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Safaricom plans satellite internet with AST SpaceMobile to enhance broadband offerings

Safaricom has unveiled plans to launch its own satellite internet service in the country, directly competing with SpaceX's Starlink offering. The MNO will collaborate AST with SpaceMobile to provide the service

The primary objective of Safaricom's satellite internet service is to enhance its broadband offerings. including WiFi, cellular networks, and fibre optic cables. By leveraging SpaceMobile's AST satellite

technology, Safaricom aims to broadband network. improve connectivity in remote areas and deliver affordable broadband access to rural communities.

AST SpaceMobile is developing a unique network that employs a constellation of satellites to provide satellite-based Internet access, allowing direct communication with common 4G smartphones. This makes AST SpaceMobile the first company to enable smartphones connect to a space-based

The company's prototype satellite, Bluewalker 3, underwent initial testing in 2022 and will undergo an official trial in Kenya later this year, involving Safaricom and other African operators in the Vodacom Group. The trial will span 49 countries across Africa, Europe, and the Caribbean. utilizing 200 satellites.

Following a successful trial, AST SpaceMobile plans to expand its satellite deployments in collaboration with Vodacom. extending continuous communications to 4G devices not only in Africa but also in other regions.



Ghana goes net neutral for 4G

The Ghana National Communications Authority (NCA) is introducing technology neutrality on 4G for telecom operators without significant market power. The initiative should help correct market imbalances and give consumers more choice

This initiative will allow Vodafone and AT (formerly AirtelTigo) to obtain authorization to reallocate their frequencies in the 900 MHz, 1800 MHz and 2100 MHz bands to provide 4G services, subject to the payment of an annual premium.

The initiative is part of the NCA's mission to ensure an environment that encourages competition, investment, and technological progress for the benefit of all stakeholders.

June 2020, the NCA In classified MTN as a dominant implemented operator and measures to limit the hold of the telecom operator on the market. These included asymmetric interconnection tariffs, national roaming agreements allowing MTN's rivals to use its network in specific regions, and the restriction of MTN's use of onnet/off-net pricing.

should This initiative strengthen competition in the Ghanaian telecom market, which is still dominated by MTN.

Ooredoo, Zain and TASC Towers discuss tower combination for MENA

Ooredoo Group entered has discussions with Zain Group and UAE-based TASC Towers on



combining their tower assets across six countries in the Middle East and North Africa into a jointly owned independent company.

The operators noted the proposed cash and share deal covers 30,000 towers in Qatar, Kuwait, Algeria, Tunisia, Iraq, and Jordan, and would create the largest tower company in the MENA region. They said that the transaction has the potential to boost shareholder value "through a more efficient capital structure."

It also offers the chance to enhance the operational and carbon efficiency of passive tower infrastructure, supporting the reduction of MENA's carbon footprint. The combined company would continue to operate as a standalone entity, providing passive infrastructure.

Zain Ooredoo and will retain their respective active infrastructure, including wireless communication antennas. software, and IP.

The trio are holding exclusive negotiations and aim to sign definitive agreements in the current quarter though Ooredoo towers in Oman are omitted.

WIOCC and Laser Light partner for terrestrial and subsea connectivity

WIOCC Group has signed a fiveyear, \$129 million master services agreement with Laser Light Holdings.

As part of the terms, Laser Light will contract with WIOCC for capacity on terrestrial and subsea cables in and around Africa, as well as provide support services. WIOCC will use Laser Light for its global connectivity needs beyond its current network footprint and bring the Laser Light service portfolio to its African clients.

The initial operations of the Laser Light networking platform are expected to begin at the end of 2023, with Africa being part of its beta programme rollout, in partnership with Nokia.

Laser Light is currently deploying

its elastic, all-optical network across all service domains - land, sea, and space - operating as a fully converged platform.

"The opportunity to partner with Laser Light in bringing this transformational capability for businesses and consumers in Africa is a stepping stone in implementing our vision to make an enduring contribution to Africa's communications," said Chris Wood, CEO of WIOCC. "The partnership offers us the ability to extend reach beyond the current network footprint and expand our existing solutions infrastructure portfolio with and new services and capabilities for our

clients. This agreement enables us to do so in an accelerated and costeffective manner, which is beneficial to our clients and shareholders alike."

"The demand for connectivity options in Africa is immense, and we are honoured to have Africa's leading carriers' carrier as one of our founding launch customers," said Bob Brumley, chairman and CEO of Laser Light Holdings. "Given their extensive infrastructure, relationships, and history of innovative and reliable telecommunications solutions. WIOCC is the ideal partner to be able to greatly expand and accelerate the reach of the Laser Light platform throughout the continent."

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Niger seeks remote internet provider for education and health

The Nigerien government, through the National Information Society Agency (ANSI), is seeking partners to provide high-speed internet to 1,000 schools and 300 health huts across the country. An international call for tenders will close on 22 August.

The selected service providers will provide indoor and outdoor WIFI, a user management platform, a content management platform in 22 high schools, 268 secondary education complexes (CES), 401 colleges General Education (CEG) and 309 primary schools across the country's eight regions of Agadez, Diffa, Dosso, Maradi, Niamey, Tahoua, Tillaberi and Zinder.

The investment committed by the government is part of the 'Smart Villages' project, the main objective of which is to increase access to mobile telephone services and digital divide be broadband services in rural areas rural areas in Ni and to provide digital financial identified village services in some underserved the various a areas. It will also help reduce the to the program.

digital divide between urban and rural areas in Niger. In total, 2,111 identified villages will benefit from the various advantages linked to the program



MTN Cameroon launches digital literacy training for refugees

MTN Cameroon and the African Institute of Computer Science have launched a training program to equip refugees and less privileged local inhabitants with digital skills.

MTN's Digital Academy debuted in Abong Mbang, East Region of Cameroon, as part of the company's contribution to improving the digital literacy rate and boosting financial inclusion. The training will be extended to AICS-Cameroon centres in Mbalmayo, Ebolowa, Garoua, Bafang, Ngaoundere, Maroua and Mokolo.

MTN believes the digital divide in Cameroon is breeding digital illiteracy and is eager to provide people in remote areas the requisite skills needed to become familiar with the opportunities in digital technology.

Togo to enable portable telephone numbers

The portability of telephone numbers will be effective in Togo by the end of 2023.

Kadiri Ouro-Agoro, legal and consumer protection director of the Regulatory Authority for Electronic Communications and Posts (ARCEP), said that technical arrangements were being put in place to ensure a quick and uninterrupted transition.

In April ARCEP started the technical implementation of mobile number portability in Togo in accordance with the relative

regulations adopted in July 2022. The initiative follows a market study carried out by the regulator in October 2021 which showed that 95% of Togolese consumers were in favour of mobile number portability.

The advent of mobile number portability should guarantee greater freedom of choice for Togolese consumers. They can opt for the telecom operator offering the best rates, the best quality of service or the features best suited to their needs without changing numbers.





Guinean students to gain free internet connectivity

Guinée Télécom will provide the private ones. free internet connectivity to Guinean students in a few months, according to Ousmane Gaoual Diallo, minister of posts, telecommunications and the digital economy.

This project is funded by Telecommunications the and Digital Universal Service Agency (ANSUTEN). lt should cover all public higher education institutions and some of

"At the beginning of this project, we made calculations and we estimated that it should cost 10,000 francs [\$1.16] per student per month. But the president of the transition felt that it should not cost students to connect to the Internet, to have access to knowledge. And, he took responsibility for paying for the connection for all the students and all the universities," said Diallo.

Guinea Telecom is preparing to launch its commercial activities in Guinea by 2024.

This project highlights the strategic challenge that Guinea Telecom represents for the government, which sees in society a hope for Guinea to recover its digital sovereignty. In particular, the public company should accelerate digital transformation and strengthen competition in the national telecom market.



Kenya repeals tech multinational 30% rule

Kenya is repealing a combative rule that required global tech multinationals to relinquish at least 30% of shareholding to locals.

The move comes after the Kenyan government agreed to remove the requirement from the national ICT policy guidelines. Kenya had introduced a requirement that foreign companies such as Airtel, Google, Microsoft, and Amazon should have at least 30% shares held by local Kenvans.

Foreign ICT companies had three years from April 2021 to comply with the provision and meet the local equity ownership requirement March 2024. However, the bv government made an about-turn on the contentious requirement for tech giants.

The ICT ministry invited public comments on the issue, highlighting the country wants to become a competitive knowledge-based economy by 2030. The notice read "for Kenya to be an attractive investment digital hub, it is proposed that the equity participation subsection (under section 6.2.4 on market rules) be deleted from the national ICT policy guidelines, 2020. Kenya has a vision to be a globally competitive knowledgebased economy by the year 2030. One of the government strategies to achieve the vision includes the development and promotion of the ICT sector to spur investments and create employment for Kenyans."

Botswana and Angola discuss fibre connection

establish Botswana wants to cooperation agreements with Angola in the field of information and communication technologies (ICT),



as per Thulagano Segokgo, the Botswana minister of transport and telecommunications.

Botswana wants to interconnect with Angola via a fibre optic land line. The Botswana authorities have also expressed interest in acquiring the services of Angola's AngoSat-2 telecoms satellite.

This initiative is in line with the National Broadband Strategy (NBS) launched in 2018 by the Botswana government as part of its digital transformation ambitions. It aims to connect every citizen, business, and community to high-speed, appropriatequality connectivity at affordable prices. In March 2022, the executive launched a project dubbed SmartBots which aimed to connect 500 villages to the internet across the country.

If negotiations are successful. the fibre optic interconnection and AngoSat-2 satellite capabilities should help accelerate the adoption of mobile services in Botswana, expanding opportunities for residents across the nation.

Sonatel provisionally gains 5G licence

Senegal's authority telecoms has provisionally given Sonatel (Orange Senegal) a 5G licence, after concluding a call for tender to extend concessions for operators.

Sonatel has sent a bid of XOF34.5 billion to L'Autorite de Regulation des Telecommunications et des Postes (ARTP) to be authorised. Significantly lower fees were submitted by rivals Free and Expresso - XAF3 billion and XAF2 billion respectively - and far below the asking price from ARTP of XAF19.5 billion.

ARTP director general Abdou Karim Sall said that the purpose of the call for tenders was to choose an operator that is capable of deploying reliable 5G infrastructure as soon as possible, to meet growing connectivity demand in Senegal.

"Following the examination of the submitted offers, the committee the evaluation of technical for and financial offers proposed to the Selection Committee to retain Sonatel, which was the only candidate to have fulfilled the conditions set by the regulations," said Karim Sall.

Airtel Africa transforms digitally with CSG

has completed a Airtel Africa digital transformation project across its African footprint in partnership with CSG.

CSG's unified revenue solution management will allow Airtel to streamline processes across its business, minimise costs and shorten time to market while delivering experiences that drive customer loyalty and sustainable business growth in wireless.

"CSG's flexible and reliable solutions coupled with its commitment to our success have consistently enabled us to overcome any challenges and improve our customer experience. Ultimately, through our partnership with CSG, Airtel Africa has gained a significant competitive advantage in the market and is better equipped for future growth," said Razvan Ungureanu, chief technology officer, Airtel Africa.

CSG's unified revenue management solution helps wireless operators to modernise and standardise their operations and improve their go-tomarket flexibility. It allows them to capitalise on customer insights and

act on changing needs with new digital services that enhance the customer's experience in real-time.

Migrating onto CSG's future forward platform has enabled Airtel Africa to create seamless, personalised offers for consumers and businesses alike while achieving optimal performance and effective management and reconciliation of revenue. These new capabilities, in turn, help them increase loyalty among their 138.5 million customers and reduce churn with transparent, self-service billing.

TerraPay enables M-Pesa users to send realtime payments to southern Asia

TerraPay has partnered with Safaricom to enable more than 30 million M-Pesa mobile wallet-holders in Kenya to send real-time payments to Bangladesh and Pakistan, expanding fintech capabilities between the continents.

TerraPay joins 35 partners under Safaricom's M-Pesa Global enabling

Remote and rural Benin to gain mobile broadband

Ericsson and MTN have partnered to provide mobile broadband services to remote rural areas in Benin.

Ericsson will support MTN's planned rural coverage across 29 sites with three-sector dual-band Radio 6626 and compact microwave radio MINI-LINK products from its Radio System portfolio. In addition, Ericsson will also support the project with Enclosure 6140, containing lithium-ion batteries, and Solarshelf

Ericsson said all the sites will operate sustainably on 100% solar and battery power, running on clean and reliable energy sources and reducing the carbon footprint.

"By working alongside MTN Benin to bring affordable and reliable mobile broadband services to rural areas of the country, we aspire to bridge the nation's digital divide and create a more resilient and prosperous future for the continent," said Hossam Kandeel. vice president and head of global customer unit MTN and customer unit MTN Africa at Ericsson.

"Expanding mobile broadband services across Benin, and, in rural areas, in particular, is a vision we share with Ericsson. By bringing connectivity to Benin's communities, we ensure MTN's contribution to the digital economic development, empowerment of the local population, and strengthening of the network infrastructure in Benin," said Uche Ofodile, CEO, MTN Benin.

customers in Kenya to send and receive money to more than 170 countries. TerraPay says the Safaricom partnerships will spur a world of new possibilities for both companies.

"Our partnership with Safaricom will further boost our capabilities in providing an inclusive global financial ecosystem powered by and CEO of TerraPay. "We believe our agile payments infrastructure and empower Safaricom customers with Safaricom will spur a world with fast and affordable borderless of new possibilities for mobile payment options and access to financial service operators to TerraPay's widespread partner directly scale globally and provide network of 7.5 billion bank customers with a choice to send accounts and 2.1 billion mobile wallets." said Ambar Sur. founder and swift manner."

this breakthrough collaboration payments in a secure, transparent



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Africa identified as the world's fastest growing fintech region with 32% CAGR until 2030

Africa is set to be the fastest growing region when it comes to fintech revenue, with a compound annual growth rate (CAGR) of 32% from now until 2030, according to a new report from Boston Consulting Group (BCG) and QED Investors.

The Global Fintech 2023: Reimagining the Future of Finance found that Africa's fintech market – led by South Africa, Nigeria, Egypt, and Kenya – is projected to grow thirteenfold to US\$65 billion in 2030.

