- **Striving for tower efficiencies**
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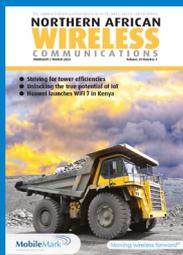
Moving wireless forward®

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DATA CENTRES

Transforming digital Africa

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NCC: MNOs must switch to renewable energy

The Nigerian communications commission (NCC) has called on mobile network operators to switch from fossil fuels to renewable energy. The initiative should not only reduce the costs of services, but also contribute to the fight against climate change.

According to Umar Danbatta, executive vice president of the NCC, telecom operators must implement a modern and more energy-efficient network. "This includes the use of solar cells, wireless electricity or a hybrid system to replace more energy-intensive equipment,

which will result in reduced capital expenditure (CAPEX), operational expenditure (OPEX) and, hence, a reduction in service costs for consumers, said Danbatta.

This initiative comes as increasing numbers of mobile operators around the world are committed to reducing their carbon footprint in a time of accelerating climate change. In its 2022 Mobile Net Zero Report, the GSMA reports that 49 operators representing 62% of the industry by revenue have now pledged to rapidly reduce emissions over the next decade.

IBM to automate Telecom Egypt's OSS

Telecom Egypt picked IBM to automate its OSS across its mobile, fixed and core networks to lower time spent troubleshooting and fixing network-related issues.

The MNO plans to implement IBM Cloud Pak for Watson AIOps on top of RedHat OpenShift, while also employing the vendor's robotic process automation (RPA) technologies.

IBM stated its RPA will enable Telecom Egypt staff to automate the process of tracking network operating capacity and service quality, ending a manual process which, it asserted, could take at least 18 hours to complete.

Telecom Egypt MD and CEO Adel Hamed stated working with IBM will improve the quality of service it provides by reducing "the time required to monitor and repair incidents."

NEC XON targets mining with ORAN

5G OpenRAN (ORAN) technology that enables mobile operators to open the RAN network and use multi-vendor solutions holds huge promise for business growth in Africa. It means network operators can focus capital expenditure on competitively priced open-standards equipment rather than proprietary gear.

"It enables attractive savings of about 40% on capital expenditure and 30% on operating expenditure," said Willem Wentzel, head of wireless at NEC XON. "It can also be deployed in a matter of two to three days instead of up to nine months. But the realities of Africa mean that 5G ORAN will initially be limited to private corporate networks in industries like mining, manufacturing and industrial where large campuses are common. Public ORAN networks are likely to remain on 4G for the moment, given the level of investment in existing infrastructure and the prohibitive cost of 5G handsets (UE) for consumers."

Private 5G ORAN networks will break the ice and help to bring down unit costs for the public market, and Wentzel says NEC XON is

currently bringing proof-of-concept kits into Africa for three clients in these industries.

"The ability to privatise 5G ORAN will enable machine-to-machine (M2M), business to business (B2B) and push-to-talk communication on campus, or anywhere in the country (or the world) on a company site using a phone app. To date, most of these campus applications used WiFi simply because it was the only tech feasible to use given that all 4G spectrum has been allocated on a national level to monopolistic MNO players. "The shortfall with WiFi is industrial-scientific noise which limits the guaranteed throughput and customer experience. As such, it is a 'best effort' service," said Wentzel. "That creates a lot of latency in the network which means the signal isn't reliable enough for B2B and M2M services. Due to its reliability in design, 5G ORAN guarantees low latency and enables remote operation of both B2B and M2M processes."

The mining industry is particularly hungry for low latency networks that enable control of machinery and reduce the risk of human injury -

and increase productivity since the technology can work 24x7 whereas a lot of mines can't currently work at sunset because of safety concerns.

"Each of these companies wants its own 5G ORAN core on campus. Finding the right operation and business support system (OSS/BSS) is vital to the business case and, with our partners, we are already building cost-effective models. This is especially important in industries like mining where the network coverage need is intricate - a reality that impacts on cost," said Wentzel.

NEC XON is developing a unique panel which deflects 3.7GHz signals into specific areas where coverage is required, including underground mines.

M-PESA Africa launches SSOC in Nairobi

M-PESA Africa has launched the M-PESA Africa Shared Services Operation Centre (SSOC) hosted in Nairobi, to oversee service operations and technical support for five African markets.

The M-PESA Africa SSOC will provide incident monitoring

and resolution for Tanzania, Mozambique, the Democratic Republic of Congo, Lesotho, Ghana, and future markets. In addition, it will also enable the company to manage platform changes and upgrades, manage deployment of new features and capacity, and coordination with

technical vendors.

The SSOC strengthens our position as Africa's largest fintech and digital ecosystem, bringing M-PESA Africa closer to its vision of one M-PESA, providing one platform and unified operations across all markets.

Huawei launches WiFi 7 in Kenya

Huawei has unveiled the latest Wi-Fi technology, WiFi 7, in East Africa as it seeks to revolutionize home and office internet connectivity in the region and meet the increasing customer demand.

The set of new protocols in the technology brings to the market the fastest possible internet with speeds of up 500Mps for each device and a combined speed of up to 30Gbps per router.

Huawei CTO for Southern Africa, Matamela Mashau explained that the innovation was driven by consumer demand for faster download and upload speeds as well as the need to connect multiple devices to the Internet.

"The WiFi 7 effectively doubles the number devices that can effectively work with high-speed internet access, ensuring that a home or an office can comfortably accommodate up to 120 smart television sets, computers and smartphones at any one time," said Mashau, adding that Huawei's local channel partners will be responsible for last mile availability of the new solution to customers.

Businesses are also increasingly shifting from wired to wireless connectivity, with staff consistently needing to be always connected regardless of their geographical location. At the same time, organizations are also sending and receiving huge files, some of which are heavy videos or multimedia presentations.

"Facing such high requirements, the current WiFi 6 standard is insufficient to improve the user experience in high-density scenarios. That is the reason we have launched WiFi 7 to solve this challenge," said Mashau.

In addition to offering previously unattainable data rates, WiFi 7 has lower latency, increased network capacity, and a highly boosted efficiency.

Omantel enters Africa with PoP

Omantel has signed a partnership agreement with data centre operator Wingu Group to establish a Point of Presence (PoP) in Djibouti, starting its expansion into the African market.

Omantel will be able to forge new wholesale partnerships with telecom operators and hyperscalers; improve the use of connectivity between Oman and Africa; facilitating better business models; provide better support to customers with connectivity requests to and from Africa.

This partnership is part of Omantel's ambition to become a leading regional wholesale service provider in the Middle East and Africa.

The company already has points of presence in various countries around the world, notably in France, the United Kingdom, the Netherlands, Germany, and Singapore. It pursues a vision called "From Oman to the World."

Demos Kyriacou, deputy general manager and chief operating officer of the Wingu Group, said that this collaboration is likely to promote greater connectivity in the region and encourage more global players to opt for the company's data centre in Djibouti.

A new facility including integrated cable landing stations and a carrier-neutral data centre is under construction, although the timeline for completion is yet to be revealed.

Airtel Africa priorities MoMo investments

Airtel Africa will invest some $750 million in total capital expenditure in the full year 2023, primarily to accelerate the development of its Airtel Money mobile money business across the entire African continent.

The company intends to pursue the development of its technological platform, its distribution infrastructure, and its offer. Particular emphasis will be placed on Nigeria.

"We are very well placed to leverage government policy on cashless payments to drive the penetration of a digital model. We have a lot more phones than debit cards, we really plan to automate this opportunity and use this policy to drive cash differentiation in our customer base," said Segun Ogunsanya, chief executive officer of Airtel Africa.

The investments should allow Airtel Africa to increase the number of active subscribers of its mobile money services, as well as the volume and value of transactions, helping bridge the financial inclusion gap, which remains high throughout Africa, and particularly among marginal groups.

For the 2022 financial year, the company's 26.2 million active Airtel Money subscribers carried out transactions with a total value of $64.4 billion.

Airtel Uganda and UNICEF to connect 100 schools

Airtel Uganda has launched a five-year partnership with the United Nations Children's Fund (UNICEF) to accelerate digital learning in Uganda. The two partners will connect 100 public primary and secondary schools in marginalized communities to high-speed internet and learning platforms.

This initiative is in line with the partnership signed in November 2021 between Airtel Africa and UNICEF to collaborate on the 'Reimagine Education' project in thirteen markets of the telecom operator. The partnership has already been launched in Nigeria where it will connect 620 primary schools to digital learning platforms. The other African countries concerned are Chad, Congo, Democratic Republic of Congo, Gabon, Kenya, Madagascar, Malawi, Niger, Rwanda, Tanzania, and Zambia.

Through this project, UNICEF is working for public and private sector investment in digital learning as an essential service for every child and young person around the world. In Uganda, some 200,000 in-school and out-of-school learners are targeted.

"The existing digital divide deprives the most marginalized children of equal access to education. It leaves children, especially girls from poorer households and rural communities, further behind with little chance

of catching up with their peers in urban Uganda," said Patrick Mutombo, chief technology officer for UNICEF Development.

ISP Maxnet gains WiBAS wireless access systems

Intracom Telecom has signed a new deal with Sudanese ISP Maxnet to supply its WiBAS wireless access systems.

The project is expected to be complete by 2025, with Intracom Telecom delivering the latest generation of its WiBAS-Connect Terminals and OSDR Hubs as well as a Point-to-Multipoint (PMP) wireless system capable of connecting up to 120 subscribers to a base station sector. In addition, the company will provide Maxnet with uni|MS, its network lifecycle management and automation system.

As it pursues its network modernisation strategy, Maxnet is aiming to replace unlicensed band radios and older technology and infrastructure as it expands its network coverage and performance.

"WiBAS has enabled Maxnet to provide broadband connectivity with growing capacity demands at high speed and quality of service. Our customers are very happy and satisfied with Maxnet services, and we are very grateful to Intracom Telecom for their support," said Elrashied Abdalla Mahmoud, Maxnet general manager.

"Our WiBAS technology provides the highest capacity in the industry, the best radio technology for uninterrupted service and the widest set of networking functions to meet Maxnet's strict list of requirements," said John Tenidis, marketing director of Intracom Telecom's wireless solutions portfolio.

GSMA reports on maximising mobile spectrum

The GSMA has laid out what it calls the mobile industry's vision of how to maximise the benefits of mobile spectrum for billions of people worldwide ahead of spectrum allocation deliberations at the crucial ITU World Radio Communication Conference (WRC-23) in November and December.

The association has also released a new review of the socio-economic benefits of low-band spectrum, which complements previously released assessments for mid and high-band spectrum.

The GSMA argues that the speed and quality of mobile services are directly linked to spectrum, and decisions taken at WRC-23 have the potential to deliver affordable 5G across the world.

A paper outlining its vision explains how governments and regulators can use WRC-23 to develop thriving and competitive communications markets and help to ensure that no one is left behind in a digital age.

It suggests that increasing capacity for mobile at WRC-23 will lead to better services delivered from less costly, more sustainable networks. It also argues that more low-band spectrum can deliver broad and affordable connectivity, building bridges towards digital inclusion. In addition, it points out that mid-band expansion can drive city-wide 5G.

The GSMA's vision paper is accompanied by a report, 'Socio-Economic Benefits of 5G – The importance of low-band spectrum,' which examines how low-band spectrum is a driver of digital equality, reducing the gap between urban and rural areas and delivering not only affordable connectivity but also a lot of economic value – through massive IoT (mIoT) in particular but also through enhanced mobile broadband (eMBB) and fixed wireless access (FWA).

It argues that without sufficient low-band spectrum, the digital divide is likely to widen, and those living in rural areas will be excluded from the latest digital technologies.

The timing of these messages is no coincidence. Future allocations of spectrum at national level are guided by decisions made at the ITU's quadrennial WRC conference and many regional and global interest groups – representing satellite, broadcasting and Wi-Fi as well as mobile – will no doubt want to have their say ahead of the event.

MTN and Amazon Prime Video launch mobile plan

MTN and Amazon Prime Video have teamed up to launch a mobile streaming plan in Nigeria.

The offer, accessible for a single phone, will allow MTN subscribers to benefit, for $1.74/month, from the standard subscription to Amazon Prime Video and a package dedicated to viewing and downloads in the application. Another offer allows three devices to benefit from the service for $5/month.

"We are thrilled to bring Prime Video subscriptions to millions of Nigerians, enabling them to access entertainment on their own terms, wherever and whenever they want.

Video on demand has become an integral part of our lives, and this introductory offer is essential. The Prime Video platform already offers thousands of titles, including more than 150 Nollywood titles and several Nigerian films in the pipeline," said Aisha Umar Mumuni, director of digital strategy at MTN Nigeria.

Netflix has lowered the prices of its mobile offer in many countries in sub-Saharan Africa, but Nigeria was not affected. In this market, partnering with telecoms could help Amazon Prime Video catch up on the competition.

BICS and MTN GlobalConnect renew connectivity deal

MTN GlobalConnect and BICS have renewed their partnership to collaborate in international mobility and connectivity for Africa. This partnership will see the complementary strengths of both companies coming together to accelerate the growth of mobile and digital services in Africa.

Through this partnership, affordable international communication across Africa will be extended. With expertise in innovation and digitalization, African operators and service providers will benefit from a next-gen technology-powered bouquet of services.

"It's important that we form strong partnerships to provide MTN's 289 million subscribers with seamless digital services for ease of connectivity and collaboration around the world," said Frédéric Schepens, MTN GlobalConnect CEO.

"As a strong partner, the evolution of the connectivity relationship between MTN GlobalConnect and BICS will support the growth of digital services in Africa and allow our business to continue to invest in cutting edge technologies such as 5G."

The partnership reinforces both organisations' cloud communications, roaming, and IoT ambitions. It will accelerate the digital transformation of communication services across Africa, particularly focused on the trust and authenticity of each interaction and dialogue. According to GSMA, by the end of the decade, there will be more than 340 million 5G connections in Africa - supporting the digital growth story and security of these services is instrumental to both MTN GlobalConnect and BICS.

Airtel Africa to deploy iSIM Secure Connect in 10 markets by 2024

Airtel Africa has signed an agreement with Nokia to deploy the 'iSIM Secure Connect' solution in 10 African markets by next year.

It should allow the operator to accelerate its digitization efforts to offer its customers on-demand services based on 5G and the internet of things (IoT). The technology has already been deployed in Nigeria.

The partnership is based on the software-as-a-service (SaaS) model. According to Nokia, it should enable Airtel Africa to securely manage machine-to-machine subscriptions and consumer device subscriptions for eSIM and iSIM enabled devices.

This agreement follows a pilot project carried out at the end of 2022.

It comes as Airtel Africa prepares to roll out 5G in its various markets to meet the high demand for high-speed connectivity in Africa. In recent months, the company has invested US$490 million for the acquisition of additional frequencies for 4G and 5G in the DRC, Tanzania, Zambia, Kenya, and Nigeria. It also provides for capital expenditure in the order of US$700-750 million for the 2023-2024 financial year.

To support its investments, the African subsidiary of Bharti Airtel obtained a loan of US$194 million from the International Finance Corporation (IFC) in December 2022.

