

For communications professionals in southern Africa

SOUTHERN AFRICAN WIRELESS

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Volume 27 Number 5

- 5G or not 5G? Connecting rural regions
- The seven fault lines of the digital divide
- Safeguarding from SIM swap fraud

A man in a dark suit and light-colored checkered shirt is smiling and looking towards the camera. He is standing in front of a tall telecommunications tower with multiple antennas. The background is a clear blue sky.

**Next-Generation Fixed Wireless
to Close the Digital Divide**

Nick Ehrke, Africa Lead for Tarana Wireless

TARANA 

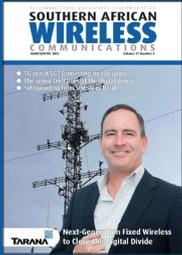


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Tarana's mission is to accelerate the deployment of fast, affordable internet access around the world. Through a decade of R&D and more than \$400M of investment, the Tarana team has created a unique next-generation fixed wireless access (ngFWA) technology instantiated in its first commercial platform, Gigabit 1 (G1). It delivers a game-changing advance in broadband economics in both mainstream and underserved markets, using either licensed or unlicensed spectrum.

G1 started production in mid-2021 and has since been embraced by more than 240 service providers in 19 countries. Tarana is headquartered in Milpitas, California, with additional research and development in Pune, India.

Visit www.taranawireless.com for more on G1, or contact Nick Ehrke: nicke@taranawireless.com

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Starlink blocked from South Africa?

The South African political party Democratic Alliance (DA) believes that Starlink's entry into South Africa is blocked by the country's telecommunications law.

The latter obliges Starlink to sell 30% of its capital to people from historically disadvantaged groups before obtaining the approval of the authorities to provide its high-speed internet services by satellite.

Starlink is currently pursuing its African expansion strategy as of 2021 as part of parent company SpaceX's ambition to bring broadband everywhere on the planet, including the most remote and landlocked areas. The company

has already commenced operations in Nigeria and Rwanda. According to the launch schedule, 21 other African countries should receive its services this year.

"If Starlink were available in South Africa, children in the most rural areas would have access to information and learning materials, and others could educate themselves without the constraints of universities or formal schools that millions of people simply cannot afford it," said Democratic Alliance (DA) MP Dianne Kohler Barnard.

South African minister of communications and digital technologies, Mondli Gungubele,

has denied claims that the country's government is blocking Starlink.

"The department wishes to place it on record that in order to operate an electronic communications network such as satellite to offer a service in South Africa, an individual Electronic Communications Network Service (iECNS) license and an individual Electronic Communications Service (iECS) license that are used in conjunction with a Radio Frequency Spectrum license are a requirement," said Gungubele. "These are obtainable on application from the Independent Communications Authority of South Africa (ICASA)."

The minister said the custodian of the licensing process is ICASA and the regulator has said that no application has been made by Starlink. "It is therefore not true that the government is blocking the operation of Starlink in South Africa," said Gungubele. "Any interested party wishing to apply for a license, including Starlink, may through appropriate channels, approach the Authority with its application and comply with the prevailing legislation in the country."



Melon Mobile launches as MVNO

Mobile virtual network operator (MVNO) Melon Mobile has launched commercial operations in South Africa.

The fully digital MVNO said it aims to disrupt the South African mobile industry, particularly in the pre-paid segment, by putting control and flexibility back into the hands of its consumers.

The company will piggyback off MTN South Africa's network and will offer a full range of connectivity solutions, including voice, data, and text messages. It will use an app to facilitate most if not all interactions and tasks for customers.

"What we have done differently is to focus on a purely digital journey. It's app-based, and most of the support, such as self-RICA, is done online. There is no physical paperwork or anything like that. We have tried to digitize the whole journey," said Melon Mobile founder and CEO Calvin Collett. "I think the most important thing to note is that we also have people in the background who offer support. So, the front-end is all digital to make sure you can support yourself, but if you can't, you can call a call center where actual people will assist."

Melon Mobile is targeting 0.5-1% market share over the next five years.

"We've built a service that puts the consumer first, giving them the freedom to choose their monthly data, voice and text needs, without locking them into anything. It's about flexibility, value and perhaps most importantly, simplicity," said Collett.

Melon Mobile is not a prepaid or post-paid solution, but a subscription. Customers can choose the subscription or package that they want and then they can change it at any time month-to-month.



Seychelles connected to 2Africa cable

Intelvision has connected the Seychelles to the 2Africa fibre optic submarine cable in partnership with Vodafone. The infrastructure landed in the country on 20 April. It should make it possible to provide the population with improved connectivity services at reduced prices.

In June 2022 Intelvision signed a partnership agreement with Vodafone for the introduction of 2Africa cable in the Seychelles. Scheduled to last 15 years, the cooperation between the two operators is supported by the International Finance Corporation (IFC), which is financing the project to the tune of US\$20 million. Intelvision has invested around US\$32 million in it.

2Africa reinforces the high-speed telecommunications infrastructure of the Seychelles, of which it is the third international submarine cable. The country has long depended on

the Seychelles East Africa System (SEAS) cable which it connected in 2011. The country then connected to the Pakistan East Africa Cable Express (PEACE) in March 2022 with a total investment of US\$20 million. These various investments reflect the efforts made by the Seychelles government to accelerate digital transformation.

"With this new cable, we will be able to set our price bar. Currently we have to source from the current submarine cable and therefore cannot control prices. We believe that installing our own cable can revolutionize the way the internet is used in the country today," said Reza Jaro, acting chief executive of Intelvision.



Africa's first 5G Mokki Tech Space to deliver immersive remote learning and work environments

In collaboration with partner universities in Africa and Finland, the African School of Economics (ASE) has launched Africa's first 5G Mokki Tech Space, a network of immersive digital learning and remote work environments connected via 5G.

In addition to its campuses in Benin and Ivory Coast, the modular tech spaces will take the ASE's presence to remote areas, helping local communities leapfrog access to high-technology education, remote job creation and digital entrepreneurship. The satellite model of the ASE's tech spaces can help prevent various African regions and remote areas from falling behind in, for example, the innovation and acceleration of products and services powered by artificial intelligence.

The 5G Mokki is a modular high-tech unit for developing software applications that require ultra-fast internet connections, to render immersive, 3D, virtual reality (VR) and augmented reality (AR) learning environments, as well as to deliver innovation services and remote work from and to any location in the world.

The tech spaces enable new types of trans-continental studies combining technology and business.

High-speed networks between Africa and North America provide great opportunities to universities, companies, individuals, and households on both continents. With remote services and operations carried out

over digital networks, regions will be able to develop economically by allocating their resources more efficiently. Less need for travel also helps in promoting socially and ecologically sustainable development.

Compared to the technology standards preceding it, 5G will enable data connections that are a hundred times faster on mobile devices and ten times faster than the fastest fixed broadband services currently. However, its true potential lies in enabling entirely new categories of applications like drones, self-driving cars, complex industrial processes, remote surgery, remote learning, remote work, and meetings in virtual or augmented reality.

With its natural resources, young population and growing markets, Africa has the potential to become a

productivity powerhouse. Corporations anywhere in the world will find access to technologically skilled labour and services from Africa via high-touch, 5G-enabled remote connections in real time.

Without innovative approaches to training and job creation, traditional degree-based education falls short of creating sufficient employment opportunities. For example, approximately half a million students graduate from Cameroon's universities every year, but only some 3,000 of these graduates tend to find employment. Cameroon is no exception in Africa.

The 5G Mokkis provide an opportunity for international corporations to tap into highly skilled, young African talent, not only to deliver remote work, but also to spur innovation.



MoMo sector processed US\$836.5 billion in 2022

Africa's mobile money industry processed US\$836.5 billion in transactions in 2022, recording a 22% increase year-on-year, according to the GSMA.

The increase in transaction value, number of registered accounts and deployments observed across Africa as well as other parts of the globe significantly exceed industry expectations.

The report shows the volume of transactions processed in Africa in 2022 stood at 44.9 billion, representing a 21% increase from the previous year, while the number of registered accounts grew from 648.23 million in 2021 to 781 million in 2022.

The East Africa sub-region leads with a transaction value of \$491.8 billion, West Africa follows with \$277 billion, before Central Africa \$57.6 billion, Southern Africa \$5.3 billion, and North Africa \$4.7 billion.

At the global level, the total transaction value jumped from US\$ 1 trillion to US\$1.26 trillion between 2021 and 2022, while daily transactions through mobile money peaked at US\$3.45 billion, exceeding the US\$3 billion predicted in 2021. In addition, mobile money-enabled international remittances grew by 28% year-on-year to US\$22 billion in 2022.

The GSMA has attributed the growth to the COVID-19 pandemic and related lockdowns which pushed more to send funds to friends and family using mobile money than ever before.

The report indicates that the world now counts 315 live mobile money deployments, with peer-to-peer (P2P) transfers and cash-in/cash-out transactions still among the most popular use cases.

"While it took the industry 17 years to reach the first 800 million customers, it took only five years to reach the next 800 million, and of that, 400 million accounts were added over the course of the pandemic. Today there are 1.6 billion registered mobile money accounts," said director general of the GSMA, Mats Granryd.

Intelsat strengthens IFC and backhaul with Gilat

Gilat Satellite Networks announced that Intelsat is strengthening its strategic partnership and expanding its in-flight connectivity (IFC) and cellular backhaul capabilities with significant multimillion-dollar orders for Gilat's multi-service platforms and terminals.

Gilat's platforms will be used to empower Intelsat with augmented capacity in Africa, North America, Latin America, and Europe to serve additional aircraft and provide an enhanced user experience to passengers. It will also be used to enable Intelsat to support the expansion of managed services

with mobile network operators (MNOs), providing additional coverage for satellite-based cellular backhauling.

"Thanks to Gilat, we're able to smoothly increase network capacity over multiple satellites, including IS-40e, IS-46, and E10B, to address the growing bandwidth demands for IFC, cellular backhaul and other applications in the Western Hemisphere, Africa, and Europe. Gilat's platforms continue to distinguish themselves as an operationally proven system that allows Intelsat to streamline IFC and cellular backhaul service

fulfilment all over the world," said Jean-Philippe Gillet, SVP global sales, network and media, Intelsat.

"We're proud to be able to work with Intelsat to deliver reliable, high-performance connectivity that helps them meet the growing demand for managed services capacity in multiple markets. We value our close partnership with Intelsat and are pleased to take part in this endeavor to further expand their IFC and cellular backhaul network capabilities with Gilat's multi-service platforms," said Amir Yafe, VP of mobility & global accounts, Gilat.

Airtel Money Zambia revolutionises loan repayments

Airtel Money Zambia has partnered with Citizens Economic Empowerment Commission (CEEC) to revolutionize loan repayments. Through the partnership, clients can now repay their business loans in a secure, fast, and convenient way through the Airtel Money platform.

This service supports Zambia's Government strategy underpinned under the National Financial Inclusion Strategy aiming to promote economic development by creating a sustainable revolving fund.

"We are optimistic that this service developed for Airtel Zambia PLC customers will support their businesses, enhance their livelihoods and create local economies where inclusion thrives, and development is sustainable," read a statement by Airtel Africa.

"We are certainly delighted with this partnership with Airtel Money as it gives CEEC clients, not only marketeers a modern-day experience with CEEC. Going forward, the Commission would like to increase its technology

touch points for better service delivery," said Muwe Mungule, director general, CEEC.

"The partnership we are announcing today is an important one as we support Government's agenda in the 8th National Development Plan to increase access to affordable financial services, particularly by women, youth, persons with disabilities and the rural-based population," said Andrew Chuma, country director, Airtel Mobile Commerce (Airtel Money).

TCCL and Huawei subsidiary to extend NICTBB

Tanzania Telecommunications Company Limited (TTCL) has signed a partnership agreement with the local subsidiary of Huawei. The contract aims to extend the National ICT Broadband Backbone (NICTBB) to 23 districts in the country at a cost of 37.3 billion Tanzanian shillings.

The project is scheduled to be completed within six months from the date of signature. It will add an additional 1,520km to the high-speed ICT backbone.

The signing of this new agreement comes shortly after Tanzanian President Samia Suluhu Hassan recommended that TTCL, having 'failed' as a mobile operator, focus on providing broadband services.

This project is accelerating the plan to deploy a high-speed information and communication technology (ICT) backbone network to improve the use of ICTs in all sectors with a view to sustainable socio-economic development. In March 2022, TTCL had already signed an agreement with Huawei for the deployment and extension of the mobile and fixed telecom network in the countryside. Later in the year, the two partners also deployed a high-speed Internet network on Mount Kilimanjaro.

"The decision to connect all districts in the country to NICTBB is part of plans to make Tanzania a communication hub in Africa," said Nape Nnauye, minister of information, communication and information technology.

ICASA finalises three RFSAPs for IMT Systems

The Independent Communications Authority of South Africa (ICASA) has published three Final Radio Frequency Spectrum Assignment Plans (RFSAPs) for International Mobile Telecommunications (IMT) Systems.

The finalisation of these three RFSAPs, after further consultation with stakeholders, ends the public notice and the public consultation process to a full set of ten RFSAPs, initiated in Government Gazette No 46160 on 31 March 2022.

The three bands are:

- 450MHz to 470MHz (IMT450)
- 825MHz to 830MHz and 870MHz to 875MHz (IMT850)
- 1427MHz to 1518MHz (IMT1500)

The promulgation of this next set of RFSAPs formalises the rules and spectrum arrangements governing several key spectrum bands used for mobile services. All three bands

dealt with in this set of RFSAPs are earmarked to be auctioned at a future date. These RFSAPs also make provisions to deal with incumbent users in IMT450 (Transnet) and IMT850 (Liquid).

The IMT450 band will be allocated for digital and IMT services only, with the possible provision of exclusion zones for some government users.

From the IMT 850 band, Liquid is to be migrated to the IMT900 band, thus freeing up the full IMT800 band for effective use by those Licensees who bought that spectrum in last year's auction, once the analogue switch-off is complete.

In the case of IMT1500, ICASA has decided that the full 1427 – 1517MHz will be allocated to Mobile/Fixed Communications Networks Supplementary Downlink (MFCN SDL) and to IMT 5G-NR TDD / SDL.

The finalisation of the current set of ten Radio Frequency Spectrum Assignment Plans marks a key



milestone in making sufficient spectrum available to licensees, on a technology-neutral basis, to enable the rollout and uptake of 4G and 5G services across South Africa. It also frees up important additional spectrum for the auction currently planned for early 2024.

"ICASA is already considering additional spectrum bands for further public consultation in the form of a new round of Radio Frequency Spectrum Assignment Plans," said Charley Lewis, committee chairperson, ICASA. "A forward-looking approach to spectrum is vital to enable the development of new services to meet the evolving demands of the market."

South African taxis to offer free WiFi with Vodacom

Netstar, a subsidiary of Altron, in partnership with Vodacom Business is empowering taxi commuters across South Africa with a free in-taxi connectivity service, WiTaxi.

Through the partnership, passengers can access free WiFi from their personal devices during their daily commutes, turning often long travel time into productive time when they can get some

work done and even connect with family and friends. The in-transit connectivity also addresses safety concerns for taxi owners, drivers and commuters mitigating risk as the platform can assist in mapping out road hazards such as potholes, traffic, and accidents.

For Vodacom, bringing about the taxi of the future through this partnership is an extension of their

goal to connect the underserved and underbanked population of South Africa, improving connectivity for all. This partnership is also a crucial step towards closing the digital divide, bringing increased connectivity and the power of digital technology to a wider audience.

Netstar's telematics devices installed in Toyota minibus taxis can double up as WiFi routers. These

devices have already been fitted to over 3,200 taxis across the country, and a potential to reach 48,000 connected taxis. With the technology infrastructure already in place to support connectivity, commuters simply need to connect seamlessly to the free WiFi through the WiTaxi app. This service is completely safe and free to users, who can access up to 1GB of uninterrupted WiFi per day.

Botswana to become digital skills hub

Botswana intends to become a regional digital skills hub, according to Thulagano Segokgo, minister of communications, knowledge, and technology. The minister said that Botswana has bold ambitions of having future-oriented, skilled digital human capital so that it can catalyse and sustain innovation ecosystems.

“It is imperative that Botswana, through these future-oriented, skilled digital human capital, establish herself as a regional talent hub and thus create opportunities not only in our economy, but in the region,” said Segokgo.

This ambition aligns with the country’s goals, enshrined in the national vision, to attain high-income status by 2036. Segokgo said that this can be achieved through the growth of direct contribution of the ICT sector to GDP in the next five to seven years.

“This means expanding market penetration into the region, positioning Botswana as a regional ICT hub; the country becoming a regional and continental player beyond improving the financial performance of the communications sector nationally,” said Segokgo.

There is a need to invest in digital infrastructure, both soft and hard, and in the knowledge-economy, to provide the best fiscal multipliers and return on investment for the long term. “It therefore requires us to renew and upgrade our national infrastructure,” said Segokgo, adding that the new accelerators of digital investments are 5G, cloud computing, artificial intelligence, IoT, and big data.

It is essential for all sectors to adopt digital technologies, including sectors that were traditionally averse, such as agriculture. Alongside these intentions to increase digital transformation to all sectors, the minister has implored the nation to curb cybersecurity threats, breaches, and to ensure privacy and data sovereignty.

“These being key challenges, that, if not addressed, will lead to a loss of trust and confidence, essential for diffusion of digital services. Therefore, we need to reflect on our efforts in this area and develop appropriate resolutions to catapult us as a trusted destination,” concluded Segokgo.

DECIM gains US\$400 million credit facility

The World Bank has approved a US\$400 million credit facility for Digital and Energy Connectivity for Inclusion in Madagascar Project (DECIM).

