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

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

OCTOBER / NOVEMBER 2022 Volume 21 Number 2

- Why data centre sustainability matters to MNOs
- Unified communications for humanitarian relief
- Accelerating to Airport 4.0

Es'hailSat سهيل سات

Qatar Satellite Company الشركة القطرية للأقمار الصناعية

Satellite services for Television, Telecommunications, Broadband and Government networks across the Middle East, North Africa and beyond.

Corporate Networks

Playout

VSAT

Government Services

Television Broadcasting

Teleport Services

Cloud and Hosting

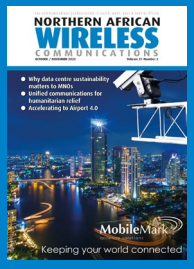
Telecommunication Services

Mobility Services

Space to deliver your vision

www.eshailsat.qa

NORTHERN AFRICAN WIRELESS COMMUNICATIONS



OCTOBER / NOVEMBER 2022
Volume 21
Number 2

CONTENTS

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

EDITORIAL:
Editor: **Amy Saunders**
Designer: **Ian Curtis**
Sub editor: **Gerry Moynihan**
Contributors: **Martin Jarrold, Mohamed Amin, Harald Ludwig, Justin Head, Junaid Syed**

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

ADVERTISEMENT SALES:
Sales: **Kathy Moynihan**
kathym@kadiumpublishing.com
+44 (0) 1932 481731

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

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

ISSN No: 1751-8296

KADIUM

IHS Towers announces Project Green extension

IHS Towers has announced plans to extend its Project Green in order to reduce its carbon footprint at a cost of US$214 million in capital expenditure up until 2024.

The company has added a new fifth value into its corporate values – sustainability, focusing on health and safety, security and the environment.

The project covers operations in Cameroon, Côte d'Ivoire, Kuwait, Nigeria, Rwanda and Zambia, all countries where reliance on diesel generators has been greater than elsewhere.

"We believe that our business model is inherently sustainable in that we deliver shared infrastructure solutions in emerging markets that promote digital connectivity and inclusion and improve the lives of the communities we serve," said Chairman and CEO Sam Darwish. "However, I believe that the true benefits of mobile connectivity can only be realised if we and our sector continue to develop in a socially and environmentally responsible manner."

IHS' Project Green extension, the Carbon Reduction Roadmap, provides a comprehensive strategy for decreasing emissions, including a goal to reduce the Scope 1 and Scope 2 kilowatt-hour emissions intensity of its tower portfolio by 50% by 2030, using 2021 emissions data as the baseline. The company expects to deliver annual recurring levered free cash flow (RLFCF) savings of $77 million in 2025. This is expected to generate an implied return on investment of 30%.

The new goal means IHS Towers is raising its 2022 capex guidance. The company now expects to spend $645-$685 million, $100 million more than previously. This includes $110 million of the $214 million spent for Project Green, as it is also taking this opportunity to narrow its former range based on actual spend so far. Savings will be achieved by connecting more sites to the electricity grid and via the deployment and integration of battery storage and solar panels.

Smart Africa Alliance joins forces with ARTAC

The Smart Africa Alliance and the Assembly of Telecommunications Regulators of Central Africa (ARTAC) have signed a memorandum of agreement for the development of telecommunications in Africa.

The collaboration will enable concerted action, at the continental, regional and national levels. ARTAC Member States will benefit from more relevant results in the many projects that Smart Africa is carrying out. Smart Africa will benefit from ARTAC's relations with regulators to align their objectives with its own, to be better aware of national concerns or ideas in order to respond together effectively to challenges, both from the Africa and the sub-region in the development of telecommunications.

Smart Africa Alliance, which currently brings together 33 African countries, has since 2014 set several objectives, including ending roaming in Africa, reducing the cost of internet access, and improving network coverage. The support of ARTAC will help advance these projects at the Central African sub-region.

The SMART Africa Alliance is a commitment from African heads of state and government to accelerate sustainable socio-economic development on the continent, ushering Africa into a knowledge economy, with affordable broadband access and ICT use.

MTN Nigeria gains EIB finance

MTN Nigeria has obtained Euro100 million in financing from the European Investment Bank (EIB) to accelerate the coverage of the 4G network and develop access to broadband in Nigeria.

MTN Nigeria will use the new EIB investment to improve its network capacity across Nigeria to meet the high demand for broadband connectivity. Some of the money will also be used to improve network coverage, particularly in Lagos and Ogun states.

"Digital transformation offers immense opportunities for Africa, and digitization is one of the priorities of the European Union's partnership with Africa," said Samuela Isopi, ambassador of the European Union in Nigeria and ECOWAS. "This record support from the EIB, the EU bank, for investment in MTN Nigeria will deliver better services, unlock economic opportunities and improve the lives of Nigerians."

Egypt bans telecommunications equipment

It is now forbidden to import, manufacture, operate or market any telecommunications equipment considered a threat to national security.

This measure has been brought in to preserve national cybersecurity as part of legislative amendments to the Telecommunications Act of 2003 approved on 30 October.

The new amendments did not specify the types of equipment concerned. However, Phoebe Fawzi, deputy speaker of the Senate, explained that it is equipment used by some people to obtain information that is considered a threat to national security and a great danger to life.

The Egyptian government has also put in to place a National Cybersecurity Strategy 2022-2026, which aims to fully secure the telecommunications and information infrastructures in order to create a secure environment for the provision of electronic services. This is part of the state's efforts to support national security, build digital Egypt, detect and overcome future cyberattacks and challenges of the digital society.