Africa CDC and GSMA sign MoU

A Memorandum of Understanding (MoU), intended to bring the transformational power of mobile connectivity to support Africa's most significant healthcare challenges, was signed between the GSMA and the Africa Centre for Disease Control and Prevention (Africa CDC).

The MoU is intended to provide a framework for partnership between the two organizations on a range of priorities spanning from digital strategy, policy, and governance frameworks across the continent to drive adoption of mobile technologies with potential to strengthen Africa's health security and outcomes for millions.

The GSMA will work closely with Africa CDC on HealthConnekt Africa, a new initiative to connect all healthcare facilities and workforce in Africa to the internet by 2030. The initiative will start with a small group of pioneer African Union Member States and communities, which will see their health facilities connected to the internet and health workers equipped with smart devices, allowing them to improve the quality of care provided to their clients through access to vital online resources. The partners will also work together on promoting homegrown healthtech innovations and organizing convenings that bring together the public health and tech communities in to chart ways of accelerating the digital transformation of the health sector in Africa.

"Connectivity and digital innovation are at the core of our digital transformation strategy. Access to the internet is a key enabler of our vision to extend universal quality care to all by 2030," said Ahmed Ogwell Ouma, Africa CDC director. "We look forward to working with members of the GSMA to bridge the digital divide that still limits the reach and impact of our health workforce."

Both parties have agreed to collaborate in the design, development and promotion of technology policies, initiatives and investments that will strengthen health systems and, ultimately, improve the lives and livelihoods of African citizens. The aim is to accelerate the adoption of digital technologies in support of public health objectives of the African Union Member States, including the enablement of continuity of care across borders.

"While mobile growth across the region has been phenomenal over the past two decades, more needs to be done to harness the power of the technology across Africa's healthcare sector," said Angela Wamola, head of sub-Saharan Africa, GSMA. "Bringing together expertise and resources will help establish a powerful new infrastructure providing African healthcare workers access to the information they need in a timely fashion and the intelligence necessary to help prevent the spread of disease across international borders."

BFS to operate Burkino Faso's fibre optic network

The government of Burkino Faso has chosen Telecel Faso's new subsidiary Bridge Fiber Solutions (BFS) to operate and maintain the country's fibre optic backbone network.

Spanning 3,000km and connecting nearly 100 municipalities across all 13 regions, Burkina Faso's fibre optic network also has international links to neighbours Cote d'Ivoire, Mali, and Niger. The government tendered for a company to manage the network in a bid to improve its efficiency in the hopes of expanding coverage and boosting network quality.

BFS launched commercial operations on 10 March. At the firm's launch ceremony, minister of digital transition, posts and telecommunications Aminata Zerbo underlined the importance of infrastructure efficiency to its digital transition plans.

"The government has made a major investment by building this national backbone which makes it possible to mesh the entire territory with optical fibre in order to be able to provide businesses and public administration with a broadband connection, with the aim of accelerate this digitisation," said Zerbo. "By improving the electronic communication infrastructure, we are providing the means to ensure the economic competitiveness of our companies and to contribute to the performance of our defence and security forces in these particularly difficult times."

Egypt suspends Telecom Egypt sale

The Egyptian government has suspended the plan to sell a stake in state-controlled operator Telecom Egypt due to economic conditions and volatility in the market, according to Reuters.

The government of Egypt currently owns 80% of Telecom Egypt, and was formerly considering selling a 10% stake as part of a wider strategic aim to sell off stakes in public enterprises and boost public sector investment, due to increasing economic pressures and a shortage of foreign currency.

It is now unclear if the country will revisit the sale once the market improves, or if the plan has been put on hold indefinitely given the ongoing local and global issues surrounding currency, inflation and geopolitical tensions.

Egypt has been hit hard by the Russia-Ukraine war, with various reports of international investors pulling out capital worth around $20 billion.

The nation is therefore seeking to sell stakes in state-owned assets to raise cash in order to help balance the books.

Buganda Kingdom and Airtel team up for 3 years

Airtel Uganda has extended its partnership with Buganda Kingdom for another three years.

Since 2014, Buganda Kingdom has been in collaboration with Airtel Uganda to put into place transformative initiatives that have impacted the lives of people in Buganda and beyond. Such intiatives have been a big success.

These include Africa's biggest run, the annual Kabaka Birthday Run, the Masaza Cup Tournament, Eid Celebrations, among other activities that are strong platforms for engagement with the community and transformation of their lives.

"We are proud to restate our commitment to the Buganda Kingdom partnership because of the value it has delivered for us, the kingdom and the community," said speaking on behalf of Airtel Uganda's managing director, the sales director, Ali Balunywa. "We are culturally aware of the organizational strengths of Buganda Kingdom, and the unwavering commitment to lift the people out of poverty. This aligns with our sustainability agenda of transforming lives in areas we operate in. To support these strategic goals, we made a commitment to progressively offer affordable voice, data and financial services on Airtel's 100% 4G network that covers Uganda border to border. We have supported grassroot football talent development through the Masaza Football tournament. We have continued to provide local economic opportunities for young people through the strong Airtel- K2 distribution network of franchise partners, agents, and suppliers. We found a valuable partner in the delivery of programs in trade, sports, health, education, agriculture and other sectors. It gives us immense joy to announce the renewal of our contract with Buganda Kingdom for 3 more years. We believe this partnership will go a long way in boosting the Kingdom's activities as well as improving the livelihoods for our people."

Liquid acquires Cysiv MEA for cloud and cybersecurity

Liquid Intelligent Technologies has acquired Cysiv MEA, which specialises in providing enterprise cloud and cybersecurity services to some of Egypt's leading companies, particularly in the financial services sector.

The acquisition enables Liquid to bring some of the best global cloud and cybersecurity products to the Egyptian market. The organisation will rebrand Cysiv MEA to 'Liquid C2'

to align it with its global cloud and cybersecurity identity. Liquid plans to significantly grow the Egyptian business by tapping into the wealth of local tech talent, making Egypt a key hub for the Middle East and North Africa (MENA) region.

"Since our founding in 2008 as SecureMisr, our mission has been to empower customers with world-class cloud & cyber security services and solutions that pre-emptively protect against attacks and loss of digital assets caused by an ever-evolving threat landscape, before it affects the business," said Sherif Shaltout, VP of operations, Cysiv MEA. "We are thrilled to be joining the Liquid family and to be part of an industry-leading brand like Liquid C2. We are now in an even stronger position to enable our enterprise customers in Egypt and the MENA region to accelerate their digital transformation whilst at the same time acquiring more

sophisticated tools to deal with ever-increasing threats through our expanded cloud and cyber security services portfolio."

"Liquid recognises the critical role Cysiv MEA has been playing in the cloud and cyber security industry in Egypt and the region. Our main task as a group is to support them in bringing more cyber security tools for our customers as they face an increasingly hostile global threat environment from cybercriminals and nation-state sponsored attackers. This will ensure that their business is protected whilst also meeting the demands for global compliance requirements," said David Behr, CEO, Liquid C2. "We will build on the strong market position, experienced leadership, in-depth industry knowledge, world-class team, and customer-centric philosophy that has been synonymous with the Liquid C2 brand."

Nigeria unifying telco short codes in line with NCC

Nigerian telecom subscribers will soon be able to access the USSD service portals of different telecom operators using the same short codes.

The Association of Licensed Telecommunications Operators of Nigeria (ALTON) recently announced that telecom companies have started implementing the short code harmonisation process in accordance with the guidelines of the Nigerian Communications Commission (NCC).

According to ALTON, the migration to the new codes will continue until 17 May. During this time, the old and new common codes will work simultaneously. After the time, the old codes will stop working.

In April 2011, the NCC took over the administration and management of all shortcodes with the aim of providing a consistent regulatory framework and standard of practice and harmonizing the database of shortcodes in Nigeria. For the implementation of the project,

the regulator hired Molcom Multi Concepts Limited as a consultant in 2017. A National Short Code Plan (NSCP) was then developed for players in the ICT sector.

Harmonization should facilitate the access of telecom subscribers to the practical services of telecom operators. Subscribers with several SIM cards will no longer have to memorize the different codes of the respective operators to check the balance, recharge, or borrow airtime.

Orange to utilise OneWeb for African connectivity

Orange will leverage satellite operator OneWeb's growing low Earth orbit (LEO) satellite constellation to improve and expand its high-speed connectivity services in Africa, among other regions of the world.

"At Orange, we believe that satellite is a promising and complementary technology that showcases many recent innovations that will benefit businesses around the world and accelerate the digital

inclusion of populations within our subsidiaries in Africa and the Middle East," said Jean-Louis Le Roux, director of international networks and services, Orange.

The partnership with OneWeb should enable Orange to improve the quality and coverage of its telecom and internet services in its various African markets. It should also enable the company to improve the Orange Business offer for the benefit of large, small, and medium-sized

enterprises thanks to high-speed, resilient and low-latency solutions.

Tunisia to connect 3,307 schools

The Tunisian government plans to connect 3,307 schools to the high-speed internet network with fibre optics.

The project to connect schools is spread over a period of 18 months and targets schools in different regions of the country. With a total cost of 132 million dinars, it will be implemented with the financial support of the International Bank for Reconstruction and Development (IBRD) and the African Development Bank (ADB).

This initiative is part of the actions undertaken by the Tunisian government to accelerate its digital transformation. His announcement comes a few weeks after the launch of the second phase of the 'coverage of white areas' project. This project ultimately aims for universal telecom coverage in the country. Its first phase was completed in April 2022. This connected 94 'white zones' spread over 15 governorates, including 164 schools and 59 basic health centres.

The initiative also falls within the framework of the education sector reform project in Tunisia, according to Mohamed Boughdiri, minister of education. His ministry plans to digitize all schools in partnership with the Ministry of Communication Technologies.

Connecting schools to high-speed Internet should help improve the education provided to approximately 1.5 million students in secondary schools, colleges, and high schools.

"This project will also serve to achieve economic and social development, promote private initiative and encourage investment in the knowledge economy throughout the country," said Samir Saïed, minister of economy and planning.

Telecommunications Company of Chad still under wraps

The opening the capital of the Telecommunications Company of Chad (Sotel Tchad) is still in the Chadian Government's plans.

The opening of Sotel's capital is part of the policy of state withdrawal from public enterprises, implemented since 1989. The process of privatizing the incumbent operator was initiated in 2004. In 2010, the Libyan Lap Green bought the company, but the management was withdrawn three years later. Following failed privatization attempts, the government opted for the opening of the company's capital up to 60%.

The entry of a private investor into the capital of Sotel Tchad should provide the company with the technical and financial means necessary to revitalize it and make it more competitive on the national telecom market. The incumbent operator has seen the number of its fixed and mobile subscribers decrease for seven years to reach 23,907 in 2020, according to the Electronic Communications and Postal Regulatory Authority (ARCEP).

Somali's operators interconnect services for improved services

Six Somalian operators completed interconnection between their respective services, which the country's regulator expects to provide improved competition and options for consumers.

The National Communications Authority's GM Mustafa Yasin said that previously signed interconnection agreements between some of the operators in 2000-2014 had been abandoned partly due to a lack of regulatory framework.

"We hope this time round it will be successful because we have the tools, such as a communications law that mandates interconnection, regulations, guidelines, and regulatory authority that has the oversight mandate," said Yasin.

Alongside providing a boost to competition in the market, authorities expect the move to provide lower consumer prices and push network coverage expansion.

Safaricom Ethiopia hits 2.8 million subscribers

Safaricom has achieved a total of 2.8 million subscribers some five months after launching its commercial activities in Ethiopia.

Safaricom Ethiopia has reached this figure by pursuing its strategy of gradual deployment in the country. The company has set itself the goal of covering 25 cities and 25% of the Ethiopian population by April. In January, 21 cities were already covered by its network.

The rapid adoption of Safaricom's services testifies to the strong potential of the Ethiopian telecom market and the remaining room for manoeuvre. The country has a population of more than 120 million, and mobile penetration there was just 34% at the end of 2021, according to the Global Telephone Operators Association (GSMA).

The company is also actively preparing to launch its M-Pesa mobile money service on the market.

Unlocking profit: how African MNOs can cash in on the booming CPaaS industry without breaking the bank

African communication platform as a service (CPaaS) company Alchemy provides locally sourced SMS/voice value added services (VAS) enabled by bulk purchases direct through mobile network operators (MNOs). We focus mainly on nought and one-hop direct connections across the sub-Saharan region, although our global network delivers traffic for OTPs.

As the fastest-growing region globally with over 456 million mobile subscribers in 2021, Africa's sub-Sahara has tremendous potential. And with the sporadic availability of (often low-quality) internet connections in many regions, Alchemy has been able to use SMS to keep information flowing. For example, in case of internet connectivity outages, enterprises can switch to two-way SMS with Alchemy to continue operations.

We recognise the infrastructural OpEx MNOs endure to keep Africa connected, and they deserve income for this underrated expense.

As Kim Buller, CFO, and co-founder, emphasises: "we are here to help MNOs enjoy additional revenue streams derived from their existing customers. Without Alchemy, these business opportunities would be lost to OTT providers like Whatsapp or to grey routes and sim farms, the scourge of honorable security conscious players.

Pricing at a realistic, affordable rate is key – if the cost is too great, grey routes will be utilised, and MNOs will have to invest more heavily in firewalls and cybersecurity."

Stop re-inventing the wheel

In 2023, companies will send 3.5 trillion messages, and with Alchemy, MNOs stand to benefit financially with no additional effort. We do all the integrations, make a small margin off the top, and pay our MNO partners promptly. Smart MNOs are realising that we are ideal local partners, helping them get the most out of SMS, voice, and data services, without having to conduct the same years of research and associated expense that we did. They reward us by offering competitive pricing models, recouped from the savings made.

Our APIs enable enterprises to send text messages affordably, reliably, and securely. We make money through volume and offering value, with a focus on transparency and mutually beneficial relationships with MNOs to increase business messaging and MNO SMS volumes as we grow, for trackable connections and wholesale rates.

Demand for Alchemy tools exists across private, financial, and public sectors, including large volumes of international traffic for OTP and verification codes for global players like Google, Facebook, Amazon, and PayPal.

Ethics are at the forefront of everything we do, which is why we signed Mobile Ecosystem Forum's (MEF) Global Code of Conduct.

Fixing leaks

As the CPaaS industry in Africa continues to grow, failures in cooperation between CPaaS companies and MNOs have been cited by industry insiders like the MEF as the key reason why revenues are lost. Indeed, recurring mobile revenues in sub-Saharan Africa could decline as much as 5% over the next five years unless operators change course.

Accordingly, developing relationships with open dialogue between Alchemy and MNOs could be a game-changer. Delivering network coverage, quality of service, prioritised delivery, SMS routing mechanisms for clear billing systems, and revenue-sharing models must all be included in discussions for competitive and profitable pricing plans to be developed and maintained.

This would be a huge win for not only the users - ensuring their loyalty and optimising volumes - but also benefit the continent as a whole, as Malick Dibba CEO and Alchemy co-founder, sees it.