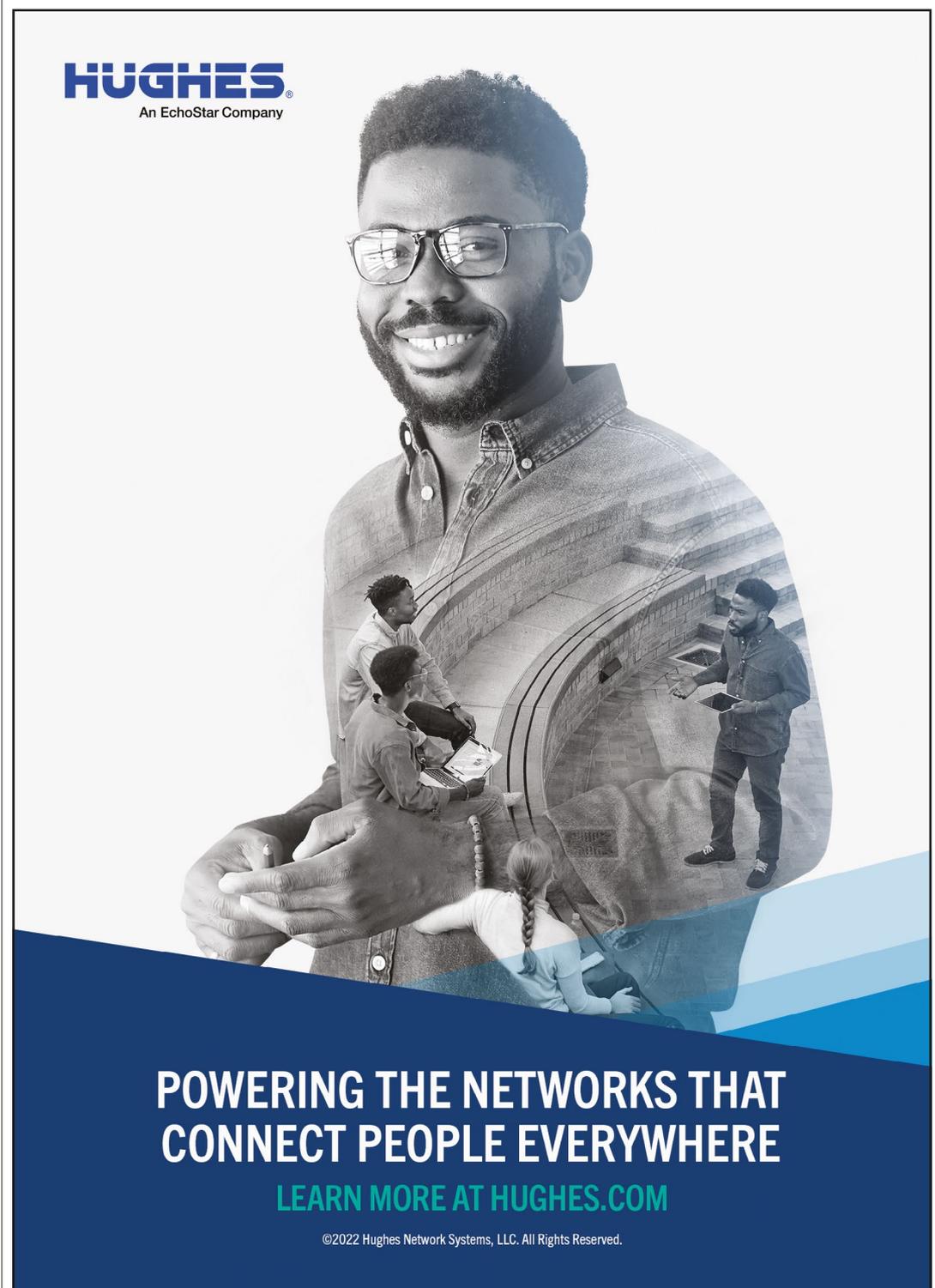
The project has wide-reaching goals, including deploying infrastructure across Madagascar to provide internet access to a further 3.4 million people and boosting access to energy and digital services in remote regions. The World Bank claims that the project will deliver electricity to over 150 villages,

encompassing 10 million people, while over 2000 schools and health facilities will gain access to renewable energy and digital services.

Just 33.7% of Madagascar’s population has reliable access to electricity, with the average for sub-Saharan Africa around 48.4% in 2020. Around 18 million Madagascans still have no electricity access, and the country accordingly ranks fairly poorly for access to broadband connectivity

despite some advancements; at end-2021, ARTEC (Autorite de Regulation des Technologies de Communications) placed the fixed broadband penetration rate at just 0.4%, while mobile broadband was still relatively low at 54.7%.

DECIM aims to mobilise private capital to help reduce Madagascar’s connectivity gap. Operators are already laying the groundwork, with infrastructure spends increasing across the board.



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Arqiva and Irdeto team up for African satellite broadcast of 150 premium channels

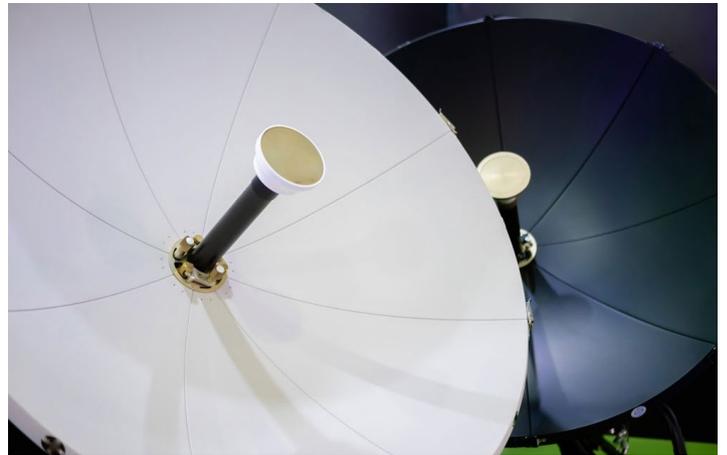
Arqiva, a UK-based global communications infrastructure and media services provider, has been selected by Irdeto to continue their partnership on the delivery of broadcast platforms to an audience of over 21 million people across 50 countries in south and sub-Saharan Africa. Under the terms of the contract, Arqiva will provide managed services to Irdeto, part of The Multichoice Group, Africa's leading entertainment company.

The contract will see Arqiva aggregate a mixture of 150 premium SD and HD channels and employ its new hybrid content processing service Arqplex to provide the encoding and multiplexing for 10 broadcast platforms. The line-up includes regionalised channels from Warner Bros Discovery to Paramount, NBCU and BBC services. These platforms will then be uplinked to the IS-20 satellite for direct-to-home (DTH) distribution. Two of the ten platforms have just launched, with the remaining eight expected to go live by April 2024. As Arqplex increases encoding efficiencies, the flexible service will

allow Irdeto to increase their channel density across their transponders creating space for new channels. From a sustainability perspective, additional efficiencies mean that the Arqplex system utilises 40% less power than legacy hardware encode and multiplexing systems.

"Arqiva is pleased to elevate its partnership with Irdeto with Arqplex," said Gaurav Jandwani, executive director media & broadcast, Arqiva. "Irdeto's trust reflects Arqiva's credentials as a reliable broadcast technology partner for global media players. Arqplex provides Irdeto with secure and reliable content aggregation, encoding, multiplexing and packaging for content distribution. In an increasingly competitive African market, our service will reduce complexity, increase efficiency and deliver rapid speed to market for Irdeto. Through Arqplex, Irdeto will have the flexibility to add new channels and reach new customers both quickly and cost-efficiently."

Arplex is underscored by decades of experience in broadcast and broadband services. The hybrid



service is built on Arqiva's expertise in systems integration, connectivity, and managed services, and is powered by MediaKind's cloud-native multiplexing, encoding, and packaging headend media processing technology.

Highly scalable and flexible, the Arqplex service is built on a cloud-based subscription model, removing the need for large capex investment in the latest technology advances. This means Irdeto can expect technology upgrades and patches to be securely applied as soon as they

are available, removing the need to source and install individual updates.

"We are delighted to be extending our partnership with Arqiva," said Andrew Bunten, chief operating officer for video entertainment at Irdeto. "Our footprint in Africa has grown and it has been a competitive advantage to be able to meet these complex demands with an efficient, reliable and scalable solution. Arqiva's operational teams fully manage and monitor the service, so we know our broadcasting is in safe hands."

Only 19% of SA organisations are cyber-resilient

Just 19% of organisations in South Africa have the 'Mature' level of readiness needed to be resilient against today's modern cybersecurity risks, according to Cisco's Cybersecurity Readiness Index.

Organisations have moved from an operating model that was largely static – where people operated from single devices from one location, connecting to a static network – to a hybrid world in which they increasingly operate from

multiple devices in multiple locations, connect to multiple networks, access applications in the cloud and on the go, and generate enormous amount of data. This presents new and unique cybersecurity challenges for companies.

Alongside the finding that only 19% of companies in South Africa are at the Mature stage, 52% of companies fall into the Beginner (8%) or Formative (44%) stages. While organisations in

South Africa are faring better than the global average (15% of companies in the Mature stage), the number is still very low, given the risks.

This readiness gap is telling, not least because 65% of respondents said they expect a cybersecurity incident to disrupt their business in the next 12 to 24 months. The cost of being unprepared can be substantial, as 57% of respondents said they had a cybersecurity incident in the last 12 months and 17% of those affected said it cost them at least US\$500,000.

"The move to a hybrid world has fundamentally changed the landscape for companies and created even greater cybersecurity complexity," said Jeetu Patel, executive vice president and general manager of security and collaboration, Cisco. "Organisations must stop approaching defense with a mix of point tools and instead, consider integrated platforms to achieve security resilience while reducing complexity. Only then will businesses be able to

close the cybersecurity readiness gap."

Business leaders must establish a baseline of 'readiness' across the five security pillars to build secure and resilient organisations. This need is especially critical given that 78% of the respondents plan to increase their security budgets by at least 10% over the next 12 months. By establishing a base, organisations can build on their strengths and prioritise the areas where they need more maturity and improve their resilience.

"With highly distributed teams and devices leading to a rapidly expanding attack surface, achieving security resilience must remain a top priority," said Conrad Steyn, CTO and head of engineering, Cisco sub-Saharan Africa. "Cisco's Cybersecurity Readiness Index provides a clear picture of what businesses have been doing to protect their operations across South Africa and, more importantly, what steps still need to be taken to deliver secure, seamless online environments."



Noenieput thriving with Vodacom's base station

In 2017, Vodacom and the South African Police Service set out to build a base station in the remote town of Noenieput in the Northern Cape to bring connectivity to improve emergency services and the lives of the town's residents and its broader community.

Five years later, with Vodacom's support and the base station built, Noenieput's police have been able to significantly improve their response times and are far better able to serve their local communities.

"Network connectivity is a vital part of everyday life, but many in remote areas remain excluded from its benefits," said Evah Mthimunya, managing executive, Vodacom Central Region. "As part of our commitment to connecting everyone to a better future, we are implementing measures to extend our coverage into deep rural areas and accelerate digital inclusion. In this case, our focus was helping the residents of Noenieput and

local police connect more easily, enhancing the police's ability to serve the local community and make a positive impact."

Although Noenieput is only home to 151 residents, the town's police station services a widespread farming community. Before 2017, the town had very limited network connectivity, largely relying on a small patch of dune 7km away for mobile phone reception. This posed a serious challenge for local police in providing adequate service delivery.

One of the greatest challenges in rolling out the network infrastructure build was laying down electricity in an extremely remote location to keep the base station live. The site is powered with solar energy, which Vodacom have used to resolve the power issue due to the complexity that the sites posed due to the distance and infrastructure requirements.

Now, Noenieput residents have been able to join the digital age and reap the benefits of



connectivity. Communicating with family and friends far away is now significantly easier, bringing them closer to loved ones. Many have also enjoyed discovering applications such as Facebook and Twitter and gaining access to convenient and affordable channels of communication like WhatsApp. "In the five years since this

project was launched, technology has become an even greater part of daily life. Hearing from the residents how connectivity has brought opportunities for upliftment and inclusion motivates us to continue removing barriers to communicate and ensure nobody is left behind," said Evah Mthimunya, managing executive, Vodacom Central Region.

Rwanda deepens space partnership with JAXA

A team of delegates from the Rwanda Space Agency (RSA) led by Chief Executive Officer Francis Ngabo were hosted by the president of Japan Aerospace Exploration Agency (JAXA), Yamakawa Hiroshi and the vice-president of Japan International Cooperation Agency (JICA), Iwasaki Eiji, during a week-long strategic visit to enhance the space partnership between Rwanda and Japan.

During the visit, the parties discussed opportunities, collaborations, and the utilisation of space technologies for

mutual benefits and the advancements of their space sectors for socio-economic development.

Rwanda and Japan have long-standing historical partnerships, fostering accelerated industrial growth in Rwanda. The two countries signed Memorandums of Understanding (MoU) in 2018 to collaborate on space technologies, emphasising knowledge and technology transfer for producing small satellites. This consequently resulted in the launch of Rwanda's first satellite, the RWASAT-1.



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Going further in critical communications

INCM establishes new regulation for mobile subscribers

The Mozambique Communications Regulatory Authority (INCM) has developed a new 'Regulation on Registration of Subscribers of Telecommunications Services,' in coordination with mobile operators and other stakeholders.

The new text aims to update certain aspects of the current regulations to adapt them to the dynamics of the telecommunications sector and will be implemented in six months.

The new regulations extend the scope of objects to be registered. This includes communication devices, SIM cards, distribution agents, etc. It also provides for the design of a centralised database, the establishment of register validation mechanisms for public service providers, the creation of a centre of risk, the adaptation of the sanction system to current reality.

The new regulation was approved by the government on 7 March and repeals Decree No. 18/2015, of 28 August 2015, which established the legal regime applicable to the process of registration and activation of mobile phone SIM cards in Mozambique.

Massingue Apala, director of communication and statistics services at the INCM, said that this updating of the texts is necessary in a context marked by the introduction of new technologies via the internet and a growing dependence on telecommunications in the different sectors of the economy. Mozambique is also witnessing an upsurge in fraud in its telecoms sector, with more than 10,000 cases of fraud and scams reported each month by operators. Furthermore, more than 50% of the documents used in the registration process are fraudulent.

"The improvement of the subscriber registration process will contribute to improving the quality and security of citizens in the use of telecommunications and financial services, among others, provided on telecommunications networks, as well as to the combating and mitigating crimes on these platforms," said the INCM.



Talking critical

Luz Fernández del Rosal, international cooperation, directorate strategy and central management, BDBOS Germany; and vice-chair of TCCA's Critical Communications Broadband Group.



World Radio Conference 2023 - a turning point for safer and more secured societies

The future of critical communications is on the agenda of the next World Radio Conference (WRC) that will take place in Dubai towards the end of 2023. How emergency and rescue services, police and fire brigades, utilities and other critical industries will introduce mobile broadband communications in Africa, Europe and the Middle East strongly depends on the outcome of this conference.

The outstanding properties of the frequency band 470-694MHz make it a unique opportunity for critical users to meet their additional spectrum needs for broadband. The decision of a primary allocation of this frequency band to mobile service at the WRC-23 is the first step to ensure that first responders, transport or utilities have access to the necessary communications technologies that would help them to keep us and our societies safe.

Communication is the most important instrument for critical users to coordinate their work. Traditionally, critical industries depend on highly reliable narrowband systems with limited capacity for the transmission of speech and small amounts of data. Mobile broadband will open up a wide range of new data applications that will help critical users to work more efficiently in times of operational need.

If you think about broadband as this brand-new railway that enables the transport of goods very quickly from one place to another, you can think about spectrum as the train you will need to travel on to leverage its potential. This is true irrespective of whether you use your own train, you rent one or you combine your own locomotive with rental wagons. Every possible broadband deployment model for critical industries, whether dedicated, commercial or hybrid, needs spectrum. Therefore, making spectrum

available for mobile broadband for critical users will benefit us all.

The spectrum band 470-694MHz is an exceptional opportunity for deploying broadband for critical users for the following reasons.

First, its good propagation characteristics make the band especially appropriate for providing geographical coverage more efficiently, as fewer base stations are needed to cover a given area. Emergency and rescue services depend on communications systems that are available everywhere since natural disasters and catastrophes can happen everywhere and at any time.

Second, the propagation characteristics provide better indoor coverage than higher frequencies, and the ability to communicate inside buildings is crucial for critical users such as fire fighters.

"Traditionally, critical industries depend on highly reliable narrowband systems with limited capacity for the transmission of speech and small amounts of data. Mobile broadband will open up a wide range of new data applications that will help critical users to work more efficiently in times of operational need."

Third, there is enough available bandwidth in the frequency band 470-694MHz to meet the different spectrum requirements of critical users. Those requirements vary from country to country due to national constraints and range from 2 x 10 MHz^[1] to 60 MHz^[2]

Fourth, the timely availability is in line with the international trends that TCCA observes in the adoption of broadband by mission critical users. Early adopters are already operational in sectors such as public safety and many more will follow in the next 5-10 years.

Fifth, the deployment of broadband in the frequency band 470-694MHz might leverage on already available critical infrastructure from previous narrowband deployments potentially reducing the overall investment costs.

Finally, apart from spectrum,

standardised solutions are also required to avoid lock-in situations and enable economies of scale. The frequency band 470-694MHz already counts with a band standardised for 3GPP technologies, the LTE band 71 and 5G band n71 which are already in operation in the USA and Canada. Thus, there is already a commercial ecosystem available, which will enable the rapid development of an appropriate broadband ecosystem for critical users.

The band 470-694MHz is an outstanding opportunity and will be discussed under the agenda item 1.5 at the WRC-23. The target is to analyse the current uses and future needs in the wider band 470-960MHz and consider possible regulatory measures in 470-694MHz for Africa, Europe, and the Middle East. The band

is currently allocated to the broadcast service - terrestrial television - and the programme making and special events (PMSE) - wireless microphones.

TCCA has published a joint position for the WRC-23 agenda item 1.5^[3] which advocates for a co-primary allocation of the frequency band 470-694 MHz to mobile service to help meet the long-term needs of critical users. Every public safety organisation, every mission critical network operator, every transport and utility user can and should help make this change happen. Start today the dialog with your national regulator about your spectrum needs, your communication requirements and the beneficial impact that a co-primary allocation of the band 470-694MHz would have on all critical industries.

¹ <https://docdb.cept.org/document/941>

² https://www.bdbos.bund.de/SharedDocs/Downloads/DE/Publikationen/220511_frequenzbedarfsstudie.pdf?__blob=publicationFile&v=4

³ <https://tcca.info/documents/july-2022-TCCA-spectrum-position.pdf/>

Djezzy reports 4.7% yoy growth

Djezzy (Optimum Telecom Algérie) recorded a turnover of 23.9 billion dinars in the first quarter of 2023. This figure represents a growth of 4.7% compared to 22.7 billion dinars in the first quarter of 2022, but a slight decrease compared to 24.3 billion dinars in the previous quarter.

The telecoms company attributes these performances to a commercial strategy and a multiplication of strategic partnerships aimed at expanding the base of corporate

customers contributing to the establishment of an ecosystem that creates added value and wealth. It invested 7.5 billion dinars in its activities during the quarter, which represents an increase of 98.2% compared to the same period in 2022.