"Unencumbered by legacy infrastructure, Africa can leapfrog its way to a new financial ecosystem and address the challenges of a population that is predominantly unbanked or underbanked. Nearly 500 million adults in the Middle East and Africa (MEA) region are unbanked - that is 52% - while 43% are underbanked," said Caio Anteghini, partner at BCG, Johannesburg. "Fintech could be



a vehicle to solve the access issue, with smartphones presenting major opportunities in payments and lending for regional champions with full-stack attacker models."

Globally financial technology revenues are projected to grow sixfold from \$245 billion to \$1.5 trillion by 2030. Emerging economies are predicted to lead the way globally as fintech gains momentum. Asia-Pacific (APAC) is poised to outpace the US, becoming the world's largest fintech market by 2030, with a projected CAGR of 27%.

"Globally and in Africa, the fintech journey is still in its early stages and will continue to revolutionize the financial services industry as we know it," said Anteghini. "Even though financial services remains one of the most profitable sectors of the economy worldwide, it struggles with innovation and customer experience remains poor. All stakeholders must therefore seize the moment. Regulators need to be proactive and lead from the front, while incumbents should partner with fintechs to accelerate their own digital journeys."

Despite global fintechs losing more than half their market value on average in 2022, the report found that the plunge was merely a shortterm correction in an otherwise long-term positive trajectory, as the industry's fundamental growth drivers haven't changed.

"We expect to see continued growth not only in developed markets in the US and Europe, but also in developing fintech markets in Latin America, Asia, and Africa, where the inertia and friction is even greater. QED remains more bullish than ever about the future of fintech and its promise to improve the lives of billions of people across the world," said Nigel Morris, QED Investors managing partner and coauthor of the report.

World Bank to increase support to Guinea's ICT

The World Bank plans to increase its financial support to Guinea in the field of the digital economy, reports Ousmane Diagana, vice-president of the Bretton Woods institution, after a working session with the Guinean prime minister, Bernard Goumou.

World Bank financing was, for a very long time, oriented towards road infrastructure or energy. However, the digital economy can not only accelerate the socio-economic development of Guinea, but also promote the chances of access for all citizens to several services.

The World Bank's support is expected to accelerate the Guinean government's digital transformation ambitions. Colonel Mamadi Doumbouya, head of state, president of the transition, decreed in April 2022 the creation of a National Agency for the digitalization of the State. Its main mission is the implementation of the policy of government programs and projects, in terms of the digital transformation of the State.

The Guinean government's main digital projects include the construction of a digital village, the extension of the national fibre optic network, the connection of the country to new international fibre optic submarine cables, the launch of the public company of telecommunications Guinea Telecom, the digitization of the administration and various public services, and the connection of 300 schools and certain universities to the internet

Ethiopia: M-Pesa expected to launch in September

Safaricom Ethiopia is expected to launch its M-Pesa mobile money service before the end of September.

Safaricom obtained an operating license for M-Pesa in May, some seven months after launching its commercial mobile services in Ethiopia. In return, the operator paid \$150 million to the National Bank of Ethiopia (NBE).

M-Pesa represents a strategic issue for Safaricom in the context of the development of its activities in the Ethiopian telecom market currently dominated by the incumbent operator Ethio Telecom. As of 30 June 2023, the Ethio Telecom had 72 million subscribers, including 34.3 million subscribers to the Telebirr mobile payment service launched in May 2021.

A new telco roadmap for Nigeria

The Nigerian Communications Commission (NCC) is preparing to implement a new roadmap to strengthen regulations for quality services in the telecommunications sector.

The new roadmap focuses on six regulatory instruments, including data protection, corporate governance, commercial satellites, and quality of service.

It is part of the measures undertaken by the NCC to improve regulations to adapt to the rapid development of the sector. Over the past two years, the regulator has allocated additional capacity to telecom operators to improve 3G/4G networks and deploy 5G. It also awarded operating licenses to Nigeria's first mobile virtual network operators.

"With the commendable progress of the industry comes great responsibility on the part of the government to ensure that there is an enabling environment for the development of the industry, through the introduction/amendment of regulatory instruments keys," said Umar Danbatta, executive vice president of the NCC.

"Most importantly, these changes will drive operators to improve their networks and services through effective network deployment and optimization processes. It is clear that these expectations will ultimately foster a culture of continuous improvement that is critical to the competitiveness and vitality of our industry," said Helen Obi, NCC's director of legal and regulatory services.



NCC: mobile subscribers fell 1% in May

According to data from the Nigerian Communications Commission (NCC), in Nigeria, the number of active mobile subscribers decreased by 1% to 220.9 million in May 2023, from 223.3 million in April. Over the same period, the total number of mobile phone subscribers rose from 223.6 million to 221.1 million. base can be attributed to the performance of MTN Nigeria which saw its total number of active subscriptions drop from 88.6 million in April to 85.6 million in May. The company had to remove from its database SIM cards that were not associated with the national identification number (NIN), as required by the government. From April to May, Globacom added 225,714 new subscribers to reach 61.2 million while Airtel added 195,923 new subscribers to reach 60.5 million. 9mobile saw the biggest gain in May, with its database growing by 257,320. This brought the total number of active subscriptions to 13.7 million, from 13.4 million in April.

This drop in mobile subscriber

IDT expands BOSS Money into Africa

Global fintech company IDT Corporation has announced the expansion of its BOSS Money app into Francophone Africa.

The remittance service is expanding into Senegal, Côte d'Ivoire, Cameroon, and the Democratic Republic of Congo (DRC).

BOSS Money enables customers to store, send, receive, and exchange currencies on their phones domestically and across borders in Africa and enables direct receipt of remittances from senders in the US.

"We've tailored the BOSS Money app specifically to meet the pressing need among the unbanked for a cross-border transaction platform in these [Francophone] markets," said BOSS Money Africa CEO Nat Robinson.

BOSS Money is already available in Rwanda, Ghana, Kenya, Uganda, Tanzania, and Zambia and is now



expanding to more countries in West and Central Africa. BOSS Money is available on smartphones via the app, and feature phones via USSD short code.

The BOSS Money app aims to redefine the financial transaction landscape for individuals and small businesses in Francophone Africa, offering innovative solutions tailored to the unique needs and aspirations of the local communities. By leveraging fintech and expertise in local financial markets, the money transfer app is aiming to improve financial inclusion and economic empowerment in the region.

"Our goal is to empower individuals and businesses with convenient, secure, and affordable financial services across Africa, enabling them to thrive and build a brighter future," said IDT regional director of operations Grace Anyetei.

Bayobab to take over fibre in Central African Republic

MTN, through its subsidiary Bayobab, has obtained the contract for the management, operation and maintenance of the national fibre optic infrastructure of the Central African Republic.

The related public-private partnership contract was signed between the Central African minister in charge of the digital economy, posts and telecommunications, Justin Gourna Zacko, and the chairman and CEO of Bayobab, Frédéric Schepens.

According to the Central African authorities, Bayobab won the contract for the national fibre optic backbone following an international call for tenders. Now, for the next 15 months, the company will provide wholesale internet services to telecommunications operators such as Orange, Télécel and Moov.

Bayobab takes the reins of the high-speed telecom infrastructure nearly six months after its official inauguration and its interconnection with the Republic of Congo on 6 February.

Starlink enters Kenya

Starlink satellite broadband internet service is now available in Kenya.

Subscribers will pay \$650 for the equipment · Starlink dish, mounting stand, cables, and a power source – and the monthly subscription fee is \$46.

Kenya is now the sixth African country where Starlink is available. Nigeria, Mozambique, Rwanda, Mauritius, and Sierra Leone, also have the satellite broadband internet service.

"Our partnership with Starlink is a significant progression in our mission to deliver affordable, high-quality internet access to all corners of Kenya," said John Thuo, CEO of Karibu Connect, Kenya's first authorised Starlink reseller. "The deployment of Starlink's groundbreaking technology will revolutionize how rural Kenya engages with the global community, fostering societal progress and driving economic growth."

AMN picks Hughes for backhaul

Africa Mobile Networks (AMN) has selected the Hughes JUPITER™ System ground platform to backhaul 2G, 3G and 4G cellular network traffic in Madagascar and Nigeria.

AMN will deploy Hughes JUPITER gateways and remote terminals to connect several hundred cellular towers via satellite, enabling its operator customers to reach more subscribers in hard-to-reach areas and help bridge the digital divide in the region.

"The biggest multi-national mobile network operators in Africa depend on AMN's unique networking business models to serve their customers, whilst we depend on partners like Hughes for the ideal technology for the rural environment along with reliable commercial and technical support," said Michael Darcy, CEO, AMN. "The Hughes JUPITER System meets our objectives for serving hard-toreach customers in Madagascar and Nigeria with optimal capex, opex and business support so we can help our customers connect more people via tried-and-true satellite backhaul."

"We appreciate that AMN has put their trust in Hughes and our JUPITER System to help meet the needs of their operator customers in bridging the digital divide in sub-Saharan Africa," said Ramesh Ramaswamy. executive vice president, international division, "This Hughes. announcement reflects the value of longstanding relationships and а shared commitment to achieving our

customers' business objectives – not just with exceptional technology, but also with extraordinary customer service."





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NEWS

Ericsson: mobile traffic boosted by switch to 4G

The latest Ericsson Mobility Report states that accelerating the migration of subscribers from 2G and 3G mobile networks to newer networks will boost mobile data traffic in sub-Saharan Africa.

The report specifies that data traffic on all active mobile networks on the continent will increase from 1.7 exabytes on average per month in 2022, to 11.4 exabytes per month in 2028, an average annual growth rate of 37%. This increase is mainly because operators active in Africa will continue to invest massively in 4G and 5G networks to migrate their customers who subscribe to 2G and 3G networks.

The increase in total data traffic in the region will also be driven by the rising rate of smartphone adoption. The number of users of these smartphones is expected to increase from 410 million in 2022 to 690 million in 2028.

The average monthly consumption of mobile data per smartphone should therefore quadruple between 2022 and 2028, rising from 4.7 to 19 gigabytes (GB), which represents a growth rate of 26% on average per year.

The report also reveals that 4G will remain the main contributor to new subscriptions in the region until 2028. It will represent around 58% of total mobile subscriptions by this deadline compared to 30% in 2022.

With the number of subscriptions increasing from 3 million at the end of the past year to 140 million in 2028, 5G should however register the fastest growth rate. To date, more than ten countries in sub-Saharan Africa have launched commercial 5G networks, with many more countries planning to do so in the coming years, which will increase the share of 5G subscriptions to 13% of total mobile network subscriptions in 2028.

Although it remains an important technology in the region due to its compatibility with basic and very affordable mobile phones, the accessibility of its services and its large subscriber base in rural areas, 2G is expected to see its total number of subscribers continuously decrease over the next few years, to be limited to 29% of the total number of subscriptions in 2028 against 49% in 2022.

🔨 Talking critical

How broadband mission critical device certification is being led by GCF and TCCA

Mission critical services (MCS) and critical communications must be available when needed, reliably providing voice and data connectivity to first responders, public safety services, transportation sectors, and more.

These services and devices must also support the sectors' unique needs and operational protocols and provide ubiquitous coverage that can handle high peak usage levels. Demand for broadband data services is increasing, as images and video become a central part of critical communications. Reliable voice communication, however, is still the core function that must be maintained at all times.

While TETRA remains the dominant mission critical standard for now, the next generation of MCS are being delivered over LTE cellular networks and evolving towards 5G. These newer technologies, based on standards maintained by 3GPP, deliver the bandwidth needed for effective emergency responses.

To provide reliable communications, mission critical devices and networks must be interoperable. The Global Certification Forum (GCF) and The Critical Communications Association (TCCA) have been working together over the past few years to deliver a certification programme for devices supporting 3GPP standardsbased mission critical services. This is based on prioritising industry requirements and undertaking a gap analysis of required frequency bands and mission-critical functionalities against currently available functions and processes within GCF.

The programme will ensure that devices and applications are interoperable with mission critical networks and are compliant with the relevant standards and specifications.

The certification programme

To help deliver the certification programme, TCCA and GCF have created the Mission Critical Services Work Stream¹ (MCSWS), open to all TCCA and GCF members, and invited experts from industry. GCF and TCCA are working to include all the relevant industry players in the discussion about this new MCS landscape and its ¹ https://mcsws.globalcertificationforum.org Harald Ludwig, chair, TCCA Technical Forum; and Asif Hamidullah, head of certification IoT &

certification programmes.

The workstream is tasked with the development of a certification programme with launch targeted for the end of 2023. The current scope of the certification focuses on Mission Critical Push-to-Talk (MCPTT), Mission Critical Video (MCVideo) and Mission Critical Data (MCData). In each case, the scope covers the relevant 3GPP Rel 14 and Rel 15 standards.

Certification of MCX products will include both conformance and field trials testing. Conformance testing ensures that the appropriate 3GPP standards are being complied with and is mandatory for certification. Field trials testing is used to ensure interoperability between the device and commercial network, and is currently optional, given special authorisations required to access and test on commercial MCX networks.

To complete the certification programme, and to ensure a successful launch, GCF is responsible for validating conformance test platforms, while a TCCA sub-working group is progressing on development and verification of live network testing for field trials. An initial set of field trials test cases has already been developed, with finalisation and verification targeted for end of 2023.

To ensure the appropriate set of tests cases are targeted for validation, a survey to the MCS community has been undertaken, to understand the importance of MCX features required by the operators and the corresponding support from the supplier community. The feedback from this survey has been used to reprioritise certain test cases, to ensure the best targeting of the features required by industry.

How can agencies and companies engage and support this process?

Mission critical operators and authorities are invited to join the MCSWS to help develop standards-driven MCS, and to share their requirements regarding MCX products. They can also contribute to the ongoing technical development of the certification scheme and future roadmap planning, consider having field trials performed in their live networks, and help grow the certification scheme by requesting GCF certification for devices or clients in their commercial tenders.

Mission critical product suppliers are also invited to join the MCSWS. Device manufacturers and client vendors can work together in defining the scope of



activities in GCF with devices and clients implementing the latest specifications. By working together, the mission critical industry can help build a certification programme that benefits all stakeholders and ensures the seamless interoperability of

Reliable and innovative communications

mission critical devices and networks.

Mission critical services are constantly evolving, adding support for new technologies, and adapting to developments in the fast-moving communications industry. With huge advances reaching the market in LTE and 5G, the next generation of critical communications will bring revolutionary changes and will move from existing technologies to be delivered over these newer, 3GPP-based networks and devices.