"Our core belief is that everyone should be able to enjoy the benefits of reliable communication, especially those underserved populations in rural areas."

MTN conducts 5G standalone core in the cloud test

MTN has conducted a proof-of-concept for a first-of-its-kind 5G standalone core which has been deployed via cloud computing platform, Microsoft Azure. MTN is working with Microsoft to accelerate digital and cloud transformation to help drive Africa's growth.

The project allowed MTN to experience the benefits associated with deploying a core network in Azure including fast deployment time (days vs. months) and ease of scale.

"Being one of the first in the world to conduct this proof-of-concept demonstrates MTN's desire to keep pushing the boundaries of technological innovation that delivers value to our shareholders," said Amith Maharaj, MTN Group chief technology officer.

MTN Group is ramping up its rollout of 5G sites targeting a population coverage of 10-30% in the medium term, across the 17 markets it operates in across Africa and the Middle East.

"Microsoft is equipping industry leaders with ubiquitous computing power to help them realize the potential of 5G networks. With Azure, MTN can enrich its digital capabilities and enable organizations across industries to bring modern high-performance applications to their customers faster," said Tad Brockway, corporate VP for Azure for operators at Microsoft.

The proof-of-concept was conducted using 5G standalone core elements including control plane, user plane and management nodes, deployed fully in the South Africa Azure Region.

The partnership reinforces both organizations' cloud communications, roaming, and IoT ambitions. It will accelerate the digital transformation of communication services across Africa, particularly focused on the trust and authenticity of each interaction and dialogue.

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.

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

> "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,

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/

AMCUL and Pesapal Uganda join forces on MoMo

Airtel Mobile Commerce Uganda Limited (AMCUL) and Pesapal Uganda, a leading payment solutions provider across Africa, have signed a partnership that will enable acceptance of Airtel Money mobile payments at the Pesapal Sabi point-of-sale (POS) machines.

Pursuant to the National Payments Systems Regulation, 2021, Bank of Uganda has granted Pesapal Uganda a Payment System Operator license.

"At Pesapal, we give people and businesses better ways to pay and get paid. Now, with the Bank of Uganda's regulatory greenlight, we will be able to hunker down in our continued effort to change the face of digital financial services in Uganda as a key stakeholder of its financial ecosystem," said Pesapal Uganda country director Martin Barungi.

The authorization, said Barungi, gives Pesapal license to drive cashless transactions and related benefits, including financial inclusion and convenience by simplifying the processing of payments and expanding how, what type and how fast businesses can get paid and access their funds.

"We are delighted to have received the license from Bank of Uganda as this development sets us on course to revolutionize the digital payment ecosystem with innovative, convenient and secure digital financial services," said Emmy Rono, country manager, Pesapal Uganda on the new focus.

"Consumers, in any context – shoppers, tourists, visitors, and businesses can make multi-currency transactions (UGX, USD etc.), from any scheme (Visa, Mastercard, American Express etc.) – either online, in a 3-D Secure environment, or in store, using the Pesapal POS machine, seamlessly."
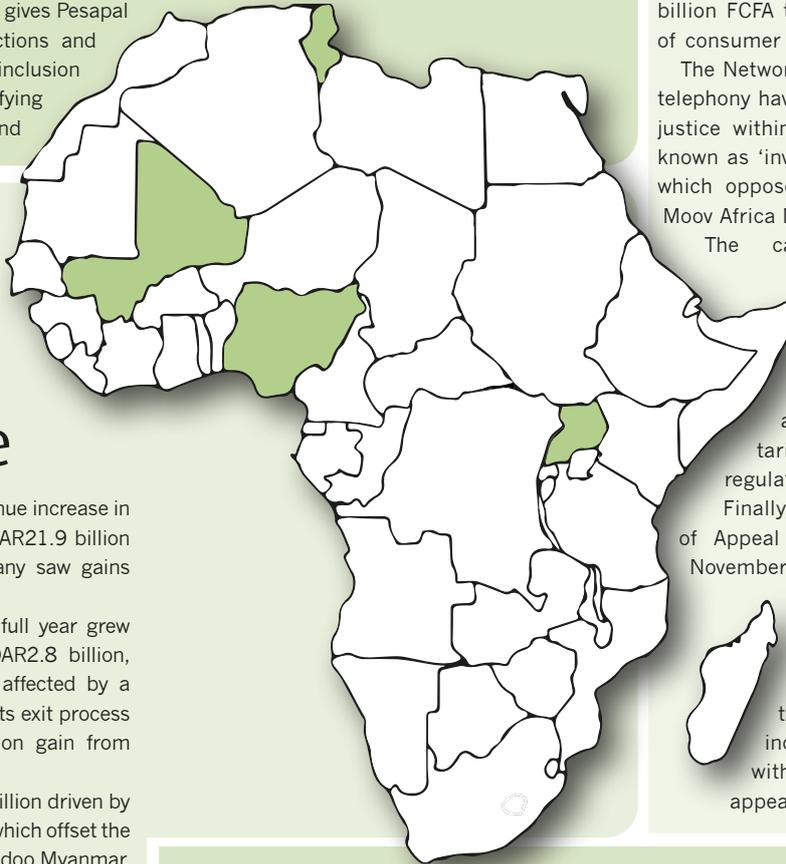
Ooredoo Group reports 4% revenue rise

Ooredoo Group reported a 4% revenue increase in its 2022 full financial year, from QAR21.9 billion to QAR22.7 billion, as the company saw gains across most of its units.

Net profit for the group in the full year grew by 27% from QAR2.2billion to QAR2.8 billion, although net profit in 2021 was affected by a QAR2.3 billion impairment loss in its exit process from Myanmar, and a QAR1 billion gain from tower sales in Indonesia.

Its customer base stood at 56 million driven by growth across most of its markets which offset the decline from losses seen from Ooredoo Myanmar. Capex for the group was QAR2.7 billion.

Ooredoo Tunisia was reported to see success in the fibre market with major contract wins in the private sector, as the company enacted a fibre rollout which resulted in EBITDA margin of 44%.

"Driven by our digital transformation strategy, we are effectively capitalizing on market opportunities and are confidently poised for further success. Our ability to remain agile and adapt to the rapidly evolving nature of the markets in which we operate positions us well for continued growth and strong returns," said Ooredoo Group managing director Aziz Aluthman Fakhroo on the company's financial results.

Mali's operators due to pay 176 billion FCFA

Moov Africa Malitel and Orange Mali are due to pay 176 billion CFA francs to the Mali Telecommunications Consumer Network (RECOTEM).

The two telecom operators are accused of having billed their customers for answering machine calls.

This decision, first announced in 2021, was confirmed by the Supreme Court of Mali in March 2023.

According to the Court's verdict, Moov Africa Malitel will pay 56.5 billion FCFA to RECOTEM while Orange Mali will pay 115.3 billion FCFA. The two companies will also have to pay 1.5 billion FCFA to the association for the defense of consumer rights in damages.

The Network of Malian consumers of mobile telephony have since 2012 attempted to obtain justice within the framework of the business known as 'invoicing of the answering machine' which opposed it to Sotelma-Malitel (current Moov Africa Malitel) and Orange Mali.

The case was initially dismissed by the court. The Malian Telecommunications/ICT and Postal Regulatory Authority (AMRTP) considered that this practice was legal and in accordance with the principle of tariff freedom provided for by the regulations in force.

Finally, it was with the Bamako Court of Appeal that RECOTEM won its case in November 2021. From then on, the Synergy of Telecommunications Unions had taken initiatives to have a court decision annulled which it judges "unfair" against the country's two main mobile operators. This includes sit-ins, strikes, negotiations with the authorities and a cassation appeal filed with the Supreme Court.

MTN Nigeria to merge fintech arms

MTN Nigeria plans to merge its payment company, Momo Payment Service Bank Limited and its digital arm, Yello Digital Financial Services Limited (YDFS).

The entity that will result from this merger will hold the payment services bank license granted by the Central Bank of Nigeria (CBN). It will also be able to provide super-agent services and other authorized activities.

This initiative is part of MTN Nigeria's fintech strategy, aimed at accelerating the growth of MoMo PSB. To achieve this goal, the company plans to reopen the Nigerian Interbank Settlement System (NIBSS) interface for outgoing transfers, and intensify business activities focused on growing active wallets, while continuing to improve its governance and its control environment.

In its financial report for the financial year 2022, MTN Nigeria said that its active subscribers to fintech services increased by 57.5% to reach 14.9 million. Mobile financial services generated a total revenue of 84.4 billion naira, up 19.6% from 2021.

Inflation stalls smartphone spending

Kenyans have reduced spending on smartphones due to ballooning inflation, which has put constraints on budgets for technology products.

Inflation combined with supply shortages are cited as the main drivers behind Kenya's smartphone market declining for the second consecutive quarter in the fourth quarter 2022, with shipments dropping 13.5% year-on-year, according to the latest figure from International Data Corporation's (IDC) Worldwide Quarterly Mobile Phone Tracker.

The report also shows that smartphones now account for 72% share of overall mobile phone shipments to the country.

Kenya's inflation rate was 9.2% in February 2023, according to the Kenya Bureau of Statistics. The rise in inflation was largely due to the increase in prices of commodities, such as food and non-alcoholic beverages, which rose 13.3%.
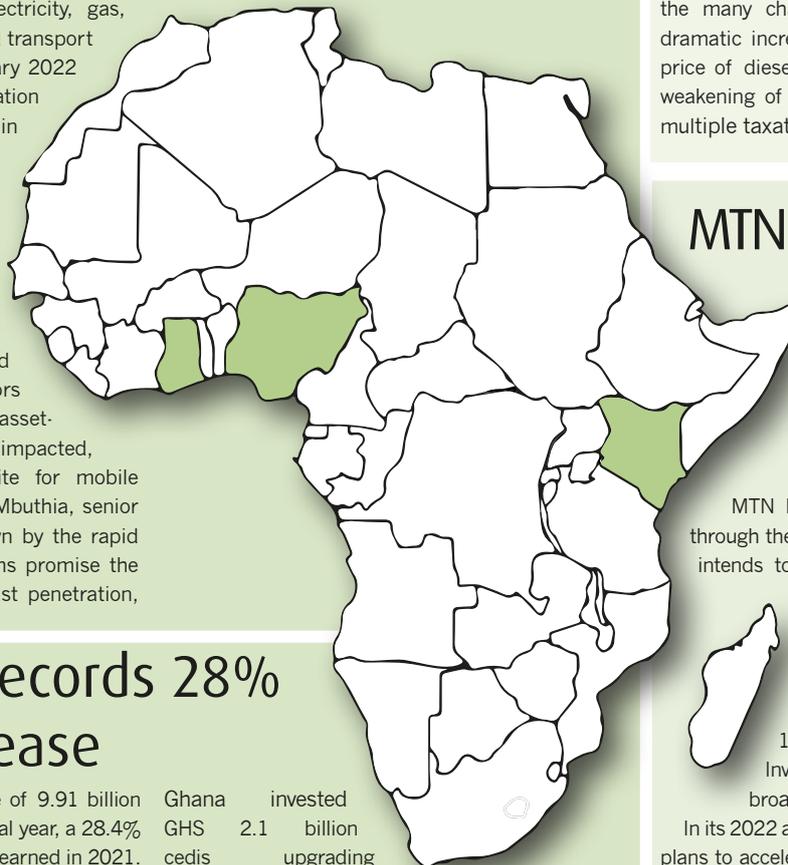
Meanwhile, housing, water, electricity, gas, and other fuel costs rose 7.6% and transport costs grew 12.9% between February 2022 and February 2023. Kenya's inflation rate reached highs of 9.5% in November 2022 and 9.6% in October 2022, which were cited as record levels, unseen for more than five years.

"While the general market sentiment was negative in Q4 2022 and reflective of the supply chain squeeze that occurred throughout 2022, those vendors that offered their products via asset-financing platforms were the least impacted, demonstrating a growing appetite for mobile financing schemes," said George Mbuthia, senior research analyst at IDC. "As shown by the rapid uptake of M-PESA, these platforms promise the next big innovative service and fast penetration,

appealing to the vast, but untapped segments of the consumer base in Africa. Very soon, the industry will witness these platforms grow, taking the smartphone market along with it."

Looking at 2023, IDC expects Kenya's smartphone market to remain relatively flat, with shipments growing by just 1.4%.

"Inflation is expected to hurt the smartphone market this year and the recovery will begin only in the final quarter of 2023 as economic uncertainty diminishes, vendors bring price volatility under control, and supply shortages come to an end," said Ramazan Yavuz, a senior research manager at IDC. "With all the challenges in the market, the rapid transition to smartphones will continue, enabled by mobile financing schemes such as M-KOPA and Easy-Pay that help consumers to purchase new devices even as prices continue to rise."

Nigeria's ICT cos paid 131.97 billion naira in taxes in Q3

Nigerian companies in the information and communications technology (ICT) sector paid 131.97 billion naira in income taxes in the third quarter of fiscal year 2022, according to the National Bureau of statistics (NBS).

These figures are well above the 53.3 billion naira paid in the third quarter of 2021, but lower than the 155.74 billion naira in the previous quarter.

The ICT sector contributed 27.31% of total tax revenue in the third quarter of 2022, behind the manufacturing sector, which contributed 28.76%. This contribution illustrates the importance that the sector is taking on in the Nigerian economy while revenues from the oil sector are declining.

The ICT sector continues to grow despite the many challenges that players face like the dramatic increase in operating costs; the soaring price of diesel; shortage of electrical energy; the weakening of the naira; lack of foreign currency; multiple taxation.

MTN Ghana records 28% revenue increase

MTN Ghana recorded total revenue of 9.91 billion cedis at the end of the 2022 financial year, a 28.4% increase from the 7.72 billion cedis earned in 2021. Service revenue increased by 28.3% to 9.88 billion cedis. Earnings before interest, taxes, depreciation, and amortization (EBITDA) increased by 30.9% to 5.6 billion cedis.

The company attributes its performance to driving operational efficiencies, cost discipline and creating shared value for its stakeholders despite a challenging macro environment.

The year was marked by rising inflation, rising from 12.7% in December 2021 to 54.1% in December 2022, as well as the depreciation of the cedi which lost 42.8% against the US dollar. Added to this is the increased cost of fuel and amenities.

During the the 2022 financial year, MTN

Ghana invested GHS 2.1 billion cedis upgrading infrastructure, billion improving IT systems, and expanding network capacity and coverage across the country. The company has deployed 400 2G sites, 400 3G sites and 1,142 4G sites across the nation, an impressive volume by any count. It also upgraded 820 existing 4G sites, bringing 4G population coverage to 99.3%.

These investments have enabled the operator to increase its subscriber base. The number of mobile phone subscribers increased by 12.8% to 28.6 million.

Active data subscribers increased 8.3% to 13.5 million. The number of active mobile money users increased by 15.0% to 12.7 million.

MTN Nigeria targets increased 4G and 5G coverage

MTN Nigeria has raised 125 billion naira through the issuance of its cash certificates and intends to use this money for its short-term working capital and financing needs.