These investments have enabled Djezzy to extend the coverage of its 4G network to 80.8% of the population. The company now has a base of 14.9 million mobile phone subscribers, an annual increase of 3.7%.

96.7 million abandoned SIMs in Nigeria

Unused or abandoned lines on MTN, Airtel, Globacom, and 9mobile networks climbed to 96.7 million in February 2023, revealed in a report from the Nigerian Telecommunication Commission's most recent subscriber statistics release.

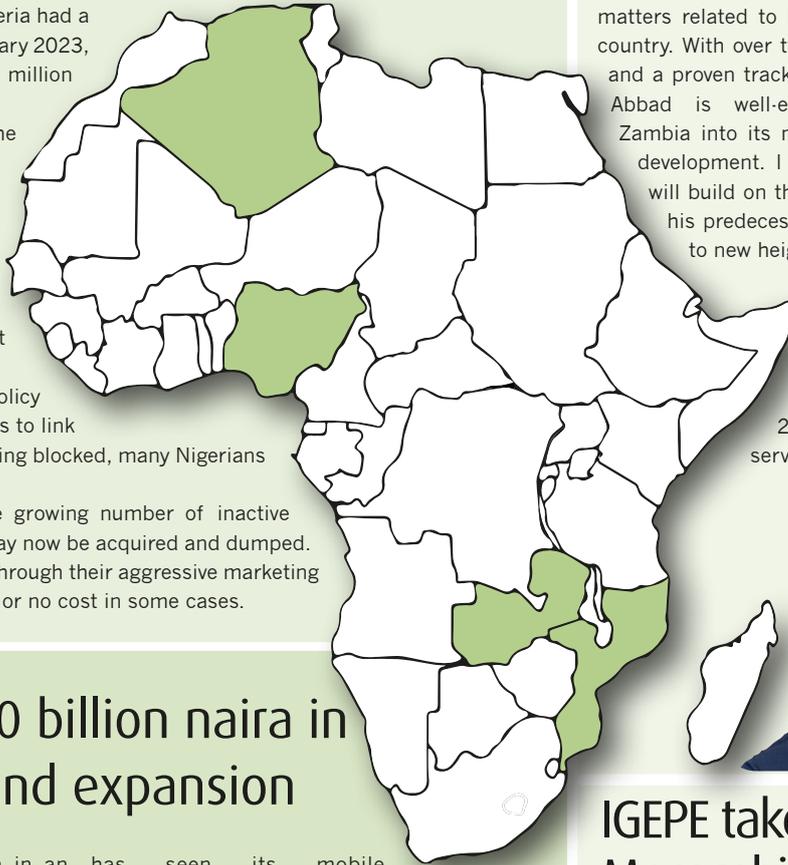
The four major mobile networks in Nigeria had a total of 323.6 million linked lines in February 2023, but by month's end, there were 226.8 million active lines throughout all four networks.

A mobile line is deemed dormant if the user does not use it to initiate or receive calls or access data services within at least 90 days.

In December 2022, there were 94.4 million idle lines across mobile networks. A month later, the number surged to 95.2 million; in February, it reached 96.7 million.

As a result of the government's policy requiring all users of SIM-enabled devices to link their National Identity Number or face being blocked, many Nigerians may have to quit their subscriptions.

Industry observers have ascribed the growing number of inactive lines to the ease with which SIM cards may now be acquired and dumped. MNOs are also contributing to the surge through their aggressive marketing approach of providing SIM cards at little or no cost in some cases.



9mobile invests 70 billion naira in Nigeria upgrade and expansion

9mobile has invested 70 billion naira in an ongoing network upgrade and expansion campaign. 9mobile is in the process of deploying 600 new telecom sites equipped with 4G LTE installations across Nigeria.

The company is also extending its fibre optic network in selected cities across the country to improve usage of its broadband services. Further technical, digital, and organizational improvements are planned.

These initiatives are part of 9mobile's ambition to become more competitive to win back shares of the highly competitive Nigerian telecom market. The company

has seen its mobile subscriber base shrink from 17 million in December 2013 to 13 million in February 2023, according to the Nigerian Communications Commission (NCC). Its market share fell from 14% in December 2013 to 5.76% in February 2023.

"9mobile is on the road to resurgence. We are reclaiming lost territories in the market and moving forward to regain our innovative position and industry leadership. The coming years are promising considering the level of expansion we are embarking on," said Juergen Peschel, the company's chief executive.

Abbad Reda named new CEO for MTN Zambia as of May

MTN Group has announced a new CEO for its Zambian operation, with Abbad Reda taking over from current CEO Bart Hofker on 1 May 2023.

Reda joined MTN Group in 2002 and has held several senior positions, including chief information officer for MTN Ghana, CEO for MTN Liberia, and is currently the CEO of MTN Afghanistan.

MTN Group's president and CEO, Ralph Mupita, said that Reda will add immense value to the Zambian market.

"He will continue to support MTN Afghanistan, where he has been managing matters related to MTN's orderly exit of the country. With over two decades of experience and a proven track record in driving growth, Abbad is well-equipped to lead MTN Zambia into its next phase of growth and development. I am confident that Abbad will build on the solid foundation laid by his predecessor and take the business to new heights," said Mupita.

Bart Hofker is leaving MTN after seven years pursue other ventures. He was appointed CEO in Zambia in September 2019 after previously serving as MTN Rwanda CEO.



IGEPE takes over Mocambique Telecom

Mozambique's state asset management unit is taking over the daily operations of Mocambique Telecom (Tmcel).

Instituto de Gestao das Participacoes do Estado (IGEPE) is assuming control over the operator while a committee is established to investigate allegations of mismanagement. Tmcel's debts now reportedly total more than US\$300 million. Tmcel leads Mozambique's fixed voice and broadband markets but is the smallest of the country's three mobile providers, with 13% overall market share.

Cassava Technologies promises to invest R4.5 billion in SA

Cassava Technologies has pledged a total of R4.5 billion in investment in South Africa through its business units Liquid Intelligent Technologies, Africa Data Centres and Distributed Power Africa.

The announcement was made during the fifth South Africa Investment Conference (SAIC) in support of SA President Cyril Ramaphosa's initiative to drive investment into the country.

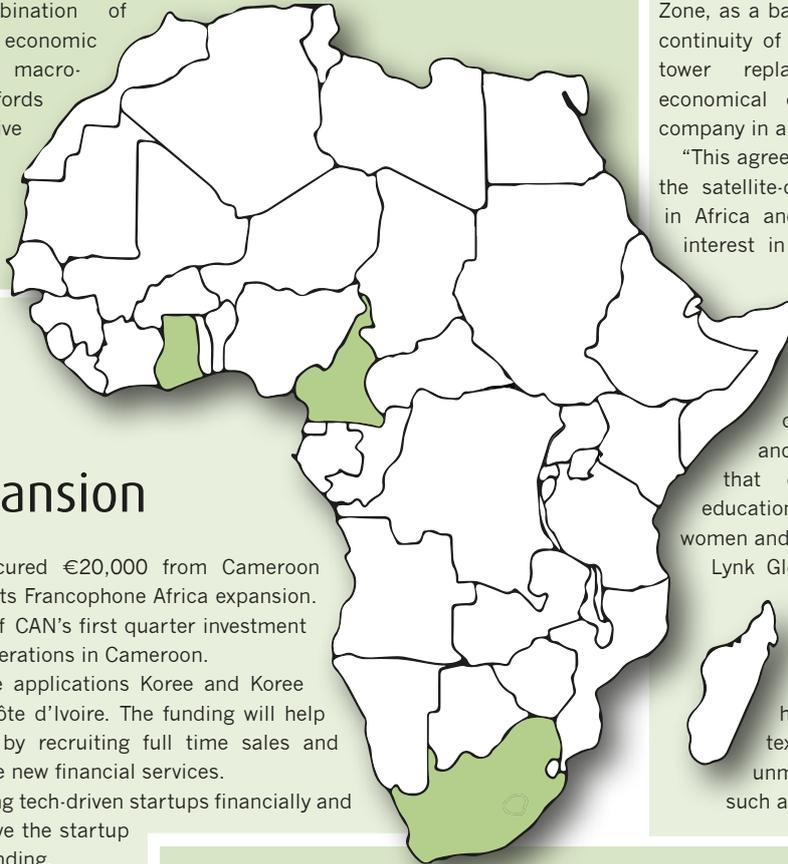
Through this investment, Cassava will continue to bring internationally recognised services and products to South Africa through the group's renewable energy, cloud and cybersecurity, data centres and broadband connectivity business units.

"South Africa accounts for the largest proportion of Africa's industrial GDP with a sophisticated and growing ICT sector. The country's unique combination of highly developed first-world economic infrastructure and a stable macro-economic environment affords businesses like ours a conducive investment environment in which we can partner with government to drive economic development and create jobs," said Hardy

Pemhiwa, president & group CEO, Cassava Technologies.

Cassava's investment pledge comprises key projects, including the expansion of the Liquid Intelligent Technologies fibre network, the extension of Africa Data Centres capacity and footprint, enhanced cloud and cyber security capacity, and the rollout of clean, renewable energy by Distributed Power Africa in South Africa.

Cassava's investments will contribute towards positioning South Africa as an attractive investment destination and enable greater inclusion of all South Africans consistent with Cassava's vision of a digitally connected future that leaves no African behind.



Koree wins funds for Cameroon expansion

Finntech startup Koree has secured €20,000 from Cameroon Angels Network (CAN) to pursue its Francophone Africa expansion. The seed funding, which is part of CAN's first quarter investment plan, will enable Koree to start operations in Cameroon.

Koree, which runs dual mobile applications Koree and Koree Pro, already has operations in Côte d'Ivoire. The funding will help the startup grow its workforce by recruiting full time sales and development personnel and create new financial services.

"CAN is committed to supporting tech-driven startups financially and operationally, thus helping improve the startup success rate by providing seed funding.

"The organisation is particularly excited to work with Koree, a female-led startup offering innovative digital solutions to a widespread problem," Cameroon Angels Network said in a statement.

Koree is seeking to transform the retail payment and marketing landscape in sub-Saharan Francophone Africa by offering inclusive solutions to both customers and merchants. Founder Magalie Gauze-Sanga said that she wants to simultaneously resolve the 'change shortage' in Francophone Africa and empower clients through an incentive reward system.

Lynk Global to help Vodafone Ghana coverage to reach 100% of population

Satellite-direct-to-standard-phone company Lynk Global has signed a commercial contract with Telecel Group in Africa to provide services to Vodafone Ghana's subscribers.

The contract has the potential to provide mobile coverage to 100% of Ghana's 31 million citizens using Lynk's 'cell towers in space.' According to Lynk, it will enable Telecel Group to offer geographic coverage to over 6 million Vodafone Ghana subscribers and will be utilized for extending rural coverage.

"It will also include Maritime Economic Zone, as a backup to ensure service resilience, continuity of IoT devices, and as a terrestrial tower replacement for underperforming economical or technical towers," said the company in a statement.

"This agreement extends Lynk's leadership in the satellite-direct-to-standard-phone category in Africa and is an important milestone as interest in the category continues to heat up," said Lynk Global CEO Charles Miller.

Vodafone Ghana CEO Patricia Obo-Nai said that the partnership provided the opportunity to connect Ghanaians and accelerate the benefits that connectivity offers in health, education, and job creation, especially for women and the youth.

Lynk Global is currently testing satellite direct-to-standard-mobile-phone services in more than a dozen countries, and claims that it is the only company in the world to have successfully sent and received text messages to and from space via unmodified standard mobile devices such as smart phones.

Vodacom to invest ZAR60 billion in SA

Vodacom Group will invest over ZAR60 billion to upgrade network resilience, maintain connectivity, and boost rural coverage in South Africa.

Vodacom has bolstered rural coverage to 95.8% by building new sites and base stations, extending its 4G and 3G population coverage to 97.94% and 99.88%.

Vodacom's connectivity has enabled children to access educational materials and enabled SMEs to improve productivity and reduce

environmental impact.

"Five years ago we heeded the call from President Cyril Ramaphosa to play a central role in his investment drive aimed at attracting R1.2 trillion over a five-year period. We believe that our initial R50 billion pledge has played a significant role in fostering digital inclusion for all and helping to unlock economic and social opportunities for South Africa," said Vodacom Group CEO Shameel Joosub.

Nigeria: 37% of users suffered losses

Kaspersky reports that 37% of respondents in a study suffered financial losses last year.

The majority of digital payments users (97%) lost up to \$1,000 equivalent as a result of the threats they encountered when using online banking and mobile wallet services. During the year, 3% of the respondents reported a loss of more than US\$1,000 equivalent.

Kaspersky Security Network says 161,272 financial threats were blocked in Nigeria by Kaspersky in 2022. The attacks were aimed at stealing financial information such as credit card numbers and login credentials and usually rely on social engineering tactics to lure victims.

The cybersecurity company warns that the impact of a cyber threat targeting digital payments does not just impose a financial burden on consumers, but also affects them psychologically. For example, 60% of respondents from Nigeria said that they were very anxious about getting their money back and 43% of users reported that they have less trust in digital payment providers. 80% also stated that they became more vigilant after experiencing a cyber incident, and 65% installed security solutions like an antivirus on their infected devices.

According to Kaspersky, since the

beginning of the pandemic, 64% of users in Nigeria faced at least one incident when using digital payments.

“That’s why it’s increasingly important to know how to interact securely with any emerging technologies, including online banking and mobile wallet services,” said Emad Haffar, head of technical experts at Kaspersky. “And all stakeholders, like government, digital payment providers, users, and even cybersecurity companies need to come together to create a sustainable and secure payment ecosystem.”

To help users embrace digital payment technologies securely, Kaspersky experts suggest users not share PINs, passwords, or any other financial information with anyone online or offline.

Wojtek Piorko appointed MD for Africa

Vertiv has announced the appointment of a new managing director for Africa.

Vertiv has promoted Wojtek Piorko with immediate effect, from his previous position as South East Africa regional director. The role was previously held by Pierre Havenga, who will be leaving Vertiv at the end of June after 12 years as strategic leader in the region.

“Wojtek joined the Middle East and Africa (MEA) team eight years ago, and during that time has gained experience in various different roles and regions, excelling in each and every challenge. I have been able to rely on him completely and no task has ever been too great or too challenging,” said Havenga. “Wojtek has many strong leadership attributes and we applaud his focus on people. It is with great pleasure that I hand the baton to him to drive Vertiv’s Africa business to the next level.”

As managing director for Vertiv Africa, Piorko will drive business growth and market penetration, as well as orders, revenue, and profitability targets. He will manage, coordinate, and optimise the commercial activity within the region, balancing the entire portfolio to increase customer satisfaction within Africa, while implementing the go-to-market strategy in coordination with the various functional leaders.

Piorko will provide regional leadership to the sales, service, operations, and technical solutions

teams, as well as to finance, HR, IT, legal and marketing, to engender a cohesive Africa team and deliver on Vertiv’s ambitions in the region.

“Firstly, I’d like to thank Pierre for his mentorship, leadership, and dedication to our customers in Africa. Under his guidance, I have learned a lot and we as a team have made impressive business and talent progressions in a quickly developing and strategically valuable region,” said Piorko. “Moving forward, I will continue to elevate our work in Africa and look for new ways to deliver the highest level of customer satisfaction whilst also nurturing the best talent within our business.”

“We are grateful for Pierre’s tireless dedication, energy, and commitment, and for his role in driving the development of business and talent. In turn, we wish Wojtek every success in his new responsibilities. I am confident that with his previous experience in Africa, combined with his long-term success over the years, Wojtek will continue to excel in his new role,” said Karsten Winther, Vertiv president, EMEA.

Raxio gains US\$170 million for expansion

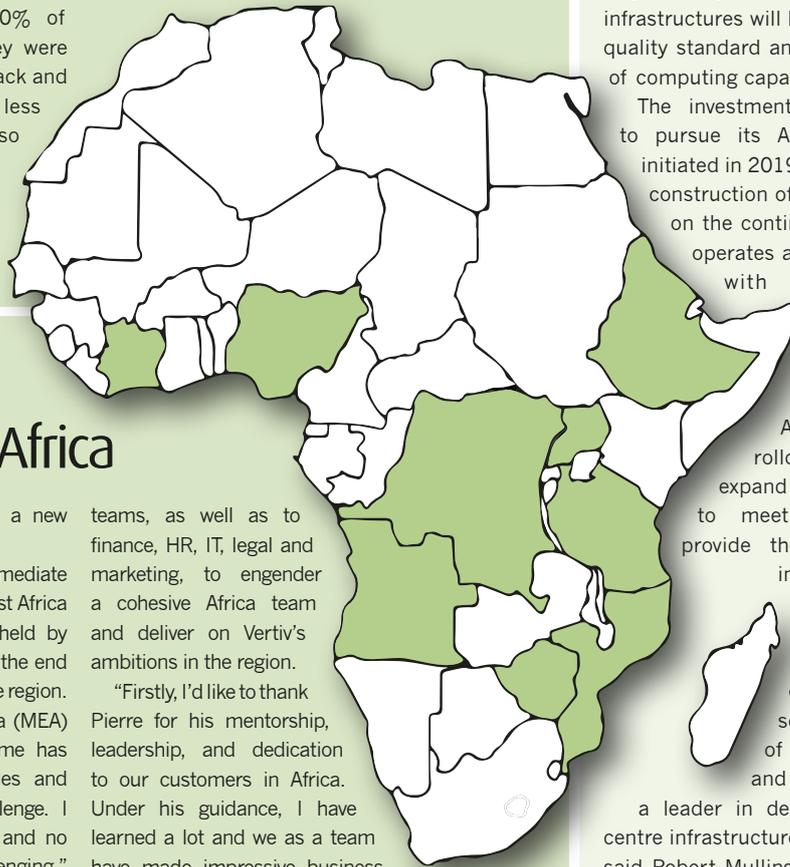
Raxio Group has obtained a US\$170 million loan in several tranches to accelerate its growth and expand its footprint in Africa.

The financing includes \$110 million from the Emerging Africa Infrastructure Fund (EAIF) and Proparco, the branch of the French Development Agency (AFD) responsible for financing the private sector in developing countries.

A first tranche of US\$33 million should allow Raxio Group to build and operate data centres in seven countries in sub-Saharan Africa, namely Uganda, Ethiopia, the Democratic Republic of Congo (DRC), Mozambique, Angola, Ivory Coast, and Tanzania. Each of its infrastructures will be equipped with the Tier 3 quality standard and will provide up to 11MW of computing capacity.