Africa needs 250,000 towers for full coverage by 2030

The African continent will require almost 250,000 telecom towers and at least 250,000km of additional fibre-optic to achieve universal coverage by 2030, according to Ecofin Pro report *'The evolution of digital investments in the face of Africa's exploding connectivity needs.'*

This investment is essential in view of the changes in internet consumption habits and the demand for broadband connectivity which has continued to grow since COVID-19 accelerated the digital transformation of various economic and social sectors. Mobile internet traffic, the most used, will be around 7.3Gb per month per user in 2024 compared to 1.7Gb in 2018.

Mobile operators owned 60% of telecom towers deployed in Africa in 2021, while the remaining 40% were owned by telecom infrastructure managers, three of which own the majority. About 20 submarine fibre-optic systems were already landing on the coasts of the continent. Of the total number of km of fibre-optic that transverse the continent, private investors owned slightly more than half. All these infrastructures were largely focused in urban areas, with a view to rapid profitability but not favourable to digital inclusion.

In order to achieve full continent-wide coverage, satellites and WiFi solutions will need to be rolled out for around 1.1 billion new unique users, including 100 million living in remote or rural areas, at a cost of almost US$100 billion.

Fintech drives up GDP

New research from Vodafone Group, Vodacom Group, Safaricom, and the United Nations Development Programme (UNDP) reports that the deployment and adoption of mobile financial services is associated with a positive impact on GDP growth in developing markets as it helps businesses reduce costs, access credit, and connect with consumers that were previously excluded from financial services.

The econometric modelling research examined 49 countries in Africa, Asia, and Latin America and found that countries with successful mobile money services had an annual GDP per capita growth rate up to 1% higher than countries where mobile money platforms had not been successful or not introduced.

Based on previous World Bank research on the relationship between economic growth and reductions in the number of people living in poverty, this GDP per capita growth implies that countries with successful mobile money adoption could reduce poverty by around 2.6%.

As part of the Africa.Connected research, consumer surveys were conducted focusing on users of M-Pesa in Kenya and Tanzania, and results were extrapolated to Ghana and Mozambique. A business survey was also conducted in Kenya. The resulting research underpinned the continuing importance of the world's first mobile money service 15 years after it launched in 2007. The researchers estimated that:

- 17.6 million current users in the four countries did not have access to any formal financial services before using M-Pesa;
- 98% of businesses surveyed said that M-Pesa helps them to do business, with the main benefits of M-Pesa being its facilitation of faster and safer payments and enabling the sale of goods and services online; and
- 95% of businesses surveyed indicated that they use M-Pesa for at least half of their business transactions.

Financial inclusion is both a pre-condition and a key enabler for meeting many of the UN's Sustainable Development Goals, including reducing poverty, boosting economic growth, promoting market access and championing investment in key sectors like education, agriculture, and healthcare. It is about putting people at the centre, empowering them with more agency over their money and increasing their resilience.

Safaricom launches 5G

Safaricom has launched commercial 5G to enable fixed wireless solutions for businesses and homes in Kenya, promising speed one-hundred times that of 4G. The 5G network can be accessed through a 5G-enabled router that will work in a 5G-enabled area.

Safaricom currently has 35 5G sites in the country and plans to establish 200 by March 2023.

"The 5G network will enable our customers to enjoy unprecedented levels of connectivity and low latency. It will also complement our fibre network," said Safaricom CEO Peter Ndegwa. "Only one out of three Kenyans own a 4G device. The shift to creating a fixed 5G WiFi product will see more people adopt the fast internet network for various work. Mobile packages for 5G will be available by December this year."

There was subdued subscription to the company's 5G mobile network rolled out last year and this has been attributed to a lack of compatible devices. There are around 200,000 5G smartphones on Safaricom's network. The Communications Authority of Kenya plans to introduce a 5G roadmap for the country to encourage and support local adoption.

"One of our mandates is to look at the effective and efficient way of allocating spectrum resources," said director general of the Communications Authority of Kenya, Ezra Chiloba. "In the last few years, we have been developing something we call the 5G roadmap... which is providing the national framework on how the sector is going to operate in as far as the roll-out of 5G is concerned."

Hormund Telecom's CLS completed in Somalia

Vertiv has completed the installation of Hormund Telecom's undersea cable landing station (CLS) in Somalia.

Hormuud Telecom aims to introduce innovative and quality connectivity solutions in Somalia through the deployment of a new open access cable landing station. This new infrastructure is projected to support economic, societal and digital growth in the region, empowering Somali citizens and businesses with internet access.

The cable landing station has been outfitted with Vertiv power and cooling equipment in partnership with Pure Earth International, a Vertiv authorised distributor across the horn of Africa. Vertiv's solutions in the project included Vertiv Netsure 7100 Semi-Bulk DC power systems, Vertiv Liebert PDX direct expansion floor-mount cooling units, energy storage systems and inverters, and a series of project services, including installation supervision and commissioning.

"This cable landing station is monumental for Somalia's digital growth and to put it on the global map of digitalisation. In today's world, and especially the post-pandemic world, it is essential for all citizens to have access to the internet and data. The project's goal is to fill the gaps in internet infrastructure that exist currently in the Somali landscape. The deployment of this landmark undersea cable positions the region for much-needed high-speed internet," said Pierre Havenga, managing director of Vertiv in Africa. "We are thrilled to be part of this visionary project with Hormuud Telecom and to bring our cutting-edge technology to Somalia in a bid to scale its socio-economic growth. This is a big milestone for all those involved in the project."