As the 3GPP standards continue to develop, we can see new features and enhancements coming up, that will improve critical communications in the years ahead. Coverage will be improved, interoperability with other types of communications solutions, such as with satellite connectivity, will become more accessible, and the shift from narrowband to broadband will enable better working practices based on intelligent data, more accurate positioning services, and enhanced support for images and video.

But we must not abandon our industry's commitment to standardisation and interoperability, which is the bedrock of providing reliable communications. Balancing progress with guaranteed conformance is a delicate task, and everyone's input must be heard. GCF and TCCA are keen to ensure that all parties interested in ensuring the seamless interoperability of devices and networks in this new MCS world can contribute to the discussion and, in doing so, help to build a certification programme that benefits everyone.

Working together, TCCA and GCF are delivering the certification programme needed by the critical communications industry. By combining their experience, they are creating a practical, focussed programme, that is relevant to the industry's needs, while also guaranteeing the highest levels of interoperability – and thus ensuring that new generations of mission critical services and devices deliver the reliability and performance needed.

Vodacom Egypt brings in the bucks

Vodafone Egypt contributed significantly to Vodacom Group's revenue in the quarter ended in June.

Vodacom said that, for the quarter, group revenue increased 36.9% to \$1.98 billion. During the period, Vodafone Egypt's revenue from financial services more than doubled, and data surged by 43.2% due to successful Ramadan and summer campaigns.

Vodafone Egypt is reportedly the largest mobile network operator in the Northern African country, with a 43% market share. The company closed the quarter with 46 million consumer and enterprise customers.

In the current reporting period, Vodafone Egypt delivered service revenue of \$377 million, contributing 23.6% of Vodacom Group's service revenue. Service revenue was up 27.6% in local currency, accelerating from the prior quarter (25.8%) despite a challenging macro backdrop, said Shameel Joosub, Vodacom Group CEO.

"The result was supported by strong growth in data revenue and customer

engagement associated with the 'Shokran' Ramadan campaign, launch of the summer campaign

WIOCC strengthens industry position with new appointments

WIOCC Group has appointed Nolan Naidu as the new head of product and Sayuri Moodliar as the new head of environmental, social, and governance.

Before joining WIOCC GROUP, Naidu worked for Dimension Data, MWEB, and Internet Solutions. The company says his diverse roles in senior product management, product development, and business development have given him an understanding of the complexities in the industry.

In his new role as head of product at WIOCC GROUP, Naidu will drive the

development and delivery of innovative products and solutions aligned with the group strategy. The company says Naidu will work closely with cross-functional teams to ensure WIOCC GROUP remains competitive.

"His extensive experience and expertise in product management and IT strategy will be invaluable as we continue to innovate and provide our clients with exceptional solutions," said Mike Last, group chief marketing officer.

"I am eager to work with the team at WIOCC GROUP to develop and deliver innovative products and solutions that will shape the future of connectivity and data centres," added Naidu. and enhanced content integration," said Joosub. "

"Growth was also supported by financial services, namely Vodafone Cash, and fixed line services," continued Joosub. "Data traffic was up 43.2%, with data customers growing 10.3% to 27.1 million. Smart devices on our network were up by 49.2% to 31.7 million. Growing financial services is a priority for the Group and Vodafone Egypt. Financial services revenue for Vodafone Egypt was \$20 million for the quarter and more than doubling in local currency. Financial services contributed 5.4% of service revenue. Vodafone Egypt financial services customers reached 5.9 million in the quarter, up 49.8%. Capital investment for the quarter amounted to R1.2 billion, up 58.5% in local currency, as the phasing of investment for the financial year was accelerated to support strong data demand."

Ubuntu Towers Uganda rebrands

Ubuntu Towers Uganda has rebranded to TowerCo of Africa Uganda, which is 90% owned by TowerCo of Africa (TOA), a subsidiary of AXIAN Telecom.

TowerCo of Africa offers telecom infrastructure-sharing services across the continent and the Indian Ocean.

In the new set up, TowerCo of Africa Uganda will continue to be run by its management team, including Geoffrey Donnels Oketayot (CEO), George Ssamula (CLO), and Ronald Onzia (COO), Mark Otai (CFO) and Harold Luzinda (CCO).

Collectively the team has over 25 years of experience in different fields, including engineering, business, operations management, law and will now be expected to steer the telecom infrastructure company to new heights.

The rebranding marks an important milestone in the company's evolution, and a step towards its ambition to be a leading green passive infrastructure solutions provider in Uganda.

> "We are immensely grateful for the support of our employees, customers, business partners, industry bodies and government in helping to shape the socio-economic impact of TowerCo of Africa Uganda," said Oketayot.

"TowerCo of Africa's infrastructure investments are contributing to various sectors, such as education, e-health, e-farming, logistics, and transport among others. We are delighted to collaborate with compelling partners to deliver enhanced services as we work towards a better-connected, sustainable Uganda. We feel privileged to operate in a market where the regulation is progressive, and its people, ambitious and innovative," said Stephane Beuvelet, CEO of the newly rebranded TowerCo of Africa.

ARCEP fines MNOs for QoS

Niger's Electronic Communications and Postal Regulatory Authority (ARCEP) has imposed a fine of 4.32 billion CFA francs on telecommunications operators operating in the country.

The regulator criticizes Celtel (Airtel Niger), Moov Africa, Niger Telecoms and Zamani for not respecting their quality of service commitments to consumers.

According to ARCEP, Zamani must pay 1.36 to correct the deficiencies noted.

billion FCFA to the public treasury; Airtel CFAF 1.35 billion; Niger Telecoms 1.19 billion FCFA and Moov Africa 402.5 million FCFA.

Back in August 2022, ARCEP gave formal notice to the operators following a campaign to control the quality of services offered by mobile networks in a dozen localities in the country. It had given them four months from 31 August 2022 to correct the deficiencies noted.

Uganda continues with 5% tax on tech multinationals

Uganda has reversed a parliamentary decision to abandon a new tax law that imposes a 5% levy on income earned locally by foreign companies.

The tax law had been debated and dropped in May. However, president Yoweri Museveni has now signed a bill that includes the levy clause. This means foreign-owned tech companies such as Netflix, Twitter, Facebook, Google, Amazon, and Uber offering services in Uganda will pay 5% of their income to the government.

As a number of media outlets point out, tech firms that don't have headquarters on the continent pay only modest taxes to African nations. Uber, with a healthy local income, is one example noted by Uganda's finance minister.

In addition, billions of dollars are generated from the data of close to 600 million African internet users. Such points are seen a justification for this and other taxes. Nigeria, Kenya, and Tanzania have implemented similar levies on digital services. However, local media suggests the Ugandan opposition fears that companies could push the costs of taxes onto locals that rely on digital platforms.

That was one reason why the Nigerian government recently confirmed that it would not impose a 5% excise duty on Nigeria's telecoms sector. The Minister of Communications and

Nigeria suspends 5% tax on telco services

Nigeria's president Ahmed Bola Tinubu has ordered the suspension of the 5% excise duty levied on telecommunications services in Nigeria, among other taxes.

The 5% excise duty on telecom services was introduced last May by the government of expresident Muhammadu Buhari, a month after the minister of communications and digital economy, Isa Ali Ibrahim Pantami, announced that it had been permanently deleted. This is a measure provided for in the 2020 finance



law which the government had used to increase its revenues while revenues from oil and gas were falling. The initiative was unveiled

in July 2022, but its implementation was suspended in September 2022.

This new levy was in addition to the 40 categories of taxes, duties, and fees to which the Nigerian telecoms sector is subject. It should bring in 150 billion naira to the state.

Through the suspension of the telecom services tax, president Tinubu intends to put Nigerians at the centre of government policies and to tackle the tax policy measures unfavourable to companies and the multiplicity of taxes, as he had promised during his of his inauguration last May.



Digital Economy, Isa Pantami, had suggested that this move would increase the cost of telecommunication services.

M-Pesa booming across continent

Mobile phone based money transfer service M-Pesa is booming, thanks to new growth areas such as lending and savings products that continue to gain traction.

In the quarter that ended in June 2023, these growth vectors, lending, and savings products, contributed almost 60% of the growth of M-Pesa. Accoirdingly, the M-Pesa service is now a key revenue stream for joint owners Safaricom and Vodacom Group across the African continent.

M-Pesa provides more than 51 million customers across seven countries in Africa with mobile money services. M-Pesa revenue grew 34.4% to \$106 million, supported by customer growth and new service adoption, such as facilitating lending.

"We added 400 000 M-Pesa customers in the quarter, with penetration of our one-month active base at 45.0%. New growth areas such as lending and savings products continue to gain traction, contributing almost 60% of the growth in the quarter," said Vodacom Group CEO, Shameel Joosub. "We facilitated loans of R4.3 billion in the quarter, more than doubling year-on-year, and supported by products

such as 'Songesha' in Tanzania and 'Txuna' in Mozambique. M·Pesa transaction values processed on our platform over the last twelve months, including Safaricom, were \$360.6 billion, up 5.8%."

Joosub said that revenue from new services – financial and digital services, fixed and internet of things – accounts for almost one-fifth of the group's total revenue and is well on track to reach the target contribution of 25% to 30% over the mediumterm as adoption rates rise amidst a shortfall of traditional banking services.

"Financial services remains a clear strategic priority for the group and produced a 46.2% increase in revenue to surpass the R3 billion mark in a quarter for the first time. This was supported by a strong performance in South Africa and M-Pesa, which remains Africa's largest mobile money platform by transaction value, and its new services in particular, such as loans and merchant services," said Joosub.



Axian Telecom expands Free in Senegal stake to 80%

Axian Telecom has signed an agreement to acquire a further 40% equity interest in its joint venture business in Senegal (Free in Senegal).

The operator said that after the completion of the transaction, Axian Telecom will own an 80% equity interest in Free in Senegal, allowing it to control and financially consolidate the operations.

Free in Senegal is a provider of telecom services and the company specialises in optical fibre connectivity, 4G mobile networks and online money transfer solutions, catering to individuals and businesses.

Axian Telecom has said that the transaction is subject to the usual customary closing conditions (including the approval of relevant authorities in Senegal).

"We are delighted to have agreed this

Tanzania reduces costs for MNOs

The Tanzanian government has reduced the cost of rights of way for telecom operators by 80%, according to Jabiri Bakari, chief executive of the Tanzania Communications Regulatory Authority (TCRA).

Tolls are levied by the government on telecommunications companies for the use of land reserved for roads for the installation of vital infrastructure such as fibre optic cables. This fee will now cost \$200/km per year compared to \$1,000 previously.

The move is part of the government's efforts to accelerate digital transformation and make it a driver of socio-economic development in Tanzania. By reducing user charges by 80%, Tanzania aims to stimulate investment in telecommunications infrastructure, promote competition and reduce the cost of communication services. This should accelerate the adoption and use of electronic communications services in Tanzania.

"This extension will pave the way for better connectivity to the Internet, allowing businesses, schools, healthcare institutions and individuals to access online services and participate in the digital economy," said Bakari.

Rescue on the horizon for Movicel

The Angolan government is conducting difficulties. The company is struggling to keep its negotiations with an African international investor for the sale of a stake in the capital of telecom operator Movicel, according to local media.

The transaction is expected to be finalized in the coming weeks, with talks at an advanced stage

Movicel has been losing momentum for several years, riddled with both operational and financial Angolan telecom market.

transaction, which will give us control over Free Senegal and allow us to consolidate its operations into the AXIAN Telecom group. We thank our partners for their important role in developing Free in Senegal since 2018 and for their support for this transaction," said Hassanein Hiridjee, Axian Telecom chairman. "This additional investment reflects our continued confidence in the thriving economy of Senegal and increases our footprint in West African markets. Hand in hand with the strong commitment of all our colleagues in Senegal, we will continue to energise Senegal's telecommunications ecosystem, focusing on deploying cutting-edge technologies and ensuring a better experience for individuals and businesses.'

infrastructure and equipment running; pay the

salaries of its employees; and repay its debts.

Between December 2017 and December 2022, the operator lost 2 million subscribers, finishing

If successful, this initiative should save

Movicel and make it more competitive on the

at 1.2 million subscribers.

Gambia joins Smart Africa Alliance

Gambia has become the 39th member of the Smart Africa Alliance.

It is a strategic choice that the country is making in view of the digital transformation that is accelerating around the world and the opportunities that such a decision will free up for its own telecom and ICT market.

By joining the Smart Africa Alliance, Gambia will benefit, from enhanced regional collaboration. The country will be able to collaborate with other African countries that share the same vision and the same objectives in terms of digital development. This cooperation will promote the exchange of experiences, best practices, and knowledge, allowing it to draw inspiration from the successes of its peers to achieve its digital development objectives.

The Smart Africa Alliance also provides Gambia with access to resources and funding to support its digital initiatives. This can include funding programs, partnerships with international financial institutions, investments in technology projects, and other forms of financial and

technical support to build national ICT capacity.

to According the World Bank, Gambia's digital sector suffers from many weaknesses related to the management of technical resources. In its report "The Gambia Digital Economy Diagnostic 2021", it lamented that the 1,367km of national optical fibre which covers 90% of the country is underused. Only 27% of Radio Access Network (RAN) sites (mainly in urban areas) and 5% of the population are connected to it.

Within the Smart Africa Alliance, Gambia will work with other members and international organizations to develop and implement policies and regulations conducive to the development of its ICT sector. This may include creating an environment conducive to innovation, developing data protection policies, promoting cybersecurity, liberalizing telecommunications markets, and other measures to stimulate the growth of the sector.



Pierre-Antoine Legagneur takes Togocom lead

Former Telco Oi chief executive Pierre-Antoine Legagneur has taken over as head of Togocom.

Axian stated that Legagneur began his role at the beginning of July. He joins from Telco Oi, an operator based in Reunion, which is a subsidiary of Axian and lliad Group. Telco OI CFO Thomas Michoud replaced Legagneur as CEO of Telco Oi.

"With over two decades of experience and a proven track record in driving growth, Pierre-Antoine is well-equipped to lead Togocom into its next phase of growth and development," said Axian Telecom CEO Stephane Oudin. "I would like to take this opportunity to thank Tarik Boudiaf, chief commercial officer and newly appointed deputy chief executive officer of Togocom, who has successfully driven the operational business forward during the interim period. I am also pleased with the appointment of Thomas Michoud as CEO for Telco OI. I am confident that his experience and operational expertise will benefit Telco OI and its stakeholders. I would like to wish both Pierre-Antoine and Thomas success in their new roles."