The investment will allow Raxio Group to pursue its African expansion strategy initiated in 2019 and which provides for the construction of ten to twelve data centres on the continent. The company already operates a 1.5MW facility in Uganda, with further facilities under construction in Ethiopia, Mozambique, Democratic Republic of Congo, Ivory Coast and Angola. After the initial rollout, EAIF and Raxio will expand to other African markets to meet growing demand and provide the necessary vital digital infrastructure.

“This substantial additional funding is a resounding endorsement of what we have achieved so far and the soundness of our expansion strategy, and clearly positions Raxio as a leader in delivering class-leading data centre infrastructure in markets across Africa,” said Robert Mullins, chief executive officer of Raxio Data Centres.



Econet Wireless controls 69.9% of mobile subscriber base

As of the end of December 2022, Econet Wireless controlled 69.9% of the national mobile subscriber base, as per the latest annual report from the Posts and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ).

This figure shows an increase of five percentage points compared to December 2021 when the company held 64.9% of market share.

Econet Wireless owes this growth to the increase in the number of its active subscribers, which increased from 9.25 million in December 2021 to 9.98 million in December 2022, an increase of 7.9%. Meanwhile, NetOne and Telecel lost 12.3% and 26.9% of their respective subscriber base. They now have 3.9 million and around 390,000 subscribers respectively.

Between December 2012 and December 2022, Econet Wireless added 1.9 million subscribers and gained an additional 6.4% market share. Over the same period, NetOne added 1.9 million subscribers while Telecel lost 2.1 million.

The growth of Econet's subscriber base is attributed to the investments made in its network infrastructure.



Talking satellite

An African journey: sustainable decision-making with space

In my previous column looking at the space ambitions of the nations of Africa I noted that even though most Africa-owned satellites – used for applications across meteorology, natural resource management, navigation, surveillance, as well as telecommunications – are currently being designed and built beyond the continent, there has been incremental change underway for a while.

Change began with Ghana, and the indigenous development of GhanaSat-1 by three students at All Nations University, Ghana. Designed and built over a two-year period – in conjunction with the Kyushu Institute of Technology Birds-1 programme and subsequently assessed and found fit for orbiting by both Japan Aerospace Exploration Agency and the National Aeronautics and Space Administration – GhanaSat-1's mission was to take images to monitor environmental activities along Ghana's coastline, collect atmospheric data, measure space radiation, and transmit uploaded audio. Launched from the International Space Station in July 2017, the satellite had a programmed life of two months. It was deorbited in May 2019.

This was an early demonstration that across Africa the (new) 'space race' is not being experienced only at second hand but is achieving its own traction. This is not because space assets are primarily symbols – exercises in national vanity and cross-border rivalry – but because of widespread realisation that economic and social development can be tangibly accelerated by a range of applications coming under the umbrella of telecommunications, and tangibly facilitated by the processing and transformation of Earth observation-derived remotely sensed data streams into knowledge 'dashboards' providing 'actionable intelligence.'

Of course, GhanaSat-1 was (primarily) an example of a remote sensing, or Earth observation, satellite, not a telecommunications satellite. As I noted last time, of the currently 15 African nations with a total of about 40 satellites in orbit, only eight are for telecoms, but 24 are for Earth observation, with the remaining eight devoted to

technology demonstration.

At a global level, the boundary between satellite communications and satellite remote sensing is becoming increasingly blurred, and with the application of AI and machine learning (ML) techniques the gathering of data and its dissemination as actionable intelligence – concerning natural resources, water and food security, population demographics, health, etc. – is central to economic and social development, and it points to the fact that having, or not having access to the data resources from which to develop actionable intelligence is another facet of the digital divide.

In September 2020, as part of the webinar series produced as a response to the travel and meetings restrictions necessitated by the COVID-19 pandemic, GVF held an event entitled Global Transitions: Digital Economy, Digital Infrastructure, Connected Communities, Digital Planet, which include a contribution from David Jensen, Coordinator of the Digital Transformation Task Force of the United Nations Environment Programme.

The webinar provided significant insights and perspectives into the progressive emergence of an advanced digital infrastructure, the fuel for which is – data.

Data – gathered via all available technologies (particularly, though not only, by satellite, which of course has the characteristic of global ubiquity), and then manipulated by all available tools – can (when refined beyond its raw state into information, and knowledge, and beyond to dashboard supported sustainable decision-making) support many processes. These include maintaining financial liquidity in markets, improving creativity in maintaining and evolving supply chains, making production of 'things' more efficient using latest technologies, and contributing to mitigation of the impact of climate change, environmental degradation and flora and fauna ecosystem collapse – most vitally important for nations that are showing the signs of being the most affected by, for example, rising sea levels, drought, flooding, wildfires, etc.

The global transition to a 'digital planet' extends and leads to the emerging concept of a 'global digital ecosystem,' the enabling platform for more than only formulating 'actionable intelligence,' but the fostering of a culture of strategic and sustainable decision-making. Achieving

greater digitised connectivity will enable gathering of data for the World Economic Forum Stakeholder Capitalism Metrics which are designed to show how companies are doing on climate change action, biodiversity, etc., and track contributions towards the United Nations Sustainable Development Goals (SDGs). Meeting the SDGs, and trying to stem climate change, will be the indispensable currency of the future 'Digital Planet.'

The African Telecommunications Union (ATU) – comprising 51 member states and 56 associate members, together with other stakeholders – is a specialised agency of the African Union responsible for promoting the development of telecommunications and ICT in Africa. The ATU mission is to provide the necessary platform for cooperation and collaboration – developing policies, regulations and standards – among African countries in the development and use of telecommunications and ICTs, and in this it recognises that achieving digital transformation is crucial for Africa's development, that there is a need for Africa to enhance its investment in cutting-edge ICT infrastructure, and that investment to support human capacity-building and elevate the level of digital skill levels among the population is equally imperative.

Satellite is among several technologies for accelerating digital transformation in Africa. These technologies include 5G, cloud computing, AI and the Internet of Things (IoT). These technologies have the potential to transform industries, improve service delivery and enhance the quality of life for the people of Africa. By enabling faster data transfer rates and reduced latency, 5G networks – particularly supported by satellite – can help facilitate the growth of other emerging technologies. Cloud computing can help organisations in Africa manage data and applications more efficiently. AI can help organisations across Africa improve their efficiency, productivity and decision-making capabilities because, with the use of machine learning algorithms, AI can analyse vast quantities of data and identify patterns that can lead to improved business processes and new revenue streams. IoT enables automation of many processes and services across a variety of sectors.

Martin Jarrold, vice president international programme development, GVF



Next Generation Fixed Wireless to Close the Digital Divide

The Problem We're Addressing

Fast broadband connectivity is no longer a matter of just entertainment and convenience, it's an absolute necessity for multiple aspects of our lives — work, education, healthcare, and social survival. Those who have no affordable high-speed broadband options are being left further and further behind by the digital divide.

Optical fiber networks are certainly the preferred tool for high-household-density markets, delivering an attractive combination of high capacity and low latency. However, last-mile fiber deployment involves long timelines and high deployment complexity + costs per subscriber in the medium- and low-density markets that include most households. Given these challenges, pursuit of faster progress on the divide has led to consideration of the relative ease of wireless network deployment.

Unfortunately, previous wireless options have not shown the ability to scale broadly in fixed access. They have been contributing to closing the broadband gap, but mostly at the margins of the problem. The central question remains: how can service providers deliver 100s of Mbps cost-effectively to broad populations, and much sooner rather than later?

Enter Next-Generation FWA

Existing FWA approaches are based on technologies that fulfill their original purpose well (4G/5G for mobility and Wi-Fi for indoor networks), but that are not as successful at scalable fixed access in mainstream residential markets. To deliver fast, affordable residential access more broadly, the industry needs a next generation of FWA (ngFWA) to augment last-mile fiber by meeting a clear set of new requirements:



- **Fiber-class** (100 Mbps to 1 Gbps) per-household speeds and low latency at long range, with support for symmetric (100 Mbps down / 100 upstream) service where desired
- **High capacity** per neighborhood for economically scalable deployment
- **Solid connections despite obstacles in the way** (like other houses, trees, and vehicles moving on the streets) and interference from other wireless networks
- **Consistent service quality** throughout the neighborhood, to support clean subscription plan marketing, sales, and fulfillment
- **High-quality service delivery in unlicensed spectrum** to avoid the high cost of licensed spectrum
- **Simple installation** at the home, and ideally customer self-installation

Introducing the First ngFWA System: Tarana's G1

Tarana has created the industry's first instance of ngFWA, the Gigabit 1 (G1) platform. G1 is the product of over \$400M invested over a decade of ground-up R&D focused

exclusively on FWA. By marrying the continued march of silicon integration with new, innovative signal processing techniques, G1 creates a completely new possibility for broadband.

G1 offers all the fast-deployment advantages of FWA but now with the performance, capacity, and interference-rejection required to deliver reliable fixed broadband connections for homes and businesses at large scale, in challenging non line-of-sight conditions, and even in unlicensed spectrum, as (at last) a fully-formed wireless alternative to last-mile fiber for the long term.

Looking Forward: G1 in the Real World

The potential of ngFWA is being realized now in real-world networks. Since its commercial launch in late 2021, G1 has been embraced by more than 240 service providers in 19 countries. G1 is just the beginning of a new era for fixed wireless broadband. Now that the foundational techniques that power G1 are proven, extending to broadly offer 1 Gbps and 3 Gbps services in both licensed and unlicensed spectrum is well within reach and already under development by Tarana.

The world needs more and better broadband, but getting it to the home has long been challenging. Tarana's rapidly growing list of operators deploying G1 showcases ngFWA and foretells a future of high-performance broadband on timelines and at scales that were, until now, simply impossible. ■

About Tarana

Tarana's mission is to accelerate the deployment of fast, affordable internet access around the world. Through a decade of R&D and more than \$400M of investment, the Tarana team has created a unique next-generation fixed wireless access (ngFWA) technology instantiated in its first commercial platform, Gigabit 1 (G1). It delivers a game-changing advance in broadband economics in both mainstream and underserved markets, using either licensed or unlicensed spectrum. G1 started production in mid-2021 and has since been embraced by more than 240 service providers in 19 countries. Tarana is headquartered in Milpitas, California, with additional research and development in Pune, India.

Visit www.taranawireless.com for more on G1, or contact Nick Ehrke: nicke@taranawireless.com

Safeguarding your business and customers from digital threats and the rise of SIM swap fraud

Mirza Bukva, head of telecom partnerships: Africa, Infobip

The last few years have seen a sharp rise in SIM swap fraud, placing the mobile and digital sectors at risk of disrepute. This can have great implications for all participants in the value chain, including mobile users, mobile operators, digital services, and financial services providers.

This type of fraud involves an account takeover scam that exploits a mobile operator's ability to port a phone number to another SIM card. While this is typically a convenient feature in legitimate cases where a user has lost their mobile device and wants to keep their mobile number, it can also be abused.

SIM swap fraud: how it happens and how to protect yourself

SIM swap fraud takes place when cyber criminals contact mobile network operators (MNOs) pretending to be a customer, deceiving them into activating a new SIM card with the customer's phone number. Once this is done, the scammer gains full access to the end-user's phone and information, and subsequently, every one-time-pin (OTP) message sent to that specific number is then received by the fraudster. By finding loopholes in a completely legitimate process, cybercriminals can now gain access to all a user's personal accounts and applications that are linked to that phone number.

The South African Banking Risk Information Centre (SABRIC) reported that the number of SIM card fraud incidents rose from 2,686 incidents in 2020 to 4,386 reported in 2021 – an increase of 63%. The average

financial loss per incident jumped from R12,315 in 2020 to R17,775 reported in 2021 – a rise of 44%.

Some emerging trends related to SIM swap takeover in South Africa as well as many other countries include the usage of social tactics to convince victims to provide their personal information.

This can include phishing emails or messages that appear to be from a legitimate source. On a larger scale, use of advanced technology and machine learning can automate the fraud process allowing fraudsters to conduct SIM swaps much faster and quickly identify vulnerable targets.

Telecom companies (as owners of the SIM and the technology behind it) should consider implementing various strategies to mitigate SIM swap fraud and protect their customers. This can be done by adding additional layers of security to good old 2-factor authentication (2FA), such as mobile identity and biometrics. However, it is important for all of us as individuals to be vigilant and remember to keep our personal information private, be cautious of unsolicited calls and messages, and to regularly monitor our financial accounts for any suspicious activity.

Implications of SIM swap fraud on telcos

The aim of digital fraud is to target an individual's identity to extract financial gain. While this in itself is a significant threat, there is also the risk of identity theft, which can lead to greater cases of fraud whereby imposters pose as the victim, potentially wreaking havoc in their life.

The stakes for telcos are perhaps even higher, as SIM

swap fraud negatively impacts the trust between mobile users and their mobile provider due to the substantial volume of data in their possession. This is even more important in cases of post-paid users, or jurisdictions with mandatory prepaid SIM card registration.

Losing the trust of customers is bad for business, however, adding a readily available anti-fraud solution is the easiest and most direct way

“The South African Banking Risk Information Centre (SABRIC) reported that the number of SIM card fraud incidents rose from 2,686 incidents in 2020 to 4,386 reported in 2021 – an increase of 63%.”

of preventing loss of trust and reputational or legal damages to enterprises, and this rings true for telco operators too. A business that holds individuals' data, or handles their financials, has a vested interest in preventing any damages, and that means implementing all the feasible means of protecting their customers. As a result, mobile operators need to implement reliable and efficient anti-fraud tools. An example of such a tool is mobile identity – an authentication system that allows MNOs to perform a real-time check on the new SIM card and determine when it was activated. If a financial transaction was attempted within 24 or 48 hours from the time of activation, it is then flagged to the bank and can be blocked.

How MNOs can strengthen SIM swap fraud prevention

Working with trusted technology vendors can result in a stronger defence against fraud committed through SIM swaps and add to the

operators' anti-fraud offering as part of their wider digital services and digital transformation-focused enterprise portfolio.

Mobile identity solutions are very effective, with sign-up processes that are quicker, cheaper, and ultimately much more secure. It's a huge opportunity for the telecoms industry, particularly those that are working with financial service providers or providing financial services themselves,

demonstrating that they are listening to consumer concerns and introducing anti-fraud measures to help alleviate these fears.

Protecting your customers and your business from the impacts of digital fraud, including SIM swap fraud, should be a high priority for all businesses. Constant and consistent efforts to educate employees and clients should also be implemented along with strong security measures such as 2FA.

Furthermore, working with MNOs better positions businesses to greatly reduce the risk of falling victim to digital fraud. By taking these steps, businesses can ensure that they are secure and trusted, while providing peace of mind to their customers. ■





Delivering 5G in remote and rural regions

The delivery of 5G – or other high-speed connectivity – to remote and rural regions remains a challenge across the continent, and one with no single answer, outlines Amy Saunders

The huge deficit of broadband availability across the African continent is well-known – the ITU estimates that 299 million people, approximately 23% of the continent, have no access to mobile broadband – rendering efforts to make it more accessible and affordable critical to improving the economic outlook across all nations.

While current market factors like population, urbanisation, and GDP per capita suggest that Africa may not yet be ready for widespread 5G adoption, it is important for the continent to start preparing its infrastructure for the future.

“The benefits of having 5G available in Africa are numerous, from bridging the digital divide to spurring innovation and economic growth,” explains Hagai Ofleck, senior director of presales

engineering, Parallel Wireless. “By investing in 5G now, African countries can position themselves for success in the years to come.”

5G is not just the next generation in a line of mobile generations, but an entire ecosystem of technologies, products, solutions, and processes to facilitate the daily life of communities, says John Tenidis, marketing director of Intracom Telecom’s wireless solutions portfolio.

“5G has an impact equal and comparable to that of the industrial revolution,” asserts Tenidis. “5G is a tool for the African population to improve quality and increase prosperity for its current and the future generations. It can be used in the economic, political, social, industrial, academic, professional life of the communities and its integration requires skills

that must be developed locally for local needs.”

Paul Colmer, EXCO member at Wireless Access Provider’s Association (WAPA), agrees, stating that “5G is a great technology that can deliver impressive speeds, but in many African countries it’s more of a quantum leap, where instead people are looking for reasonable speeds that are more affordable, especially in rural and semi-rural parts of the continent.”

Indeed, the advent of 5G has served to highlight that internet connectivity is essential for the human population, much like water and power.

“Establishing equality to the right of communication is fundamental for the prosperity of communities,” asserts Tenidis. “Things like smart education, smart agriculture, smart

business, smart entertainment, and AI have their foundation on the 5G network. 5G is the tool to bring prosperity to the entire population. The rural and non-densely populated areas have always been the Achilles' heel of progress."

Rural challenges

Delivering 5G technology to remote and rural African locations poses significant challenges, however, with innovative strategies and partnerships, it is possible to overcome these and bring the benefits of 5G technology to even the most remote corners of the continent.

Some of the greatest challenges include lack of infrastructure like fibre and cell towers, which are costly and time-consuming to build; limited electricity supply, which makes operations and maintenance tricky; affordability for end users; lack of skilled personnel for deployment; and handset availability and pricing. 4G handsets have low penetration and are unaffordable for many, and 5G will be even more problematic.

To meet these challenges, Ofweek suggests that "providers can use existing infrastructure, such as satellite communication systems, to extend the reach of 5G networks to remote and rural areas." Off-grid solutions like renewable energy hold a potential solution to power challenges, although are themselves challenging to maintain and deploy in remote regions.

"Governments and international communities can partner with private companies to provide funding and support for the deployment of 5G infrastructure in remote areas," suggests Ofweek, while "involving local communities in the deployment and maintenance of 5G infrastructure can help to build trust and ensure that the technology is being used effectively and sustainably."

Meanwhile, partnership with handset manufacturers to provide low-cost affordable devices is another option to help make 5G more affordable and accessible for end users.

Spectrum availability is another challenge when it comes to rolling out 5G. In South Africa, Colmer reports, the spectrum used for rural/semi-rural 5G is 700MHz and 800MHz, which is important for transmitting 5G signals further, but won't have the throughput or speeds of 5G in more urban areas using higher frequency bands.

"Practically, network operators must dismantle their 2G and 3G networks and reform their spectrum usage for 5G connectivity," outlines Nick Ehrke, Africa lead, Tarana Wireless Inc. "In Africa, the dependency on 2G and 3G makes this switchover difficult in the foreseeable future. The millions of new 2G devices sold in Africa every year - coupled with the high cost of 5G devices, spectrum, and the network infrastructure that is required - are major roadblocks to 5G."