The cable landing station will enable massive acceleration of broadband proliferation and thereby improve online connectivity in and around Somalia. It will accommodate submarine cables, streamlining the process of establishing cross-connections to local and global partners, making it easier, quicker, and more efficient for all stakeholders.

MTN and Sanlam join forces for Fintech

MTN Group and pan-African financial services company Sanlam are following through on a strategic alliance to market and distribute digital insurance and investment products across Africa.

The partnership has now received all of the regulatory and competition approvals needed to proceed.

The strategic alliance will be implemented through MTN Group's insurtech platform aYo Holdings, with each partner holding a 50% stake in aYo.

"Through aYo, the alliance will continue to build and develop digital insurance and investment offerings that provide people across Africa with easier access to Sanlam's products, particularly those people who have typically been unable to access traditional distribution channels," the groups said in a statement.

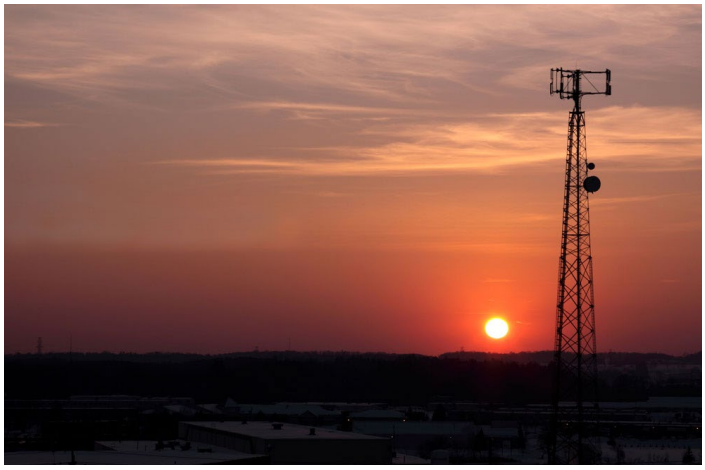
The partnership is expected to make a considerable contribution to financial inclusion in Africa.

"We are delighted to reach such a critical stage in our drive to deepen penetration of insurance and investment products across Africa through strategic partnerships," said Sanlam Group CEO Paul Hanratty.

Ooredoo to shed 20,000 towers

Ooredoo Group plans to sell 20,000 of its telecommunications towers in several of its markets including Algeria and Tunisia and has hired Morgan Stanley to carry out the operation. This transaction is expected to occur through a sale-leaseback agreement.

Operators across the continent are increasingly looking to monetize their telecom tower assets. MTN finalized the sale of 5,701 telecom towers in South Africa to IHS Tower in June. Airtel Africa sold 2,227 telecom towers to Helios Towers in several African markets in 2021.



ATC Africa and PowerX partner for AI tower analytics

American Tower Corporation's African subsidiary (ATC Africa) and PowerX have announced a strategic partnership that will bring the significant efficiency and environmental benefits of PowerX's artificial intelligence (AI) solutions to Africa's telecommunications industry by optimizing energy usage at tower sites.

After a successful joint program, ATC Africa employed PowerX's AI analytics across a select number of sites in Burkina Faso, Kenya, Niger, Nigeria, and Uganda.

Roll-out of PowerX's AI platform has brought enhanced insight into the power management and analysis of ATC Africa's sites. The platform leverages PowerX's ability to analyze data to optimize ATC's site performance, ensuring maximum greenhouse gas (GHG) emissions reduction.

ATC Africa is committed to providing connectivity while substantially reducing reliance on fossil fuels through the deployment of new sites that adhere to low GHG emissions site specifications, in accordance with its science-based targets (SBTs).

"To date, ATC Africa has invested over $300 million in energy efficiency improvements, renewable energy deployments and energy storage solutions to reduce the use of fossil fuels at our sites," said Marek Busfy, SVP and Chief Executive Officer, ATC Africa stated. "Our strategic partnership with PowerX will place us at the forefront of the industry by leveraging the innovative power of AI data-led solutions to optimize the use of power and reduce GHG emissions. I am confident our strategic partnership will grow and contribute to our science-based targets to reduce GHG emissions by at least 40% by 2035 against a 2019 baseline and deliver on our low GHG emissions site strategy."

"Our alliance with ATC will set bold new industry standards for tower energy efficiency. AI-driven analytics uniquely lead the way in efficiently managing power and providing accurate and auditable records in environmental sustainability such as how much diesel and GHG emissions have been eliminated from site operations," said PowerX's CEO, Andrew Schafer. "We apply sophisticated machine learning and pattern recognition tools to existing site data to identify inefficiencies and anomalies previously buried deep in fragmented data sets. We are excited to bring these benefits to ATC Africa and to Africa's burgeoning telecommunications industry, setting an ambitious benchmark for site efficiency and sustainability."

MTN interested in 5G spectrum in Ghana

MTN Group has announced interest in participating in any future telecom spectrum auctions for 5G in Ghana. The company is waiting for regulatory clearances from the authorities to start offering ultra-broadband services to Ghana and has already upgraded more than 1,322 telecom sites ready for 5G deployment.

AWS opens Lagos office

Amazon Web Services, Inc. (AWS) has opened its first office in Lagos, Nigeria as part of its support for the growing number of customers and partners in Nigeria.

The new office will support organizations of all sizes, including startups, enterprises, and public sector agencies as they make the transition to AWS Cloud, with environments including big data analytics; mobile, web, and social apps; enterprise business applications; Internet of Things (IoT); and mission critical workloads. AWS will support new and existing customers looking to use AWS products and services to innovate, lower their costs, and grow their organizations in the cloud.

