations.

MTS has reported a 50% increase in the coverage of base stations utilising RAN sharing technology.

More than 180 new sectors have been activated, and the operator aims to double this number by the end of March. The goal is to enhance communication services for 350 rural settlements, collectively inhabited by approximately 30,000 people, within the same timeframe. Base stations deployed with RAN Sharing technology operate on the 900MHz frequency.


According to MTS, subscribers can already enjoy improved mobile network quality in locations such

as Ratomka and Pukhovichi, border crossings at Vidza and Benyakoni, and railway stations like Babino and Danilov Bridge. Additionally, network capacity has been increased in remote settlements, including Mikhhalovo in the Dzerzhinsky district, Golyinka in the Osipovichy district, Dekshnyany in the Molodechno district, Mitki in the Mozyr district, Gozha in the Grodno district, and Yazvinki in the Luninetsky district, as well as in the territories of many

garden associations.

The network enhancement and capacity improvement are carried out through RAN sharing technology, enabling multiple mobile operators to share radio access networks and infrastructure. MTS emphasises that this approach allows for a rapid increase in communication service levels without the need for constructing or modernising their own new base stations, thereby reducing costs.

Elisa installs AI-based batteries in base stations

 Elisa equipped nearly 100 base stations with new lithium batteries integrated with an Artificial Intelligence (AI)-based energy management system in 2023. This system enables the base stations to disconnect from the power grid at appropriate moments and use renewable and affordable energy from batteries to operate.

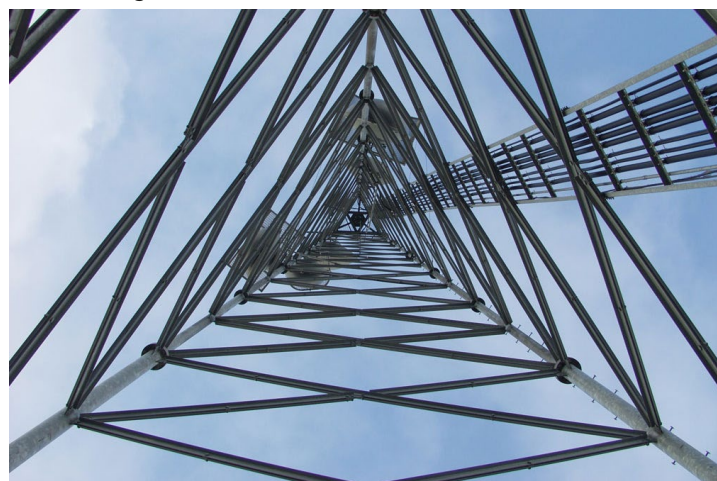
Similarly, many base stations were supplemented with lead batteries, which, like lithium batteries, help ensure the operation of mobile communication masts even during power outages.

“Elisa’s goal in the next ten years is to equip all cell towers with 100 percent local renewable energy solutions and thereby reduce the company’s footprint. New and durable battery technology, AI tools, and solar power plants built at the base station are important steps on this journey,” said Elisa Estonia in a statement. “Batteries and solar panels not only make the network greener but also more

reliable, allowing the base stations to work for 3-6 hours even if, for example, the operation of the electrical network is disrupted due to storm winds.”

During 2023, battery blocks with a capacity of 5-20kWh were installed at the base stations, depending on the needs of the specific location, which is controlled by an AI-based system. Elisa expects that with reasonable use, lithium batteries have a life expectancy of at least 12 years, while lead batteries have a life expectancy of up to 7 years.

“We will continue to invest in the creation of a future-proof, more reliable, and cleaner communication network. By linking together smart digital solutions and future-proof technologies, it is possible to significantly improve the reliability of the network even in the most difficult conditions, while ensuring that the network is always kept in operation, taking into account all sustainability principles,” said Elisa Estonia.



Ooredoo Kuwait demonstrates unprecedented 5G mmWave speeds

 Ooredoo Kuwait has completed 5G mmWave technology testing in collaboration with the Communication and Information Technology Regulatory

Authority (CITRA). gaming, video conferencing, and virtual reality, highlights its potential for Ultra Low Latency Connectivity (uRLLC) and Massive Machine-Type Communication (mMTC).



Authority (CITRA).

The initial trials, which focused on Fixed Wireless Access (FWA) and diverse use cases, demonstrated unprecedented speeds through Millimeter Wave technology.