Making the numbers work

Naturally, monetisation of 5G in remote and rural regions is one of the biggest challenges of all.

"You're deploying infrastructure and

technology into vast areas where there's not a lot of people with not a lot of money, and that's the challenge for network operators to get ROI on their investment," says Colmer. "It's very different to investing in small, densely populated areas with high-income earners."

So how then can delivering 5G to remote and rural regions be made 'worth it' for service providers?

Tenidis believes that, at first, 5G monetisation may be comparable with the challenges experienced during the rollout of 4G. The effective monetisation of 5G services and capabilities can be challenging and costly, "however, emerging business models, although they cannot be accurately predicted today, will lay the first stone for new synergies and cross-product offerings bringing enhanced commercial transactions. 5G will eventually enable numerous direct or indirect business relationships (e.g. B2B2X) among CSPs, third parties and the end customers. The most common of such models, also applicable today, refers to third party digital content offered to consumers by the CSPs."

Colmer and Ofweek state that governments must find ways to subsidise 5G deployments in less populated areas by incentivising service providers to build national networks that can balance out the shortfalls from rural areas. However, with 54 different countries and governmental systems in place across the continent, the feasibility of this is limited to a country-by-country basis.

Ofweek suggests that "service providers can target specific niche markets in rural areas, such as agriculture or mining, that may have unique requirements for connectivity and are willing to pay a premium for high-quality 5G services."

Service providers, meanwhile, can share infrastructure with others to reduce the cost of deployment and increase the coverage area, which can also reduce the risk of over-investing in infrastructure in areas with low population densities.

Pay-as-you-go models offer another route allowing customers to pay for the 5G services they need on a per-use basis. "This can make 5G services more affordable for customers in rural areas," asserts Ofweek. Service providers can also bundle 5G services with other products, such as smart farming or smart home solutions, to increase the value proposition.

Colmer, however, delivers a word of warning: "in the last spectrum sale in South Africa, there was one lot of 2 x 10MHz in the 800MHz band that were left unsold. Why? Because there was a clause to the sale: an obligation of an outside-in approach to coverage, meaning it would have to be used in rural areas first before the owner was allowed to use it in metro areas. This shows how difficult it is to monetise services in these areas. 5G is currently not being rolled out in rural areas in South Africa for the same reason and will continue to prove problematic as the technology expands into Africa."

5G or not 5G, that is the question

"5G is important, but what's more important is affordable connectivity across the African continent," asserts Colmer.

Indeed, "it would be interesting to see how many people in Africa woke up this morning and said 'this is a great day to get 5G,' or 'I cannot wait, I am getting my shiny new 5G today,'" says Ehrke. "5G is not what Africa wants, what Africa wants is reliable and cost-effective broadband internet whether that is delivered via fixed wireless, 5G, or fibre."

"For years the hype around 5G was that it was the answer to everyone's broadband needs. Regulators have enjoyed how 5G at auctions for high demand spectrum has brought billions of dollars into state coffers. Vendors have enjoyed the technology cycle, driving equipment sales. Operators have enjoyed the marketing excitement. But the reality remains that for most people, 5G is just a slightly faster 4G and has not made any fundamental change," asserts Ehrke.

Indeed, Colmer and Ehrke believe that there are technologies better suited to delivering high-speed internet services to remote and rural African regions, like unlicensed spectrum (5.8GHz).

"There are many established Wireless Internet Service Providers (WISPs) already servicing rural areas with 5G-like speeds using fixed wireless equipment at more affordable rates," says Colmer. "In many cases, using 5.8GHz fixed wireless in rural areas makes more sense than 5G deployment, especially from an ROI perspective."

"In addition, in South Africa, MTN is using fixed unlicensed wireless technology (Air Fibre) in parallel with their 5G handset services, because it's quicker, easier and less expensive to deploy," explains Colmer.

Air Fibre from Tarana Wireless was deployed by MTN as the world's first next generation fixed wireless access (ngFWA) solution, utilising multiple towers across Southern Africa to deliver high speed (more than 100Mbps) connectivity to more than 3.4 million homes, and at a fraction of the cost of fibre or 5G.

"The emergence of ngFWA stands out as the quickest and best route to provide broadband connectivity in rural markets. ngFWA is cost effective, easy to deploy, and carrier grade, meeting operators' requirements for long product life cycles, low cost of entry, high reliability and the capacities required for broadband services," says Ehrke. Operators across the continent have invested in bringing fibre to their towers and upgrading the capacity of their networks. "Leveraging their tower assets to extend their fibre through ngFWA reduces the time to deploy and monetises their infrastructure quicker than any other technology medium."

"The imperative for Africa is to look clearly past 5G hype and understand that a toolkit of multiple technologies is required to make fast, reliable, and cost-effective broadband connectivity widely available. Multiple solutions are required to bridge the digital divide in Africa," concludes Ehrke. ■

Driving Connectivity

We believe that Africa has a very high potential for economic growth, and we will continue to offer the digital infrastructure necessary to accelerate digital adoption and leapfrog its socio-economic prosperity. By leveraging new technologies, the continent will transform businesses, raise productivity, promote financial inclusion, and improve access to health, education, and government services, while encouraging an inclusive society.

There are three developments that we are exploring for the good of the population as we speak.

1. Multiband Single Sector Radio

The first development is the introduction of multiband single sector radios, which is particularly relevant from a cost and power consumption perspective across Africa. For a typical network, there is one radio for each sector, so you will have six radios in total. Accordingly, we came up with the 6626 radio, a three-sector

dual-band that combines two frequencies and six ports in one unit. The weight of this radio unit is vastly reduced compared to multiple radios before. Our new triple-sector, dual-band radio offers an opportunity for communications service providers to significantly reduce the radio footprint and installation time needed on site. At the same time, it lowers total power consumption by up to 50%.

2. Mobile Financial Services

The second development is around mobile financial services. Ericsson's mobile money platform has contributed substantially to increasing the financial inclusion of women, and empowering financial management for many, including people who don't have access to traditional banking services. It is one of the only places where a mobile operator can start to monetize connectivity in a different way. It is something that has not only gone big across East Africa, but the whole of sub-Saharan Africa. Studies show that women who own smartphones have higher disposable incomes, and in agricultural communities, women with smartphones are more likely to buy things like microinsurance.

3. Fixed Wireless Access

The third thing is fixed wireless access (FWA), which is used in mobile technology to deliver home and SME broadband using wireless technology as a complement to fiber.

Fixed wireless access (FWA) doesn't replace fiber; it is an efficient and scalable alternative to wired connections

that doesn't require digging up paths to lay cables. The pandemic proved that reliable, secure mobile broadband can also be used as a fixed service. I would like to see FWA adopted beyond a few tests and niche batches.

In perspective

Africa has its particular needs, challenges, and opportunities while delivering wireless communications. The differences in logistics across countries make it hard to move people and equipment, and to build. You cannot build enormous economies of scale in each country because the countries are not large.

The lives of our employees are extremely important to us. We believe in health, safety, and wellbeing, and we also ensure that our partners and subcontractors strictly follow the health and safety rules while working with us. We do so by monitoring what our subcontractors are doing and ensure we do not compromise the lives of the people we work with.

One of the joys of working in Africa is the real willingness to try and develop a close relationship and come up with solutions that are unique to the continent. I think it is important to work closely, to create a shared vision, and to put yourself in the shoes of your customer. Therefore, having a local presence is critical in order to understand the on-the-ground realities. This has been our approach as we make a conscious effort to really understand the challenges faced in order to offer the right mobile connectivity solutions.

Sustaining the future

As we work towards a more sustainable future, we have set a

goal to cut our emissions by 50% in the supply chain and portfolio use, and we are fully committed to that. We are close to achieving carbon neutrality in Africa by 2030. These targets seemed unachievable at first, but we are developing our solutions towards this goal. For instance, we have added sleep features with reduces power consumption when the radios are in idle mode.

A lot of young engineers and software developers upon graduation want to work with a multinational company like Ericsson. Through our Graduate Program, we have made great progress in giving young people, especially young female engineers, the opportunity to work in an industry that is known to be male dominated. We have also made steady progress in increasing the number of women in senior positions. The diversity of our executive team, which is currently 50% female, reflects this commitment.

Expecting the best

The development of advanced wireless digital infrastructure is an integral part of Africa's growing economy. Mobile broadband access has proved to be an essential driver of an inclusive information society that integrates digitization in all critical aspects of life, such as education, transport, health, energy and even homeland security. Our commitment is to continue to work with the communications service providers and our partners to help African countries achieve their universal coverage, by offering the best digital services and solutions as well as unique customer experience evolving from networks adopting automation, artificial intelligence and analytics. ■



Todd Ashton, Vice President, Head of Customer Unit South and East Africa at Ericsson Middle East and Africa



Striving for tower efficiencies

Enhancing tower operations is key to meeting global sustainability goals, increasing reliability and, of course, profitability. Amy Saunders finds out how towercos are advancing in an increasingly competitive landscape

Demand for mobile data is booming in developing world regions, with digital transformation accelerated hugely by the onset of the COVID-19 pandemic. Across Africa, mobile – as the dominant form of connectivity – was key to the pandemic response as services moved online.

However, “a key consideration in these regions is that mobile penetration remains low,” says Phillippe Loridon, regional CEO – Middle East, East & West Africa, Helios Towers. “Therefore, huge growth is expected, pushing our customers to further expand their networks by increasing capacity and coverage, and we need to be in a position to respond accordingly.”

There is an incredible rate of growth across Africa, agrees Andrew Schafer, CEO, PowerX Technologies, and “we cannot underestimate the pressure on the existing passive infrastructure. We see the effects already showing up in two distinct ways. On one hand, the power load on existing mobile towers is going up due to more mobile data connections and more access equipment. On the other hand, the pressure to deploy low-cost builds for more ultra-rural coverage is stress-testing traditional operational models.”

However, in an era of load-shedding and power

station vandalism, reliable power provision remains a key challenge.

“Despite increasing investments in lower cost and greener energy, tower operators are struggling to fully realise the benefit and reduce the extent to which mobile connectivity continues to rely on expensive and dirty fossil fuels,” says Schafer. “Mobile use is still heavily powered by diesel use and so it is no surprise that sustainability in telecom in Africa is big on executives’ agendas.”

Indeed, sustainability remains a key priority for Helios Towers: “our ambition is to become a net zero carbon emissions business by 2040. All our budgets and forecasts now include carbon emissions to help understand the impact of business decisions on our 2030 carbon reduction target and net zero ambition,” says Loridon. “We also created a cross-functional working group including sustainability, finance, commercial, supply chain and compliance to promote climate action across the business.”

The conjoined challenges of rising demand, patchy power provision and a move towards sustainable operations are compounded by the fact that the industry has been running for years with business processes built around manual operations and inadequate data, as per Schafer.

“Too many operational inefficiencies still remain undetected, such as underutilised renewable assets, suboptimal power mix or sites under-dimensioned for the latest load increase,” asserts Schafer. “Too many field engineers are dispatched to towers without enough information on what issues they need to fix. We continue to see the challenges that companies running towers have in accessing reliable and actionable insights across the vast scale of the operations they manage.”

The industry needs a paradigm shift, says Schafer: priorities for field engineers, for operational and performance teams and for capital expenditure must be determined by leveraging the advanced data science technology that is becoming available to the industry.

“That’s what frames our own priority for the coming year: helping the industry adopt and widen the use cases where advanced data analytics, machine learning and automation surface hidden inefficiencies,” says Schafer. “It’s only by turning data into actionable insights automated through to resolution at scale that we enable networks to make existing and new renewable energy investments go further. We believe this approach needs to also bring other assets beyond power provision in scope, such as cooling, lighting, and

active equipment. This will provide a holistic view to managing network infrastructure efficiently and to better plan for sustainable growth.”

Going green

Global movements towards creating more sustainable systems and infrastructure are as important in Africa as they are elsewhere. Towercos bear considerable responsibility in paving the way to a more sustainable future for telecoms on the continent.

“Telecom in Africa has been leading the way in adoption of renewable energy to power mobile infrastructure,” says Schafer. “However, despite significant investments in greener energy, the pace of mobile demand growth compounded by unresolved operational inefficiencies, make it impossible to reverse the extent to which mobile use in Africa is paradoxically still powered by diesel.”

As such, across the industry, it is important to find innovative ways to improve efficiencies at every corner, to decrease power consumption and emissions over time. “We have attempted to do this in several ways,” says Loridon. “One is that we have established a performance engineering team, which has helped us to reduce our carbon emissions and also committed \$100 million across Project 100 focused on reducing our carbon.”

Another area is the continued evolution of battery technology. “Recently, we made the decision to move away from lead acid batteries and across to lithium-ion batteries. This is because we can operate them at higher temperatures than we see across Africa,” explains Loridon. “They have a longer life. So, we are using battery technology to reduce the amount of time the generators are running.”

Shifting the operational model to increase tower efficiency and optimise investments in renewables must go hand-in-hand with the industry’s response to increasing power needs and significant carbon reduction expectations.

“We have seen that where companies adopt technologies such as advanced data science and automation to digitise operations, it can improve utilisation of renewable assets by at least 10%,” reports Schafer. “The resultant impact, that can be realised only with data-led tower efficiency solutions, is diesel consumption reduction of typically 20-30%, together with the associated emissions reduction benefit.”

In addition to increasing efficiency through avenues such as power uptime, Helios Towers also invests in alternate power solutions to reduce the utilisation of fuel, which is not only the most carbon positive action, but also reduces the utilisation of the most expensive form of powering a site.

“As part of our CO2 targets and ambition to achieve net zero, today, 31% of our sites utilise either solar or hybrid,” says Loridon. “What we need to recognise as an industry, is that we need to work together if we want to achieve more. We have seen a step change in the collaboration with our customers as we recognise we have the same value chain, and we have been working together

closely, particularly with one customer to evaluate what technology they have seen has worked and what technology we have seen has worked. It has been very interesting to see that we are actually looking at the same solutions.”

Schafer, meanwhile, believes that data intelligence is the answer to enhancing Africa’s tower efficiency. “We believe the industry can move to increased tower efficiency and sustainability at the core of its growth by adopting a systematic approach to leveraging data intelligence,” says Schafer.

That starts with detecting unseen infrastructure issues, then applying automation to triage and prioritise fixes or improvements across the full operations and maintenance lifecycle – from field engineers through to strategic business decisions.

“Leveraging advanced data analytics and automation is key to optimising operational processes and scaling improvements faster across large volumes of sites,” outlines Schafer. “Audit trails and reporting are fundamental to the process, supporting compliance and enabling measurement. This process leads to both internal and external benchmarking, delivering insights as to the performance of sites, operational teams, OEMs, and suppliers. This drives continuous improvement and ultimately leads to setting new industry standards in tower efficiency, ESG best practice and sustainable mobile growth.”

Improving operations

Uptime is crucially important to a towerco’s MNO partners because higher uptime means more time in which networks are powered, and therefore, more time in which they can generate revenues and serve consumers.

“To put this into perspective, each 1% of network downtime across our nine markets loses MNOs \$175 million in annual revenues,” explains Loridon. “One of the key improvements we have made to improve efficiency has been improving our power uptime. Back in 2015, our customers were losing a lot of revenue. In Tanzania, it was 15 minutes of revenue lost per week per tower.”

Helios Towers made investments to reduce power downtime to less than one minute per week per tower in 2018 – today, that number is down to less than 30 seconds. “We’re now trying to replicate this success across our other markets, where on average we only get 16 hours of grid per day, and power uptime is critical for our customers,” adds Loridon.

Another route towards enhancing tower operational models is colocation and tower sharing, which has become in vogue in recent years as opex rises with inflation and energy costs.

“Our model is very simple,” explains Loridon. “We start with one tenant on it. Then we aim to put as many tenants on the site as possible, which we call colocation. And then we try and get those tenants to add more equipment over time, and we charge revenue for more equipment going on our sites.”

Each tower site runs at a fixed cost. Each time an incremental tenant is added, Helios Towers

sees around 80% margin flow-through; the site ROIC jumps from 11% to 19% to 32% each time a new tenant comes on board.

“We have a saying at Helios - we are not a towerco, but we are a coloco,” adds Loridon. “We only own towers so that we can add multiple tenants to them because that is what drives value. Because our business model is to facilitate sharing of infrastructure rather than having lots of single mobile operator towers, we inherently drive carbon emission reduction.”

What does the future hold for Africa’s towercos?

The African telecommunications market is already booming amidst rampant population expansion, and things are only expected to heat up in the years to come.

Indeed, the GSMA reports that subscriber penetration in MENA is expected to grow from 54% in 2022 to 65% in 2030; 4G connections are expected to fall from 48% to 33% as 5G expands from 3% to 47% of all mobile connections. In sub-Saharan Africa, meanwhile, mobile subscriber penetration is forecast to expand from 43% in 2022 to 50% in 2030 - 4G will become the dominant mobile generation, growing in connections from 22% to 47%, although 5G connectivity will also expand from less than 1% to 16%.

“Our regions have the best growth dynamics by far anywhere in the world, and we believe that there will be plenty of structural growth for decades to come,” says Loridon. “So, whilst the rest of the world may be stagnating in terms of population growth, Africa and the Middle East are set to triple their populace in this century alone, and in fact, almost double it by 2050.”

Alongside this, Africa also has the fastest-growing mobile market, the highest rate of urbanisation and the fastest-growing economies. “Our countries contain five out of the top 10 most urbanised cities in the world. One of these cities, Kinshasa, the capital of DRC, today has 17 million people living within it. By 2035, it is forecast to have 27 million people. It will be the next global mega city, so watch this space. This city alone will need 5,000+ telecoms point as a service in getting to that size,” says Loridon.

Meanwhile, Schafer describes a trend in tower operators increasing their focus on efficiency and cost reduction, whilst trying to balance capacity and coverage growth and not compromise on resilience and SLA achievement.