The company said that the move is part of its strategy to diversify its financing options. In October 2022, it had already contracted a loan of 100 million euros from the European Investment Bank (EIB) to extend its broadband network.

In its 2022 annual report, MTN Nigeria announced plans to accelerate its 4G and 5G coverage to meet data demand. It plans to achieve 83% population 4G coverage in fiscal 2023, while continuing to roll out additional 5G sites. The proceeds from the issue of its cash certificates could be used to finance these investments.

These various investments should enable MTN Nigeria to strengthen its leadership position in the highly competitive Nigerian mobile telephony market, which continues to expand at pace.

According to the latest statistics from the Nigerian Communications Commission (NCC), the company controls 40.71% market share against 26.81% for Airtel Nigeria, 26.71% for Globacom and 5.77% for 9mobile.

MTN Rwanda reports 19.2% revenue increase from increased operational efficiency

MTN Rwanda recorded a total revenue of 224.2 billion Rwandan francs in 2022, up 19.2% compared to 2021. In addition, service revenues increased by 19.19% to reach 221.7 billion RWF while earnings before interest, taxes, depreciation and amortization (EBITDA) increased by 20.8% to reach 108.4 billion RWF.

According to Mapula Bodibe, managing director of MTN Rwanda, the company's performance can be attributed to operational efficiency, as well as efforts to ensure sustained growth and create shared value.

The company has invested 47.1 billion Rwandan francs to expand its coverage and network capacity across the country. It deployed 120 sites to reach 98.7% coverage of the population. These investments have enabled the operator to strengthen its subscriber base. The number of mobile subscribers increased by 5.9% to 6.8 million. The number of active subscribers to data services increased by 9% in reaching 2.3 million. The number of mobile money (MoMo) subscribers increased 16.3% year-on-year to 4.3 million. The company claims a 64% share of the mobile telephony market.

For 2023, MTN Rwanda plans to continue to focus on providing innovative services and improving the experience of its subscribers.

"Investment in our network and platforms remains a key priority to support our strategy, with the goal of achieving 100% population coverage by 2023 and ensuring connectivity in rural communities across Rwanda to support digital inclusion and grow our subscriber base," said MTN Rwanda in a statement.

Orange cancels Nigeria plans

Orange ended its exploration of Nigeria as a potential addition to its African footprint, as Middle East and Africa CEO Jerome Henique, reports on a lack of market conditions for the operator to enter.

The Nigerian Communications Commission (NCC) announced in July 2022 that Orange sent a team to explore a possible entry into Nigeria. However, Henique now states that Nigeria already has four established operators in its market and there was "no positive conclusion" from its recent market survey of Nigeria, and there is "no project in the short term to enter Nigeria."

"When we consider what we have to invest, we believe that being the big number one or number two player is a condition for success. Nigeria is already a mature market, but we of course continue to monitor all markets and opportunities in Africa," said Henique.

Orange is however, still considering entering Ethiopia, where the government is looking to sell off a 40% stake in state-owned Ethio Telecom. Henique has described Ethio Telecom as a strong incumbent that has been "transforming itself quite impressively" since the arrival of competition from Safaricom Ethiopia.
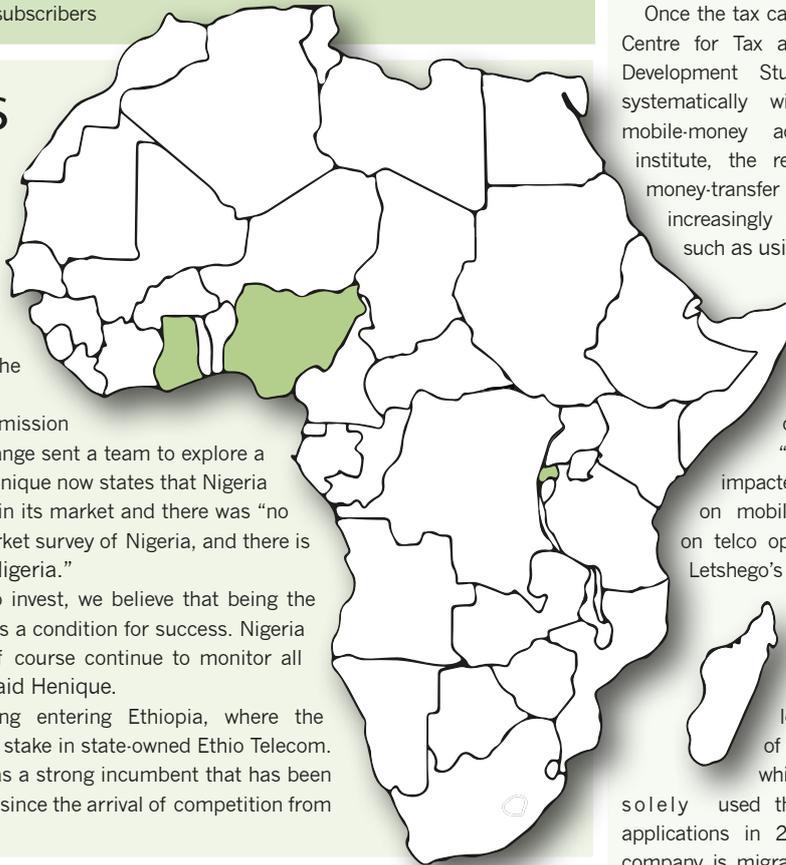
Spacecom to expand across Africa with Azercosmos

Spacecom will rely on the capacities of Azercosmos' Azerspace satellites to extend the geographical coverage of its services, particularly in Africa.

"We consider the use of Azercosmos telecommunication and teleportation services as an important step for the development of our common space activities. Azerspace satellites are among the most dynamic in the African market and they will provide quality services in the field of digital broadcasting," said Yon Rosenberg, CEO of Spacecom.

The new partnership with Azercosmos is part of Spacecom's expansion strategy in Africa, which began in 2019. The company aims to become one of the main providers of satellite communication solutions and services on the continent amidst the growing demand for high-speed connectivity and digital transformation.

With the Azercosmos satellites, Spacecom will be able to extend its services to millions of additional people, including those living in rural, remote areas that are difficult to access for telecom operators' terrestrial networks.

Letshego MoMo takes a hit from new tax in Ghana

Letshego's mobile micro lending unit took a hit in 2022 financial results due to a tax imposed on mobile money transfers in Ghana introduced in January 2023.

Letshego's mobile loan book decreased by 26% year-on-year to P421 million, compared to a mobile loan book of P568 million in the previous year.

Ghana's government implemented the levy to enhance domestic tax mobilisation and expand the tax base, saying it is providing "an opportunity for everyone to contribute towards national development." E-levy is collected by Ghana Revenue Authority through licensed banks, specialized deposit-taking institutions, payment service providers, and electronic money issuers.

Once the tax came into force, the International Centre for Tax and Development, Institute of Development Studies says, users panicked, systematically withdrawing cash from their mobile-money accounts. According to the institute, the reform has also changed the money-transfer habits of some users who are increasingly reverting to traditional means such as using cash.

Resultantly, companies like Letshego, and mobile operators like MTN and Vodafone who had been growing their mobile money offerings took a hit.

"The mobile loan book decreased impacted by the introduction of a levy on mobile money transfers in Ghana on telco operators," said Aupa Monyatsi, Letshego's group chief executive.

Notwithstanding, the dent on mobile loans, Letshego continued to focus on digital adoption, as 73% of all Letshego loan customers used one form of the group's digital channels, whilst 22% of loan customers solely used the digital mall for their loan applications in 2022 financial year. Also, the company is migrating 205,000 of its traditional channel customers to the digital mall platform.

"The Group generated over P206 million revenue from the platform as we continue to increase digital penetration for lower cost of acquisition," said Monyatsi. "Letshego will further continue to focus on monetising our offerings on the digital mall and broaden access with a revamped LetsGo@Work employer and employee proposition, which supports government and non-government sectors."

In 2022, Letshego launched mass mobile loans in Uganda and Botswana and this year the company aims to launch in Lesotho, Tanzania, Kenya, and Nigeria.

Safaricom and Commercial Bank of Ethiopia target inclusion

Safaricom Ethiopia and the Commercial Bank of Ethiopia have signed an MoU outlining a strategic partnership to utilize the potential of the institutions' capacities and enhance the financial service delivery of the bank to jointly contribute to the country's digital and financial inclusion agenda.

Working together under the umbrella of the partnership, the two entities will integrate their systems to avail services to the underserved and unserved segments of the economy. Safaricom Ethiopia will assist the Commercial Bank of Ethiopia with technology, modern telecom infrastructure, and connectivity to facilitate the Bank's efforts to reach more customers while providing quality services.

"Commercial Bank of Ethiopia, being a pioneer of the Ethiopian financial industry for the last 80 years, has its own digital platforms like CBE Birr, mobile banking, ATM and POS services, and facilitated significant number of transactions to be leveraged for financial inclusion," said Abie Sano, CEO, Commercial Bank of Ethiopia. "As we continue to work towards improved customer experience through digital innovation by enhancing digital payment platforms, and avail innovative solutions to our customers, we look forward to our partnership with Safaricom Ethiopia to build our capacity with modern technology and connectivity."

"We are excited to partner with Commercial Bank of Ethiopia and expand our cooperation with the financial institutions present in Ethiopia, to provide services to our customers that fit their digital lifestyles," said Anwar Soussa, CEO, Safaricom Ethiopia. "Such cross-industry partnerships will enable us to meet the demands of the Ethiopian market taking the experiences and learnings of the bank and affording us the opportunity to further innovate and serve our esteemed customers."

Talking satellite

Martin Jarrold, vice president international programme development, GVF

How effective is satellite for connecting Africa?

Phrasing questions in terms of 'connecting Africa' suggests a certain uniformity; not addressing the complexities and variety of connectivity requirements and variability of the potential of satellite in meeting those needs. Two things that can be stated, however, are that Africa has specific requirements that differ from those of developed markets outside the continent, and that effectiveness can be assessed using different parameters, with three – interconnected – examples of such parameters being connectivity objective, cost, and applications focus/reach.

When discussing connectivity in Africa the focused objective for satellite has been bridging the (generalised) digital divide. This divide is not uniform continent-wide, and there are huge differences between different regions of the continent and between different countries within the continent. According to Statista, within Africa internet access varies greatly, with nearly 70% of the population living in the southern region connected in 2022, whereas the online penetration rate was less than 30% in both East and Central Africa. Additionally, connectivity differs between countries. Morocco had an internet penetration of approximately 84.1% in 2022, the highest among African nations, whereas only 7% of the population in Eritrea had access to an internet connection.

The predominant adoption of mobile devices has characterised internet use in Africa, with MNOs positioning themselves as the leading connectivity option. In 2021, nearly 70% of the web traffic on the continent took place via mobile, and whilst African nation MNOs and telcos are major customers for satellite services, this is very different from adding, promoting and selling a satellite service as part of a business to consumer product.

Of course, in African nations – just like in those parts of more developed country markets which suffer their own variations on the digital divide – mobile does not reach everywhere, failing to cover areas where either the business financials do not tally, or where the degree of geographical remoteness or topographical complexity prevents mobile tower deployment, and where access to reliable power supplies is uncertain. Delivering broadand services to meet the task of bridging the digital divide in these remote areas is satellites' mass-market (albeit a numerically much smaller one than the urban/suburban/high population density mass-market with access to mobile services) penetration forté, addressing the internet access needs of schools, health centres, SMEs, and government, as well as WiFi backhaul.

Connecting remote and rural schools is a satellite imperative because it not only allows children to access online learning, but schools can become a community's communications 'hub.' For medical clinicians in many African nations it was the COVID-19 pandemic which highlighted weaknesses in healthcare infrastructures for populations in rural areas located far from clinical facilities. It is only smart satellite services which can offer the necessary speed and bandwidth to support seamless video and voice calls while offering other forms of specialist communication required for the clinicians to be able to interact with, and diagnose, patients.

The proportion of the Africa population living within areas covered by mobile broadband networks is about 85%, but nearly 50% of the population remain offline due to the high relative cost of mobile data. Solutions to close the digital divide must meet the challenge of falling within local consumer affordability parameters. For satellite to reduce the divide across all the communities of the nations of the African continent its broadband service offerings must meet something like the 'affordability threshold' suggested by the Alliance for Affordable Internet (A4AI).

This parameter varies across the continent and within nations, but sometimes an overall aggregated view can help to simplify the scale of a complex issue. The A4AI and the ITU conducted a study in 2020 which revealed that only 14 African nations met this 'affordability threshold' – i.e., 1Gb costing less than 2% of average monthly household income. According to the study, the actual continent-wide average cost for 1Gb in 2020 was almost three-times that at 5.7% of the average monthly income.

In terms of effectiveness measured by applications focus/reach it is useful to look at how satellite readily meets various user markets' end-to-end applications requirements. Satellite services offer ubiquitous signal coverage, very high network reliability, and whilst service delivery can be entirely independent of terrestrial infrastructure, delivery of end-to-end application-focused service solutions may beneficially be achieved via in-country integration with terrestrial networks and via specialised niche in-country providers. Taking the example of the retail market, end-to-end retail solutions require that satellite services be integrated with the customer enterprise core networks and being seamlessly integrated with enterprise architectures such as SD-WAN.

N.B. I am grateful to the 'Space in Africa' research report (commissioned by 'Via Satellite') 'The State and Future of LEO Satellite Internet Connectivity in Africa' which explores the connectivity landscape in Africa, and how LEO providers may change it in the future, for information and data points covered in the above answer.

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Unlocking the true potential of IoT with low cost satellite communications

Eric Ménard, VP of strategy & business, Astrocast

With an expected 5.2 billion connected devices by 2025, IoT is now a fundamental component of both government policy and corporate strategy. The ability to track, monitor, record and analyse through an extraordinary array of hugely innovative sensors has already transformed many businesses and industries. But, to date, the true power of IoT has been constrained by the limits of fixed and wireless connectivity: just 15% of the planet is currently covered by affordable, accessible IoT connection.

If organisations are to truly harness the power and sophistication of IoT, connectivity must extend around the globe. It needs to be both affordable and accessible – yet the only alternative to wireless networks has been satellite IoT at a price point that cannot be justified by most businesses or use cases. Until now.

Driving value

After two years of pandemic disruption, businesses need to be able to achieve and demonstrate true innovation in supply chains that support new efficiency paradigms and deliver tangible shareholder value.

Post COP26, environmental protection has risen the corporate agenda – and companies must prove their sustainability strategies to avoid the risk of greenwash accusations. Agriculture is under pressure to resolve the twin challenges of climate change affecting growing seasons and the estimated need to produce 60% more food by 2050 to feed a world population of 9.3 billion, according to the Food and Agriculture Organization (FAO).

The continuous connection of IoT has a key role to play in both enabling the required innovation and proving its value. From connected vehicles to industrial equipment tracking and environmental monitoring, increasingly sophisticated IoT sensors are already embedded within global infrastructure. Yet with 85% of the world not covered by cellular technology, IoT is simply not an option for vast numbers of organisations. Without global coverage, the true power of IoT to enable fundamental change will never be realised.