Ethio Telecom doubles profit

Ethio Telecom's 2022/23 year profit more than doubled to ETB18.8 billion along with rising subscriber numbers and revenue, as the operator is poised for a stake sale.

According to Reuters, Ethio Telecom CEO Frehiwot Tamiru said that subscribers had grown by 8% to 72 million year-on-year and its mobile money platform Telebirr saw a rise from 27.2 million six months ago, to 34.4 million. Revenue grew 23% to ETB75.8 billion in the 2022/23 financial year.

Ethio Telecom announced back in February that it would offer a 45% stake to foreign investors, in what seems to be a strategy for growth in the face of fresh competition from Safaricom Ethiopia.

Talking research

The mobile gender gap prevails, trust is down, and rightly so with IoT DDoS attacks growing fivefold

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In its sixth annual *Mobile Gender Gap Report*, the **GSMA** said that more than 100 million women must adopt mobile internet each year between now and 2030 to close the distance to male users, with parity requiring 800 million women to get online. The GSMA's research centres on low- and middle-income nations in Africa, APAC, and Latin America.

It noted 61% of women in the target nations used mobile internet services at end-2022, but highlighted a slowdown in adoption, with 60 million new users compared with 75 million in 2021. The research highlighted 900 million women in the countries remained unconnected by end-2022, the majority located in sub-Saharan Africa and south Asia.

Awareness and use of mobile internet services by women are almost on-par with men once they are equipped with a smartphone, but the GSMA noted 440 million women do not own any kind of mobile phone. The GSMA highlighted affordability, particularly of handsets, remained a barrier to mobile internet adoption, along with digital literacy and skills, and safety and security concerns.

The GSMA reports that, to "fully address the issue," internet companies, governments, regulators, and developers must increase their focus and take "targeted action."

In other news, the **Mobile Ecosystem Forum's** 9th annual Global Trust Report finds that consumer trust in data sharing is weak and abstinence levels are increasing. Most mobile users have some level of concern about remaining in control of the data they share. Only 12% say they do not worry about this. Yet most are not achieving true control over the data they share with apps and services.

The top three factors that consumers say provide a sense of control all centre around abstaining from sharing information where the user does not feel comfortable. This isn't true control,

Amy Saunders, editor Southern African Wireless Communications

and it presents a challenge for the mobile industry as it makes it difficult to build new data-based technology like AI, recommendation engines, advertising, or mobile intelligence.

Despite the concerns consumers have about data sharing, there is only muted interest in personal information management systems. The general feeling is that the tech companies should protect their data and privacy, not the consumer should have to take control themselves.

The key findings are that trust in data sharing is weak; increased mobile

(DDoS) traffic, originating from many insecure IoT devices with the aim of disrupting telecom

network services for millions of users, increased fivefold over the past year.

This sharp increase, also supplemented by the increased use of IoT devices by consumers around the world, was first noticed at the beginning of the Russia-Ukraine conflict but has since spread to other parts of the world, with botnet-driven DDoS attacks being used to disrupt

"The number of trojans targeting personal banking information in mobile devices has doubled to 9%, putting millions of users around the world at heightened risk of having their personal financial and credit card information stolen."

use is accompanied by heightened data sharing concerns; users still lack knowledge of tools and services that could help them; data abstinence is how users assert control; social media and big tech and driving concerns; and muted interest in personal information management systems.

The report also offers some key lessons for the mobile ecosystem industry, including not to be complacent; systems built on data are at risk of underperforming or failing; users still need to take more active control; dramatize benefits beyond addressing risk; and social media giants must show care for users, not just data.

"Nothing is clearer than the words and actions of mobile users. Trust in data sharing is weak. Yet, there are surprising elements in that many users are finding that their perception of an immediate threat is much reduced," said Dario Betti, CEO of MEF. "There is a form of decay in the system that is not easy to view from a distance - data abstinence. The quantity and quality of information that is shared in the system is deteriorating. The study shows that 67% of users globally, avoid sharing their personal data, and only 12% of users say that they do not worry about control of their data."

Meanwhile, the latest **Nokia** *Threat Intelligence Report* has found that IoT botnet Distributed Denial of Service telecom networks as well as other critical infrastructure and services. The number of IoT devices (bots) engaged in botnet-driven DDoS attacks rose from around 200,000 a year ago to approximately 1 million devices, generating more than 40% of all DDoS traffic today. The most common malware in telecommunication networks was found to be a bot malware that scans for vulnerable devices, a tactic associated with a variety of IoT botnets.

The report also found that the number of trojans targeting personal banking information in mobile devices has doubled to 9%, putting millions of users around the world at heightened risk of having their personal financial and credit card information stolen.

"The key findings in this report underline both the scale and sophistication of cybercriminal activity today," said Hamdy Farid, senior vice president, business applications at Nokia. "A single botnet DDoS attack can involve hundreds of thousands of IoT devices, representing a significant threat to networks globally. To mitigate the risks, it's essential that service providers, vendors, and regulators work to develop more robust 5G network security measures, including implementing telco-centric threat detection and response, as well as robust security practices and awareness at all company levels."

Data Centres and the Future of Digitalisation in Africa

ata centres are the backbone of the digital world, powering the operations of businesses across industries. Africa is poised to become a key player in this market as the world becomes more digital and the demand for data centres rises.

Vertiv sees huge potential in Africa's market and is positioning itself as a company that can provide quality solutions and services for this segment, together with the assurance that comes with its wellknown brands and its long history in the industry.

Comprehensive solutions to enable digitalisation

Vertiv provides a wide range of solutions that enable businesses to leverage the power of digitalisation. By connecting physical infrastructure to the digital world, Vertiv enables customers to unlock the potential of digitalisation, big data, Artificial Intelligence, and the Internet of Things (IoT), bringing together hardware, software, analytics and ongoing services to enable its customers' vital applications to run continuously, perform optimally and grow with their business needs.

Vertiv's portfolio of power, cooling and IT infrastructure solutions and services - which extends from the cloud to the edge of the network - solves the most important challenges facing today's data centres, communication networks and commercial and industrial facilities.

Within the Europe, Middle East and African (EMEA) region specifically, Vertiv has 10 manufacturing locations. in excess of 65 service centres, five customer experience centres, over 650 service field engineers and more than 100 technical support personnel in place.

A long-term commitment • to the continent

As outlined in 2009 by Donald Kaberuka, the then-President of the African Development Bank Group, a long-term investment in the region from investors and those who wish to do business here is vital for Africa's growth¹. Vertiv has been present locally for a number of years now and with our new 'Africa for Africa' project, we are strengthening this position further.

The initiative is planned to forge even closer partnerships with local clients and we are enabling this by creating a new internal structure that focuses strongly on leveraging

local skills and knowledge within our team, as well as setting up offices close to customers that incorporate

Customer Experience Centres - as undertaken recently in both Kenya • and South Africa, for instance.

We have also officially opened our premises in Johannesburg, South Africa, which is Vertiv's head office for Africa, and are assessing the opportunity to open more offices in the future.

Unpacking 'Africa for Africa'

With regards to customer expectations, I believe that the • following requirements are key:

- Understanding the local environment and specific customer needs;
- Providing quality technical advice across the whole timeline of the project; and
- Delivering reliable after-sales support.

From discussions with our customers and partners in Africa, we understood they are concerned about current lead times, currency challenges (devaluation and availability) but also limitations on local skills. However, we are ready to deal with any challenges, and exceed customer needs, through such positives as the following:

Our team of Vertiv experts being based as close to our customers as possible, currently in Cairo, Egypt; Casablanca, Morocco; Lagos, Nigeria; Johannesburg, South Africa; and Nairobi, Kenya; Local solutions and application engineering, operations and services teams providing expert support across whole project timeline;

- The fact that each office is equipped with the latest technology in our Customer Experience Centres, which provide various courses and education platforms for presales, sales and service certification;
- A local product development team and manufacturing facility in South Africa to allow for localisation/ customisation and speed of delivery; and
- Our wide network of certified partners on both the sales and service sides.

Moving forward

The growth of the data centre market in Africa presents an opportunity to spur economic growth in many other sectors across the region. As data centres continue to expand, they will create new possibilities for employment, both directly and indirectly, in a number of different including education. verticals government, healthcare and construction, allowing companies to accomplish tasks with greater efficiency and flexibility.

The unpredictability of the environment in which we operate can be difficult - for example local challenges in terms of network implementations, skills shortages, security concerns in certain areas, or even the ability to reach installation point - and yet overcoming these trials provides me with encouragement and energy for the future.

It is extremely rewarding to see the strength of the team we have built in Africa emerging. Without this group of passionate people, our success would not be possible.

Wojtek Piorko, Managing Director Africa at Vertiv, discusses the company's commitment to supporting Africa's digital growth

eSIM technology: the next generation of IoT connectivity



Marc Sauter, head of IoT product management, Vodafone Business

here's no doubt that businesses understand the importance of digital transformation; adopting new technologies and digital tools to enhance productivity and increase both customer and employee satisfaction. For many businesses, IoT has been crucial for survival, helping to manage assets and business operations, develop new products and services or improve efficiency in the supply chain.

IoT solutions are flexible enough to meet the needs of a range of different sectors so no matter what industry you're in, it has the power to transform your business. The great thing about IoT is that it can be integrated in many ways and continues to evolve alongside other technology solutions to fulfil customer demands. At the core of a cellular IoT solution is the SIM card, and like any other technology, SIM cards have developed to meet customer needs and use cases in both consumer and IoT markets.

Virtualisation of the SIM card

The SIM card is an integrated circuit that securely stores the subscriber identity number (IMSI) and the sensitive network authentication keys. The SIM, in a combination of hardware and software, provides secure identification and authentication for subscribers onto mobile networks (2G, 3G, 4G, 5G, LPWA).

Its main feature is to encrypt all the communications between the customer equipment and the operator to ensure that each user gets access to the contracted communication service and to support the integrity of the billing process. Mobile network users also recognise SIM cards as a key security element to choose the mobile network technology for the communication of their products.

Traditionally, SIMs have been available as a plastic card with a chip. Over the past decade, the SIM has evolved and is now available in different form factors and grades to meet the different requirements (such as size, memory, temperature range, etc.) from different use cases (e.g., automotive, utilities). The latest development is called an embedded SIM (eSIM or eUICC).

The eSIM is simply a capability that enables SIMs (of any type) to switch from one MNO to another without the need to physically change the SIM. The change of connectivity provider is done overthe-air (through a process called remote SIM Provisioning – RSP). With eSIMs, the profile of a chosen provider can be installed, activated, or changed via an encrypted communication over a mobile network, meeting the highest customer safety requirements.

What does this mean for IoT customers?

As products have a longer lifetime, eSIM capability removes the difficulty and cost to physically access and replace soldered SIMs. The flexibility of switching operators gives customers flexibility, enabling new use cases. eSIM capability is usually deployed in combination with automotive and industrial SIMs because of the longer lifetime of products, and the difficulty and cost to physically access and replace soldered SIMs. To remotely provision an eUICC, it is necessary to have some software loaded in a server, called subscription manager (SM).

The eSIM functionality allows the IoT customers to change the connectivity provider in cases such as the end of the contract, or using an alternative provider if the coverage is not good. The eSIM also enables new uses cases such as to manufacture off-theshelf IoT devices with an initial connectivity provider that can be changed to another provider depending on where the service is going to be used. Or the option to add highly regulated markets to the customers footprint by using a single connectivity supplier that enables the switch to a local supplier to comply with the local regulation.

This capability will drive adoption of IoT, make it easier to deploy IoT solutions, and is opening new use cases and applications that were not possible before.

Creating new standards for eSIM

According to the GSMA, there is good progress being made in the adoption and awareness of eSIM technology. Related to IoT, we believe that about 25% of overall SIMs today are eSIMs and that eSIMs will grow with a 30% CAGR.

The GSMA has developed a standard that has been accepted by most of its member operators around the world. This allows the intrinsic 'digital signature' content

of a SIM card to be downloaded 'over-the-air' (OTA). So, eventually most SIMs will be eSIMs with OTA switching capability.

The future of business connectivity

eSIMs are also crucial for industries looking to improve their sustainability practices. The streamlined production and distribution process for eSIM technology will have а more positive impact on the environment. As they do not like require plastic packaging traditional SIM cards, businesses will be able to reduce unnecessary waste and carbon emissions

Businesses can rely on a global loT network to deliver benefits and results. Most platforms are built to be scalable, accommodating growth and upgrade necessary requirements for businesses.

eSIM technology will increase the need for connectivity management platforms (CMPs) to help manage the state and levels of complexity on the platform. IoT management will be simplified for organisations – giving visibility and control of IoT devices anywhere. The entire IoT infrastructure will be centralised on one platform with transparency around the data and diagnostic of the devices.

With a resilient platform available from the touch of a phone, businesses can save money with secure and reliable data connectivity for all critical business applications on the IoT platform, which will help them to respond quickly to opportunities and threats.



Connecting a continent via eSIM

eSIMs are big news across the world, shaking up the environment for IoT/M2M and consumer devices alike. But what impact is the technology having in Africa?

mbedded SIMs or eSIMs have been taking the wireless comms world by storm since the first standard was released in 2016. Instead of an integrated circuit on a removable SIM card, eSIMs comprise software installed onto an eUICC chip which is permanently installed on the device. Once active, the eSIM can be reprogrammed remotely with new information, enabling rapid, hands-free carrier switching.

eSIMs hold a great deal of promise across a variety of applications, offering flexibility, convenience, connectivity, and the ability to leverage emerging technologies like IoT/M2M. As eSIM technology continues to mature and MNOs offer broader support for eSIMs, adoption is expected to grow.

Developing demand

Byron Kennedy, executive head of media relations, Vodacom Group, reports that the MNO is seeing rapidly expanding demand on the continent: "from a Vodacom perspective, we have seen an increase in eSIM device sales across our portfolio, with over one million devices eSIM enabled on our base."

"We are seeing Africa, to some extent, reflecting what we are experiencing in Europe," says Henrik Aagaard, CTO and co-founder of Onomondo. "In contrast to the US, where you don't need to switch carriers to serve a market, smaller countries in Africa, like Europe, require the ability to switch carriers as devices cross borders. This is where we are seeing the demand for eSIMs."

Garron Dace, solution architect sub saharan Africa, Giesecke+Devrient, concurs: "we see demand from leading operators in sub-Saharan Africa to leverage eSIMs in the wearable and smartphone segment, but the adoption rate is much lower than in other regions such as US or Europe."