“The increase in energy costs globally and the sustainability concerns drive the continuous need for more investment in renewables and specific actions to reduce GHG emissions,” concludes Schafer. “We have seen a clear acknowledgement that efficiencies cannot be achieved without leveraging data and making existing assets work harder. We therefore expect to see 2023-2024 become a pivotal year for tower companies investing in technologies that digitise their infrastructure to drive operational efficiencies and support the attainment of increasing stringent sustainability targets.” ■



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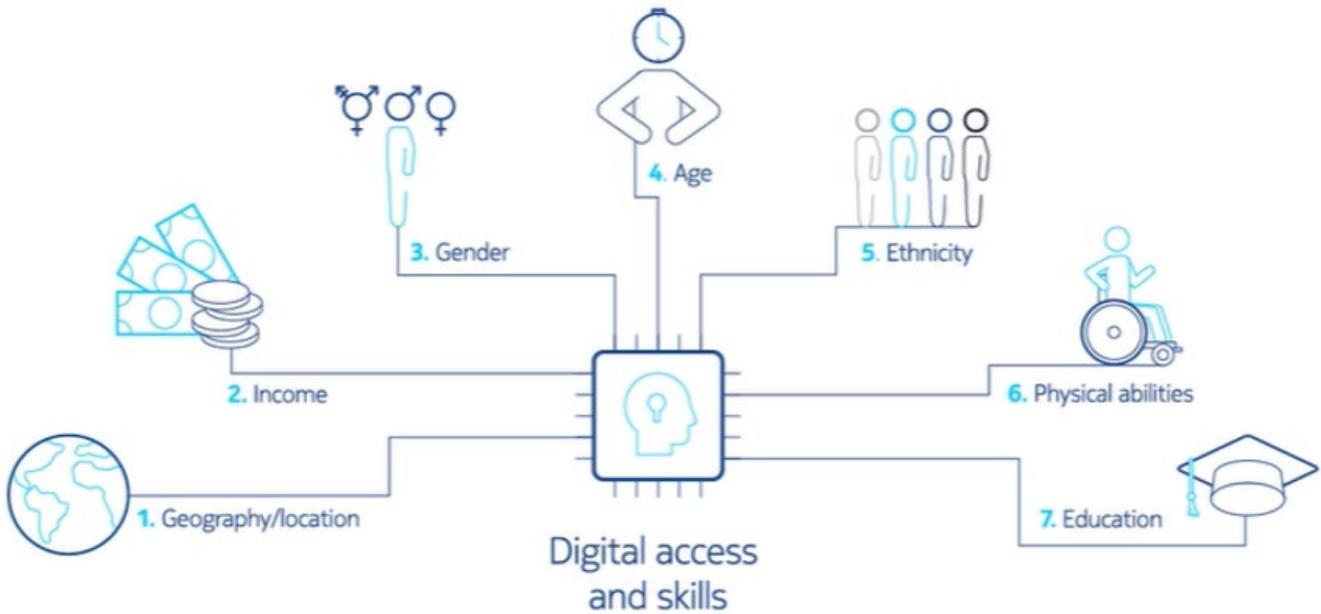
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The seven fault lines of the digital divide

The digital divide remains a very real challenge in much of Africa, but the causes range far beyond simple network coverage, says Jan Liebenberg, customer chief technology officer for Southern Africa, Nokia

Many see broadband as a basic right, carrying a similar status to that of access to fresh drinking water or electricity; and the argument has gained considerable weight during the pandemic.

The reason for the gaping holes in coverage is usually that it isn't commercially viable to connect sparsely populated areas. The remedy is government policies and funding to incentivize

widespread fibre broadband rollouts and to ensure that remote and rural communities are not just connected but that they receive high-speed broadband. However, this strategy alone does not guarantee that everyone will have an equal opportunity to participate in the digital economy.

During the pandemic, when all but essential activities were closed and commuting and travel were restricted in many countries, people were still able to work, learn, access public information, stream entertainment and socialize online from the safety of their homes. Those who lacked digital connectivity were unable to access any of these resources and even those living in city centres reported feeling isolated so that their physical and mental health suffered.

Digital connectivity is not just the glue holding together the economy; it's crucial to social cohesion too. And that is why commercial viability alone can no longer be the gating criterion for broadband rollout. Extending the physical infrastructure needs to go hand in hand with ensuring accessibility in terms of digital literacy and skills for all social groups. Without it we can only tap into a fraction of our socio-economic potential.

A range of issues determine whether you can access, understand, and use the available services. These include, but are not limited to, level of income, literacy, gender, ethnicity, age, and physical abilities. It's worth noting that groups experiencing these issues often face multiple barriers, more than one divide; for example, indigenous communities

are more likely to live in remote areas and have lower than average incomes.

The future must be one of digital inclusion. When these fault lines are tackled, the result generates a more inclusive society and extends civic participation and equality of opportunity. By closing the digital divide, many social and economic barriers weaken, and people become more connected and engaged.

Fault line 1 - Geography and location

Geography (developed or developing markets) or location (rural versus urban) usually determine network access. Urban regions are more likely to have access to 5G, LTE or fibre optic access because there's a business case for commercial rollouts. Consequently, geographical barriers require government intervention to ensure that rural areas are not ignored.

Fault line 2 - Income

The digital divide is often seen as a rural problem, but you could live in the capital city in a G7 nation and have gigabit fibre or 5G outside your front door and be unable to afford the packages if you are unemployed or a low-income family.

The coronavirus pandemic highlighted the seriousness of the problem as work and education went online. One laptop and a low-bandwidth package was not enough to support the adults



and children who all needed to be online at the same time.

Fault line 3 - Gender parity

According to the United Nations, in 2019 only 48% of women use the internet globally, compared to 58% of men. This gender gap ranges from 3% in developed markets to 53% in least developed countries (LDCs). Internet connectivity and digital services can empower women, give them access to public services and health information and provide an opportunity for greater financial independence.

It can also help them make a social-economic contribution at a local and national level. According to a 2015 study by the McKinsey Global Institute, empowering women to participate equally in the global economy could add \$28 trillion in GDP growth by 2025.

Fault line 4 - Age

Youth: According to a 2020 study by the ITU, 71% the world's youth (aged between 15 and 24 years) were using the internet (compared with 57% of other age groups). However, in least developed countries (LDCs) this figure drops to 38% for youth (22% for the rest of the population) and acquiring digital skills for greater social mobility and economic integration remains an issue.

Seniors: According to a 2019 study by the Pew Research Center, 25% of Americans aged over 65 do not use the internet, while Age UK reports that around 42% of the those aged over 75 don't use the internet. In order of importance, the most common barriers were lack of digital skills (79%), followed by lack of trust in the internet (39%) and not having access to equipment or broadband (30%).

Fault line 5 - Ethnicity

Indigenous communities face a particular set of challenges created by their remote and/or rural location and lack of digital content in their native languages. More fundamentally, however, they suffer greater levels of poverty, lower levels of education and healthcare provision and in the past, they've been subject to exclusionary government policies.

Fault line 6 - Physical abilities

As digital services become pervasive, they are sometimes the only way of accessing services. Other channels, for example phonedials, will often suggest you visit a website or FAQs section to shorten queues. Advances in user interfaces, such as speech-to-text services and voice-activated intelligent personal assistants have been a huge step forward for the partially sighted and physically disabled, but again, obtaining digital skills and understanding what's available and how to leverage these opportunities need focus.

Fault line 7 - Education

Many experts feel current educational institutions are not designed to develop the creativity and innovation required in a workforce for the 21st

century. Education needs to prepare the future workforce in developed and developing markets for the digital economy.

Broadly, digital skills correlate to years spent in education. Those with tertiary education (college, university) are more likely to leverage the potential of broadband and connected devices. Low literacy levels widen digital inequality and often lead to lower incomes. It's important that mandatory education develops digital skills and competence, but it is equally important to ensure life-long learning and skills development to adapt to workplace demand.

Tackling the digital divide

Sufficient technologies exist to address the digital divide, however, the key is in how to combine the different technologies to allow a viable business case and deliver a sustainable solution.

Technologies for consideration include mobile radio and fixed-wireless access technologies (5G, 4G, WiFi), satellite broadband, high altitude platforms (HAPS) and low Earth orbit satellites (LEOs) or Non-Terrestrial Networks (NTN). New HAPS and NTN developments are bringing new concepts and business models in bridging the digital divide. The HAPS and NTN allow infrastructure reuse by default, as these assets move around the globe, they are re-assigned to provide access to the country in view, therefore bringing economy of scale.

Meanwhile, some countries are creating rules on pricing and encouraging sharing of infrastructure like wireless towers. A Nokia Bell Labs study shows that a cost benefit of 20-25% can be obtained when towers, backhaul and other ancillary items are shared.

Permitting network sharing reduces deployment costs. For example, in South Korea, the three main cellular operators are working with the government to deliver 5G (high speed mobile broadband) to rural and low population density areas by allowing network sharing. The intent is that each operator will set up communication networks in designated areas, which can be shared with the other two.

Governments should also reduce private-investment risks to attract more capital in digital

infrastructure investments that serve a public need. And where conditions are not commercially viable, they can provide growth capital on those projects to attract private investors. It is important to note that these activities should extend to include those responsible for development programs and budgets to prioritize digitalization, such as the IMF, World Bank, international banks, and development agencies of large economies.

Governments are also writing rules against predatory pricing or overbuilds and encouraging sustainable rural broadband business.

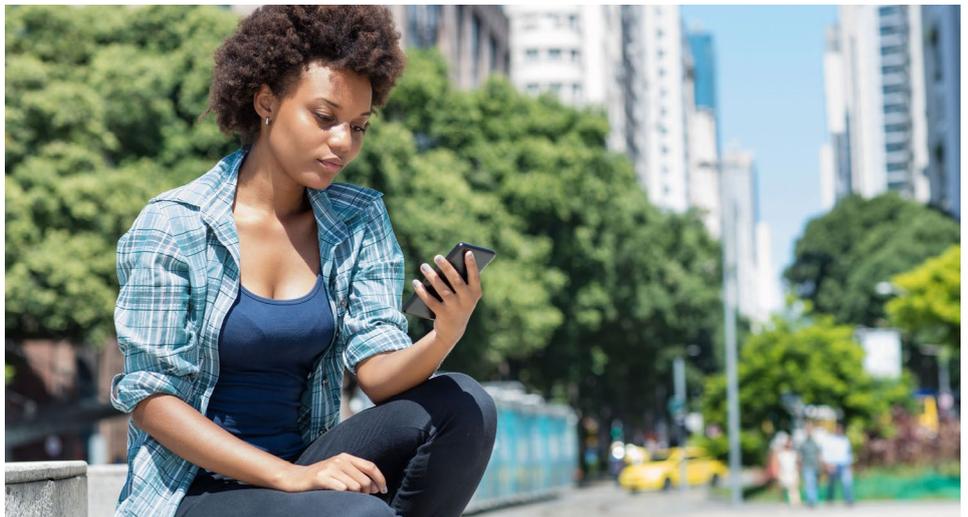
Promoting digital inclusion

The balm to the digital divide is digital inclusion. The objective is that everyone has access to high-speed broadband internet services and devices and understands the benefits of using the internet and online services. It means having the skills to use the internet, access to local language content and public information and importantly, how to stay secure and protect online data. There are many studies that demonstrate how higher broadband penetration levels not only improve household and business access to information, work and education, they also increase a nation's GDP.

Multiple studies, governments and NGOs have realized that broadband coverage in the rural market is essential to drive economic and social developments. They are all now encouraging universal broadband rollout to close the digital divide through a variety of incentives.

Broadband is seen as enabling not just internet access, but also has the potential to herald IoT revolution in agriculture and forestry services, e-health, remote-education, and teleworking. Thus, combined with these additional sources of funding, CSPs have a stronger business case for universal broadband access. Market trends and studies have also confirmed that there is a strong demand for and willingness to pay for rural broadband service. The broadband subscription rate is almost as high in rural areas as in urban and suburban environments.

I believe that we will see a consolidated global effort by private companies and governments to form multi-party value ecosystems in the next years to reduce digital exclusion, specifically in Africa. ■





Remote learning and smart teaching delivered for Anton Lembede MST Academy

The Anton Lembede Mathematics, Sciences & Technology (MST) Academy is a public education institute located in KwaZulu-Natal (KZN) province in South Africa. The province covers an area of around 92,100 km² with a population of 11 million. In terms of education, KZN is home to over 6000 primary and secondary schools and 38 teacher development centres. However, many schools lack digital devices and rely on traditional teaching methods.

Conventional teaching methods have become insufficient in recent years. Traditional classrooms are not equipped with modern, digital technology, which prevents teachers from displaying multimedia teaching materials. It is difficult to quantify and analyse the effect of classroom activities, as there is no real-time evaluation or feedback on student interaction, or performance analysis of teachers and students for the school management personnel. The shift to online teaching was fast-tracked following the global pandemic, and schools around the world were in urgent need of remote teaching facilities.

Realising full-process digital education

To bring the Anton Lembede MST Academy into the forefront of digital education, the school adopted the HUAWEI IdeaHub. With it, Anton Lembede MST Academy gained smart teaching capabilities, and opened up options for remote learning.

HUAWEI IdeaHub provides an intelligent digital

education solution that integrates whiteboard, screen projection, and remote collaboration. For Anton Lembede MST Academy, the most impressive feature of IdeaHub is the 35ms ultra-low writing latency for smooth writing, which allows classrooms to retain writing habits. The digitized teaching materials mean teachers can reuse materials, and students can review the materials easily after class.

The Academy adopts a hybrid teaching mode that combines online and offline teaching. With IdeaHub, teachers can use multimedia teaching materials in the classroom, and even use teaching software to conduct virtual experiments to transform normal lectures into virtual labs in seconds.

IdeaHub not only improves the in-class experience of teachers and students, but also provides a full-process teaching platform for learning before, during, and after class. Before class, IdeaHub supports omnimedia courseware editing tools to streamline teaching courseware. After class, the comprehensive data analytics of teaching activities is provided to facilitate refined teaching management.

Promoting inclusive education

Breakthroughs in technology are driving the evolution of traditional education. In recent years, smart education has gained significant attention globally, and the successful deployment of HUAWEI IdeaHub in Anton Lembede MST Academy signals the start of a digital journey in KZN province.

Feedback from school principals was overwhelmingly positive, signalling the beginning of a more inclusive way of learning in KZN.

"The pandemic made us realise the importance of remote teaching," said Xolani Maduna, a teacher at Anton Lembede MST Academy. "We wanted to make e-learning a possibility, and the IdeaHub solution makes this into a reality. What's really impressive is that we can choose between normal in-class teaching or online teaching, or a mix of the two, making it very convenient for us, as well as an excellent learning experience for the students."

"The integrated design of IdeaHub does not have high requirements on cabling and network environments, and can adapt to various environments without overhauling the classrooms," said Dumisani Sibaya, principal of Anton Lembede MST Academy. "In terms of basic education, the IdeaHub helps to easily share high-quality teaching resources and solve the problem of unbalanced resources across the region." ■



High School Oos-Moot gains future-proof connectivity

High School Oos-Moot in Pretoria, South Africa, is a secondary school catering to some 1,500 pupils and 90 staff members. In keeping with its commitment to a strong and rounded education, the school required a modern IT infrastructure, implemented by a reputable deployment partner.

A disparate systems scenario

High School Oos-Moot faced a challenge like many other educational institutions, in that it had a legacy network consisting of non-enterprise network switching and access points. The wireless local area network (WLAN) was extremely inconsistent, did not offer adequate coverage, and was unreliable at best. Moreover, three separate networks had been installed and expanded over time, creating a disparate and highly confusing scenario.

“These networks were LTE driven, with only one of the networks being connected via an outdated and very small firewall. More than this, some essential areas were not directly connected to the LAN — meaning they had no internet access and were functioning as standalone networks,” said Johan Meyer, terrain and building manager at High School Oos-Moot. “Furthermore, only a selected number of on-site network office machines were connected to one of the LANs, and telephony was also not up to standard. This meant the school had to employ the services of multiple service providers for the management and upkeep of this distributed scenario.”

Due to the separate networks established over time, each had its own unique challenges. Moreover, their problems were also occurring

very frequently, and local resources as well as external service providers were constantly having to fix issues.

“It became extremely frustrating for the users — to the point where staff could no longer rely on the WiFi at all for uninterrupted teaching purposes. Costs were escalating and continuous fault calls required constant attention. It was clear something had to be done to improve the situation,” said Meyer.

A unified network - delivered in time for school

A wide range of products were recommended by CommScope to solve Oos-Moot’s challenges.

These included installing CommScope Category 6 cabling, as well as single mode fibre-optic cabling, while cable routes were also required for all new cabling. Various port switching solutions were deployed, along with 10G stacking licenses and several different RUCKUS access points. Sinewave double conversion UPSs with surge protection were implemented for all cabinets, along with a network monitoring server, which included sensor licensing for all LAN devices. VoIP handsets were installed to make voice communication much easier and more effective; and, finally, a large CCTV system — including 4MP FHD cameras and related head-end NVRs, server, and software — were also installed.

Despite the complexity, the complete installation was undertaken in less than four weeks, meaning it was ready by the time school opened again.

“The results have been incredible: we now

have consistent wired LAN performance along with logical and sensible VLAN planning and deployment. We have increased our WAN bandwidth and uptime, not to mention coverage, stability, and concurrency, as well as our cybersecurity approach on upstream WAN,” said Meyer. “Furthermore, we have unified all networking devices and services onto a single network structure and added 73 IP-based full-HD CCTV cameras for physical security.”

Other aspects of the project include futureproofing as well as expansion and flexibility options; a full, fibre optic-based backbone structure with increased bandwidth availability; a unified voice platform and general voice improvement; and the addition of UPS units to assist in dealing with South Africa’s erratic power utility supply.

“We are also pleased to have begun the journey to the cloud and, by partnering with a single managed services provider, we have ensured long-term maintenance and upkeep via SLA,” said Meyer. “I would have to say we have been particularly impressed by the coverage and consistency that the RUCKUS WiFi has delivered. Emtelle, as the implementing partner, managed to not only solve all our pain points, but also delivered the project as an OpEx-based model, which enabled us to meet our budget expectation.”

South Africa schools have a strong need for modern IT infrastructure and reputable deployment partners. Schools have historically been limited by CapEx availability in implementing such projects. This has led to them often committing to inexperienced service providers — resulting in many schools ending up frustrated with the world of IT.

“We’re thrilled to have helped High School Oos-Moot implement a new and streamlined, non-disruptive network infrastructure,” said Gary Newbold, VP regional sales EMEA, RUCKUS Networks at CommScope. “Upgrading the existing network — which consisted of non-enterprise network switching and access points — was essential given that the current quality of connectivity was short range, intermittent and totally unsuitable for providing adequate coverage to a campus of over 1500 pupils and staff.”