Cost effective SatIoT

With the arrival of low-cost satellite IoT (SatIoT), assets can now be deployed cost effectively around the globe.

Farmers benefiting from SatIoT can be found globally – particularly in Kenya and South Africa, where large herds of livestock are located in regions that have no reliable cellular network access. In these cases, connectivity to a SatIoT-based collar enables farmers to track livestock remotely - tracking movement patterns and enabling the creation of geo-fences to detect when livestock has drifted into areas they should not be.

The compelling cost model is just one part of the equation. This is a new market for systems integrators and one that raises a new set of challenges as well as opportunities. By default, many IoT solutions will be deployed in remote locations – from mines to farmland, ships to oil platforms – which means minimising the need for human intervention wherever possible.

Device size, power consumption and reliability are priority concerns. Small devices offering low power consumption is a vital component, as battery life is extended. What is the weight and cost differential offered by smaller antennas? What is the viable battery life? These are vital issues to consider before embarking upon a strategic SatIoT initiative. Ensuring the device is only transmitting when the satellite is in range, rather than continuously, radically increases battery life, especially in applications that do not require constant information updates.

> "Access to cost effective SatIoT is already innovation. The ability to work seamlessly with existing cellular IoT solutions, ensuring accurate tracking and monitoring as assets transit between connections, is transforming visibility of global freight assets."

Innovative thinking

Access to cost effective SatIoT is already inspiring extraordinary innovation. The ability to work seamlessly with existing cellular IoT solutions, ensuring accurate tracking and monitoring as assets transit between connections, is transforming visibility of global freight assets. In addition to improving efficiency and reducing the financial losses associated with product damage and wastage, this global tracking has an even more powerful potential: addressing the huge proportion of vaccines that are damaged, lost or stolen in transit. SatIoT can not only provide confidence in the integrity of the cold chain; but also identify areas of elevated risk, allowing the protection to be prioritised in the right areas.

Bidirectional IoT also has a significant role to play. The ability to send commands back to assets, rather than just receive data, is hugely powerful and enables an array of new use cases, including remote management of equipment. Farmers can command silos to release food, open gates or manage irrigation systems, without any need for expensive and often hard to source human interaction. Utilities companies can control water management systems in line with flood prevention strategies. With information seamlessly integrated with existing analytics, AI, or machine learning solutions, organisations have the power to not only use this data to improve understanding but also immediately respond and use the new insight to inform timely commands to remote assets.

Complete solution

Low-cost SatIoT is opening a new world of opportunities – from measuring pipeline flows, to tracking migrations, and monitoring the delivery of food, water, and vaccines to remote villages. It is also helping to reduce the digital divide in many rural and farming areas across the world, especially in rural African communities. Moreover, SatIoT is enabling organisations to not simply embark upon innovating thinking, but confidently and rapidly assess the impact and achieve continuous improvement. Critically, it will play a vital role in supporting the next generation of value driven business strategy, environmental change, and government policy. ∎
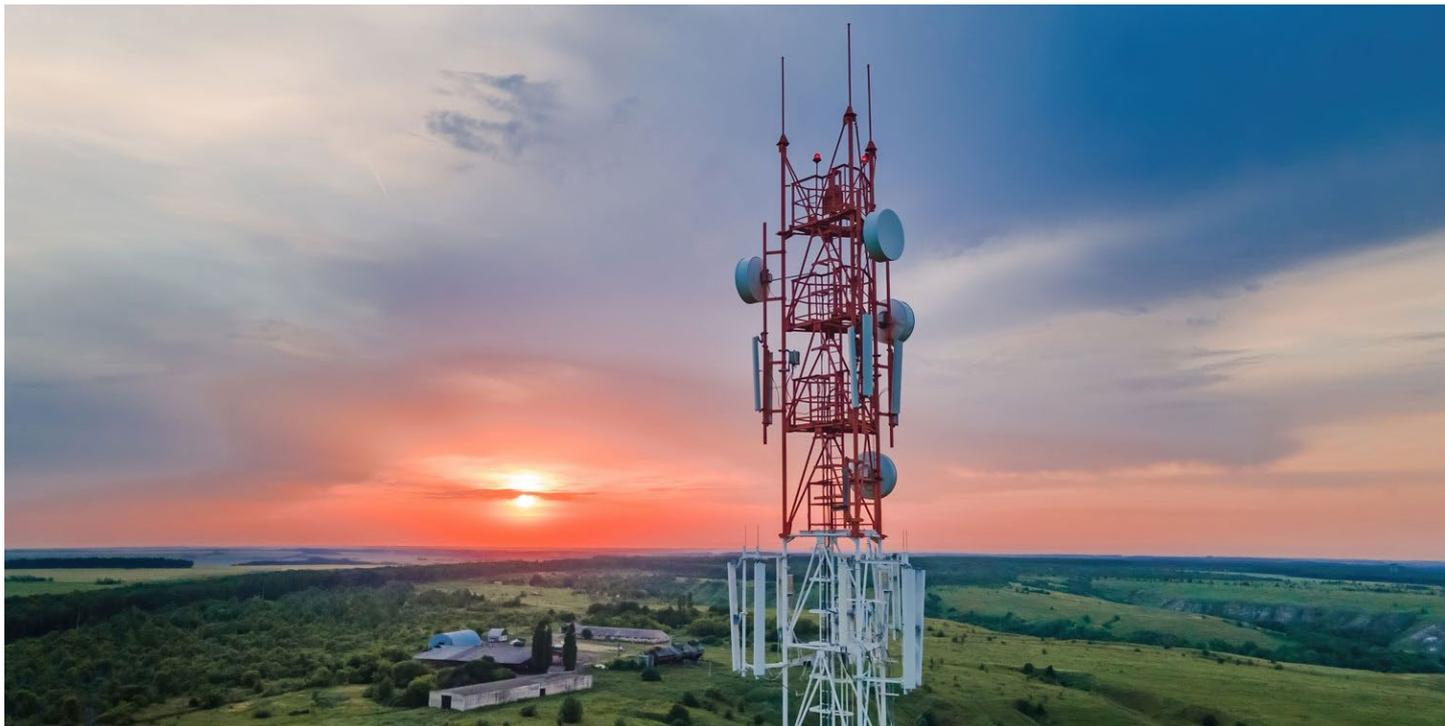
Striving for tower efficiencies

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." ∎

Transforming Africa

Innovation in technology is important all over the world, including in Africa. Enabling innovation will unlock potential and contribute to the development of the economy, create job opportunities, and bridge the digital divide. Whether this is 4G, 5G, or 6G depends very much on the environment.

Africa is still very much in the 4G rollout stage. 5G is only just beginning to emerge, but we believe that for certain industries across Africa, 5G will increasingly become important and relevant. Today, 4G accounts for about 40% of connections in Africa, and we anticipate that within the next five years, 4G and 5G will account for 80% of connectivity, with 5G connections reaching 5 billion globally by 2028.

Strategic objectives

The regulatory environment is a strategic area of attention for operators in Africa today. This is something we are trying to focus on, but I believe there is still much work to be done to provide a complete enabling environment for service providers.

At Ericsson, we are cooperating with the regulators and the African Telecom Union (ATU) to collaborate on improving the regulatory environment across Africa and how the telecom sector can contribute to the economy.

Ericsson has more than 4,500 employees across the Middle East and Africa, who hail from over 70 countries within the region. We believe in local talent and continue to employ and invest in people from the region.

Our strategy pillar is fundamentally based on customer feedback, we work with them on the total cost of ownership (TCO), looking at a five-year time frame, by highlighting the different cost elements and the savings that Ericsson can bring. The focus then shifts from cost to technology leadership.

Sustainable practises

As a designated green supplier, Ericsson supports greener business practices across various industries, including banking, mining, and transportation.

We are committed to achieving net-zero by 2030 within our own operations, and across our value chain by 2040. We are also implementing our Product Take-Back program to minimize the environmental impact of our products at their end of life and ensure that they are handled according to high environmental standards.

To truly commit to sustainability, we also need to develop products that consume less energy, or greener energy, and at Ericsson, we are on the right track. This results in cost savings as well as environmental benefits and is at the core of how we do things.

Part of promoting sustainable business practices is the provision of a diverse, capable workforce. Women have historically comprised a much smaller proportion of employees in the tech sector. Following International Women's Day earlier this month, my piece of advice to females working in the field of Information and Communications Technology (ICT) is to forget that they are women and focus on what it is that they enjoy doing. They shouldn't let being women hold them back, and they should always remember that being a woman doesn't make one any less of a person.

I have met so many amazing CEOs and CTOs, as well as many amazing young engineers. That really gave me a lot of energy and I was so inspired by listening to their experiences. There is no shortage of capable and intelligent women, we just need more women to believe in themselves.

Activities across Africa

The COVID-19 pandemic illustrated the strong need for rapid digital transformation. Many businesses were forced online, and some industries and enterprises transformed very quickly; these are the ones that survived and continued to grow during adversity.

Many African countries are driving and leading technological innovations. I was particularly amazed by Angola and the speed at which they launched 5G and learned to monetize it with fixed wireless access (FWA). That was extremely

"We are committed to achieving net-zero by 2030 within our own operations, and across our value chain by 2040"

interesting to see.

We have a lot of exciting projects in Africa; and are working actively with all our customers there to prepare for the network rollout.

One topic that is very dear to me is the use of technology to improve lives. There is no better example than from the African continent, because you get to see immediately how lives are transformed with just a piece of metal that can connect them to the world. Technology makes it possible for young girls in villages to finish school and helps women find jobs. Mobile money also continues to give young women entrepreneurs in African villages the freedom to make and manage their own money.

Indeed, improving connectivity and providing higher speed, whether in villages in Tanzania or by bringing 5G to Angola, deliver great benefits to citizens and the economy. This is why we continue to invest in the needed infrastructure to help the continent achieve its digitalization objectives. We have recently signed a memorandum of understanding (MoU) with Free Senegal to leverage our education platform "Connect to Learn" to extend connectivity to schools in remote areas. ■

Nora Wahby, Vice President, Head of West Africa and Morocco at Ericsson Middle East & Africa

How is the space domain connecting Africa?

Africa has lagged on the adoption of satellite technologies, however, Amy Saunders notes that today, nations are increasingly expanding their sovereign capabilities

Satellites have long proven effective at delivering reliable, secure communications from anywhere on Earth. While pricing has traditionally been prohibitive for many countries, a recent leap forward in technology has made construction, launch and operation more affordable and accessible than ever before.

Coinciding with a world struck by digital transformation in the wake of the coronavirus pandemic, space-based communications are now becoming a priority for developing nations. As per the 'African Space Industry Annual Report 2022,' the continent's space sector is booming, valued at US$19.49 billion last year. African countries allocated US$534.9 million for their space programmes in 2022, up 2.24% on 2021.

While the continent has not been deeply embedded in the space industry historically, African nations have manufactured more than a handful of satellites for a range of applications, mostly beyond traditional communications like IoT and Earth observation (EO), which are expected to translate into improved socioeconomic and environmental outcomes.

"At present, 10 sub-Saharan counties have launched satellites to space, with another five northern African nations also having done so," says Martin Jarrold, vice president international programme development, GVF. "Of the approximately 40 African nation satellites in orbit, only eight are for satcoms with the other 32 divided between EO and technology demonstration."

Satellite sovereignty

Satellite sovereignty is a topic that comes up again and again, but with large swathes of Africa provided with satellite coverage from international actors, how important is sovereignty to African nations?

Very, according to David Oni, research analyst at NSR, an Analysys Mason Company, who opines that "apart from a sense of national prestige, it can also serve as an avenue for technology transfer, hence boosting indigenous technology which can have a ripple effect across several sectors of the economy."

While satellite sovereignty allows a nation to be independent for their telecommunications needs, it is not always feasible or in the national interest, says Andreas Voigt, senior engineer, EUTELSAT Service Operations; and director, the Satcoms Innovation Group (SIG): "some nations in Africa are able to afford to have a sovereign system by the help of a donor country, like Nigeria or Angola. Some can finance it themselves, like Algeria or Egypt. Other African nations trust third parties more than their own to provide capacity."

Martin Coleman, partner, COLEM Engineering,

believes that right now, satellite sovereignty is not a priority for African nations: "it is not where the money should be spent. Africa needs flexible ground infrastructure now to ensure connectivity access both terrestrially and from space. If it is to be a connected continent, then the ground is where the real investment should be taking place."

National pride may play an important role in decision-making, however, enhanced data security, independent communications capabilities, and custom applications are what bring sovereign satellites into their own: "sovereign communications satellite capabilities for Africa can provide 'tailored' solutions peculiar to the region," says Oni. In Africa, these might include IoT applications for agriculture, mining, utilities, defence, as well as enabling remote and rural communications among a disperse population.

One such example, Nigeria's DELSAT-1, was launched in December 2022 to enhance the operational capacity of the Nigerian armed forces. Chief of Defence Administration, Rear Adm. Nnamdi Muogilim said that the satellite will create a robust indigenous space competence capable of producing and utilising space assets to meet the operational requirements of the military and other security agencies.

"Most African nation-owned satellites are still

designed abroad; and whilst there is a process of transition underway, with the continent joining in with the new 'space race,' so far the transition has been towards EO satellites rather than satcoms," explains Jarrold.

Having reliable and secure access to telecommunications services and internet connectivity is essential for everything from economic and infrastructural development to education and healthcare, shares Voigt. "In countries like in Africa where infrastructure including transport and electric supply is poor, particularly in rural parts, satellite services have a vital role to play in connecting people. Overall, I would say that although a long-term aim of some African nations may be to have sovereign satellite capabilities, in the short to medium term, having reliable and secure telecommunications services is more important," concludes Voigt.

Challenges remain

One of the limiting factors in the wider adoption of satellite for communications has been cost, which has tended to be prohibitive for most applications. Despite the sharp fall in prices in recent years, "they are still high in Africa relative to the amount of disposable income available to people, when compared to other countries," says Voigt.

However, good news is on the horizon: "the new style VHTS satellites have the potential to bring down the production cost per Gb significantly, making satellite bandwidth much more affordable. This development has the potential to make satcom services a valid alternative to terrestrial fixed services," explains Voigt. "For much of Africa, mobile broadband services are non-existent outside large cities, and while availability of narrowband may improve, mobile broadband with speeds over 10Mbps will most likely not be available ubiquitously in the next 5-10 years, if at all."

Jarrold opines that, for satellite to reduce the digital divide across all of Africa, its broadband service offerings must meet the first challenge of falling within local consumer household affordability parameters. "The Alliance for Affordable Internet (A4AI) and the ITU conducted a study in 2020. It revealed that only 14 African nations met their 'affordability threshold' of 1Gb costing less than 2% of average monthly household income, whereas the actual continent-wide average cost for one gigabyte in 2020 was 5.7% of the average monthly income," says Jarrold.