There is genuine demand for eSIMs in Africa today, insists Kenta Yasukawa, cofounder and CTO, Soracom. "Part of that comes from a generational shift in the handset market, where Apple and Samsung have already transitioned to eSIM and most manufacturers are quickly following suit. But it's also driven by a wave of new connected devices."

Indeed, the consumer segment is making headlines across the globe – but that's not to say that it's the main market on the continent...

"The most obvious case is wearables like smart watches and trackers, where switching to eSIM allows smaller form factors, improves ruggedness, and removes the opportunity for consumer error in SIM installation," says Yasukawa. "But eSIMs also offer significant advantages in large-scale M2M deployments, where removing the burden of managing individual card-type SIMs across thousands of devices can produce meaningful cost savings."

"While there are developing regions within Africa, those areas also tend to adopt new technologies the fastest," says Aagaard. "This can be seen in situations like end users paying via POS systems over mobile phones rather than using older technologies like credit cards. That's why we are expecting to see the adoption of more technology within IoT and M2M, and here, eSIM is definitely going to play a role."

Dace, however, warns that "eSIM has entered the market on high end devices, which means there is not such a broad market appeal. Additionally, the recent chip shortage has seen fewer handsets enter the market in the developing world. We think that demand will increase as users get their hands on devices and become familiar with the technology."

Talking business

The business case for adopting eSIM technology varies from one MNO to another, depending on customer base, market position and business objectives. Nevertheless, eSIMs have a lot to offer. They enable MNOs to explore new revenue streams, in areas like value added services (VAS), connected cars, smart homes and buildings, and IoT/M2M applications. With eSIMs, Africa's MNOs can leverage emerging markets and industries to expand their customer base and grow revenues.

For wearables, for example, eSIMs enable solutions like Vodacom OneNumber, explains Kennedy. "Vodacom OneNumber allows a customer to receive messages and calls anywhere on their eSIM wearable (watch) without the need to carry the primary connected handheld smartphone. Additionally, smartphone users who travel abroad can try a network quality, and then make a decision on the basis of the quality of the network they receive. Another practical example is the elimination of packaging which contributes positively to saving the planet as well as the cost saving associated with logistics – stock ordering and transportation, etc."

Indeed, the use of eSIMs enables MNOs to sell their connectivity more efficiently without having to worry about customer relations or support, opines Mikk Lemberg, chief product officer, 1oT. Remote SIM provisioning and management simplifies device onboarding and reduces support costs, while enhancing overall operational efficiency. By bypassing traditional physical SIM card distribution and remotely activating eSIMs, significant cost savings can be achieved, particularly in remote or rural areas.

"The use of eSIMs in everyday devices is becoming increasingly popular, representing a major opportunity for companies in this market," says Lemberg. "As digitisation continues, the number of available IoT/M2M devices will increase significantly. Even though profit margins are lower in the IoT/M2M space, eSIMs still provide an opportunity to improve connectivity services, reduce fees and reduce manual effort."

Adopting eSIMs can also help MNOs stand out from the crowd in competitive markets. By offering more flexible options to consumers like seamless switching and innovative services, operators can attract customers that value flexibility and convenience.

Yasukawa believes that for MNOs in Africa in particular, eSIM support offers an opportunity to grow market share while competitors lag behind. "Ultimately, we can expect that eSIMs will effectively replace card-type SIMs in most applications. This transition is already happening, and MNOs who fail to adapt will be left behind by more aggressive and opportunistic competitors. Because eSIMs are associated with the newest and highest-end devices, there is a secondary opportunity to position the MNO brand around technical leadership and capability."

From an MNO standpoint, eUICC might even be considered crucial, opines Michael Karlsen, CEO and Co-Founder of Onomondo, as it protects the network dynamics.

"An eUICC solution is essentially a patchwork of agreements and a technology that enables those agreements in the field," says Karlsen. "eUICC allows seamless switching between local identities, ensuring proper functionality. It enables MNOs to retain control over customer connectivity, as the device virtually belongs to them when used on their network. This control establishes a sense of security for MNOs as they can monitor the use of these solutions, individually price them, or develop business cases."

However, using the traditional UICC in a wholesale model aggregates an MNO's network into a single solution, leading to the loss of fine-tuning dynamics on pricing.

"Although this might be difficult for MNOs to appreciate, it provides access to a larger scale and fosters a partnership model, contrasting with eUICC's B2B sales model," says Karlsen. "Ultimately, MNOs must weigh the opportunity cost of engaging in wholesale agreements against the expenses involved in establishing and maintaining individual relationships for eUICC."

Managing connectivity

The rise of eSIMs is expected to have a significant impact on the demand for connectivity management platforms (CMPs), which play a crucial role in managing the lifecycle of eSIMs, enabling remote provisioning, activation, and management of eSIM profiles.

"Efficiently managing the lifecycle of eSIMs is critical for enterprises," agrees Lemberg. "Using automation and AI in connectivity management platforms will be crucial for optimising costs by analysing past behaviour from SIMs and making suggestions. It is also important that all CMPs support APIs that simplify the process for IoT companies when switching telecom profiles to eSIMs."

For MNOs, CMPs deliver the tools to manage multiple network profiles, enabling users to choose the most suitable network based on factors like coverage, pricing, and quality of service (QoS). The new level of complexity in managing device connectivity for devices means that demand for CMPs will expand quickly. Moreover, CMPs will be more needed than ever to deliver lifecycle management, real-time monitoring, data analytics, and billing integration, all essential components for IoT.

"Even with card-type SIMs, multi-IMSI capability is already a valuable feature, especially in IoT/M2M use cases where devices may be located in remote areas or may travel frequently," adds Yasukawa. "Because the eSIM is soldered to the device and cannot be swapped physically, increased eSIM adoption will necessarily drive increased demand for CMPs. For IoT/M2M in particular, we are already seeing growing demand for flexible, scalable connectivity management with the ability to aggregate multiple profiles and integrate with different hyperscaler platforms, like Amazon Web Services and Microsoft Azure."

Further, eSIMs require robust security measures to ensure the integrity and authentication of profiles. CMPs play a crucial role in managing secure connections, enforcing authentication protocols, and providing encryption mechanisms. "Service providers will insist on tight control of connectivity management. Not only from a risk perspective, but for QoS monitoring as well," adds Dace.

IoT vs consumer

In Africa, the adoption of eSIMs for IoT/M2M applications is expected to be significant due to the specific requirements and scalability of deployments in sectors like agriculture, energy, transportation, and healthcare. eSIMs are particularly well-suited for IoT/M2M applications due to their ability to enable seamless connectivity and remote management of devices, ideal for large-scale IoT deployments.

eSIM uptake for consumer devices like smartphones, wearables, and tablets is also rampant; however, on the continent, factors like low smartphone penetration rates, affordability, and digital skills play a significant role in market adoption. Nonetheless, with so many projects currently aiming to address these challenges, and with manufacturers increasingly incorporating eSIM support in their devices, the adoption of eSIMs in consumer devices is likely to increase rapidly.

New data from Juniper Research reports that the global number of IoT connection using eSIM technology will reach 195 million by 2026, up from 22 million this year. Only 2% of all eSIMs will be attributable to the IoT sector in 2023; however, with the increased adoption of eSIM tools, the growth of eSIM IoT connections will outpace the consumer sector over the next three years. By 2026, 6% of global eSIMs will be attributable to the IoT sector. eSIM-enabled IoT devices will grow 780% globally over the next three years, with two key areas benefitting: logistics and oil & gas. By 2026, it forecasts that these two markets will account for 75% of eSIMs in use globally.

However, our jury is out on which use case – IoT or consumer - will ultimately take the lead.

About 70% of eSIM connections today are M2M, but the consumer device share of the eSIM market is growing fast, reports Yasukawa.

"This is driven in part by IoT cases like smart home and wearables, but primarily by the transition to consumer eUICC spec by manufacturers of mid-range Android handsets following the lead of Samsung and Huawei," says Yasukawa. "We expect that consumer devices will ultimately overtake IoT/M2M devices in terms of total eSIM market share, but for now both markets are growing quickly."

"Currently, we see a bigger trend in consumer devices, due to watches and wearables use cases, as well as iconic smartphones," adds Kennedy. "We believe the IoT/M2M trend will start as soon as eSIM reaches greater economies of scale."

In contrast, Karlsen expects IoT/M2M use cases - specifically for eSIM and eUICC - will rapidly outgrow consumer devices.

"By the sheer dynamics of a human-to-machine ratio, IoT/M2M solutions are bound to exceed the number of people in African countries," said Karlsen. "In the IoT/M2M market, there often becomes a need for international roaming and traveling activities. This is where eUICC has been able to make an impact. This is a trend we are seeing in Africa and southern Asia, as well as in Europe and North America."

However, when considering the prominence of eSIMs versus traditional UICCs, it becomes more nuanced: "the scale at which solutions are implemented plays a vital role in determining the preference for eSIMs or UICCs," says Karlsen. "Both technologies offer advantages, and their suitability depends on specific use cases and implementation scenarios. One of the biggest factors is how the MVNO or MNO deploys the solution."

"IoT/M2M may take some time to develop as there is huge application scope," agrees Dace. "However, there is a dependency on infrastructure to deploy and utilise these kinds of devices. It is likely that IoT/M2M will overtake consumer volume in the long term."

Ultimately, the uptake in both use cases depends heavily upon regulatory support, infrastructure development, and partnerships and ecosystem development. With the drive we're seeing to connect Africa today, eSIMs will necessarily play a significant role in connecting the unconnected, bridging the digital divide, and digitally transforming the entire continent.

CONNECTING RURAL AFRICA

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Delivering 5G in remote and rural regions

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

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

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

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

engineering, Parallel Wireless. "By investing that must be developed locally for local needs." in 5G now, African countries can position themselves for success in the years to come."

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

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

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

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

"Establishing equality to the right of communication is fundamental for the prosperity of communities," asserts Tenidis. "Things like smart education, smart agriculture, smart business, smart entertainment, and AI have their foundation on the 5G network. 5G is the tool to bring prosperity to the entire population. The rural and non-densely populated areas have always been the Achilles' heel of progress."

Rural challenges

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

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

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

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

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

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

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

Making the numbers work

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

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

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

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

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

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

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

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

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

5G or not 5G, that is the question

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

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

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

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

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

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

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

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

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



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INDUSTRY VIEW: SMART CITIES



The smart city opportunity for Africa

Dominic Smith, marketing director, Cerillion



Despite slowing global population growth in the coming decades, all regions are expected to urbanise further, as more and more of us settle in cities. Current estimates by the United Nations Economic and Social Council say that by the end of the decade, over 60% of the global population will be concentrated in cities, dramatically challenging the delivery of connectivity and public services.

Nowhere is this more evident than in Africa; by 2050, Africa will be home to 25% of the global population, increasingly concentrated in its cities. In fact, Africa is now the fastest urbanising region in the world; by the end of the decade, there will be 17 African cities with over five million residents, and five of them – Cairo, Johannesburg, Kinshasa, Lagos, and Luanda – will form megacities of ten million or more. This rapid urban growth has led to the rise of informal settlements with high mobile internet penetration but low access to fixed-line infrastructure.

What's more, Africa will face the brunt of climate change in the coming decades, bringing

espite slowing global population growth droughts, floods, and desertification. This, paired in the coming decades, all regions are with rapid urbanisation, will put a great deal of expected to urbanise further, as more and strain on local institutions and governments in their current form.

To avoid socio-economic and environmental catastrophe, there must be a 're-shaping of current development trajectories in middleincome and rapidly industrializing cities... and future-oriented urban design and land-use planning for African cities,' and this is where smart cities can really help.

A smart city is one with a high degree of digital awareness and control embedded within the infrastructure to support urban development. Connected services, traffic management, waste reduction – smart cities are changing the face of urban living by giving citizens easy access to network infrastructure and integrated digital services via connected devices.

Finding the African smart city

Birnin Zana, the fictional capital of Wakanda in Marvel's Black Panther film series, has won praise and sparked discussion in academic, architectural, and urban planning circles for what a smart city in a distinctly African context could look like. Just as African cities challenge Western conceptions of urban spaces, they can equally challenge conceptions of smart cities. In fact, it's the opinion of Deloitte that Africa is 'ready to leapfrog the competition' with smart city technology.

Africa is already the global leader in mobile money, which has become an important component of regional financial services and will be critical to the success of African smart cities. Today, dozens of telcos operate mobile money services, enabling consumers and small businesses with little or no access to traditional financial services to obtain basic banking and pay for services via smartphone or feature phone – services which, in turn, drive a wider informal economy that employs millions across the continent, and sees nearly \$3 billion transacted every day.

It's this different context that has led Sénamé Koffi Agbodjinou, architect and anthropologist, to reject Western notions of smart cities for Africa as "too top-down and remote from people's real needs." His vision for an African smart city is one that is "horizontal and distributed," inspired by the regional architectures of traditional societies and enhanced through free access to new technologies.

In existing cities, this can be achieved by digitalising government and municipal services and retrofitting existing infrastructure; think installing smart electricity meters and water meters or upgrading traffic management systems. However, all this digitalisation is only possible with widespread penetration of broadband infrastructure, and today 43% of people in sub-Saharan Africa live over 25km from fibre, and there are only 0.76 broadband subscriptions per 100 people.

The future of living

Increasingly, hyper-scale civil engineering projects are constructing whole new cities with smart capabilities and fibre connectivity by design, with devices and sensors embedded in entire residences and housing blocks, driven by needs of population expansion, climate change, and energy efficiency.

Smart devices and sensors allow real-time monitoring and analysis of data generated by the consumption of city facilities. However, for these services to be truly beneficial to a city's residents, the technology, architecture, data, and business models must also be open, allowing users to decide what services they need, and how their data is used.

One such example is the Administrative Capital for Urban Development (ACUD), the new smart capital city for Egypt, 60km east of Cairo, which is being developed with connected infrastructure and digital services at its core. Powered by millions of connected devices, ACUD is expected to welcome seven million citizens in the next 10 years and create nearly two million new jobs, while easing congestion in Cairo.

ACUD will serve as the new seat of government for Egypt, flanked by financial and cultural districts, and residential neighbourhoods all connected to an extensive FTTX network. Citizens and retail providers are connected to smart services in real-time, including smart metering, utilities, traffic management, security, and a wide range of connectivity services – all paid for online.