“This project has not only eliminated such frustrations for Oos-Moot but will assist us with marketing our school as having a truly modern IT infrastructure — something to which potential new students are definitely attracted to. The work done by Emtelle and CommScope at Oos-Moot is a demonstrable example that schools can, in fact, afford to have top-notch IT infrastructure — when a trusted and adequately certified partner is chosen to assist in this journey,” concludes Meyer. ■



Single Pair Ethernet portfolio for Industry 4.0

Belden has launched its Single Pair Ethernet (SPE) portfolio of connectivity products, designed to optimize Ethernet connection possibilities in harsh environments, including industrial and transportation operations. The SPE portfolio includes IP20-rated PCB jack, patch cords and cordsets for clean-area connections and IP65/IP67-rated circular M8/M12 patch cords, cordsets and receptacles for reliable field device industrial ethernet connections.

The portfolio creates the foundation for real-time communications between all devices on the network, the enterprise backbone and the cloud to improve process efficiency and reduce operational costs. As Industry 4.0 evolves and the number of sensors and actuators in automated production cells that connect to the factory backbone grows, the new

SPE product portfolio is the simple, affordable solution to further enable predictive maintenance, digital twins and more.

For transportation applications, the Belden SPE products offer a 30% improvement on bending ratio and 30% smaller outer diameter, alleviating issues caused by tight spaces between vehicle bodies. In addition, the products simplify cabling to improve customer experience with a greater range of connectivity and reduce the weight added by existing connectivity products by nearly half.

The Belden SPE portfolio of connectivity products provides:

- Future-proof innovation: the simplified network topology enables seamless connectivity from sensors to the cloud; gateways become optional.
- High-performance bandwidth

support up to 10Gbps.

- Rugged protection from harsh conditions: IP65/67 design protects against mechanical shock, vibration, dust, chemicals, and temperature extremes; suitable for M313C3E3 environments.
- A compact, lightweight design: increased flexibility and bending ratios make the cordsets easy to commission and overcome tight space constraints.
- Built for sustainability: manufactured with 55% less metal and plastic than popular Ethernet cordsets, resulting in improved carbon footprint and ESG rating without sacrificing performance; IEC 63171-6, lead-free RoHS compliant.

Belden's new products are compact and durable, provide much greater coverage, and are the ideal network

connectivity choice for machine building, automotive manufacturing, food and beverage manufacturing, intralogistics, mass transit systems, traffic control/systems, railway, train stations, and rail-rolling stock.



New methanol fuel cell-based power generator for telco industry

Blue World Technologies has launched the CellPack™ Stationary, a methanol fuel cell-based power generator developed for the telecommunication industry.

The CellPack™ Stationary can also be adapted to other demands such as electric vehicle charging or power supply for low-quality- or off-grid installations.

The CellPack™ Stationary can

be delivered as a 5-, 10-, or 15kW system for installation either as a backup, supplemental, or primary power source depending on customer need.

With high efficiency, a continuous power output, a pure methanol fuel system, and IoT-based remote monitoring the CellPack™ Stationary is an innovative system replacing conventional fossil-

based generators.

With a small footprint, the CellPack™ Stationary consists of a base unit combined with either one, two, or three 5 kW power modules depending on the customer's power need.

The system can be installed as a hybrid



solution combined with renewable energy sources such as solar cells or wind turbines. As the fuel cell system only has a few moving parts the noise and vibration levels are very low making it ideal for installation in densely populated areas.

Spirent's A2 400G Appliance validates routers and switches for high-speed ethernet

Spirent Communications' new A2 400G Appliance helps accelerate the design and development of new generation high-speed ethernet devices.

Optimized for system and scale testing the streamlined, pre-configured A2 400G Appliance is intended for market segments including network equipment manufacturers (NEMs), service providers, enterprises, chipset vendors, and government that need

high-density 400G test capabilities to validate routers and switches.

The Spirent A2 400G Appliance is a flexible platform with high-density 400G ports for mission-critical scale emulation and select functional testing, such as throughput testing with traffic packet blasting, and proof of concept (PoC) labs to emulate a real-world service provider customer network. The next-generation 2U platform is available in 8-port and 16-port variants for high-density

400G testing and protocol scale emulation, such as high-density hardware interoperability testing and ASICS testing for chipset vendors.

The A2 platform delivers a proven test solution for validating 400G QSFP-DD architectures for scalability, reliability and

interoperability with automation capabilities that save valuable time and resources to accelerate time to market. In addition, the seven-speed appliance supports 400/200/100/50/40/25/10G Ethernet speeds for network traffic testing at line rate.



Hytera enhances new generation H-Series DMR two-way radio

Hytera Communications has released HP56X and HP50X portable two-way radios to further expand and strengthen its new generation of Digital Mobile Radio (DMR) portfolio. The HP5 models are developed to provide reliable voice communications for security, operations, technician,



and maintenance teams at office buildings, stadiums, industrial parks, school campuses, hospitals, etc.

The H-Series, including portable radios, mobile radios, and repeaters, is developed on new hardware and software platforms. Hytera began the introduction of its next-generation H-Series DMR radios with HP7 portable two-way radios, HM7 mobile radios, and HR106X repeaters to the global markets at the end of 2021; then HP6, HM6, and HR6 models followed. The latest HP5 models further enhance Hytera's ability to serve more customers from different sectors.

HP5 series, designed for enterprises and businesses with smaller teams, excels in balancing functionalities, usability, and price point. The HP5 models have dedicated dual knobs for volume and

channel controls to simplify radio operation. With the universal Type-C port, HP5 radios can be charged with a power bank or car charger.

HP56X and HP50X radios deliver crystal-clear audio enabled by AI-based noise cancellation, which suppresses annoying feedback howling and filters unwanted ambient noises. With the 0.18µV (-122dBm) sensitivity, the HP5 Series ensures stable push-to-talk voice calls even at the far edge of coverage.

HP5 series is IP67-graded waterproof and dust-proof and meets stringent MIL-STD-810G military requirements for protection against vibration, 1.5m drop, extreme temperature, etc. The GPS and BT 5.2 modules make these two new radios a versatile part of the overall dispatching and management solution.

Look out for...

Direct-to-satellite market to hit \$9 billion by 2030

New research from Kaleido Intelligence finds that direct-to-satellite connectivity, where regular smartphones and IoT devices leverage satellite communications networks, will see revenues for connectivity services reach over US\$9 billion annually in 2030.

Satcom services promise to enable the 'everything, everywhere' vision for cellular connectivity, serving as a failover for terrestrial coverage 'not spots.'

Kaleido anticipates significant potential for IoT initiatives, forecasting more than 460 million connections by 2030.

Chipset makers are supporting this new architecture while the 3GPP has started the path towards integrated cellular and satellite communications networks, following the finalisation of the NTN (Non-Terrestrial Networks) standard as part of 5G Release 17. Standardisation and hardware ecosystem support means that the market is now ripe for growth.

"Using existing GEO-based capacity looks the most sustainable way forward for LPWAN IoT connectivity, but few providers have opted for this path," said Steffen Sorrell, chief of research at Kaleido. "Meanwhile, the relatively low data rates offered by NTN-NR will ultimately mean that the revenue opportunity will remain constrained until at least 2030. Further industry consolidation is inevitable as the market positions itself."

While significant barriers to widespread rollout remain - including the high cost of satellite production, launch, and operations, and the corresponding impact on service pricing, as well as the ongoing divisions in spectrum use between nations having a limiting effect on capacity - direct-to-satellite is proving promising for markets across the world, particularly those with limited cellular coverage.

The delivery of truly global communications, including in remote and rural regions, could be game changing for a wide range of industries.

Ativa Optimize simplifies network performance for MNOs

Infovista has introduced Ativa™ Optimize to deliver operators geospatial analytics, monitoring, troubleshooting and optimization across all their radio vendors and technologies - from 2G to 5G standalone - in a single pane of glass.

Part of the cloud-native Ativa suite of applications and solutions for automated assurance and operations, Ativa Optimize enables operators to streamline previously laborious processes through automated RAN diagnostics and recommendations, reducing swivel-chair operations and ensuring best performance and user experience.

Built on the unified NLA Cloud Platform™ and leveraging best-in-class geolocation accuracy and actionable reporting, Ativa Optimize helps MNOs easily understand and visualize radio network performance and correlate it with user experience using geolocated subscriber call trace data. This enables operators to identify areas with the most customer impact and prioritize network operations accordingly, and monitor high-value customers

and zoom down to individual subscribers for faster investigation and troubleshooting.

Ativa Optimize brings CAPEX and OPEX reductions by offering a futureproof unified cloud-based solution to manage all RAN networks, improving operational efficiency through advanced analytics and automation, and significantly reducing the number and cost of drive tests through analysis of subscriber call and device behavior. It also leverages its geospatial insights across the organization, helping planning, customer care, and marketing teams take well-informed business-driven decisions and improve the bottom line.

Operators can correlate data from RAN to core by integrating Ativa Optimize with Ativa Experience and Ativa App, for end-to-end customer experience, service, and application intelligence. This 360° visibility of network, service performance and user experience allow more systematic problem assessment, validation, and prioritization. The Ativa suite of applications and



solutions, which can be deployed independently or in combination, correlate experience, service quality and resource performance across domains to deliver end-to-end automated assurance through a single pane of glass.

Ativa Optimize enables 360° Assurance for VoLTE and VoNR, a comprehensive, end-to-end solution to ensure better customer experience when using voice services in dynamic networks.

The solution reduces the complexity of ensuring mobile voice services delivered through 4G and 5G networks using VoLTE and VoNR, while reducing operational complexity and costs through automation.

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Airbus supplies Saudi Arabian Grand Prix mission-critical solutions

 Airbus has rolled out its mission-critical solutions in the 2023 Saudi Arabian Grand Prix as the motorsport spectacle's official secure communication technology provider.

Deployed in the vital points of the Jeddah Corniche Circuit were Airbus TMR880i, THR880i, TH1N, and TH9 Tetra radios and RCS9500 Radio Dispatch Console. Providing secure collaboration and connectivity between organisers and security teams, the technologies were pivotal to safeguarding the people and the venue whilst guaranteeing seamless on-site race activities and operations.

"Clear, concise and secure

communication is an important success factor of any event. To better respond to incidents, organising committees and security personnel on the ground must be connected at all times. Airbus has the expertise and capabilities to effectively address this need," said Selim Bouri, vice-president for Airbus Secure Land Communications in Africa, Asia and the Middle East. "Our easy-to-use and highly reliable mobile Tetra radios are equipped with advanced features ideal for different activities, may these be small or large scale. In the region, several mega and popular events such as the recently concluded F1 race in Jeddah had benefited from our solutions. It was



our honor to provide support to the organisers of the race as they worked towards safeguarding all participants and spectators present on the race circuit."

Sepura signs up Waleed Communications, expands in Middle East

 Sepura has signed Waleed Communications as a sales partner in Oman, adding a proven solution provider to their network of partners and increasing their presence in the fast-growing Middle East critical communications market.

The partnership will enable Waleed Communications to offer Sepura's range of mission critical communication solutions to public safety organisations throughout

Oman, including police and emergency response teams, as well as organisations running petroleum plants and those charged with protecting critical national infrastructure such as airports and public transport.

Sepura's radios have a history of successful deployment in the Middle East, used across the region to provide the communications links for public safety organisations who need reliable, secure communications to safely

complete operations.

"We are pleased to welcome Waleed Communications as our partner in Oman," said Terence Ledger, regional sales director for Middle East, Africa and APAC at Sepura. "We believe that their expertise in the local market, combined with our proven products and experience within global public safety markets will enable us to provide critical communication solutions that meet the needs of users in Oman."

Astrocast to participate in XGain with SatIoT

 Astrocast is participating in the European Union (EU) funded XGain initiative. Its satellite IoT (SatIoT) technology and network will be deployed within an aquaculture project in Dalatia, Croatia to monitor water quality within remote oyster farms.

The XGain project has been set up by the EU to foster the sustainable, balanced, and inclusive development of rural, coastal, and urban areas with technology. It achieves this for suitable organisations and projects by providing relevant stakeholders with access to a comprehensive inventory of smart XG, last-mile connectivity and edge computing solutions, as well as appropriate assessment methods.

The XGain project currently involves a consortium of 17 partners. This includes Benco Baltic, which is responsible for driving the aquaculture project that Astrocast is participating in. Further, the XGain programme provides those involved with a knowledge facilitation tool to draw on, which enables XGain to facilitate business model development for participating organisations; and supports with the decision-making during the selection of an ecosystem of appropriate technologies, to suit the various projects and initiatives for various organisations. For example, selecting suitable connectivity and edge processing solutions for projects.

In Croatia Astrocast will provide its

expertise in SatIoT, along with access to its communication modules, to support this aquaculture project. It will allow key water parameters to be monitored at an oyster farm near Sibenik – and showcase how data can be retrieved from devices – sensors – located in such remote locations. The project also demonstrates how an extended network infrastructure, supplemented by LoRaWAN and Satellite Communications can be used to transmit data from offshore sensors to a central monitoring system.

"Astrocast is excited to participate in the XGain project and support this aquaculture development in Croatia," said Fabien Jordan, CEO of Astrocast. "The project

Huawei helps Teletalk Bangladesh prep for 5G

 Huawei will supply Teletalk Bangladesh with a suite of solutions aimed at preparing the operator for 5G and boosting rural operations.

The agreement will see Huawei deploy new 4G sites for Teletalk, as well as core and IP network solutions. Huawei is also set to modernise Teletalk's charging and billing systems. The project is set to be completed in the middle of 2024.

"We want to diversify our network so that everyone nationwide can access high-speed connectivity; thus, we have taken on the major network upgrade project. We want to offer superior service to our subscribers at affordable costs," said Habibur Rahman, managing director of Teletalk.



focuses on providing farmers with technology tools to scale up their activities, of which connectivity is more important than ever, as it can provide them with the insights that they need about their projects, to operate them more effectively. So, we are proud to contribute with our expertise and technology to this important initiative. Especially as it aligns with our business values too."

The XGain project began in September 2022 and will last for three years. Astrocast's involvement in the project and support with this aquaculture use case in Croatia underscores its commitment to providing satellite based IoT solutions that help bridge the digital divide in rural areas.

China's 5G deployment quickens

 China's massive 5G rollout accounted for 60% of the global base station count at end-February with next-generation customers representing 56% of the worldwide total.

China's 5G base stations stood at more than 2.3 million at end-February, comprising 21.9% of the country's total, according to

Wu Hequan, chairman of FuTure Mobile Communication Forum. China's Ministry of Industry and Information Technology recently predicted the number of 5G base stations in the country will hit 2.9 million at end-2023.

Within China, 5G customers accounted for 34.9% of total mobile users.



stc buys 4,800 towers from United Group

 Saudi Arabia-based stc struck a deal worth €1.2 billion to acquire a portfolio of 4,800 towers from United Group, marking its infrastructure unit Tawal's entrance into Europe.

stc will make the acquisition through Tawal, expanding the unit's current portfolio of more than 16,000 towers spread across Saudi Arabia, into three European markets: Bulgaria, Croatia, and Slovenia. Payment will be made in cash, on a debt free basis, and it will look to maintain current relationships with operators in the countries upon completion.

As part of a 20-year master services agreement with United Group, Tawal has also committed to deploy more than 2,000 additional shareable sites.

The United Group deal is subject to regulatory approval in Bulgaria and Slovenia, and Tawal's operations in the continent will be branded as Tawal Europe, serving as a platform for further expansion.



TAE gains ICE6 800G coherent optical solution for EXA Trans Adriatic Express cable

 EXA Infrastructure has deployed Infinera's ICE6 800G coherent optical solution on the EXA Trans Adriatic Express (TAE), a submarine cable system linking EXA's current European footprint to Turkey via Albania and Greece.

TAE is a joint venture formed between EXA and Trans Adriatic Pipeline Ag (TAP), the owner of a critical new gas pipeline connecting the Caspian Sea to southern Italy. Completed in 2020, the pipeline connects Melendugno in southern Italy through Albania and Greece to the Turkish border at Kipoi. This project creates a unique fibre optic network connecting Milan, Tirana, Athens, Sofia, and Istanbul with high-quality, high-performance, and ultra-reliable digital infrastructure.

EXA selected Infinera's ICE6-based solution to help meet the

rapidly growing bandwidth demand on its state-of-the-art TAE cable link. Infinera's ICE6 optical engines provide subsea network operators like EXA with industry-leading capacity per cable by leveraging unique features including highly granular baud rate configuration, industry-leading long-codeword probabilistic constellation shaping (LC-PCS), and Nyquist subcarriers that seamlessly integrate with existing third-party line systems.

"As a dedicated operator of hyper scale digital infrastructure, EXA is continuously investing in network expansion projects to further develop the depth and breadth of our current footprint. Our mission is to provide high-quality, reliable, and scalable infrastructure between the locations our customers demand, which are typically the large data centre clusters, cloud regions and

cable landing stations," said Ciaran Delaney, EXA COO. "We selected Infinera's ICE6 optical engine based on its optical performance in subsea and terrestrial applications. In our deployment of ICE6 elsewhere on our network, we have been impressed with lead times despite a very challenging supply chain environment, and with seamless integration into our existing network. EXA is preparing for growth in this region by deploying ICE6 to enable us to meet this demand."

"We are pleased to support EXA in deploying proven, industry-leading solutions like ICE6 to quickly and cost-effectively accelerate their service delivery to meet rising customer demands while protecting their subsea network infrastructure investment," said Nick Walden, senior vice president, worldwide sales, Infinera.

Galápagos Islands gains uninterrupted connectivity

 Ecuador's MNOs are obligated to provide cellular services to the Galápagos Islands, which is home to 30,000 permanent residents and hosts almost 300,000 tourists each year. Connectivity is provided by several MNOs and internet service providers but the only connection back to the mainland is via satellite.

To maintain uninterrupted services in accordance with stringent regulatory conditions, remote monitoring solutions and access to equipment at various sites across the islands are essential. To support a satellite operator-managed service to one of its MNO customers, telecommunications consultant

Specialized RF developed an out-of-band remote access solution for the monitoring and control of critical equipment. The solution utilises Westermo industrial cellular gateways and easy-to-use remote access management platform WeConnect, which enables secure remote connections to applications on the network edge.

"I needed a way to establish secure remote access, for my clients, to the equipment deployed on the islands, because typically it takes hours for human resources to travel to these sites," said Jens Langenhorst, consultant and owner of Specialized RF. "After researching various options, Throughput Technologies, the

Westermo distributor in South Africa, introduced me to the Westermo cellular gateways."

Deployment of the remote monitoring solutions are at cellular tower sites located across the islands. These applications had specific criteria and limitations to work within. For example, the available power source at the sites is only 48V DC. Furthermore, to provide redundant connectivity, a dual SIM gateway with external antennas that can be positioned outside of the typical metal racks or shelters was needed. The Westermo industrial cellular gateways were ideally suited for these applications, providing the required functionality and designed

to withstand the environmental demands ensuring reliability and a long lifecycle.