While terrestrial infrastructure remains less expensive on a cost per bit level in most regions, its deployment is often price prohibitive due to small, dispersed communities, or indeed challenges arising from the natural landscape itself, rendering satellite the only viable option. However, even the build and maintenance of local ground infrastructure for satellite can be challenging due to "the lack of transport infrastructure, because it can be difficult for engineers and equipment to reach the sites in a timely manner," says Voigt. "The lack of availability of a continuous, reliable electricity supply is another major challenge."

Moreover, satellite operators looking to provide services require a strong local presence. "It is difficult to gain customer trust if the operation is fully run from a country outside of Africa," explains Voigt. "You need to have local knowledge, regional language spoken, and sound relationships with local providers and retailers, also inside their ethnic groups."

Unlocking opportunities

One possible game-changer for satellite communications in Africa, named by NSR as the 'largest opportunity in satcom's history,' is the direct-satellite-to-device, which has a market forecast of US$66.8 billion in 10-year revenues versus US$38.5 billion for wholesale non-geo satellite services.

"Satellite-to-device will unlock extraordinary opportunities for the satellite industry in Africa," says Oni. "Although the adoption rate will depend on several factors, such as: cost, reliability, terrestrial alternatives, policy makers, market dynamics, etc."

Jarrold agrees: "certainly, in terms of people no longer being out of touch or requiring a specialised device to connect, using mobile/cellular spectrum for satellite-to-device services makes sense in countries with large unserved rural and remote populations, such as within the African continent."

As well as providing easy-to-use, reliable connectivity for those who need it the most, "it will enhance MNO access to new customer segments through satellite communications, providing satellite operators the opportunity to secure connectivity for existing mobile customers, when roaming out of range of their terrestrial mobile signal," shares Oni.

Voigt says that MNOs will likely be happy to enable services via satellite for an extra fee as additional upsell for people who roam outside of their original service coverage areas. "However, the percentage of individuals who will be able to pay for that in Africa will be marginal and bodies such as governmental, military or professional services will usually already have connectivity via satellite in the conventional way."

The ability to communicate via satellite through standard consumer mobile phones will reduce barriers to entry and help bridge the digital divide, while MNOs stand to gain by boosting customer satisfaction, reducing costs, and unlocking new revenue opportunities. NSR expects average monthly users to reach 386 million by the end of the decade. While satellite-to-device will not rival terrestrial performance, with low data rates and high latencies than would be required to, the technology comes into its own for applications like voice, messaging, IoT and global coverage – all of which will help connect those in remote and rural communities.

Voigt holds a less optimistic view: "it cannot provide that ever-present connectivity that users expect to have with their phone. Satellite direct to device does not work indoors without something in between like a repeater cell. Nor does it work well where there is an obstruction in between the satellite and phone such as buildings or trees. It will also not work well in a car without radiating the car passengers intensively for the return channel connectivity."

The most prominent of the recently announced satellite-to-device services are typically offering SOS-type alerts and text messaging only: "this is not enough. Customers want more than basic emergency services," states Jarrold. "The big question is, 'depending on cost in more price sensitive markets, will these functionalities be widely taken up by the end user?' In Africa's developing markets millions cannot necessarily afford high-end Apple and Android smartphones and, therefore, can't access IP messaging."

We need to learn from the experiences and achievements of Iridium, Orbcomm and Globalstar in the early 2000s, says Voigt: "it is possible to improve the physical layer by some dB with software coding and modulation. However, when inside or if close to obstructions, there is several 10s of dBs of attenuation that need to be overcome. A handheld terminal will never be able to achieve that with its fractal antenna, battery capacity and lifetime, etc. so certain conditions will always apply such as needing to be outside, with an unobstructed view to the satellite and to avoid rapid movement changes. These requirements mean that many of the potential commercial use cases are therefore non-applicable."

A space-based future?

"Satellites will be instrumental in bridging the digital divide across the continent, and the rest of the world," says Oni, so it's no surprise that the African Space Industry report forecasts a growth rate of 16.16% to US$22.64 billion by 2026.

"Satellite provides a vital layer of communications providing us all with safety, disaster recovery, medical/healthcare, tracking, and, of course, navigation through the various GPS services available. Satellite delivers this totally and is a high reliability network for such cases," says Coleman.

In line with digital transformation efforts, "true broadband internet connections (>10Mbps) will be important to small/medium size business development and working. Users require a stable service, and this means highly available at good throughput rates for the price they can pay," shares Voigt. "In urban areas, in most cases, MNOs will be able to deliver that via 5G and its future developments. However, in remote and underserved regions, satellite services will certainly play an important role in the coming years."

Affordability will continue to increase in leaps and bounds, and "satellite communications will continue to play an important role in connecting Africa, especially in remote and underserved areas where terrestrial options may not be available or may be cost-prohibitive," reports Oni.

"Against the backdrop of the challenges faced by terrestrial wireless systems, for example the MNOs facing static revenue trends, NGSO satellite systems will have the capacity to bring more people online in Africa in the coming years," asserts Jarrold. "These operators have been busy acquiring spectrum rights with various of Africa's national administrations. Connecting the unconnected by 2030 remains the objective, but still there remains the question as to whether the NGSOs will be able to translate new capacity into actual opportunity to be realised through affordability." ∎

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Monetising 5G FWA: automating operations to match local and global connectivity demands

5G fixed wireless access (FWA) technology is revolutionising connectivity options for businesses and homes across the globe. But how best to monetize it? Ewa Jaskowiak, director of strategic business development, Enxoo, reports

The worldwide deployment of 5G in 2019 promised data speeds up to ten times faster than 4G, as well as providing lower latency. However, nearly three years later, 5G still isn't fully supported by digital infrastructure that will enable mobile network operators (MNOs) to fully gain the benefits of its services. 5G is accelerating a revolution in enterprise IT with fixed wireless as a global market being expected to surpass US$90 billion by 2030 from US$0.5 billion in 2020 at a compound annual growth rate (CAGR) of 75.4% according to Fatpos Global Pvt.

As the millennial and generation Z populations rapidly increase in the workplace there is a greater demand for fast, seamless internet and stronger 5G fixed wireless access connections. According to Statista, the number of 5G fixed wireless access (FWA) connections is estimated at 71.82 million by 2026 and 5G FWA could ultimately account for 21% of all connections by 2030.

With almost every enterprise undergoing digital transformation, there is a huge opportunity for MNOs as the demands for 5G and fixed wireless services begin to increase. MNOs can achieve a greater return on investment (ROI) if they can begin to address the hurdles 5G fixed wireless has and understand why it is preventing effective monetisation.

Deploying innovative 5G services

According to a Nokia-commissioned survey, it was found that only 11% of communication service providers (CSPs) around the world had sufficient business support systems (BSS) that would help achieve effective 5G monetisation. It was also found that 70% of the CSPs are now considering deploying cloud-based monetisation systems as they will be able to enable new services, faster and at a scale that can achieve a greater ROI on their network investments.

MNOs are experiencing more operational complexity as they add 5G to their portfolios. Customers are demanding 5G with almost impossible delivery times as they want procurement and service to be ready quickly so that they can enjoy faster download and upload speeds. However, the challenge with deploying 5G is the support that is necessary for greater service agility, automation, and greater visibility into sales.

Legacy technologies are hindering MNO sales and operational processes as the lack of adoption of innovative technologies take away the ability to move with new speed and agility.

New innovations continue to enable enterprises to renew internal and external processes for decades to reduce costs and deploy emerging technologies. MNOs are now realising that serving the demand for 5G fixed wireless services will require more than just the technology; they will need to create a seamless experience for the customer from start to finish and that begins with the first sales touchpoints.

If MNOs continue to deploy 5G successfully there is a good opportunity for scaling. Sales processes are not currently feasible as they operate manually and offline. This creates a problem for MNOs as current processes are slow and from the past.

Digital transformation is the most valued journey an MNO needs to pick up on for its sales processes to become digital, seamless, and quick.

Capitalising 5G FWA

As the demand for high-speed internet and lower latency continues to rise, there has been an accelerated expansion in the 5G FWA market. 5G FWA offers scalable, cost-efficient broadband technology with high-speed, wireless connection that goes the extra mile.

The answer to high-speed connectivity and lower latency demands is 5G FWA. Although the service is currently lacking in rural or newly built suburban areas. 5G FWA is meant to be a lower-cost alternative to fibre to the home (FTTH) and still deliver similar speeds. It has a greater advantage as there is no time-consuming process to installing 5G FWA; unlike digging to install fibre across various locations, FWA uses existing towers and antennas located near customers' businesses or homes.

MNOs are currently rapidly seeking to capitalise on the opportunity of 5G FWA, however, to ensure a good customer experience there are things an MNO needs to consider:

- **5G premise equipment –** MNOs have not accounted for fixed terminals as there are rooftop antennas in which indoor fixed terminals and routers may be needed. MNOs need to ensure they have planning tools to determine how many terminals will be required

per location and identify the best place to put them.
- **New spectrum challenges –** The usual spectrum for connectivity is mid-band, however other options including millimetre are also available to operators. MNOs need to understand how services can be impacted depending on which spectrum band is used.
- **Customer KPIs –** There are certain KPIs that need to be met when delivering high-speed fixed broadband. An MNO should analyse and view these on a map to predict the user experience and have planning engineers understand certain elements in advance.

5G FWA is unknown territory for MNOs and brings numerous advantages alongside being a disruptive technology. However, to benefit from revenue and business growth, operators must pay close attention to optimisation and planning.

Switching to automated networks

There is a large opportunity for enterprises to reduce the number of costs and improve sales margins with 5G. Once the opportunity is identified, MNOs can slowly move away from the offline, manual methods and start enhancing their business operations in multiple ways. There are many revenue streams that can be opened by 5G technology and MNOs can begin to offer new services like fixed wireless. Enterprises can drive expenses down with automated network planning and operations for a streamlined approach to sales.

For 5G to be successful, the system should allow for:

- Fast connection speeds
- Automated service creation
- Enablement for IoT/edge platforms
- Support for dedicated networks
- A high level of automation

All these factors will facilitate dynamic network slicing with specific provisioning requirements.

FWA is common in countries where FTTH or FTTB alternatives have become out of date, slow and too low quality for the demographics within the area. MNOs should take this opportunity and capitalise on this and focus on their sales effort where demand for fixed wireless access service is growing to get the best chance of success.

To ensure sales are not wasted, sales reps need great visibility into a variety of different areas including services, pricing, and costs to ensure that the decision they make is right for every customer.

Enterprises that match the needs and demands of local and global customers, using digital processes to enable them to create

more tailored, seamless experiences.

There are currently 12 African countries that are either conducting or rolling out 5G and over 100 million internet users in urban, suburban, and rural areas of Africa that could benefit from 5G FWA. There is a digital divide in Africa as major cities benefit from 5G services at different speeds and other digital products whereas other areas are facing little to no connectivity.

According to ABI Research, 1 in 5 people living in sub-Saharan Africa still do not have mobile broadband coverage, equating to more than 200 million people. To help bridge the gap and provide connectivity, a 5G FWA network can help meet the criteria for affordable broadband connectivity that does not need new equipment and is more cost-friendly.

There is a large opportunity for sub-Saharan Africa as it has a history of poor fixed network coverage and 5G FWA can help solve that gap. It can enable a fibre like experience, especially in remote areas where it would be impractical to deploy. During the pandemic, FWA became a significant growth driver, especially for emerging countries like South Africa.

5G FWA is also a more profitable proposition for operators as the potential ROI is less than three years which makes it a more commercially feasible technology for an investor. 5G fixed wireless access network is the best option for expanding fixed connectivity in the developing world and enabling African markets and beyond in a new era of innovation.

Better roadmaps with fixed wireless

MNOs who start or continue with their digital transformation journey will slowly add these processes into the sales department. This enables their organisation to create better business-to-user roadmaps.

5G is a great alternative to cable broadband which attracts enterprises as it is much faster than 4G or LTE networks. Both underserved local markets and global markets can benefit from fixed wireless, especially in rural or built-up areas where a fixed-line infrastructure can be difficult to deploy.

MNOs are able to maximise their revenues, reduce costs and enhance their reputation within the enterprise landscape by streamlining their offerings, sales process and overall experience. They need the right digital transformation partner to approach FWA and help support them understand the telecoms industry.

MNOs need to understand that those who leave their legacy manual processes as they are, will find that their ROI from network investments will not come to them. It is time to innovate current manual systems to drive expenses down and maximise margins to match the demands of local and global customers. ■

Connecting the unconnected with cellular backhaul

Demand for connectivity is booming across the world, and in particular in Africa, where an increasingly youthful population is demanding services equal to those found in Western regions.

According to the GSMA, sub-Saharan Africa has significantly reduced its coverage gap for mobile broadband in recent years. The coverage gap fell from 50% in 2014 to 19% in 2020, but this is still more than three times the global average of 6%.

While this is remarkable progress, the coverage gap in sub-Saharan Africa remains the highest globally. The region is home to 67% of the world's population that are not covered by mobile broadband.

A key concern for reducing the gap is that the deployment of new sites in sparsely populated rural and remote areas is a significant economic challenge, as it can cost up to twice as much to deploy new base stations in rural areas than in urban ones and can be three times more expensive to run.

Africa Mobile Networks (AMN) is playing a key role in improving the commercial feasibility of rolling out mobile internet broadband networks and cellular backhaul over satellite is proving to be the ideal solution to expand a cellular network rapidly and efficiently to rural areas, thus helping bridge the digital divide and satisfy the growing demand for connectivity.

A cellular backhaul solution

AMN's technology is optimized for rural Africa, combining low power and solar BTS transmitters with very small aperture terminal (VSAT) satellite technology directing traffic onto an existing network and using solar panels to power the systems.

AMN operated more than 2,000 base stations in 10 countries in 2021 and continued to launch new operations in additional countries throughout 2022; ultimately the company plans to cover almost every country in sub-Saharan Africa.

At the core of AMN's vision is the use of highly advanced technology to enable services to be delivered more economically and sustainably to smaller communities than has been previously possible. Indeed, AMN is bringing 2G, 3G and 4G voice and data connectivity to towns and villages which have previously been unconnected.

To achieve this goal, AMN selected Gilat Satellite Networks to deliver more than 2,000 SkyEdge II-c Capricorn VSATS and to participate in plans of site migrations from 2G/3G to 4G, as the requirement for data communication rises.

"AMN selected Gilat due to its superior technology, to further extend Africa's largest satellite cellular backhaul network constructed by AMN and powered by Gilat's VSAT technology," said Michael Darcy, CEO, AMN. "We are pleased to contribute to closing the digital divide by furthering the reach of our network to additional countries reaching more of the population in rural areas."

The SkyEdge II-c Capricorn family consists of high-performance VSATS ideal for vertical markets that demand high throughput and high-speed services, such as corporate networking, 3G and 4G/LTE cellular backhauling, IP trunking and mobility. Designed to work with high throughput satellites (HTS), Capricorn's adaptive transmission technologies maximize performance, improve service availability, and reduce operational costs.

Gilat's technology and deployment protocols ensure that AMN can deliver a reliable service, unaffected by weather conditions or sabotage. The ruggedized and locked boxes which contain the VSATS are strong enough to withstand natural and human damage so that minimal onsite technical support is needed.