Côte d'Ivoire needs 2,000 billion FCFA

The Côte d'Ivoire needs more than 2,000 billion FCFA to carry out its digital infrastructure program according to minister of communication and digital economy, Amadou Coulibaly.

The 2,000 billion FCFA will be used to construct the National Data Center and complete the development project of the national fibre optic network. The two projects, scheduled for 2025, will be added to others planned as part of the implementation of the national digital development strategy and will help support national economic development.

The data centre will combine all the public services that the government is currently dematerialising in a single place and will guarantee their efficiency. The fibre optic network will allow the government to bring high-speed internet, essential for access to dematerialized services and socio-economic opportunities to all households, while reducing the cost.

The Minister aims to establish a National Digitization Committee which will coordinate all projects related to the development of the digital sector. Such projects are part of the national strategy for digital development by 2025. The strategy will see the government undertake 32 reforms and carry out 96 projects over 2021-2025 for this investment of 2,000 billion FCFA.

Ooredoo to connect Tunisia with Marseille via subsea cable

Ooredoo is connecting Tunisia to Marseille via a new subsea cable which will support the diversification of Tunisia's international connectivity offering through a system wholly owned and operated by Ooredoo Tunisia. The high-speed, 15,000km PEACE subsea cable system will provide high-capacity, low-latency data connectivity for Tunisia in response to growing demand.

Ooredoo Tunisia officially signed an agreement with PCCW Global to deploy a new network solution, leveraging the PEACE subsea cable system connecting Tunisia with Marseille, thus opening a new gateway to Europe. The agreement – which gives Ooredoo total ownership of the latest global platform within Tunisia – promises to offer customers significantly enhanced data speed and quality at a vastly reduced cost, when connecting with Marseille.

"There is an ever-growing demand for increased network capacity and speed among our customers and we are delighted to be in a unique position to upgrade their experience through this deal with PCCW Global," said Mansoor Rashid Al-Khater, CEO, Ooredoo Tunisia. "The PEACE Subsea Cable represents an exciting development in the global telecommunications industry, and Ooredoo is confident that this investment will help us in our mission to upgrade our customers' world.

Through the investment in the PEACE Subsea Cable System, which is expected to be operational in early 2024, Ooredoo will improve the diversity and choice within its international infrastructure, while making a new entry point to Tunisia available to global carriers and enterprises to meet their connectivity requirements in Tunisia and beyond. This comes as part of Ooredoo's strategy to find, establish and develop partnerships that enable the company to leverage technology and innovation to upgrade its customers' world of opportunities.

"The collaboration with Ooredoo Tunisia is an important step in connecting growing traffic requirements in this important market to Europe through the PEACE Cable system," said Marc Halbfinger, CEO, PCCW Global. "We look forward to a long term and fruitful relationship, and to a successful roll-out of the project while leveraging Ooredoo's long-standing expertise and vast network.

NCC demands MNOs reverse 10% levy

The Nigerian federal government has ordered telecom operators to reverse the 10% increase they recently applied to the prices of some telecom services.

According to Reuben Muoka, director of public affairs of the Nigerian Communications Commission (NCC), the tariff adjustment applied by Airtel and MTN was initially proposed and provisionally approved by NCC management, pending final approval by the NCC Board. However, it was eventually rescinded, not having received final approval from the Board of the Commission.

The possibility of an increase in communication tariffs has hung over the Nigerian telecommunications sector since the beginning of the year. In March, operators mentioned the potential increase as a way to combat rising operating costs. In May, they proposed a 40% increase in the cost of calls, texts and data, but the government and the people opposed it. The operators have also asked for a review of the various taxes they pay to the government, but to no avail.

According to Muoka, the NCC Board's decision not to approve the telecom operators' proposed tariff adjustment follows "a critical and realistic review and analysis of the current operating environment and business climate in Nigeria, as it affects all sectors of the economy. Although there is an increase in the cost of production, the provision of telecommunications services remains very profitable and it is necessary that subscribers are not subject to an increase in tariffs."

MTN Nigeria to offer 4G/5G smartphones on credit

MTN Nigeria has signed an agreement with smartphone financing platform Intelligra to give individuals the ability to purchase 4G and 5G smartphones with the ability to pay later in instalments.

From 2023, MTN plans to finance up to 1,000 devices per day. Subscribers will be able to choose brands and models of phones according to their preferences. This initiative comes shortly after MTN officially launched 5G in Nigeria. The adoption of 5G technology is hindered by the high cost of compatible telephones, thus MTN is multiplying initiatives to remove this barrier. The mobile operator had already signed a partnership agreement with Vivo for the provision of 'affordable' 5G-compatible smartphones to the telecom company.

"Partnering with Intelligra will drive financial inclusion, digital device funding goals and affordability for the average person. It will also allow customers to access the Internet, entertainment and education; and users to communicate easily," said Adia Sowho, director of marketing, MTN Nigeria.

According to Alliance for Affordable Internet, there is a disparity between the prices of smartphones and the average income earned in Nigeria, with only around 44% of the 206 million-strong population able to access smartphone technology.

Kenya gives 60 days for 100% SIM registration

Kenya's Communications Authority (CA) has welcomed progress made by Safaricom, Airtel Kenya and Telkom Kenya, which have increased the number of fully compliant subscriber registrations by the 15 October deadline. However, the companies are now mandated to reach 100% within 60 days.