City limits

There's a legitimate degree of scepticism around smart city projects however, due to the sheer amount of data that needs to be collected and managed. Even something as simple as a parking app, for example, requires live occupancy data, traffic and weather data, and real-time information on public holidays and civic events to determine pricing.

Businessman Roger McNamee called Toronto's smart city project, in partnership with Google, "the most highly evolved version to date of what Harvard professor Shoshana Zuboff calls surveillance capitalism."

Increasing mobile spectrum and the density of IoT devices is not enough to address deep-rooted structural issues. Without egalitarian access, this digitalisation in effect cuts residents without devices off from certain services. By 2025, half the population in sub-Saharan Africa will have a mobile subscription; though a fantastic testament to the successes already achieved, this nonetheless leaves another half of the population potentially unable to use digital services.

In a smart city though, it's not only the price of devices and connectivity that must be considered; as demand for affordable homes with durable construction and improved sanitation (and the restructuring of existing stock) skyrockets, housing options at all price points must be built

to welcome seven million citizens in the next 10 to meet the needs of millions of new residents.

Vision City in Kigali has come under fire for courting high-income earners as part of its first development phase, as 40% of Rwandans live on less than \$1.25 a day, an income the World Bank defines as 'extreme poverty' and the country faces a deficit of up to 350,000 houses over the next decade.

Large scale smart city initiatives must cater to socio-economic needs to effect real change in urban settlements. In Eneni Bambara-Abban's 2022 Turing Talk, 'A day in the life of a smart city,' she outlined four factors that cities must address:

- Lessening the digital divide through prioritising education in technology and digital skills
- Progressive government and legal policies
- Security and data privacy
- Overhaul of infrastructure to make these projects viable

It's not just the physical infrastructure which needs substantial investment, but also the backoffice business support systems (BSS) which play a crucial role in enabling and future-proofing the smart cities of tomorrow. End-to-end process automation, fast time-to-market, and scalability to support millions of connected devices and sensors are all crucial elements of smart city BSS, but the real complexity comes from the breadth and convergence of services offered.

Smart city BSS must be not only multi-service, but also multi-business model, able to monetise connectivity, utilities, and ICT services for consumers and businesses, including retail and wholesale, all in one convergent platform.

Smart technology and improved broadband connectivity are at the heart of Africa's twenty-first century development path. Given the right support, smart cities in Africa and the wider developing world will soon take centre stage in the race for global international development.



WIRELESS USERS: CLOSING THE DIGITAL DIVIDE



First TIP OpenWifi network installed in Kenya

nternet service providers (ISP) ThinkWiFi and Mawingu have launched the first outdoor Telecom Infra Project (TIP) OpenWiFi network in Kenya. The collaboration is funded using an advertisingbased model, the first time a TIP OpenWiFi network has been built and commercialised using a sponsorship platform.

Launched in 2021, TIP OpenWiFi is an open source-based WiFi architecture that enables multivendor, interoperable WiFi networks. OpenWiFibased solutions enable the seamless mix and match of access points and controllers from any TIP OpenWiFi compliant manufacturer, allowing developers to quickly create new applications. There are more than 300 companies involved with the TIP OpenWiFi initiative from OEMs, ODMs and silicon providers to managed service providers and app developers.

Purposefully closing the connectivity gap

"ThinkWiFi's mission is to empower people by giving them access to the internet. We are a purposebased business working to close the digital divide," said Janine Rebelo, founder and CEO of ThinkWiFi. "Working with Mawingu and TIP OpenWiFi provides social upliftment where everyone can get connected to enterprise-grade WiFi through an easy-to-use advertising platform. It's a win-winwin where brands win by gaining access to high growth consumer segments, consumers win with free, uncapped, high speed connectivity, and the community wins by getting unfettered access to the digital economy through free WiFi networks powered by advertising revenue."

Managed from ThinkWiFi's headquarters in South Africa, the WiFi network uses TIP OpenWiFi certified hardware and software including access points (APs) from Edgecore and CIG. Wavespot provides the cloud controller which also implements the backend analytics and location-based services through its AlCloud allowing ThinkWiFi to gain valuable customer experience insights. The WiFi network is built on top of Mawingu's network infrastructure.

"This network clearly demonstrates why TIP OpenWiFi is the most innovative connectivity solution on the market today – it's open, with multiple vendors supplying hardware, so it can be scaled to provide superb speeds without vendor lock-in. Plus, funding the network through

advertising makes community connectivity widely available, and as OpenWiFi already offers a much lower TCO, it's a very effective way to build affordable WiFi networks in city centers," said Jack Raynor, TIP OpenWiFi program group cochair. "Simply put, OpenWiFi is beneficial to the communities that we serve and that's why we've seen it scale so rapidly around the world."

"Mawingu's aim is to help our customers access new opportunities for work, education, entertainment, and social connections, through the power of the Internet. Our company's mission is driven by this very purpose: Open Opportunities," said Farouk Ramji, Mawingu CEO. "Through our collaboration with ThinkWiFiand OpenWiFi, we can provide free internet to bring us closer to bridging the digital divide in Kenya."

The ThinkWiFi OpenWiFi network is the first part of a larger rollout that will include additional city centres, transit, and tourist hubs and retail malls in Kenya and South Africa with plans to expand into other African countries. The ThinkWiFi OpenWiFi network deployments are expected to cover several public service and healthcare facilities through collaboration and partnership with public organisations.

Sustainable internet access upgraded across South Africa

ounded in 2013, Project Isizwe is a nonprofit organisation committed to enabling sustainable free internet access in low-income communities across South Africa.

Project Isizwe's pilot and award-winning flagship project, Tshwane Free WiFi, was designed to connect the unconnected in South Africa's capital city. The project deployed 1,050 free public WiFi hotspots across the City of Tshwane, with 600,000 monthly users receiving 500Mb per day. If the project had been subscription funded, it would have cost under R10 per user per month with each user receiving 500Mb a day. It remains the biggest free public WiFi network in Africa and was implemented in partnership with the local municipality, hailed as the most innovative government program to bridge the digital divide.

Enabled by blockchain technology, Project Isizwe provides transparent and traceable transactions, to ensure credibility between contributing donors and beneficiaries who are connected to fast, reliable, and quality internet for free.

Facebook cancels Express Wi-Fi

Project Isizwe was initially using a solution from Facebook parent company Meta - the Express Wi-Fi project. This initiative was launched in 2016 to provide affordable or free WiFi in different parts of the world. In 2020, Facebook cancelled Express Wi-Fi in South Africa, followed by complete cancellation of the project shortly after, as the company looked to focus on metaverse projects.

Thus, Project Isizwe started to examine alternative solutions to maintain its initiative and goals. The key aspects that drove the decision to choose Splynx were its commitment to custom-building the required functionality and the affordable pricing model.

Switching to a different platform required some changes to business processes. As a team of nine, Project Isizwe looked for a transition with minor modifications to their workflow. The team has used the opportunity to review and improve some of their processes, including how to streamline the onboarding of new customers.

The Splynx solution

After reviewing all the requirements defined by Project Isizwe, the Splynx team decided to completely redesign the existing hotspot functionality. Project Isizwe shared their experience and best practices that helped Splynx develop a completely new module that was able to meet both Project Isizwe's needs as well as market requirements to run a successful hotspot business.

With the new solution, routers can be connected and configured to easily create or manage any desired hotspot bundle. Besides service price and internet speed, easy customisation allows setting desired limitations like validity, online time, traffic limit, or usage limit directly in the corresponding





tariff plan settings. The updated customer workflow runs as follows:

Step 1: Customer signs in/registers with a phone number via branded page

Step 2: OTP verification

Step 3: The customer selects the desired plan Step 4: The customer makes payment and gains access to the internet



Most of the users remain predominantly in cash-based economies and purchase their services using cash. The credit mechanism on VulaCoin enables users to top up their balance with cash, and resellers pay upfront using other payment methods. Splynx integrates with VulaCoin enabling payments via VulaCoin credit, Visa/ Mastercard bank cards, 1ForYou Vouchers, and directly via a user's bank account.

"Project Isizwe's transition to Splynx as our radius server has been both the right business decision and a positive experience," said Tim Genders, commercial director, Project Isizwe. "Working alongside and in collaboration with the Splynx team to develop a customised technical solution that meets our users' needs while enhancing our service and product offering has enabled a sound working relationship between Project Isizwe and Splynx. The personalised service and the ongoing support and engagement that we receive to improve how we serve our customers gives us the confidence in a long-term partnership to ensure we continue towards connecting Africans to free and affordable internet.

"Our partnership with Project Isizwe is a prime example of how the private and non-profit sectors can work together to address social issues and make a positive impact in society. By working together, we discovered the impact we can make on the lives of people living in low-income communities and how we can contribute to a more connected and fair society," said Alex Vishnyakov, CEO and co-founder of Splynx.

Flexible and PCB patch antennas for cellular applications

Amphenol RF has launched flexible and PCB patch antennas for use inside connected devices.

The antennas feature either a flexible pad or rigid printed circuit board which can be mounted inside the device. Flexible and PCB patch antennas are commonly terminated to wireless modules featuring the AMC or other industry-standard ultraminiature connectors. These types of internal antennas are often used in wireless applications such as WiFi enabled IoT technology and portable entertainment devices.

Flexible and PCB patch antennas are available in dual-band, multiband, and wide-band configurations with WiFi 6E supported options with reliable frequency range up to 7.2GHz. These 50ohm antennas have a dipole design which has a relatively low profile and can be mounted in various locations and support standard cellular protocols which makes them well-suited for IoT, WiFi and LTE technology. These antennas use centre-fed microcoax cables that terminate to an ultraminiature AMC connector. The extremely thin antenna features an adhesive mounting tape on one side for secure placement inside the device.

The antennas are compatible with a wide variety of standard RF interfaces. They are well suited for applications that require a wireless signal such as drones, navigation systems, payment terminals, etc.

Next-gen O-RU test solution utilises application layer testing with any commercial device

Ospirent

NI and Spirent Communications have announced the first and only O-RU (Radio Unit) test solution that uses application layer testing with any commercial device, providing comprehensive, real-time O-RU validation. This unique capability enables customers to validate their systems faster and in a real-world environment while reducing costs - all in one validation solution.

Traditional testing of O-RAN systems has been very time-intensive and cost-prohibitive due to the need for engineers to manually test their systems from beginning to end. Built on common technologies, the Spirent/NI joint solution combines Spirent's software and emulation environment, including pre-built test



cases, with NI's high-performance instrumentation, providing a robust and integrated O-RU validation solution that improves time to market with full automation through a single, intuitive GUI while also minimizing instrument cost and footprint.

The solution wraps the O-RU with a real-time O-DU emulator through a fully compliant O-RAN 7.2 interface, a CU emulator, a core network emulator, and а commercial UE emulator for realworld interoperability testing (IOT) to deliver a testbed capable of running real-world test scenarios in the lab. Customers can also use a commercial device in place of the UE emulator to validate all timing, full throughput including 4x4 MIMO, and any system-level test that an O-RU would experience in a real-world deployment scenario

to test true performance and interoperability at a functional level rather than at the interface. On the production side, NI also has an O-RAN O-RU APT test system which uses the same O-DU emulation and combines this with NI's PXIe-5841 VST for parametric measurements for best-in-class efficiency with unmatched measurement accuracy.

This test system is highly configurable, real-time, and ORAN FH compliant. It enables customers to configure the O-DU to emulate various timing profiles, test corner cases, and validate the system performance under real-time conditions. In addition, having the same test systems used in validation facilitates a streamlined O-RU development process that connects validation to production and drastically reduces test time, cost, and development effort.

Aspire NetZero to cut energy costs for MNOs

NEC Corporation has released Aspire NetZero, by NEC Aspire Technology Limited, an NEC subsidiary.

Aspire NetZero is an Al-enabled SaaS-based intelligent standalone energy reduction solution, designed to support MNOs in reducing unnecessary energy consumption in the Radio Access Network (RAN). The vendor-agnostic solution is adaptable to each mobile operator's requirements while supporting 3G, 4G, and 5G.

GSMA Intelligence calculated that, on average, mobile RAN is responsible for 73% of an MNO's total energy consumption. Energy is usually the third biggest cost after site rentals and labour, and energy costs have increased from twofold to eight-fold in the past year. The growth of 5G is also weighing heavily on MNO energy bills. GSMA Intelligence estimates that even in a best-case scenario, mobile networks are on course to almost double their power consumption between 2020-2025, thanks to 5G growth.

The power-saving features developed by different RAN equipment vendors for the various radio access technologies are generally static and not optimized for fluctuating traffic profiles. Aspire NetZero leverages AI to autonomously analyse and predict network traffic patterns enabling operators to adjust resources to required capacity and performance, resulting in considerable power usage reductions. The solution automatically configures and orchestrates vendor features to continuously provide maximum savings and ensure the best enduser experience.

Aspire NetZero is designed to support hybrid-powered sites and to maximize battery run-time during off-grid periods, thus extending mobile service availability. The solution can realise at least a threefold energy savings compared to standard energy reduction vendor features. These savings are increased up to ten times, depending on traffic behaviour and network topology.

"5G is putting a lot of pressure on energy consumption for operators, especially while they keep 2G, 3G, and 4G networks running," said Declan Friel, CTO, NEC Aspire "Our Al-powered, Technology. multi-vendor application learns traffic behaviour and continuously takes action in a fully automated closed loop, without any manual intervention. The solution is live and delivering OPEX savings to operators globally, and we are now extending that footprint together with NEC."

Network operators can establish an estimation of their potential savings (in kWh and OPEX) with Aspire NetZero by using an online calculator.

Liquid cooled servers for telco environments

Iceotope's new KUL RAN, an ultra-resilient and highly-energy efficient precision liquid cooled server solution, was recently launched to address extreme edge deployment challenges.

KUL RAN is a new 19-inch shortdepth rack form factor with HPE ProLiant DL110 servers and 4th Gen Intel Xeon Scalable processors optimised for high-density, lowlatency edge, virtualised RAN, and 5G services. The solution fits to existing deployed infrastructure.

KUL RAN is specifically designed for telco and harsh edge deployments to meet the need for reliable data processing installations close to the point of use in the face of a range of challenges from power constraints to service accessibility, as well as local environment and ambient weather conditions. The solution, developed in partnership with Intel and HPE, will help accelerate adoption by achieving game-changing reductions in power consumption and maintenance costs while maintaining or enhancing data center density.