AMN's network is monitored 24x7 by its global network operations centre (GNOC) based at its headquarters near London, UK. The GNOC manages all changes to the network, under strict change-control procedures.

AMN's network-as-a-service (NaaS) model allows Africa's Tier-1 operators to expand their network coverage deep into rural areas with no CAPEX investment and no OPEX risk. According to AMN, this model is the most efficient way for MNOs to expand their rural coverage; the business model and the satellite technology behind it is both sustainable and profitable.

"Looking ahead to 2023, the partnership between Gilat and AMN will continue to grow," said On Sobol, sales director, Gilat Satellite Networks. "AMN has aggressive plans to expand their network to include additional countries and join forces with new mobile network operators. In addition, they will be transitioning sites to 4G to enable an enhanced user experience and the ability to connect to even more remote villages. Gilat is extremely proud of our work with AMN in terms of the successful evolution of the project and our strong working relationship. Perhaps more importantly, this project is giving us the opportunity to help achieve our goal of bringing connectivity to everyone, everywhere around the globe." ■

Backhauling for last mile solutions in South Africa

TCS (The Computer Shop) began operations in South Africa more than 20 years ago with a mission to offer the widest range of IT services and support in the country.

TCS Wi-Fi was launched six years ago to meet the needs of those struggling with slow and unreliable internet connectivity and has since then become one of the leading wireless ISPs in South Africa. The unique service offering and attention to customer service has garnered the company a client base of more than 8,000 homes and business links from Caledon to Port Elizabeth, with shops in Plettenberg Bay, Knysna, Sedgefield, George, Mossel Bay, St Francis Bay and, most recently, Greyton. These customers range from the individual homeowner to multiple dwelling unit buildings with advanced surveillance, internet, and VoIP systems. TCS Wi-Fi has also forged partnerships with some of the country's top telecommunication companies.

TCS has its own fibre backbone network and has been deploying wireless networking to create cost-effective backhaul links from customer premises to the backbone. As in other areas of wireless networking or with broadband services in general, the bandwidth requirements for homes and businesses are exploding and previously installed solutions were becoming exhausted or performing poorly under the strain of the increased data traffic, which is as much as 4x some service areas, compared to only six years ago.

State-of-the-art technology

The state-of-the-art these days for such backhaul applications is the deployment of 10Gb/s links – and TCS Wi-Fi turned to Siklu for advice on

constructing such a link in the Plettenberg Bay service area. The link required was relatively short – approximately 300m – and a fibre connection was considered. However, even with that modest distance, TCS and Siklu determined that the wireless option would still be considerably less expensive and faster to install.

"When running fibre between two points, every metre is a potential failure point for physical damage," said Wesley McQuillan, CEO, TCS Wi-Fi. "When going with connections based on high-quality wireless from Siklu, there are only two points of potential failure on the radio side. Further, they are 100% controlled by me, the owner of the equipment, and therefore I control the timeframe for replacement and make sure our uptimes are kept in line with customer expectations."

Another factor that led to the selection of a wireless link is the growing use of the 70 and 80GHz bands in the country. Recognizing the abundant bandwidth available in those bands, which could be used to address several digital divide issues in the country, South Africa's regulator ICASA has made it much easier to operate in those bands. For instance, ICASA has enacted a 'lightly-licensed' scheme to use these bands - giving a user up to 30 days in which to register - and has taken other measures to facilitate access to them. It is also much less expensive than other licensed bands at less than R1200 per year for a 10Gb/s link.

As a result, TCS and Siklu concluded that a link incorporating the Siklu EtherHaul™ EH-8010 would provide a highly reliable (consistently in the 'five 9s' range) 10Gb/s solution. Siklu's reputation in millimetre-wave engineering and connectivity and its flexible pricing options also
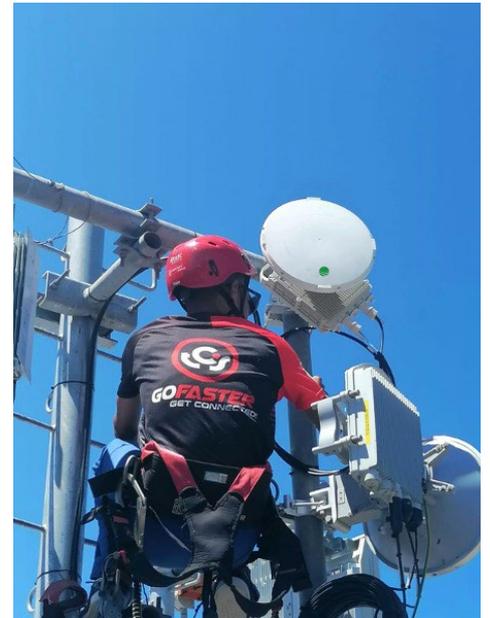
positively influenced the decision. After swapping out units to resolve a minor issue with using the SFP port, the installation proceeded as expected and was completed in less than one week. The small form factor antenna and Siklu's alignment tools also help to speed the deployment process.

"For many years I have pointed out to my network engineers that we do not need to run fibre for anything 5km or less," said McQuillan. "The performance of the Siklu radios in this project proves that assertion, by installing them between our main breakout and main high sites. The engineers all ended up getting back to me and agreeing with me that anything under 5km no longer requires fibre to be pulled into that area."

TCS reports that they saved a substantial amount of time and money, as compared to trenching and installing fibre for this route. Given this benefit and the excellent performance to date, TCS plans to expand their 10 Gigabit-speed, mmWave wireless footprint – using Siklu equipment – in the coming years.

Following up on the project, Stef Delport, chief operating officer, TCS Wi-Fi, told us that "the Siklu 8010FX wireless link has proven to be a highly reliable and high-performing solution for our use case as a wireless internet service provider looking to enhance our wireless network. Its high capacity throughput and quick installation process make it an excellent choice for WISPs of all sizes looking to add that next-gen tech on to their networks. We are currently looking at a few future proof Siklu projects to put the fibre market on the back foot." ∎

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 M3I3C3E3 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.

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.

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.

Nokia delivers connectivity for Ocean Cleanup

Nokia will deploy private wireless connectivity, network edge equipment and analytics for The Ocean Cleanup, the international non-profit project working to develop and scale technologies to rid the world's oceans of plastic.

The collaboration is in line with Nokia's enhanced Environmental, Social and Governance (ESG) strategy, as well as a broader longstanding commitment to advancing the role of technology in combatting climate change and minimizing environmental impacts.

Nokia is focused on the role its products play in solving some of the world's most pressing challenges, using connectivity and digitalization to restore stalled productivity, provide inclusive access to opportunity and relieve pressure on the environment and natural ecosystems. According to UNESCO, plastic waste makes up 80%

of all marine pollution and around 8-10 million metric tons of plastic end up in the ocean each year.

Nokia and MCS, Nokia's partner for Nokia Digital Automation Cloud (DAC) distribution in the Benelux, have already successfully deployed the first Nokia DAC private wireless solution for The Ocean Cleanup's operations in the North Pacific, and will deploy further systems at a later stage. Nokia DAC is a high-performance, end-to-end private wireless networking and edge computing platform. The Nokia connectivity, Nokia MX Industrial Edge (MXIE) and analytics will be used for applications such as high-end video connectivity over 4G technology, to help navigate The Ocean Cleanup's operations while harvesting plastic in the Great Pacific Garbage Patch.

5G, private wireless, edge compute, sensors, AI-based analytics, drones, and other advanced technologies will play an increasingly critical role in supporting the conservation and sustainability of our natural environment by providing immediate up-to-date and constant information on the status of the environment, whether on land or in the sea. Working with The Ocean Cleanup provides the opportunity to explore that role further.

"Through our subsea optical fibre networks, innovations such as acoustic sensing technology, remote environmental monitoring, or private wireless, Nokia can – and will - continue to play an important role in the marine environment," said Subho Mukherjee, head of sustainability at Nokia. We are proud to support and collaborate with The Ocean Cleanup and look forward to see how our technology can genuinely drive sustainable change and help protect critical natural resources and habitats."

"At Nokia we believe that there is no green without digital, and that we have our greatest positive impact on people's lives and the planet through our products and solutions," said Stephan Litjens, vice president of enterprise campus edge solutions at Nokia. "This project truly exemplifies that. Our Nokia DAC private wireless network and Nokia MXIE edge computing system will ensure reliable, cost-effective voice and data communication between the two ships involved in the clean-up operation. With secure coverage on open sea also enabling video and analytics, this solution improves worker safety and provides high visibility and scouting of target clean-up areas."

OQ Technology to expand 5G NB-IoT constellation to 10 satellites this year

OQ Technology, the world's first and only satellite operator of a 5G NB-IoT constellation, plans to grow its constellation from three to ten satellites in low Earth orbit (LEO) this year. The move will turn the company into the largest 5G NB-IoT satellite operator in the world.

The seven satellites that will be added to the OQ Technology's constellation, are the previously announced 'MACSAT' and 'PHI-Demo' satellites and five additional 6U nanosatellites, Tiger-4 to Tiger-8, which the company has already ordered. Concluding the launch of the first batch, all remaining satellite launches are planned for this year with the final ones, pending launch conditions, to possibly going into orbit in early 2024.

With the added satellites, OQ Technology will significantly enhance its 5G NB-IoT non-terrestrial networks

(NTN) satellite connectivity service based on 3GPP for non-terrestrial networks (Release 17). The enlarged constellation will increase its global coverage and the satellites' revisiting times to multiple times per day. As a result, the company's terminals can send more data, received from mobile sensors, giving customers more of the latest sensor information in real-time. The increased capacity and revisiting times will serve customers in both the energy and asset tracking market.

"Having pioneered satellite based 5G NB-IoT connectivity and launched our constellation before anybody else did, we are now cementing our position as the leading 5G NB-IoT satellite operator in the world," said Omar Qaise, founder and CEO of OQ Technology. "Being well ahead in the 5G IoT non-terrestrial networks market, we are continuing the expansion of our

global coverage, entering new markets and accelerating the build-up of our constellation. The planned launches for this year will conclude our Batch 1 deployment, with Batch 2 already in preparation. It is thanks to a faster construction of our payload, and our 5G NTN technology being developed in-house that OQ Technology is able to massively and quickly expand its constellation."

OQ Technology's 5G NB-IoT connectivity service enables companies to connect their mobile devices for applications such as smart metering, precision agriculture, asset tracking, vehicle telematics, artificial intelligence critical alarms and environmental monitoring. With 85% of the world's surface lacking or having limited access to terrestrial connectivity services, the constellation provides global connectivity in remote regions.
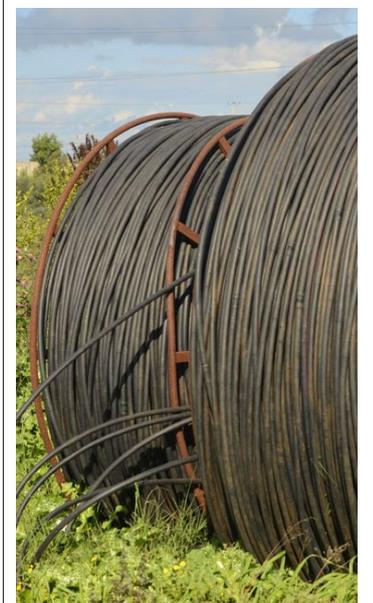
UAE and Oman to be linked via OEG

Omantel and du have announced plans to link the UAE and Oman through a newly activated 275km international fibre optic submarine cable, the Oman Emirates Gateway (OEG).

The UAE and Oman are currently connected through terrestrial and submarine routes. The new OEG cable system will serve as an express connection between both countries and reiterate du's and Omantel's position as leading wholesale players supporting the region's aims to evolve into a new global communication hub.

This is described as a first-of-its-kind regional fibre optic submarine cable which will connect two international data centres – Equinix MC1 in Barka, Oman and datamena DX1 in Dubai, UAE.

This link will act as a major facilitator for the hyperscalers, content providers and international carriers that are currently hosted in these data centres to make use of improved connectivity services and higher capacities. They will also be able to directly link their points of presence (POPs) in the region.

The partners say increased connectivity between the two data centres will also attract more global players to the region, and improve the quality of connectivity, which will in turn, boost customer experience.

ABS Wavesight and Marlink partner on data delivery

Marlink and ABS Wavesight have signed an agreement to collaborate on using optimized connectivity to support efficient delivery of sustainability services and data to clients' vessels.

The agreement connects Marlink's blended network with the voyage optimization and vessel management services provided by ABS Wavesight. The partners will collaborate to enable their mutual clients to enhance their use of digital tools and applications using the optimised Marlink network.

"Marlink is delighted to have put in place this agreement with ABS Wavesight, an innovative partner whose approach to the challenges faced by the maritime industry and the solutions required links so closely with our own," said Tore Morten Olsen, president, maritime, Marlink. "We look forward to helping our mutual clients enjoy improved access to ABS Wavesight services and investigate how to further optimize connectivity for the next generation of digital services."

The companies will work together to improve connectivity and integration of software and services into client ships and systems. Vessel operators will benefit from faster and more regular data updates that can help them improve vessel performance and optimize voyage execution.

"ABS Wavesight is an industry advocate for both digitalization and decarbonization, delivering unmatched value through its suite of products and integrated solutions and providing the insights needed for vessels to operate more efficiently," said ABS Wavesight chief executive Paul Sells. "As we continue to partner with companies such as Marlink, we're expanding our reach and strengthening our ability to help clients gain visibility into their existing operations to mitigate risk and deliver operational excellence."

neXat and Servicio Satelital partner for satellite OSS/BSS tools

Servicio Satelital has partnered with neXat to provide its customers with advanced, satellite specific OSS/BBS tools via neXat's platform-as-a-service (PaaS) solution.

The PaaS managed service, which also includes a Business Management Portal and an eMarketplace, allows teleport operators to extend their own hub's capabilities. Operators can safely and securely offer any kind of services to their own customer base independently of their teleport's hub technology.

neXat will be able to access ARSAT and Intelsat-based services in Latin America, and in return Servicio Satelital will be able to extend its global reach via neXat's ever-increasing worldwide coverage.

"Our platform has a lot to offer to operators and internet services providers in the Americas thanks to the specialized suite of value-added services it can provide," said neXat's senior vice president, business development, and GM Americas, Guillermo Bosch. "This partnership also has strategic importance for neXat as it allows us to expand our presence in the region and access local businesses."

"The demand for the highest quality connectivity continues to increase within the Latin America region, as population rises and the market grows," said Eduardo Lema, chairman at Servicio Satelital. "By working with neXat, we aim to grow our clientele and keep our current customers happy with the most up-to-date and advanced services, as well as gaining coverage and awareness in areas we have not yet reached."

neXat's Point of Presence (PoP) in Florida allows operators and teleports in LATAM to gain access to the neXat platform, providing a route to a variety of benefits to the platform users and their customers.

CPI orders satcoms equipment from ARSAT

ARSAT has awarded Communications & Power Industries (CPI) a US$20 million three-year contract to provide large, Ka-band telemetry, tracking and command (TT&C) and gateway systems to support the ARSAT-SG1 satellite.