These trials seamlessly complement the infrastructure of the advanced 5.5G network, facilitating record-speed data transfer in a live working environment. The trials, showcasing low latency and high capacity, position Ooredoo to deliver new services and connectivity for both residential and business customers.

The new technology, ensuring smooth and responsive performance in applications such as online

Ooredoo plans to revolutionise home and business connectivity with FWA powered by 5G mmWave technology, delivering high-speed and SuperFast internet to underserved areas and empowering users with reliable connectivity options.

The company plans to conduct tests utilising 5G mmWave technology in Port Automation, facilitating real-time communication among autonomous vehicles, drones, and control systems. Furthermore, Ooredoo plans to redefine stadium connectivity, offering immersive fan experiences through augmented reality and ultra-high-definition live broadcasting.

Crnogorski Telekom begins 3G shutdown, paves the way for 4G/5G



Crnogorski Telekom's (CT) gradual shutdown of its 3G network will be fully completed in the next few weeks.

The company unveiled its plan to phase out 3G in October 2023, paving the way for 4G and 5G. CT emphasised that these networks significantly accelerated data transmission speeds and unlocked the development of cutting-edge applications.

Crnogorski Telekom said that the development of new technologies in the world of telecommunications, evidenced by the expansion of 5G and 4G networks, represents a turning point. These advanced networks have led to unprecedented

acceleration in data transmission and enabled the development and use of technologically advanced applications such as virtual and augmented reality (VR/AR), 4K streaming, and smart solutions in homes and cities.

CT pointed out that the 3G network is outdated, lagging behind 4G and 5G technology, and cannot be compared to the new networks developed in Montenegro.

"We want to remind you that the gradual shutdown of our 3G network, which we announced last year, will be fully completed in the next two weeks. Telekom's 3G network will be officially shut down from January 22, and the spectrum,

resources, and attention will be fully focused on the development of 5G and 4G technology," announced Crnogorski Telekom. "The decision to shut down the 3G network is in line with the global trend of phasing out 3G technology, led by technologically advanced countries such as Singapore, Hong Kong, Japan, and Germany. At Telekom, we are proud to be among the global telecommunications leaders who have created the conditions for a complete transition to the network of the future."

Montenegrin Telekom's 5G network covers over 80% of the population with 5G network, while the 4G network covers 97% of the population.

Telekom Romania Mobile expands 5G to Ramnicu-Valcea region



Telekom Romania Mobile has announced the expansion of its 5G network to the city of Ramnicu-Valcea and surrounding areas.

5G technology is currently available to both prepaid and postpaid mobile customers in the Romanian capital of Bucharest and 12 other cities. Telekom Romania continues to expand its 5G network nationwide.

With this launch, Telekom highlighted that its 5G network is now available to both prepaid (card) and subscription (postpaid) users in Bucharest (including Otopeni), Arad, Brasov (including Poiana Brasov), Sibiu, Cluj-Napoca, Timisoara, Iasi, Constanta (including Mamaia), Ploiesti, Craiova, Pitesti, and Oradea.

Ooredoo Myanmar launches eSIM service



Ooredoo Myanmar has announced the launch of its eSIM service, which can be used in 118 countries through international roaming.

Ooredoo Myanmar said that users can upgrade to eSIM "for free." Additionally, anyone can purchase a new Ooredoo eSIM at the same rate as normal SIMs, incurring no additional costs. Users can conveniently upgrade or purchase eSIM digitally with a few taps on their mobile devices, eliminating the need to visit a physical store.

"We are thrilled to launch our e-SIM service in Myanmar. In line with our vision to enrich people's digital lives, we are empowering our customers to ensure seamless connectivity that caters to their growing digital needs. We are working as a true digital enabler across Myanmar, and our aspiration is to help the people of Myanmar enjoy exciting and rewarding digital experiences smoothly through

our latest and cutting-edge digital technologies. With more and more modern mobile devices supporting eSIM technology, we are very proud to launch among the most globally advanced eSIM services in Myanmar and continue with our commitment to upgrade the world of the people of Myanmar," said Ooredoo Myanmar in a statement.

Ooredoo Myanmar emphasised that eSIM technology comes with benefits, including easy and convenient access to the



eSIM service through digital channels such as the Ooredoo SuperApp and website, the ability to switch between SIMs with a few taps, and the convenience for frequent travellers.