KUL RAN delivers up to a 40% power saving compared to other edge servers in its class. Precision Liquid Cooling removes nearly 100% of the heat generated by the electronic components of a server. This not only reduces energy consumption, but also eliminates all water consumption as well. With much of the power usage in telco networks coming from RAN sites, KUL RAN stands as a clear enabler for energy efficiency, expediting telcos' path to net zero.

With thousands of sites in remote locations, telco providers are continuously looking for ways to minimise on-site maintenance costs. KUL RAN has been created as a 'fit and forget' solution, for reliable operations with significantly fewer service visits, greatly reducing the OpEx burden on operators. It can be installed, removed, and replaced without risk of weather or contaminant ingress reaching sensitive HPE ProLiant DL110 server components and 4th Gen Intel Xeon Scalable processors, thanks to its sealed chassis. Its IP67-rated enclosure provides 100% protection from thermal shock, dust, and other airborne contaminants, keeping the housed solution factory clean throughout its operational life.

O Look out for...

Enabling wireless connectivity via blockchain

Wireless traffic is expected to increase 80 times over between 2020-2030, necessitating upgrading and securing wireless resources for optimum use.

While investing in new cell towers is one way of managing this expected boom in traffic, wireless LANs and private 5G networks also hold a potential route, while minimising costs. Tokyo, for example, has around 20 times more wireless LAN access points than are required; however, sharing that access is problematic due to challenges in security and usage efficiency.

To address these challenges, NTT has conducted tests connecting users to wireless access equipment with blockchain technology, targeting a reduction in power consumption for service providers.

In a world first, the company used blockchain to create a one-time contract enabling users to access any wireless access equipment. It used a mechanism for conducting secure blockchain-based transactions between individuals and wireless access providers, meaning that the operators of the WiFi access point gets paid and the users get connected.

The trial enabled each radio base station to use blockchainledger information to smooth out the number of terminal connections in a decentralised and autonomous manner and improve communications quality (technology for improving use of radio resources).

According to NTT, its proposed sharing technology could boost wireless providers' income, lower the cost of investment in facilities, and reduce radio wave interference and energy use. It said that the technology can lower the "cost of constructing a shared system since a decentralised autonomous blockchain system negates the need for centralised control stations."

Connect LPWA enables MNOs to launch 5G more efficiently and with reduced costs

Velos IoT's new Connect LPWA is one of the largest Low Power Wide Area (LPWA) coverage solutions in the market, and is aimed at resellers, enterprises, and OEMs who are currently on 2G and 3G networks and want energy-efficient devices deployed worldwide with reduced cost and maximised battery life.

Many MNOs launching 5G networks are having to reuse spectrum currently allocated to 2G and 3G networks. Companies need to plan and find alternative replacements for these networks as early as possible to minimise the impact on their business. So, it is not a question of if but when to deploy LPWA technology for IoT connectivity.

Velos IoT's Connect LPWA solution offers connectivity on the two most

popular LPWA technologies - NB-IoT and CAT-M1. NB-IoT connectivity is currently available on 47 networks in 35 countries, with LTE-M (CAT-M1) its 77 networks in 42 countries, and the list is constantly growing. Both options support low-power features like PSM (Power Saving Mode) and eDRX (extended Discontinuous Reception): can allocate users dynamic and fixed IPs and connect securely through custom APNs, all of which are managed on the Nomad Connectivity Management Platform with a single invoice.

The Connect LPWA solution will help to maximise the lifetime of devices with efficient battery management on an IoT network technology designed for the future.

Graham Hart-Ives, VP of Sales at

Velos loT, said:

"IoT users are facing a real issue with the decommissioning of 2G and 3G networks around the globe. Velos IoT truly believes that our newly launched connectivity options will enable customers with no choice but to replace devices with a long-term, cost-effective alternative."



Amdocs amAlz delivers generative AI for telcos

Amdocs amAlz is a pioneering telco generative AI framework, combining carrier-grade architecture leveraging open-source technology with large language AI models, creating a foundation for global communications service providers, enabling them to benefit from the immense potential of generative AI.

Open and agnostic by design, Amdocs amAlz delivers both templated use cases based on deep industry expertise and perspective, as well as tooling and infrastructure that can be quickly adopted to accelerate time to market, improve operational efficiencies, and increase quality of service through generative Al-powered experiences. Amdocs amAlz addresses the telecom industry-specific challenges of security, data privacy, scalability, and the complexity of data governance, as well as the intentional focus on a telco-specific taxonomy.

Leveraging Amdocs' telco-specific

expertise, the Amdocs amAlz framework will empower CSPs to deploy generative AI use cases across the telecom ecosystem, from customer experience to network provisioning. At the same time, Amdocs amAlz will revolutionize a service provider's ability to explore, assist, generate, and recommend activities across the entire customer and operations lifecycle, and deliver increased efficiencies and productivity.





for African wireless communications, as it happens

8, according to the country's Communications Authority (CA).

www.africanwirelesscomms.com



Tigo expands 4G LTE coverage in 915 rural Colombian areas

for US\$47.5 million to Colombia Móvil (aka Tigo) to support

IDB Invest has closed a the expansion and upgrade of standby letter of credit telecommunications infrastructure in small municipalities in Colombia. The project will provide mobile



broadband to 915 rural areas that are currently without coverage, allowing them to enjoy the benefits of digital connectivity and helping to close the rural-urban access gap. It will improve mobile services by aiding the transition from basic 3G to 4G LTE broadband in 340 municipalities. This will allow retail and corporate customers to benefit from high-speed data connectivity, in turn facilitating access to digital services, such as e-health, online education, telework and financial services.

IDB Invest says it is also providing advisory services to support the digitalisation of small, rural. and agricultural businesses in Caquetá, in the Amazon region. This will improve their productivity. conservation efforts. and the sustainable use of ecosystems.

Two local community groups that work in sustainable agricultural processes led by young farmers are already receiving training on how to use digital tools to improve their service offering.

Orange Jordan launches 5G

Orange Jordan has launched 5G its services in several areas in Amman and in Irbid.

This comes as an extension of the company's 5G journey, as Orange Jordan was first to Pilot the 5G in the Kingdom in November 2022, and the first to enable the 5G network in Amman. enabling subscribers to explore the new service for free.

Orange Jordan affirmed that 5G offers were designed to ensure best value in speed, capacity, and innovation at competitive prices to cater to all users and their diverse needs, especially amid excitement to utilize the new technology and its potential.

"Orange Jordan is the second Orange countrv to launch 5G in Middle East & Africa enabling massive development for main infrastructure and accordingly accelerated digital transformation, smart cities. and many use cases in diverse industries such as entertainment, health, manufacturing, education and transportation," said Jerome Hénique, CEO of Orange Middle Fast and Africa

"We are proud to be in the lead of the digital development in Jordan. We will provide 5G as a responsible digital leader that contributes to digital transformation and the culture of innovation to drive sustainable development and keep everyone connected to all that matters to them. This game-changing technology will allow us all to discover new opportunities and can be utilized to promote economic growth, job creation, and enhance the quality of life in Jordan," said Philippe Mansour, CEO of Orange Jordan.

5G services will be available carefully designed offers in and packages to all fixed and mobile internet, both for prepaid and postpaid lines, to cater to individuals, homes, and businesses, while the company continues the rollout in more regions under a set timeframe, utilizing the global Orange group's leading expertise in 5G rollout.

Hrvatski Telekom modernises BSS

Beyond Now, a fast-growing ecosystem orchestration and digital platform provider, today

announced that it has been selected by Hrvatski Telekom (HT), part of the Deutsche Telekom group and the leading CSP in the Croatian market, for the digital transformation of its B2B Business Support Systems (BSS). In modernizing its BSS, HT will improve the quality of services and user experience for its enterprise and SMB customer base, setting a new standard in the Croatian market.

HT will use Beyond Now's Infonova SaaS BSS to accelerate the time to market of new digital services and solutions. Business users will be provided with a new online store and a self-care portal for the administration of fixed, mobile, and digital solutions and services. HT will also benefit from reduced operational costs, coupled with operational efficiency improvements resulting from increased digitization and process automation, ultimately contributing to better user experience

and satisfaction

The implementation, which is split into three phases, will support HT's vision to deliver service innovation, continuously improve the experience of its customers and strengthen its position as a key contributor to enabling the digital transformation of the Croatian economy.

"We see a great demand from our business users for new digital services and technology solutions that can help them with their digital transformation, and we, as their reliable partner, want to enable them to find all the necessary services and solutions with us," said Marijana Bačić, member of the management and board chief operating officer business (COO Business), Hrvatski Telekom.

"We are looking forward to working with Beyond Now on implementation of new B2B BSS stack. This is the first time for us to implement and integrate complex SaaS solution into our IT environment and processes. We expect that with this approach

we will significantly improve our time to market and give our commercial organization a powerful tool to further develop and grow our portfolio in the market," said Boris Drilo, member of the management board and chief technical and information technology director, Hrvatski Telekom.

"We're very excited to be selected by Hrvatski Telekom who, together with Deutsche Telekom Group, are paving the way for the industry as they put their B2B customers at the heart of their business and utilize technology to unlock revenue for themselves and their customers. Infonova SaaS BSS is the ideal platform to power this vision, combining the agility of SaaS with the cutting-edge capabilities of our BSS. We've long been advocating and supporting CSPs in their transition to take on this central role in the telecommunications and technology ecosystems and are committed to power Hrvatski Telekom's success with their vision," said Angus Ward, CEO, Beyond Now.

WORLD NEWS

Tonomus opens first digital communications facility to enhance connectivity and enable cloud services

Tonomus, the first subsidiary of Neom, has announced the opening of its first digital communications facility.

Tonomus' mission is to transform the way we live through predictive, personalised, and autonomous solutions enabled by unrivalled connectivity and nextgeneration technologies.

The TONOMUS.NEOM Telecommunications Centre contains a high-capacity, highly efficient data centre and associated infrastructure to enhance the availability, resilience, and growth of 5G, satellite and fibre cable network connectivity, and enable the provision of secure private cloud services.

On-site offices and facilities within the centre will support day-

to-day operations and collaboration with telecommunications industry partners. The centre is described as a key upgrade to Neom's existing ICT infrastructure that will, it is claimed, offer some of the highest and most reliable network speeds anywhere in the world.

Strategically located in Oxagon, it will provide consistent bandwidth for secure information sharing and fast decision-making, supporting the demands of construction across the Neom region, keeping a growing number of residents and businesses connected securely and without interruption, and driving down operating costs.

The centre will power a softwaredriven network and secure private cloud that is projected to service up to 60 locations, some 1,800 structures, approximately 300,000 construction staff needed at Neom by 2025 and 200 million IoT devices by 2030. It will also interface with

key existing and future national and international digital networks and services to offer a seamless experience to end users.



SIGET frees up 6GHz spectrum for indoor WiFi 6E

S u p e r i n t e n d e n c i a General de Electricidad y Telecomunicaciones (SIGET) the telecommunications regulating agency in El Salvador, has issued a new resolution which aligns it with the growing number of countries that have completely freed up the 6GHz band for use in WiFi 6E networks.

The resolution classifies the entire 6GHz band (5.925 to 7.125 MHz) as free use, a boost for WiFi in the country. However, the resolution also establishes the maximum operating limits of the devices, limiting their use to indoors, while prohibiting their implementation in vehicles such as cars, trains, ships, and aircraft.



Pelephone wins 5G spectrum

Israel's Pelephone – the mobile unit of Bezeq – has been awarded 800MHz of spectrum in the 26GHz band by the committee in charge of the tender process.

Pelephone paid ILS4.16 million to secure the holding, and must ensure



that it hands over this amount within 60 days. The licence for the airwaves is valid for 10 years.

Bezeq said that the allocation will allow Pelephone to expand the range of advanced uses on the 5G cellular network, with emphasis on private networks, and advanced services that require a particularly high broadband speed, such as hospitals. Moreover, the cost of integrating this frequency range into 5G technology will be ongoing and is not expected to be substantial.

Freedom Holding looks to 5G

Kazakh conglomerate Freedom Holding has confirmed its intent to enter the country's mobile market with a 5G start-up player.

In July, the group's founder and CEO Timur Turlov stated that he planned "to create a completely new mobile operator of the 5G standard within a few years.

Kazakhstan's Committee for Protection & Development of Competition (ZK) has now confirmed that Freedom Holding participated in the 5G spectrum auction conducted in December 2022, placing bids on 3600MHz-3800MHz licences via its subsidiary International Telecommunication Systems of Kazakhstan.

While this move increased the final cost of the licences, Freedom Holding was unsuccessful in its bids, losing out to a consortium consisting of Kcell and Tele2-Altel - both subsidiaries of state-backed Kazakhtelecom.

Kazakhstan's Ministry of Digital Development, Innovation & Aerospace is targeting the sale of additional 5G spectrum in 2024, giving Freedom another chance.

Entel cancels 2G

Entel will begin gradually shutting down its 2G network in 2024 to focus on developing its 4G and 5G networks.

The company said that it will begin switching off its 2G network in mid-2024 and will cease selling new services over 2G from August. However, 100 sites will remain switched on as they will be the only means of tapping into connectivity for people, but they will eventually be replaced.

The operator stated the move will enable it to make more efficient and effective use of spectrum, as well as enhance customer experience and enable efficient energy consumption. It has established a scheme to collect old 2G phones as part of plans to keep the operator sustainable.

"It will be a gradual and planned process, which will allow us to minimise any connectivity problem and advance in the process of updating our network throughout the country," said sustainability and communications manager at Entel, Francisca Florenzano. "In addition, we have designed a communication and support plan specifically aimed at those users who could be affected by this measure, in order to facilitate this transition and ensure that it is carried out with the least possible impact for everyone."

Reliance Jio to update existing 2G phones to enable internet

Reliance Jio is targeting the 250 million people who are still using 2G wireless services in the country by announcing its newest Jio Bharat phone platform, which can update existing feature phones to become internet-enabled.

Jio is offering the new Jio Bharat phone service for about \$12 (INR999) monthly. The service will run on its 4G network, complete with affordable plans. The trial aims to test the scalability of the platform and processes for upgrading millions of feature phones.

"While India is leading the 5G revolution on one side with the transformational Jio True 5G network, there is a section of society that is unable to reap the benefits of digital technology in entirety. India still has 250 million mobile subscribers trapped in the 2G era with feature phones," said the MNO in a statement.