Safaricom has achieved a registration rate of 93% of subscribers, up from 52% in January 2022. Airtel Kenya also moved up to 81.2% from 42%. Telkom Kenya numbers are currently under review.

SIM registration compliance is a key part of government's cybersecurity initiatives. Failure to comply will lead to a fine of up 0.5% of annual gross turnover for the telecommunications companies.

"Each operator is under obligation to ensure 100% compliance. For the avoidance of doubt, the 60 days is not an extension, but a period for the mobile operators to take certain actions including denial of service to prompt further compliance," said CA director general Ezra Chiloba.

According to regulations, telcos are required to maintain registration details of their subscribers including full names and identification proof of either passport or national ID. However, after the 15 October deadline, there were reports of complaints by some users that despite having successfully used mobile money services on networks – which requires authentication and verification of details – they had their SIM cards disconnected.

Safaricom to invest US$300 million in Ethiopia

Safaricom plans to invest US$300 million annually in its Ethiopia business, to develop infrastructure to meet market demands across the country, according to chief executive Peter Ndegwa.

This decision came two weeks after the official launch of Safaricom's activities in Ethiopia. The company acquired the country's first comprehensive private telecom license in July 2021 as part of the government-initiated national telecom market liberalization process.

After the settlement of the financial obligations related to its license, the company multiplied the investments to lay a solid foundation on the Ethiopian market, including the construction of data centres, the signing of infrastructure sharing agreements with local companies, the recruitment of staff, and the development of its network. So far, the company has invested US$1.2 billion in Ethiopia.

In the short and medium terms, the planned investments should enable Safaricom to gradually extend its network coverage to all Ethiopian territory. Right now, its network is available in ten cities, including Addis Ababa. Safaricom ambitiously plans to cover 25 cities and 25% of the population by April 2023.

NuRAN Wireless to establish 1,000 NaaS sites for Ivory Coast

NuRAN Wireless Inc. has announced an agreement for up to 1,000 sites with MTN Ivory Coast for the deployment of rural sites under the Network-as-a-Service (NaaS) business model in Ivory Coast.

The five-year agreement is expected to be the company's second largest contract in terms of number of sites, with the potential to generate over US$75 million in gross revenue over the period. The contract includes an automatic renewal for an additional five years.

The estimated gross revenues are subject to associated project expenses including expenses associated with satellite bandwidth, site lease, network operations centre expenses, curative and preventative maintenance fees, project management and monitoring fees, financing for the build out of the sites and insurance. Fees for the NaaS services provided by NuRAN under the agreement are paid on a revenue sharing basis. The project is expected to support 2G and 3G with variety of site categories to cover different population densities and coverage areas.

How a recent merger partnership will connect more of Africa than ever

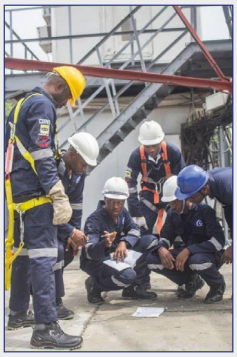
In early October, Curvalux and CBNG announced a merger which signifies a turning point for both companies. CBNG, established for over 20 years, is a provider of VectaStar, a licensed-band fixed wireless access (FWA) solution used for Enterprise, 3G and LTE backhaul as well as smart city connectivity throughout the world. Curvalux, an exciting newcomer to the market, brings innovative multi-beam antenna technology to enhance Wi-Fi and 5G radio technologies and allow long range, high-capacity coverage at a fraction of the power consumption of equivalent RAN technologies. The merger now means that both companies can leverage each other's new technology and heritage to bring some truly exciting solutions to the market.

Adding to this duo, CBNL Africa, is an independent business founded from a spin out of CBNG in early 2020. CBNL Africa have been continuing to successfully sell VectaStar to tier 1 operators in their market and have grown their business significantly because of the ever-increasing demand for reliable, high-capacity broadband across a continent with major infrastructure challenges. They now have offices with sales, support and services capabilities in Nigeria, Ghana, Cameroon and Kenya.

CBNL Africa, Curvalux and CBNG have now embarked together on a new strategic partnership to gather all the synergies of established and innovative technologies, along with a "feet on the ground" approach in Africa, to forge ahead towards making Curvalux and VectaStar network solutions a highly scalable and stable connectivity option for operators to bring to businesses, communities, and end-users across the continent.

"CBNL Africa is thrilled to be able to work alongside Curvalux and CBNG in order to enhance choices available for our customers in the region" says Obehi Okosun, Managing Director and CEO of CBNL Africa. "Ultimately we want to be able to help operators rollout out these highly capable solutions in order to bring high quality, high bandwidth and cheap connectivity to all those in our continent who are currently facing the challenge of joining the internet age".

Obehi Okosun acknowledges there are also challenges to be faced by those technology providers wishing to play a part in the African market. "Many vendors have tried to gain a foothold in Africa and have struggled to gain traction because the technology is new and so it can be more challenging to deploy and integrate properly and consequently becomes difficult to gain a positive reputation for delivering on those promises made by the technology. CBNL Africa's on the ground presence and capability to effectively plan, deploy and continuously support the technology has made it become a win:win:win for the operator, the vendor and the end user".



"CBNL Africa have been the ideal partner for us over the years" says Paul Wright, VP Sales and Customer Operations at CBNG. "Their supportive presence and long reach on the ground in all the countries where we have sold our solutions has made all the difference, not only to CBNG but to those operating VectaStar networks. We now look forward to extending this great advantage alongside Curvalux in the new era for our respective companies".