With eSIM, switching to local providers abroad is simple and does not require inserting a new physical SIM card into the mobile device. Subscribers can store 5-8 e-SIM profiles in a single phone, adding to convenience and saving on investments in multiple handsets.

Jio ponders Sri Lanka Telecom stake



Jio Platforms has expressed interest in acquiring the government stake in Sri Lanka Telecom PLC.

Due to the weak financial situation of the government as well as the telecom operator, Sri Lanka is looking to aggressively privatise state-owned companies to help generate jobs and improve the economy gradually. Jio Platforms, expected to go independent with an IPO (Initial Public Offer) shortly, is looking to invest in an international telecom company.

Colombo had invited proposals from potential investors for its stake in the Sri Lanka Telecom PLC. Jio Platforms is one of the three potential bidders that has expressed interest in acquiring a stake in the national telecom service provider.

Currently, Sri Lanka's Secretary to the Treasury holds over 49.5% stake in the company, while Global Telecommunications Holdings owns 44.9%. The remaining stake, which is a very small one, is held by the public.

ISP Link Net to sell fibre business



ISP Link Net is reportedly planning to raise up to US\$500 million by selling a stake in its fibre business as it gears up to expand its network coverage.

According to Bloomberg, citing anonymous sources, Link Net wants

to raise funds to expand its network. The ISP has been looking for an adviser to help it sell shares worth between US\$400-500 million.

The news comes one month after Link Net's parent company, Axiata group, announced that Link Net would

transfer its fixed-broadband business to mobile operator XL Axiata and continue as a wholesale fibre company. As part of the deal, Link Net is set to roll out fibre to pass an additional 2 million new homes, bringing its total coverage to 6.5 million homes passed.

Singtel partners with Starlink on maritime digital offerings

 Singtel has announced a partnership with Starlink to enhance its maritime digital offerings.

The collaboration aims to drive the adoption of digital solutions by ship owners and operators, allowing them to leverage advanced technologies such as artificial intelligence (AI), 5G, edge computing, and access cloud-based solutions, to improve

safety, operational efficiencies, and crew well-being.


Singtel will integrate Starlink's satellites into its maritime digital solutions, specifically into its iSHIP platform, which includes Paragon — a platform for 5G edge computing and cloud services. Starlink is the first low Earth orbit (LEO) broadband service to be added to Singtel's portfolio for vessels.



The partnership is expected to provide enhanced connectivity and low-latency capabilities for ship operators, enabling real-time data analysis. This will lead to increased productivity, reduced fuel consumption costs, and improved operational maintenance, according to the official release.

"The maritime industry is a complex, interconnected environment involving large volumes of data being transmitted between thousands of terminals, ships, and ports across the world. We have seen growing demands for faster, more resilient, and low-latency connectivity as the industry starts to embrace digital transformation," said Singtel in a statement. "The addition of Starlink to our existing suite of satellite communications solutions, orchestrated by our patented Paragon platform, is part of our multi-orbit strategy to increase the resilience of satellite connectivity in the industry and to enable the rapid adoption of digital technologies and solutions."

Lynk and Telikom launch Sat2Phone services in Papua New Guinea

 Lynk and Telikom have launched initial Sat2Phone services for subscribers utilising Lynk's 'cell-towers-in-space.'

The service is anticipated to significantly enhance mobile coverage in Papua New Guinea, benefiting both the local population and visitors.

The initial Sat2Phone service will begin with SMS and is expected to expand in the future to include voice and mobile broadband. This will be followed by ultimately delivering an urban-like mobile experience anywhere, irrespective of location, said the official statement.

"Today's announcement will, over time, be instrumental in improving the lives of Papuans right across our nation. Lynk's network deployment will enable continuous mobile coverage, surpassing the limitations of traditional terrestrial mobile towers. The initial service, starting in


Hela Province, will extend in 2024 and beyond, allowing Telikom to better serve new and existing subscribers," said Telikom in a statement.

When ubiquitous connectivity

is achieved, the service will have the potential to offer life-saving emergency alerts and SMS warnings in areas vulnerable to natural disasters.

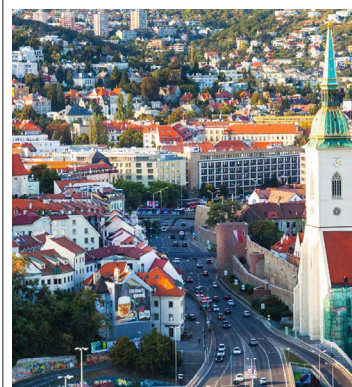


O2 Slovakia's 5G network covers 70% of population

 O2 Slovakia has announced significant progress in expanding the coverage of its 5G network to 70.1% of the country's population by the end of December 2023, up from 37% a year earlier.