CPI will provide two 13.2m TT&C antennas and six 6.3m gateway Earth station antennas, each fully integrated with CPI satellite communications amplifiers, to be installed at several sites in Argentina.

ARSAT-SG1, which is planned for launch in 2025, will be ARSAT's first high-performance satellite with high throughput satellite (HTS) technology, as well as its first satellite operating in the Ka-band frequency. It is intended to provide reliable, high-quality satellite broadband to more than 200,000 households in low-density, rural areas of Argentina, Bolivia, Chile, and Paraguay, where the deployment of terrestrial communications infrastructure is insufficient to support increasing demand.

"CPI supports ARSAT's goal of providing Argentinians with equal access to telecommunications services, bridging the digital divide between rural and urban areas. To help accomplish this, we worked closely with ARSAT to ensure that we developed an integrated solution that fully met the needs of the SG1 GSKa (ground station Ka) programme. This included developing new features for our 6.3m antenna," said Mike DiBiase, president of CPI's Antenna & Power Technologies business.

Optus and ISP Pentanet partner on cloud gaming

Optus has entered into a strategic partnership with ISP Pentanet to deliver cloud gaming services to customers, as the mobile operator targets an increased presence in the growing segment.

Optus explained that the tie-up was driven by the fact it viewed cloud gaming as "an emerging segment of the multi-billion-dollar global gaming market" and a key consumer use case for 5G.

Under the agreement, the companies will collaborate on improving user experience for Nvidia's cloud gaming platform GeForce Now, of which Pentanet has been the sole provider in Australia since 2021.

The partnership will also enable Optus customers to access the feature through its subscription platform and enable improved features through 5G.

"Our mission is to break down the barriers to gaming and offer our customers the freedom to play anywhere and anytime," said Matt Williams, MD of marketing and revenue at Optus.

Chile leads Latin America on wireless speeds

CELLSMART, the cellular intelligence division of SmartCIC, has released wireless performance data from Latin America that shows Chile is leading the region in both maximum download (371.7Mbps) and upload (102.5Mbps) speeds.

Panama followed in second place with a 249.0Mbps maximum download speed, more than 120.0Mbps than the regional leader. Guatemala and Venezuela tied for second place in maximum upload speed with both delivering tests of 63.3Mbps.

The CELLSMART Global Cellular Performance Survey shows that Chile had the highest average download speeds across 3G, 4G and 5G networks with 72.4Mbps. Uruguay (62.5Mbps), Dominican Republic (40.4Mbps), Brazil (39.0Mbps) and El Salvador (32.1Mbps) ranked in the top 5 for average download speeds. Average upload speeds were led by Panama (25.5Mbps) and followed by Peru (24.1Mbps), Chile (20.1Mbps), Brazil (17.0Mbps) and Dominican Republic (16.5Mbps) rounding out the top 5.

"The survey shows that the 5G revolution in Latin America is only just starting. Cellular performance varies widely across markets and metro areas with Chile delivering the most consistent results of any LATAM country. There is a lot of room for growth and development of local cellular networks, especially when compared to the average upload and download speeds we're seeing in North America and Western Europe," said Toby Forman, CEO at SmartCIC. "Speed tests were largely conducted on 4G and 3G across the region and show that network quality, speed and latency will improve when 5G is deployed more widely."

"Markets across Latin America are developing rapidly. The results show that 3G and 4G are still providing a reliable foundation for wireless connectivity across the region. 5G is growing and overtime we will see an increasing number of speed test that show the power of 5G locally in across markets in Latin America. In markets that are transforming quickly, it is critical that enterprises and service providers have access to accurate cellular performance data," said Forman. "CELLSMART is constantly tracking and reporting accurate local intelligence to enable service provider partners to capture the opportunity in fixed wireless."

Lower Saxony to gain new critical comms solution from Frequentis

Police and local authorities in Lower Saxony, represented by ZPD, have commissioned Frequentis to supply its multimedia communication solution 3020 LifeX. The implementation of this system across eight control centres, one alternate control centre and one test system will take place in three phases.

The project will establish a state-wide standard for the control centre communication system within an IP-based system environment in Lower Saxony.

"Over the course of modernising the police and cooperative control centres in Lower Saxony, one of the main requirements, among other things, was updating the communication system, as an essential technical component. Against the background of many years of good experience with the predecessor system, Frequentis ICCS 3020, in the state, the special challenges with regard to a long-term migration phase from the old to the new system, as well as the fulfilment of future multimedia communication requirements, we opted for the Frequentis successor

system, 3020 LifeX," said Marc Stothfang, project lead, Operations Control System Lower Saxony (ELS NI). "With this, Lower Saxony has a reliable communication system with almost identical and extensive functional features at its disposal at all times, even during parallel operation, which provides the control centres with maximum technical performance, especially in view of the current security situation."

The existing Frequentis Integrated Command and Control Solution (ICCS 3020), in operation for more than ten years, will be replaced by the next generation of Frequentis communication systems. Furthermore, it will realise the operational system interconnection of the control centres and enable interaction in case of overload or failure.

"The decision of the State of Lower Saxony to choose the Frequentis state-of-the-art LifeX multimedia communication system for its modernisation confirms the innovative approach we have taken during the development. The long-standing partnership between the State of Lower Saxony and Frequentis will be continued and together we will provide the control centre operations with further new functions to meet future requirements," said Robert Nitsch, Frequentis vice president public safety.

AALTO HAPS to connect Saudi Arabia's unconnected

AALTO HAPS has signed a Memorandum of Understanding (MoU) to enter a strategic partnership with stc Group to partner on introducing HAPS-based solutions to the Kingdom of Saudi Arabia.

Stc Group will have access to AALTO's solutions, when the company rolls out commercial services by the end of 2024. Those solutions will enable stc to expand its geographical coverage to rural and remote areas currently unconnected, improving the service quality. In addition, HAPS solutions can serve to augment coverage during critical events and can be deployed quickly and easily in case of natural disasters.

"We are very pleased to count stc Group, the leading digital enabler in the Kingdom of Saudi Arabia and a major player in the region, as one of our pioneering partners looking into HAPS as an efficient, sustainable, and an environmentally friendly new stratospheric layer of connectivity to improve existing service; and add new reach beyond current infrastructure," said Samer Halawi, CEO of AALTO HAPS. "Not only do our solutions offer a service that saves and improves lives, but they are also eco-friendly and respectful of the future of our planet."

Zephyr flies in the stratosphere, above conventional air traffic and provides lowlatency, direct-to-device 4G/5G services, acting as a tower in the sky with the capability to complement terrestrial networks.

"We look forward to working with AALTO. Zephyr has demonstrated a high level of maturity as a HAPS platform, and its innovation and sustainability are aligned with stc's values and objectives in designing the future," said Motaz Alangari, stc Group chief investment officer.

Moldcell introduces Moldova's first mobile money wallet

Moldcell has announced its entry into the financial services market with its 'first-of-its-kind' digital wallet called 'moldcell money.'

Moldcell says that it has become the first operator in Moldova to provide digital financial services that bring a new level of convenience and security to its customers.

This service is now available through the moldcell money app and offers subscribers of any mobile network in the country the chance to transfer money and pay for services directly from their mobile wallet.

The service is supported by digital financial solutions company Comviva, Comviva has deployed its flagship mobiquity Pay platform, which provides several innovative capabilities.

Users can make payments with their mobile numbers, without the need for bank cards or cash, and can transfer money to any mobile phone number or pay for services directly from the mobile app. The service also allows users to transfer money using an SMS code or through any Moldcell Centre store, ensuring the safety of personal data and instant payment.

"The solution consists of three main components: the 'moldcell money' mobile application, which offers various services such as payments, bills, loans, government payments, gaming payments, money transfers to loved ones and bonuses; financial services available in Moldcell stores throughout the country; and the possibility to make payments with Moldcell number exclusively for Moldcell subscribers," said Olga Pavlic, mobile financial services and business innovation director at Moldcell.

2degrees replaces Huawei for 3G Core networking routing

2degrees has gone live with the BroadForward Signaling Transfer Point (STP), replacing Huawei for 3G Core network routing.

Underlying all software products is a common, converged signalling architecture with on-board support for protocols such as Diameter, SS7, SIP, ENUM, RADIUS and HTTP/2. BroadForward's software products are undergoing constant innovation and feature development, enabling operators to invest in the future while significantly reduce network complexity and costs. The design enables BroadForward products to be configured and managed through a common, powerful graphical user interface.

"We are pleased with the new STP and the relative ease with which BroadForward managed the replacement of the legacy systems," said Garry Joyce, head of core network at 2degrees.

"Deploying the BroadForward STP alongside the BroadForward DRA not only ensures continued development and support of the current solution, but also provides an easy and logical path to new network technologies and capabilities, including 5G," added Joyce.

"2degrees is a great customer to have, as they push the boundaries of technology to achieve the best possible customer experience. The fact that, after the BroadForward DRA, they have also chosen our STP, Firewalls and Number Portability, is a testament to the benefits that our converged platform brings, with an integrated approach for all core network signalling, including a clear growth path towards future 5G network functions," said Taco Schoute, CEO of BroadForward.

SKT employs AI voice authentication at call centres

SK Telecom (SKT) has signed a deal to use Pindrop's AI-based voice authentication technology in its call centres to reduce customer consultation and wait times, with plans to commercialise the service by combining it with its own technology.

SKT began piloting the cloud-based service in 2021 and recently verified its effectiveness through evaluations with customers. The technology can identify a user's unique voice and authenticate an individual after a simple conversation without additional authentication. According to SKT, the service can register voiceprints with a "maximum accuracy of 98%" and is "widely used by many global companies" including Verizon and BT.

In addition to its call centres, SKT will deploy the service on devices requiring personal authentication including access control and biometric security.

SKT expects the voice recognition technology to be used for authentication across applications including vehicle access and online shopping.

Stargroup to expand LTE to rural communities

Stargroup has selected the Hughes JUPITER System and managed satellite broadband to extend LTE service to customers in rural communities throughout Mexico.

As part of the Mexican government's Comisión Federal de Electricidad Telecomunicaciones e Internet para Todos (CFE TEIT) initiative to help bridge the digital divide, Stargroup is connecting hundreds of remote cell towers using Hughes JUPITER System terminals and Hughes JUPITER 2 high-throughput satellite capacity.

Powering connections from each cell tower to the network core, the Hughes JUPITER 2 satellite provides a bridge connecting rural mobile phone users to the internet with reliable, high-speed Ka-band capacity and enterprise-grade service-level agreements to meet the criteria for service delivery set by CFE Telecom.

At each location in the deployment, a Hughes remote terminal, designed and optimized for LTE backhaul (including support for GTP acceleration), powers services at 20-60Mbps down, ensuring fast and reliable internet connections for individual users.

Vivo fails to sell Oi Movel base stations

Telefonica Brasil (Vivo) has halted its plan to sell off surplus base stations formerly belonging to Oi Movel after they failed to attract any bids.

Last year, Vivo alongside rivals Claro and TIM Brasil received regulatory clearance to acquire Oi's assets subject to several conditions - one of which was the divestment of half the base stations acquired through the public offering. Vivo duly made 2,700 base stations available for purchase, however, in March had attracted no interest.

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

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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.
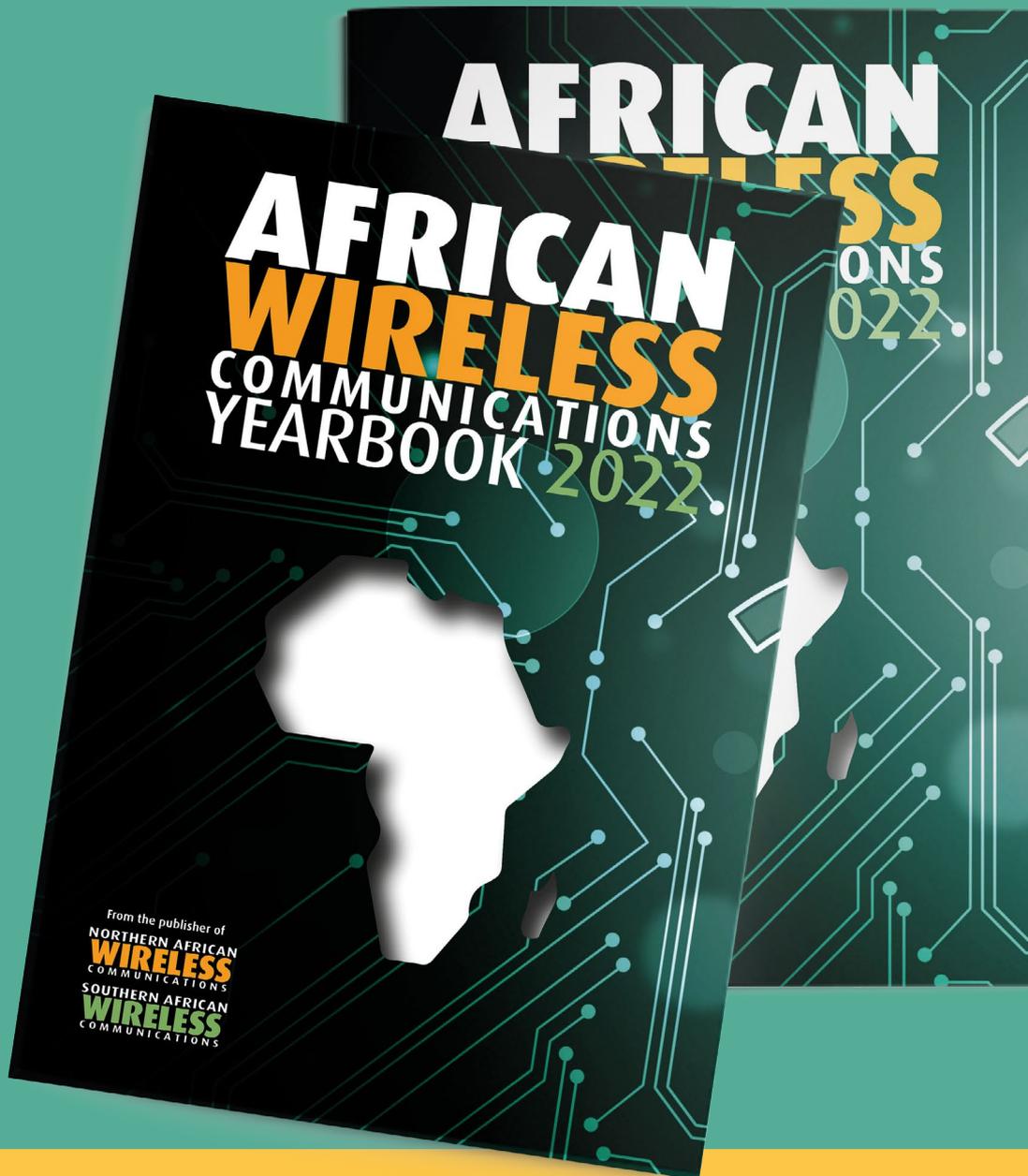
What's the greatest technological advancement in your lifetime?

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. ■