"Curvalux's mission is to connect the unconnected and neglected. We are excited to expand CBNG's close partnership with CBNL Africa to include Curvalux in our efforts of accomplishing this critical mission in Africa" says Richard Pak, CEO of Curvalux Group. "Not only will working alongside Obehi Okosun and his team in Africa help to spread the word about how Curvalux is working towards changing the technological landscape in order to catapult African homes, businesses and individual's opportunities into a newly attainable prosperous age, but working with CBNL Africa will bring additional synergies to our other African partners in the successful adoption and deployment of our Curvalux solutions".

CBNLA senior management team

Kenya: Mobile subscriptions slightly up

According to statistics from the Communications Authority of Kenya (CA), active mobile subscriptions fell by 0.44% quarter on quarter to 64.7 million in the fourth quarter of the financial year 2021/2022, down from 64.9 million in the previous quarter. However, this is an annual growth of 0.46% compared to the 64.4 million recorded in the fourth quarter of 2020/2021.

Mobile operators deactivated more than 124,689 improperly registered SIM cards in the first quarter of 2021/2022 and 287,214 SIM cards in the third quarter. The SIM card registration campaign was due to end on April 15, but the CA extended the deadline until October 15 due to the high rate of non-compliance from operators. When the new deadline expired, not all telephone subscribers were still registered. The CA therefore gave operators a further 60 days to complete the operation.

"During the 2021/22 financial year, the mobile telephony segment was marked by a significant regulatory intervention which consisted of

updating the registration details of all SIM cards in the country. This exercise resulted in the deactivation of SIM cards registered under incorrect identification details," explained the CA.

Ethio Telecom targets market growth

Ethio Telecom has affirmed that it remains confident it will increase its subscriber base over the next year despite new market competition.

Ethio Telecom CEO Frehiwot Tamiru outlined part of the company's three-year growth strategy. The plan includes growing its subscriber base by 10.3% to reach 73.5 million customers over the next year and increasing mobile voice customers by 10.5% to reach 71 million, fixed broadband customers by 37.4% to reach 696,700 and increase tele-density by 68%.

The company will focus on customer experience, business development and tech innovation to achieve its targets. It will also carry out capacity enhancement and improvements projects and develop new technology to enhance services. The strategy is based on securing inclusive growth through the provision of connectivity, as well as digital and financial services.

"It has been two months since our company started implementing its newly devised growth strategy and in the first two months it has already achieved 98% of its target," said Tamiru. "We are aiming to generate 75.05-billion Birr by engaging in new business streams and shifting revenue sources from traditional to value added services, offering local and international products and services to the market, increasing Telebirr access (mobile money service), service types and partners, improving service delivery and increasing customer satisfaction, retention and loyalty through network and system capacity enhancement."

Vertiv opens new centre in Kenya

Vertiv has opened new office and state-of-the-art customer experience centre in Nairobi. With an increasing demand for high efficiency critical infrastructure in East Africa, this centre supports Vertiv's efforts in offering digital infrastructure solutions to local customers like mobile network operators.

The centre's experts offer first-hand knowledge of the technologies and showcasing of the products gives users a chance to get close to the diverse range of Vertiv's critical infrastructure solutions for applications from the edge of the network to the cloud. This facility will not only provide presales, sales, and product training, but full-service certification courses for Vertiv's authorised service partner network as well. In addition to the products available at the centre, Vertiv offers the experience of its large-scale modular data centres, power and cooling solutions through virtual reality.

"This opening marks our growing presence in Kenya and the East African region, and we are excited and proud to be part of this historic digital journey. We are investing in facilities and people to grow our footprint in the East African market as internet penetration, data usage and digitalisation continues to expand across the length and breadth of the region," said Rohan Patil, Vertiv's regional manager for East Africa. "This hub is a key investment from Vertiv, in an effort to offer critical digital infrastructure for local telecommunication networks, data centres and commercial facilities. Establishing this kind of foundation in Kenya can help the country's talents and important sectors advance, as well as the region as a whole."

The establishment of Vertiv's Kenyan Customer Experience Centre is part of the company's growing footprint in Africa to modernise infrastructure and drive digital transformation.

Comium Gambia faces network modernisation

Monty Mobile has signed a partnership agreement with Huawei to modernize the network of mobile operator Comium Gambia. This partnership is expected to enhance Comium Gambia's products and solutions for the local market.

In 2021 Monty Mobile began to invest in Comium Gambia when the latter was threatened with permanent closure by the Utilities Regulatory Authority (PURA) for a debt 69.1 million dalasis. The management agreement signed between the two parties provided for the resolution of the financial and network problems faced by Comium Gambia, including the subsequent introduction of 4G and 5G.

These investments aim to elevate Comium Gambia to a competitive operator in the Gambian telecom market, where it has just over 137,000 mobile phone subscribers, or 5% of the market share. The initiative will serve as the basis for Monty Mobile's African expansion ambitions, which plans substantial investments from 2023.

"As The Gambia is our gateway to Africa, we will ensure that our success paves the way for expansion across the region," said explained Marwan Khoury, managing director of Monty Mobile Gambia. "We will be showcasing cutting-edge business services tailored to the market, which we will approach in a way that is highly relevant to the people of The Gambia, and from The Gambia to the rest of Africa."

According to reports, this is just the beginning for Monty Mobile, which plans a significant transformation in pioneering cutting-edge technology for Africa in 2023.