Over the year 2023, O2 Slovakia launched 5G services in 819 new sites, taking the network to a total of 1,009 sites. The operator is significantly expanding the coverage of the 5G network and modernising the entire network infrastructure, leading to improved connection quality for customers.

The network modernisation, coupled with the announced shutdown of the 3G network, the utilisation of freed frequencies, and the planned infrastructure sharing with a partner operator, is expected to help O2 build the most modern mobile network, according to the official release.



"The year 2023 at O2 was undoubtedly also about building the most modern 5G network. During the year, we managed to cover more than 800 new locations and increase coverage from 37% to more than 70% of the population in Slovakia. Even in 2024, we will focus on improving the quality of our network infrastructure. Along with the announced switch-off of the outdated 3G technology, we are modernising our fastest network, and at the same time, we will gradually bring a high-speed connection signal to areas where it has been missing so far," said O2 Slovakia in a statement.

Q&A

Jeremy Potgieter,
regional director Africa,
Eseye

**Who was your hero when you were growing up?**

I was a huge fan of Namibian sprinter, Frankie Fredericks. He was a trail blazer who combined considerable athletic ability with an unmatched work ethic, leading him to have an impressive career.

Going from winning the silver in 1992, to placing third 12 years later in Athens is a remarkable achievement, especially considering he set a world-record for 200m along the way. Fredericks demonstrated that anyone who works hard can belong, regardless of your background.

What was your big career break?

It would have to be my first opportunity to work in the technology sector as a support desk agent.

This entry level experience gave me not only a good understanding of the technology concepts, but also a first-hand contact with customers to address their real world problems directly.

You learn the importance of empathy, get hands on experience on pain points and issues with user experience, and learn about the product in a way that theory alone does not give you. This in turn provided me with a true appreciation for good customer service, which has stayed with me throughout my career.

What did you want to be when you were growing up?

I wanted to be a fighter pilot. Anyone who has seen Top Gun or

read about The Battle of Britain will know the outsized role these people can play, and there is a lot to be learned from military strategy. Colonel John Boyd, one of the best fighter pilots in history, famously invented the OODA loop (observe-orient-decide-act), a model that is transferrable to technology business.

If you could dine with any famous person, past or present, who would you choose?

It would have to be Cat Stevens for me, I find his life story fascinating. He grew up in an immigrant family on London's West End, listening to musicals from around the corner on Denmark Street. Then he went on to nearly die of tuberculosis, have a spiritual reawakening, become a major star who sold over 100 million records, convert to Islam and step back from the music he was famous for. There is definitely too much there to get through over dinner, but I would like to give it a shot.

What's the best piece of advice you've been given?

Listen to understand, not to respond.

All of the best leaders are careful listeners in my experience, even those with larger than life personalities. We can learn something from everyone we meet regardless of our age or experience, and that requires listening actively.

Too many people cue up their response while others are talking,

"I would love to start a field hockey academy. Since an early age, I've been captivated by the spirit of field hockey. The exhilaration of the game, the camaraderie with teammates, and the thrill of competition have not only shaped my character but also given me the determination to excel both on and off the field."

rather than giving them their full attention.

If you had to work in a different industry, which would you choose?

I would have to choose sports management. Sport has been a passion of mine from a young age and I'm fortunate enough to be able to pursue it alongside my professional life.

There are a lot of transferrable leadership lessons, including around how to build, manage and contribute in a team environment. Camaraderie is particularly important in sport and in business, and I have transferred a lot of sporting lessons to my career.

It would be interesting to see whether I could do the same in reverse if I went into sport full time.

The Rolling Stones or the Beatles?

The Stones all day. They're technically superior musicians. The Stones draw from Blues while The Beatles are closer to Pop music.

What would you do with £1 million?

I would love to start a field hockey academy. Since an early age, I've been captivated by the spirit of field hockey. The exhilaration of the game, the camaraderie with teammates, and the thrill of

competition have not only shaped my character but also given me the determination to excel both on and off the field. Just as Frankie Fredericks has given back to the sport he loves as an administrator, I would like to do the same for my favourite sport.

What's the greatest technological advancement in your lifetime?