"The selling point for me was the WeConnect secure VPN service. Not only was it easy to set up and configure, but it was already integrated into the Westermo cellular gateway. My satellite clients employ specialists around the globe and using WeConnect they can access and recover any issue remotely, within minutes. Furthermore, this solution now unlocks a much wider set of available global skills that can assist anytime, anywhere. In turn, simply put, it results in improved cellular services and uptime in the Galapagos Islands," said Langenhorst.

Nokia supports Lightstorm's network expansion

 Nokia is supplying its WDM optical network solutions for Lightstorm's network expansion into the Eastern and Northern regions of India.

The deal includes integration and consulting services to assist Lightstorm in deploying Nokia's latest C+L band WDM optical line system solutions, which also enables protection features to ensure network resiliency in the event of multiple fibre cuts. Recently Lightstorm completed the coverage enhancement.

Lightstorm is a provider of carrier-neutral digital infrastructure to enterprise customers. Their SmartNet long-haul route in India offers a next-generation network architecture for enterprise customers with

reduced latency, 100% uptime and full end-to-end control and management capabilities.

The extension of Lightstorm's partnership with Nokia comes as it expands coverage east and north across large swathes of India. The extended network uses Nokia's 1830 Photonic Service Switch (PSS) optical transport platform and incorporates its fifth-generation coherent optic chipset (PSE-V) to expand total capacity to multi terabytes. The significant boost will help Lightstorm to offer added capacity for its existing customers and also onboard new customers with a significantly higher baseline of services and benefits. 1830 is future proofed for Nokia's sixth generation PSE-6 when capacity demands further increase.

"Nokia's DWDM products offer high capacity and automation to enable cutting-edge digital services for enterprise customers across India," said Vinish Bawa, head of enterprise, webscale & emerging business, India at Nokia. "Our partnership with Lightstorm showcases our industry-leading portfolio in optical networking which will be integral to the Digital India vision."

"Our partnership with Nokia will help us achieve our goals of rapid network route expansion with the benefit of added capacity. The expanded coverage will help Lightstorm cater to our customers' increasing demand and help drive the Digital India vision," said Rajiv Nayyar, chief operating officer at Lightstorm.

Cellcom progresses pilot for SA 5G

 Cellcom and Parallel Wireless outlined the launch of a pilot which builds on an announcement in January that the operator plans to construct a cloud-based standalone (SA) 5G network.

The pilot will enable the deployment of autonomous SA 5G core sites across Israel, with the test scheduled to conclude by the year-end. It includes the use of an end-to-end open RAN platform to test RAN Intelligent Controller (RIC) capabilities. RIC is a key element for operators to employ open RAN set-ups compatible with hard- and software from various vendors at a lower cost than single-supplier approaches.

Baruch Navon, president and COO of Parallel Wireless, said that his company's open RAN software is expected to deliver improved agility, flexibility, resilience and performance across Cellcom's network.

Orange Business delivers connectivity for AnheuserBusch InBev brewery

 Brewing company Anheuser-Busch InBev (AB InBev) has chosen Orange Business to deliver connectivity and voice services as the backbone for enhanced productivity.

AB InBev is the maker of more than 500 brands, including Stella Artois, Corona, and Budweiser. The company also has industry leading digital platforms, dedicated research labs and technology centres to ensure it is offering the

latest market insights as it looks to become the industry's best-in-class smart brewery.

Orange Business supports AB InBev across its European operations, providing critical connectivity between 70 locations and its headquarters in Belgium. Faster connectivity performance and higher bandwidth enables AB InBev to invest in future digital tools with a robust network. In addition, Orange Business is transforming the

legacy voice services to SIP-based solutions, allowing employees to communicate and operate through a Microsoft Teams environment to enhance their experience and ensure improved collaboration.



Lintas achieves 500Gbps per channel with PSE-V super-coherent solution

 Nokia and PT Lintas Teknologi Indonesia (Lintas) successfully conducted a trial of Nokia's next-generation PSE-V super coherent optics on PT Telekomunikasi Indonesia International (Telin)'s Indonesia Global Gateway's (IGG) submarine live network.

When deployed, Nokia's PSE-V super-coherent solution will help Telin increase capacity by around 31% while lowering the total cost of ownership. The trial exceeded

the quality benchmark set by Telin and recorded a fibre capacity of 11Tbps in the 2.2THz of optical fibre spectrum. In fact, Nokia and Telin recorded a capacity of 500Gbps per channel compared to 400Gbps per channel of the existing equipment.

Powered by second-generation probabilistic constellation shaping (PCS) technology with continuous baud rate adjustment, the Nokia PSE-V super coherent chipset ensures optimal use

of spectrum and helps service providers reduce cost per bit.

The trial utilized Nokia's 1830 Photonic Service Switch (PSS) for wavelength division multiplexing (WDM) and repeater loading, and the 1830 Photonic Services Interconnect – Modular (PSI-M) compact modular platform for PSE-Vs transponder cards, enabling Telin to further improve spectral efficiency on its subsea cable systems, including repeaters.

NTA axes Smart Telecom's licence

 The Nepalese Telecommunications Authority (NTA) has reportedly pulled Smart Telecom's licence for failing to pay its renewal fee and associated fines on time.

Nepali Telecom said that the MNO failed to pay a NPR20 billion renewal charge and NPR3 billion in late fees for failing to pay by 16 April.

NTA chairman Purushottam Khanal said that Smart Telecom's licence had been axed under the Telecommunications Regulation of 1997, which dictates that licenses are automatically expired when the renewal fee is not paid. The regulator also has the power to take ownership of the operator within 15 days. Smart has apparently launched legal action to challenge the decision.

The NTA had its decision to revoke Smart's licence for the same reason in 2019, granting the operator's request to pay in instalments, and extending the deadline to July 2021 and then January 2022.

Eseye partners with AmericanPharma for IoT system-as-a-service for cold chain applications

 Eseye has announced a partnership with AmericanPharma Technologies to improve the reliability and resilience of AmericanPharma's PharmaWatch system and help drive its international expansion.

PharmaWatch, an IoT-based system-as-a-service software (SaaS) solution, helps customers maintain safe, regulatory-compliant standards for the storage of human tissue, vaccines, and medicine by monitoring critical parameters such as temperature, humidity, CO2 concentration, and differential pressure. The system provides real-time notifications, compliance reporting, and business intelligence through a website and mobile app, ensuring organisations are prepared for regulatory audits and improving their operations. However, during early deployments AmericanPharma found that relying on its customers' WiFi networks created risk of connectivity issues and data loss.

Seeking to address these challenges, AmericanPharma developed a first-generation cellular system, which resolved some WiFi issues, but was limited to just one US network. This caused an increase in time spent fixing issues. By installing Eseye's multi-network AnyNet+ eSIMs into its devices, AmericanPharma was able to guarantee reliable cellular connectivity in early device deployments.

Since working with Eseye, AmericanPharma has recorded a staggering 87.5% improvement in connectivity performance. PharmaWatch device estates now operate with 99.6% connectivity – a mission-critical requirement to ensure medicines, human tissues, and embryos are stored and preserved at a low, stable temperature.

Eseye's AnyNet SMARTconnect intelligent connectivity optimisation software embeds intelligent, global IoT connectivity directly into any device to provide dynamic optimisation of the connection, enabling organisations to get to market faster and focus on creating value for their customers. AnyNet SMARTconnect boosts resilience, enabling devices to remain connected and optimised as connectivity requirements and technologies evolve over time. This guarantees operation over cellular networks at a high level and unlocks connectivity opportunities to support deployments beyond the US.

This proved extremely valuable during the Rogers Communication network outage in July 2022. While wireless connectivity remained active, the end-to-end data path was down. As a result, most IoT devices across a large area of Canada were offline for a full 19 hours. For PharmaWatch, all devices that had Eseye's AnyNet SMARTconnect and



AnyNet+ eSIM embedded were able to recover connectivity within 30-90 minutes, by redirecting traffic over the TELUS network. This resulted in minimum service downtime and disruption for customers: for example, allowing Canadian IVF clinics to ensure embryos were kept safe and protected throughout.

"Eseye's solution has made our PharmaWatch system orders of magnitude more reliable than WiFi or our previous cellular-based solution," said Casey Harris, chief technology officer at PharmaWatch. "We're in the 99.6% connectivity uptime range right now. It's as good or better than what we expected; and it's getting better every day. It's now easier to sell, install, support, and scale up. We offer the most reliable monitoring solution for our market, which requires resilient connectivity. Eseye was a perfect match for our values and aligned with our aim to deliver mission critical service levels to customers."

"AmericanPharma has witnessed the revolutionary impact of AnyNet SMARTconnect™ on global IoT deployments first hand. We strongly believe the device is critical to optimise connectivity and our global IoT connectivity switching intelligence and logic has already proven its value by safeguarding PharmaWatch devices from a major network outage," said Nick Earle, CEO of Eseye. "Our partnership is a great fit because we offer flexible connectivity in regions such as North and Latin America where roaming restrictions must be adhered to, and localisation is essential. These changing environments not only affect near-term deployments but require flexibility and resilience throughout each project's lifetime. As AmericanPharma expands into new global markets it is a pleasure to partner with the company to deliver a simplified, scalable IoT connectivity solution that consistently delivers on its reliability promise."

Baicells and JACS partner for healthtech solutions

 Baicells Technologies and JACS Solutions have partnered to serve the healthcare industry. Connectivity, reliable performance, and security are critical foundations for healthtech solutions that are built to improve outcomes for patients and staff, as



care delivery methods evolve. Baicells has long championed CBRS-based network solutions, already deploying more than 500 commercial networks across the US, serving both public operators and private enterprises. Increasingly, CBRS and private 5G networks are the focus of enterprises, big and small, looking to expand beyond their legacy WiFi networks with new use cases and better performance, to help transform their business.

The healthcare industry is a prime candidate for these private networks which offer reliable and secure connectivity to keep large numbers of critical sensors and

devices online. Emerging healthcare tools such as augmented reality platforms require incredibly low latency that can only be found in LTE and 5G private networks. In addition, these 5G private networks offer far greater protection against cyber-attacks and can safeguard patients' and healthcare professionals' personal information.

"JACS really does highlight that not all wireless platforms are created equal, and sometimes you need a custom solution to meet the specific needs of your business," said Tony Eigen, VP of Marketing at Baicells. "JACS has been an industry leader in developing devices for

private 5G networks, and Baicells is eager to partner with JACS to enable healthcare facilities to leverage the power of private networks and influence outcomes."

"JACS has built our business on putting customers first by listening to their needs and delivering custom solutions to meet them in ways that no other OEM can," said Chang-Gang Zhang, vice president of technology at JACS Solutions. "Baicells shares that customer-first approach to building their private network solutions so combining our platforms into a turnkey package ensures that our mutual clients will be successful in their deployments."

Q&A

Neo Phukubje, executive of channel and business development, BCX Wireless



Who was your hero growing up?

Growing up, African women who break the mould always intrigued and fascinated me. Especially, women who would graze aspirational magazines such as the now-defunct Tribute Magazine. I have always been in awe of Wendy Luhabe, Monhla Hlahla, Gloria Serobe, Louisa Mojela and many others who opened my eyes in those times.

African women have always been on the back foot and having witnessed them break moulds has always been inspirational.

What was your big career break?

My big career break was moving from a set direction/path after several years in telecommunications to deciding to move into retail (perishables demand planning), utilising only my data analysis skills and statistics training. It helped me to realise that I can

“My big career break was moving from a set direction/path after several years in telecommunications to deciding to move into retail (perishables demand planning), utilising only my data analysis skills and statistics training.”

stretch myself in many ways and made me less fearful of going into uncertain environments.

I thought I would retire in telecommunications, and the career change came at a crucial time in my life when I needed it most.

You learn from every opportunity and that we end up right where we should be at the chosen moment.

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

When I was growing up, I initially wanted to be a teacher. As a young, bright, previously

disadvantaged child, I saw education as a need for everyone and of great importance. This aspiration was always frowned upon with the premise that I should strive for more, like being a doctor or engineer.

In many ways, I am currently a teacher in various spheres of influence, so the passion is still very much there.

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

I don't even need to take time with my response here.

Serena Williams... do I need to say more? Her work ethic, laser focus, resilience and absolute grace on the court and off speaks for themselves. She is the greatest of all time, one of the best athletes we've had the pleasure to experience.

Serena is a testament to the resilience and fighting against

the odds scenario. We have a lot to learn from her and I think she would make a great dinner date with her wisdom, experience, and tenacity.

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

The best advice I have received has to be from a lady years ago, just as I was starting in the corporate scene. She said: “own your space.”

When I started progressing in my career and was in a leadership position, this lady told

me I needed to ‘own my space’ as she had noticed that I wasn't fully occupying that space to let myself authentically lead. It was such a defining moment that I've never looked back.

In today's world, so many women excuse themselves from taking up space; you need to

“I thought I would retire in telecommunications, and the career change came at a crucial time in my life when I needed it most. You learn from every opportunity and that we end up right where we should be at the chosen moment.”

believe in yourself and move away from the imposter syndrome many people fall victim to. You are right where you need to be - so own the space, speak up and have confidence in yourself.

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

Thinking about this immediately, I have a few answers. However, the first thing I think about is mentoring and coaching and/or psychology. I love seeing people come into their own and fully realise their potential.

There I go, wanting to teach again.

I still unconsciously teach. Let's say ‘mentor.’ My industry requires a passing-it-forward mindset and being teachable, and I am glad I get to do this. I am very passionate about skills transfer and about preparing our youth for a brighter and more informed future.

The Rolling Stones or the Beatles?

Are you kidding? The Beatles any day... I mean Hey Jude? They are legends. You were wise if you listened to them; that's all there is to it.

What would you do with £1 million?

So many things come to mind, but if I were to be true to myself, I would start a plan to build schools with African history as a key tenant of the philosophy and curriculum.

We cannot progress as a nation if we don't know and fully acknowledge who we are and where we come from. As well as reinventing our school's curriculum, we are not learning enough about our African history, plus creating a curriculum that teaches our kids to be decent human beings.

Unfortunately, we are running short of decent human beings. When you manifest good energy and do good in the world, it will come back to you threefold. We need to develop our youth for a better and brighter future.

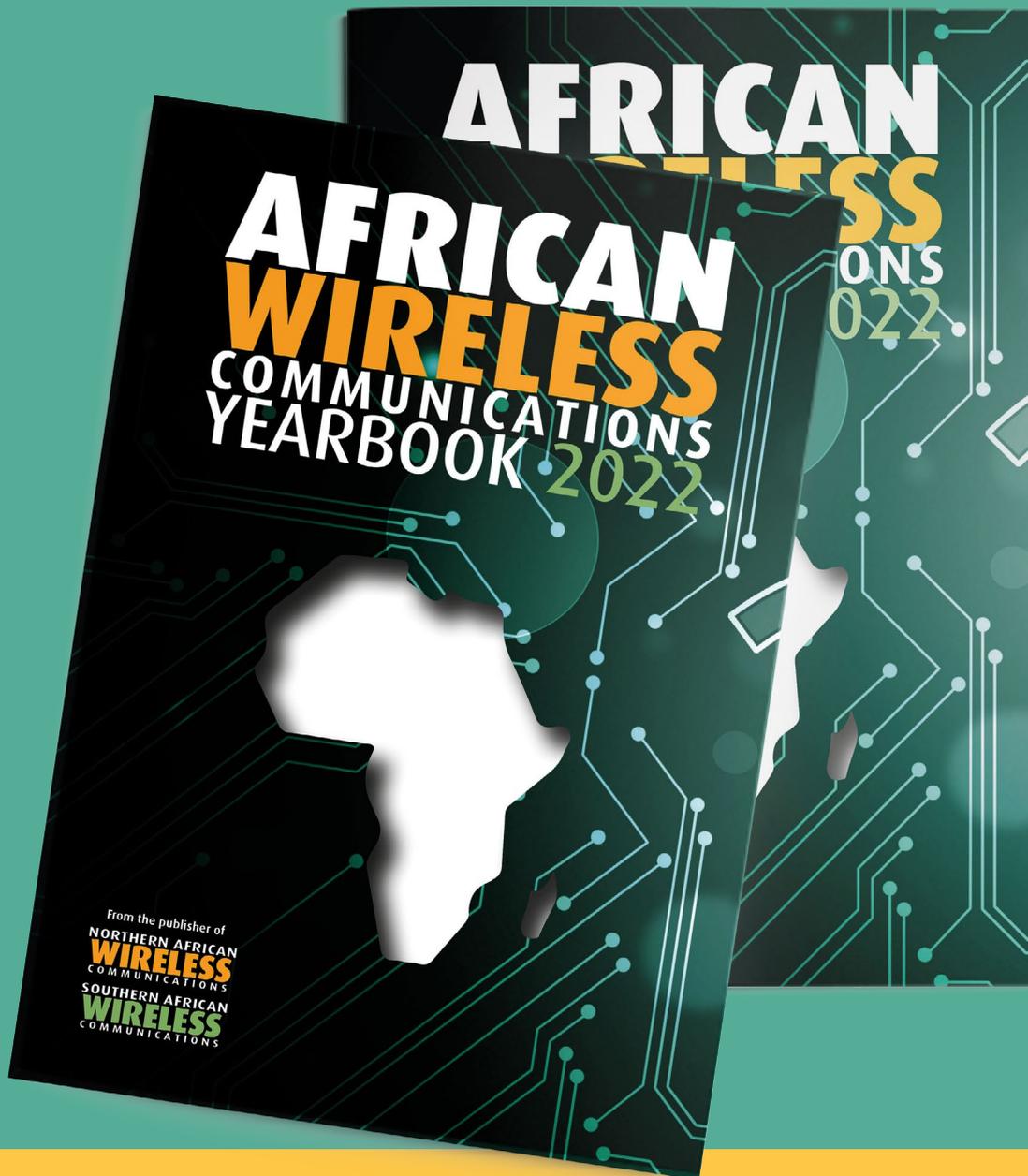
What's the greatest technological advancement in your lifetime?

It's definitely got to be the mobile phone. Very few people, if any, can still remember what life was like before, and even though we're on the umpteenth version of the smartphone, it continues to drive a huge part of how we live, work, and relate with each other socially.

Think about it - previously, people would have to be at home to speak to family or friends; if the person wasn't home, you could leave a message (that's if they have an answering machine), or you just missed them. ■

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