Nigeria sets new 5G spectrum auction

The Nigerian Communications Commission (NCC) is set to auction two new lots of 5G spectrum December 19. These are 2 x 100MHz lots located in the 3.5GHz band for a reserve price of Naira 273.6 million each.

According to the NCC, bidders do not necessarily need to be licensed network operators in the country, but they will need to obtain a Unified Access Service License (UASL) if their bid is successful. The allocation of new 5G licenses should introduce competition into the ultra-broadband segment currently operated by MTN, which won 5G spectrum in a similar auction in December 2021. The new auction should also help accelerate broadband penetration in Nigeria. The government aims to connect 70% of the population to high-speed Internet by 2025.

Safaricom Ethiopia gains approval to operate M-Pesa

Safaricom Ethiopia has been granted a licence to operate M-Pesa mobile money services in the country after authorities confirmed that the law had been changed to allow foreign investment in mobile money services.

"A deal has been reached between the government of Ethiopia and Safaricom to grant a licence for mobile money services to Safaricom," said Ethiopia's Minister of Finance Ahmed Shide.

Previously, only Ethio Telecom had been allowed to offer its Telebirr mobile money service. The development has been welcomed by the World Bank and Kenya's government, which have attempted to convince Ethiopia to open up its mobile money market. In May 2021, the World Bank said it planned to invest US$200 million in Ethiopia's telecommunications industry but wanted the government to open the market.

Talking critical

Harald Ludwig, chair of TCCA's Technical Forum

Reducing complexity and cost in future control room implementations

The ecosystem that first responders rely on to support them pivots around the control room and the operators carrying out their critical operations in front of their working positions (also called dispatchers or consoles). Control rooms provide essential communications, linking users in the field to a centralised command centre. Control rooms play a vital role as the bridge between the general public and the end users who utilise mission critical communications to protect people, property and communities.

For many years, narrowband LMR standards such as TETRA, Tetrapol, DMR, and P25 have successfully served these public safety agencies with voice and limited data communications applications. However, as time moves forward, so too does technology, and broadband cellular 4G LTE, 5G and beyond represent the next level of integration within the control room. While some agencies may already use these cellular connections in the event of a network failure or for special events, Mission Critical Services (Mission Critical Push-To-Talk - MCPTT, Mission Critical Data - MCData and Mission Critical Video - MCVideo, collectively known as MC or MCX services) represent a fundamental paradigm shift in capabilities. These MCX services have all been standardised in 3GPP.

While MCPTT field operation is relatively simple to understand, control room operations represent a more complex environment requiring interconnections to different management and support systems and various communication networks. Depending on the implementation approach, a significant amount of infrastructure may be owned and directly controlled by a commercial carrier. In order to increase understanding for public safety agencies, TCCA, in collaboration with other organisations and vendors, has created a Control Room Implementers' Guide.

However, while the standards have been written, the route to actual implementation can be confusing. Control rooms are not explicitly mentioned in the 3GPP MCX standards and it may be difficult to find the relevant parts in the standards. The aim of TCCA's Guide is to help control room vendors identify these parts and the best way to connect their systems to a 4G LTE and/or 5G MCX environment. The goal is to promote a common approach that will reduce both the number of variants and the level of proprietary interfaces.

Mission Critical standards development within 3GPP started in 2015 in 3GPP Release-13, following a major initiative from the public safety industry to create global standards with the collaboration of various government organisations, vendors and users from around the world. 3GPP Release-13 was the first to define a standard for MCX, and subsequent releases evolved the features and capabilities, maturing the standards specifications based on industry feedback. 3GPP Release-17 is the latest set of fully ratified specifications, and work is ongoing to enhance these both for 4G LTE and 5G.

3GPP Standards define the reference architecture for MCPTT, MCData and MCVideo separately, while utilising a set of common core services that are applicable to all three. The available interfaces will depend upon the MCX service provider being used, the policies in place, and the required functionality.

3GPP Mission Critical standards include specifications to interwork with legacy LMR networks via an Interworking Gateway Architecture (IWF) to enable the continued working of mission critical systems during the transition period from legacy LMR to 3GPP-based MCX systems. It may take several years for such transitions to fully complete.

Traditionally, cellular operators have operated the entirety of their cellular network. With the flexibility contained within the 3GPP standards, public safety agencies have the opportunity to develop alternative approaches. This allows the agency itself or the designated service provider to operate some parts of the network equipment, which ensures control and security remains with the agency.

TCCA's Control Room Implementers' Guide provides the foundation for creating a cohesive evolution from LMR to broadband-based control rooms. By following this guide in developing procurement requirements, it is hoped that vendors will not be given enough opportunity to design and build proprietary offerings, but rather will focus on standards-based solutions to reduce both complexity and cost.

Omdia: Control room market overview

Research from Omdia shows that in 2021, the control room market shrugged off the pandemic-induced delays from 2020. Global market growth came in at 9.6% in 2021, well ahead of previous expectations. However, this is a little artificial, with much of it due to revenues being recognised in 2021 that would have been recognised in 2020.

Residual pandemic impacts remain, with fewer new projects coming to market, dampening market growth through 2022. Combined with a worsening macroeconomic environment, with global growth expected to slow through 2022 and 2023, the control room market is expected to return gradually to pre-pandemic growth rates.

Artificial intelligence and machine learning are being applied to enhance control room solution offerings. AI video threat detection is one area that has improved greatly with the proliferation of 'AI' chipsets into the video surveillance market. These chipsets will suggest AI-powered rules and decision making based upon visual classification and meta-data/big data platforms.