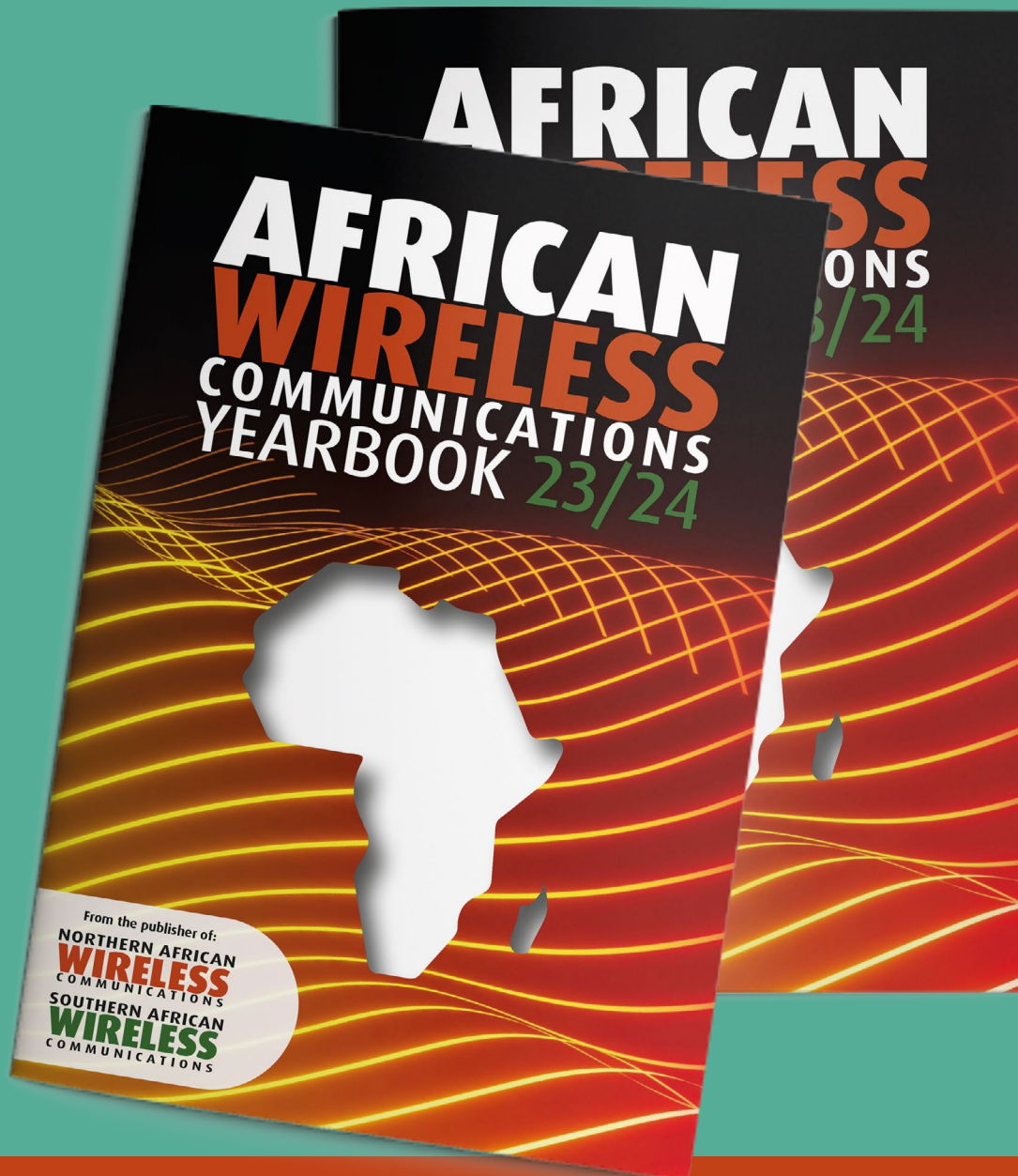
The switch from dialup to dedicated data bearing access types like 2G, 3G and so on. For over a century we were only able to send data equivalent to the human voice across long distances. In a few short decades we have gone to 5G, where it's possible to download the entire library of congress on a mobile connection in less than a day. We are still seeing the technological possibilities that result from this emerging, which makes the sector an extremely interesting one in which to work. ■



"I wanted to be a fighter pilot. Anyone who has seen Top Gun or read about The Battle of Britain will know the outsized role these people can play, and there is a lot to be learned from military strategy."

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