These feature phones do not provide access to the internet But the Jio Bharat platform can enable data capability on these entry-level phones. The operator is teaming up with other phone brands, starting with Karbonn, to build new Jio Bharat phones. Jio claims that the price of its Jio Bharat service is 30% cheaper and provides seven times more data compared to other feature phones offered by other operators. The plan will be billed every 28 days, which means users will get 14Gb of data for their feature phones.

phone users in India who remain 'trapped' in the 2G era, unable to tap into basic features of the internet at a time when the world stands at the cusp of a 5G revolution," said chairman of Reliance Jio, Akash Ambani. "6 years ago, when Jio was launched, we made it clear that Jio will leave no stone unturned to democratize internet and pass the benefits of technology to every Indian. Technology will no longer remain a privilege for a select few. The new Jio Bharat phone is another step in that direction. It is at the centre of innovation, and it continues to demonstrate our focus on bringing disproportionate and true value for different segments of users with meaningful, reallife use cases '

Malaysia approves Starlink for remote connectivity

Malaysia has Starlink to in the country and remote locations.

has approved to operate and connect

According to Reuters, communications minister Fahmi Fadzil said that Starlink will begin operations by connecting schools and higher education establishments. The move is part of plans to connect the whole of Malaysia to connectivity, satellite companies are seen as a key asset to the strategy.

The minister added around 3% of Malaysians face challenges when trying to access the internet due to lack of infrastructure brought on by terrain obstacles.

Gilat to backhaul connectivity via satellite

Satellite networking technology, solutions and services company Gilat Satellite Networks has won an award worth millions of dollars in orders for a project in Mexico involving cellular backhaul over satellite.

Gilat's cellular backhaul solution is being used to connect hundreds of 4G sites within the CFE TEIT initiative, which aims to provide better access to information and communication technologies for all people throughout Mexico.

CFE TEIT is the communications subsidiary of Mexico's Federal Electricity Commission. Within the CFE TEIT framework, global satellite and hub operators are working with Gilat to provide the best available solution. Gilat says its leading technology and local presence are proving instrumental in addressing the special requirements of the CFE TEIT deployment.

"There are still 250 million mobile

Vodafone Spain wins five-year smart water meter deal using NB-IoT tech

Vodafone Spain lauded the win of a five-year, €25 million deal to provide and connect 315,000 smart meters to Madrid water supplier Canal de Isabel II, a contract the operator asserted was the largest of four lots tendered.

Vodafone said that the agreement involved the supply of the units connected with NB-IoT technology for automatic remote reading. The meters will take data hourly and send the information back to the supplier once a day. The volume of information collected will have a "significant impact both upstream

in the water cycle process and on the consumer."

Vodafone Spain director of IoT Daniel Barallat said its technology will "actively contribute to better conservation of natural resources and more efficient management of Madrid's water."

The deal is part of a wider scheme to push out remote meter reading to the water company's entire footprint and use digital technologies to improve efficiency across its water system. In December 2021, Canal de Isabel II signed-up with Telefonica for 130,000 smart meters, while earlier this year Orange Spain and partner Hidroconta announced a deal to connect more than 100,000 meters using NB-IoT.



InfiniVAN upgrades nationwide backbone

Ribbon Communications Inc. has been selected by InfiniVAN, the Philippines' leading provider of business internet, to help modernize its nationwide backbone.

"Businesses turn to us for high availability, fully redundant, highcapacity connectivity that is on par with the highest global standards," said Koji Miyashita, chairman, InfiniVAN. "Working with Ribbon enabled us to achieve the dual goal of upgrading our network to the newest standards of security, availability and capacity while also gaining a lower Total Cost of Ownership."

InfiniVAN is leveraging Ribbon's NPT IP Routing and Apollo Optical Transport solutions, part of the company's comprehensive IP Wave portfolio.

Architected to help providers build and operate multi-layer data and optical networks, IP Wave solutions seamlessly fuse optimized hardware and automation software within an open architecture, and deliver the agility needed to rapidly create and implement innovative new services.

"InfiniVAN is a key leader in advancing the communications infrastructure throughout the Philippines. This high performance nationwide backbone will significantly improve connectivity and digitization in the region, and enable InfiniVAN to offer its customers access to the latest connectivity services," said Mickey Wilf, managing director APAC and Africa, Ribbon. "We're thrilled to continue building on our yearslong partnership."

WORLD NEWS

CelcomDigi invests in network



CelcomDigi announced it will buy

has

Huawei and ZTE equipment for its nationwide network integration and modernisation project.

CelcomDigi hailed the project as one of the largest telecom network deployment projects in the country following the merger of rivals Celcom and Digi in December 2022.

Under the various agreements. CelcomDigi will upgrade its RAN with the latest technologies from both Chinese vendors, to provide customers with wider coverage, high speeds, and consistent service.

The work will also pave the way to a seamless transition to a new 5G network with an 18,000-site reach. The company will aim to avoid duplication in its spectrum portfolio and deploy 900MHz o spectrum at all sites to boost coverage and indoor service quality. Populated locations nationwide will see coverage improve from 96-98% when the project is complete.

To fund the modernisation project CelcomDigi will reinvest 15-18% of total revenue in capex. The project is expected to be completed in three years' time.

"Our integrated and modernised network will be a critical piece in driving CelcomDigi's ambitions to be the new digital growth engine



for the nation that supports the seamless coexistence and evolution of 4G/LTE and future technologies, including 5G," said CelcomDigi CEO Datuk Idham Nawawi

Aramco and OQ extend SAT-IOT MOU

Aramco, one of the world's 建建制制 largest integrated energy and chemicals companies, and OQ Technology - the world's first satellite 5G IoT operator that provides global cellular Internet of Things (IoT) and machine to machine (M2M) communication solutions through satellites - have announced the signing of a new MoU.

The MoU further strengthens their existing collaboration and focuses on automation and satellite IoT connectivity for Aramco's remote site infrastructures. OQ Technology aims to expand satellite IoT services and solutions for connecting Aramco's Intelligent Integrated Node (IIN) technology.

IIN is an innovative automation infrastructure technology invented by Aramco and developed by MOXA Inc. It combines instrumentation control, monitoring, and edge computing capabilities into a single fault-tolerant device. While IIN technology is focused on the energy companies, it is seen as applicable to other sectors, such as smart cities, power and utilities, agriculture and transportation.

significance of this The collaboration lies in the synergy between Aramco's automation edge technology and OQ's low Earth orbit (LEO) 5G NB-IoT infrastructure. It will accelerate the development of IoT applications, personal products, safety, security and surveillance, fire protection, automotive, healthcare, and other industries in Saudi Arabia and globally.

"Integrating 5G IoT and IIN technologies will increase operational efficiencies downstream, reduce raw material consumption, and minimize personnel travel to remote sites, contributing to a more efficient green economy," said Omar Qaise, founder and chief executive officer at OQ.



to hit US\$4.3 billion by 2028 Mobile revenue

mobile Total services revenue in the Philippines predicted to increase at a is compound annual growth rate (CAGR) of 2.7% to US\$4.3 billion, as subscribers adopt more data services and consume over four times more data by 2028.

GlobalData detailed in its Q2 forecast for the Philippines mobile broadband market, that in tandem mobile service revenue will decline by 10.2% between 2023 and 2028. This will dip in line with mobile voice ARPU: however, mobile data service

revenue will grow fastest at 4.8% as subscribers sign up for 5G services.

Mobile data usage is predicted to grow from 6.6Gb in 2023 to 27.1Gb in 2028. Driving this will be the consumption of high-quality videos and social media content on smartphones.

"4G will remain the leading mobile technology by subscriptions in the Philippines until 2026. 5G subscriptions will surpass 4G subscriptions and go on to account for 69% share of the total mobile subscriptions in 2028, driven by the network expansion initiatives bv the telecom regulator and mobile operators," said GlobalData telecom analyst Kantipudi Pradeepthi. "Globe and PLDT will remain the market leaders through the forecast period. Dito Telecommunity, which commenced its operations in March 2021 in the country, has been adding new subscribers to its network through range of promotional mobile а service plans with unlimited texts and free voice minutes at prices starting from PHP99."

Maxis finally signs 5G deal with DNB

Maxis will sign an access agreement with Digital Nasional Berhad (DNB) to advance the country's 5G rollout and remain competitive against rivals who have signed.

The MNO said that it would sign the agreement to launch 5G services

commercially. Maxis was the last incumbent operator to sign up for the controversial state 5G strategy where all operators have access to the same network.

The next steps involve gaining shareholder approval for the deal at the operator's next extraordinary general meeting in the third quarter of this year and launching 5G services "soon after."

Maxis detailed that it expects operating expenses of around MYR360 million per year for access to DNR's wholesale network product.

Airtel connects 20 million IoT devices

Bharti Airtel's B2B division. Airtel Business. has achieved a new industry milestone by becoming India's first Information and Communications Technology (ICT) service provider to connect over 20 million devices through its Internet of Things (IoT) solutions.

Airtel IoT enables enterprises across various industries, such as automobile, energy, utilities, logistics, financial services, and manufacturing, among others, to have a dedicated private network for the safe transmission of all customer data across connected devices.

Some of Airtel's IoT deployments in recent times include: a partnership with Secure Meters for the deployment of 1.3 million smart meters in Bihar on NB-IoT; a collaboration with TP Western Odisha Distribution Limited (TPWODL); a joint venture between the Government of Odisha and Tata Power for the deployment of 200.000 Smart Meters in Odisha; and another partnership with Matter Motor Works to power 300,000

bikes through cellular IoT.

Airtel Business's integrated IoT platform offers solutions such as asset tracking, vehicle telematics, industrial asset monitoring, smart metering and more. The integrated IoT platform also allows enterprises to manage connected devices through the user-friendly connectivity management portal, Airtel IoT Hub. The portal features advanced analytics tools like diagnostics, live session checks and real-time datausage monitoring.

Q&A

Kim Buller, -CFO and co-founder, Alchemy Telco



Who was your hero when you were growing up?

My father. He is incredibly principled and so hardworking. A humble self-made man, who enjoys his own company, is happiest in the vast garden he created or his greenhouse and potting shed, which houses his tractor, a landline phone, kettle, microwave, and small TV to watch the golf and cricket.

We often say he just needs a bed His interests are so diverse. He knows the call of every bird and where they are nesting, is an incredible sportsman, plays a mean game of darts and enjoys his bridge. I would say he taught me to enjoy hard work and to never be 'bored.' I have not seen him for some years, but I am sure he will still be out with his chain saw at the age of 86.

What was your big career break?

Rather than one definitive break. my career has been marked by a series of opportunities that have steadily built my experience and capabilities. I started my professional journey as a bookkeeper for the local farmstock auctioneers and then started my own landscaping business. Both gave me a strong foundation in business operations and project management.

From there, I transitioned into cashew farming (not my finest moment but an intriguing way to explore the Gambia and its people nonetheless). During this time, I was frustrated that there were significant gaps in communicating vital things - prices, etc, and in an attempt to bridge that gap, I entered into the dynamic world telecommunications of and technology, setting up Alchemy as a way, initially, to deliver affordable SMS comms to keep the rural farmers in touch with each other and with those who

started off building websites and then a tool to send bulk SMS.

Along the way, I've been fortunate to work with visionary mentors who have encouraged me to take on new challenges and greater leadership roles. My biggest growth has come through saying "yes" to tough assignments that seemed daunting at first. Each step out of my comfort zone has expanded my skills and confidence

Meeting my business partner Malick Dibba has certainly been pivotal. Together we've built a thriving enterprise in Africa. I'm eager to see what the future holds for our promising venture.

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

I sat at a dinner in London many years ago with Princess Anne and was so impressed by her down to earth common sense, her humour and fascinating conversation. She is an extremely accomplished horse woman and competed in the Olympic Games. She is a patron of over 300 organisations and has been associated with Save the Children for over fifty years.

What is the best piece of advice you've ever been given.

My mother often told me: "the sooner you realise life is not fair, the happier you will be."

At first it seemed a cynical perspective, but over the years I've recognised the wisdom in her words. We all encounter setbacks and missed opportunities - pining for the 'what ifs' will only lead to frustration. Accepting imperfect realities, while retaining a sense of hope and agency to shape our future, is a mature outlook that breeds contentment.

were eager to buy from them. We If you had to work in a different industry, which would you choose?

I would go back to landscape gardening. I retrained many years ago and had a great little business helping women create a garden. I had a trailer, a concrete mixer and plenty of energy. They would take a couple of weeks of work, and we would build brick retaining walls and lay paving slabs. Then we would have a day out buying beautiful plants to plant together. Many of these women honestly had

What would you do with £1 million?

I would invest every penny into Alchemy. We're expanding across the Sahara so it would no doubt come in handy!! My business partner Malick and I have built a business that provides vital digital solutions across Africa, not least of all our SMS transactional services to financial institutions, that are reliable, timely and charged in local currency. We have ambitious plans for expansion that our current funding can't

"As a child of the 60s, I have to go with the unrivalled cool of the Rolling Stones. Their gritty, soulful rock and rebellious attitudes spoke to me more than the pop perfection of the Beatles."

never done any DIY and often felt very empowered by their achievements, even going onto decorating and of course they had a lovely garden to take care of and enjoy.

I remember one garden I did with my husband and children, who were quite young then, for an elderly friend who I did Reiki training with. She went away for the weekend, and we borrowed her garden gate key to build a teak deck at the bottom of her garden under an apple tree. I will never forget the look of wonderment on her face when we welcomed her home.

The Rolling Stones or Beatles?

As a child of the 60s, I have to go with the unrivalled cool of the Rolling Stones. Their gritty, soulful rock and rebellious attitudes spoke to me more than the pop perfection of the Beatles. To this day, I have many memories of dancing to tracks like 'Can't get no Satisfaction.'

fully support. An infusion of £1 million would accelerate our ability to serve millions more people across the continent and would go a long way towards our mission of bridging both the financial and digital divide in Africa and beyond. That would make every struggle we've faced well worth it.

What is the greatest technological advancement in your lifetime?

I can remember us getting our first TV, working on a computer using the old DOS operating system and then the internet. However, I think the mobile phone is awesome. The technical developments that have led to smart phones which enable us to run our lives wherever we are. Here in West Africa, there seem to be more mobile phones than people. SMS is used widely, and the functionalities are really closing the digital and financial divide. Let us see in the next years where 5g and AI will take us...

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