The control room market continues to transition towards cloud-based solutions, relying heavily on infrastructure provided by hyperscalers such as Amazon and Microsoft. Omdia expects this element will become increasingly important within the control room market.

DRC and Cameroon to gain 2.75G network via NuRAN Wireless

The European Investment Bank (EIB) has announced its proposed funding of NuRAN Wireless Inc. for an ambitious project which will see the deployment of mobile towers for affordable telecommunications services (voice and data) in underserved areas of the Democratic Republic of Congo (850 towers) and Cameroon (242 towers).

The project will ultimately connect people in rural areas to the digital economy with the rollout of a 2.75G network, supporting the countries' transition to the digital economy.

The US$36 million project falls under the COVID-19 Digital African Loan Envelope, which was designed to accelerate the deployment of digital infrastructure solutions in sub-Saharan Africa. The EIB would provide US$18 million in funding, with Euro8 million coming from DFI, and more than US$6 million has already been invested from NuRAN.

"We are now approaching final approval for the release of $26 million to further accelerate the deployment of rural sites in Cameroon and DRC," said Francis Letourneau, CEO of NuRAN. "To date NuRAN has essentially financed the sites built through its own equity. The plan has always been to primarily use debt at the African subsidiary level to deploy new sites. The DFI's mission is to invest in infrastructure projects that have major social and environmental impact for which we tick all the boxes. This financing will provide NuRAN with capital to reach up to 1100 live sites covering over 5 million population."

Airtel Malawi continues to invest despite challenges

Airtel will continue to invest in its mobile phone unit in Malawi despite currency weakness in the country.

In the first half of 2022, Airtel Malawi's costs increased by 199% as a result of 25% devaluation in the Malawian Kwacha. After-tax profits fell by 21.5%, attributed to a worsening foreign exchange position as a direct result of devaluation.

"The economy and company are exposed to continued impact of Kwacha depreciation and scarcity of foreign currency. Despite this we continue to focus on investing more, growing more customers and revenue, containing cost and diversifying currency sourcing to mitigate the exposures," read a statement released by Airtel Malawi.

Despite these challenges, Airtel Malawi has grown its customer base by 11.1% to 6.4 million subscribers. In local currency terms, revenue grew by 14.3%, boosted by a 20% firming in voice revenue and a further 5% uptick in data revenue. During the period, Airtel Malawi repaid a principal debt amount of US$7 million out of its US$40 million loan, which means that it has a total principal amount outstanding of US$33 million as at the end of the period.

MTN SA to transform from telco to techco

MTN SA has announced a review of its executive structure as it gears up to deliver on its Ambition 2025 strategy to transform from a telco to a techco.

In line with this strategic shift, the company has appointed Ernst Fonternel as chief consumer officer and Divyesh Joshi as chief strategy and transformation officer, effective from 1 October. The new executive structure also sees the introduction of two new roles including that of chief commercial operations officer and chief risk officer.

"The current top-tier structure has been optimal to enable us to evolve and grow the business to where we are today. However, in pursuit of Ambition 2025, the current structure needed to be optimised to adequately support our strategic ambition," said MTN SA CEO, Charles Molapisi. "I am pleased to announce the appointments of Ernst and Divyesh, both of whom are internal appointments who bring a wealth of knowledge to these roles."

These appointments are designed to deliver agile ways of work to simplify cross-functional interfaces, enhancing focus on key and new revenue streams, and better aligning commercial and support functions and focused sales and distribution structures. As telcos move towards delayering and greater verticalisation of business units, the risk function requires particular industry depth and a thorough telco consideration from finance, pricing, commercial partnerships, network, and IT perspective.

"The fast-paced world of telecommunications and technology requires an agile, responsive, and pioneering leadership approach. To this end, our focus has been on defining, designing, and shaping a future-fit leadership model for MTN SA, leveraging the extensive experience and expertise within the senior leadership team," said Molapisi.

Ericsson wins 5G GITTA award in Ghana

Ericsson has won the 5G Technological Innovations Award at the 12th Ghana Information and Technology and Telecoms Awards (GITTA) in Accra, Ghana.

The award recognizes Ericsson's role in building more sustainable and energy-efficient 5G network infrastructures for communications service providers across Africa.

''We are humbled by the recognition from Ghana Information and Technology and Telecoms Awards," said Richard Kweku Arthur, country manager of Ericsson Ghana. "We are committed to ensure that the continent enjoys the innovative and limitless possibilities that 5G offers individuals, enterprises, and societies at large. More importantly, we are driven by the fact that technology offers the opportunity to accelerate Africa's digital transformation and helps bridge the digital divide. We dedicate this award to the entire Ericsson team and our customers who have made this possible.''

Liquid Telecom South Sudan rebrands

Liquid Telecom South Sudan has officially rebranded as Liquid Intelligent Technologies South Sudan, reflecting its transformation into a one-stop-shop technology group for local businesses and consumers. The rebrand also indicates Liquid's expansion into several business services, including cloud, cybersecurity, and other technologies adding to its existing products and connectivity services.

"This strategic rebranding to Liquid Intelligent Technologies is us saying that our customers and the country are now positioning for future applications that run on the assets that we have built in Africa," said Martin Mushambadope, CEO, Liquid Intelligent Technologies South Sudan. "We are looking at South Sudan getting to the cutting edge and bringing the rest of the world to South Sudan whilst taking the country to the rest of the world."

Liquid is bringing terrestrial fibre connectivity to South Sudan, linking the country to its continent-spanning network across the East Africa region and beyond, including Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda. The network is already delivering affordable internet access to South Sudanese people, businesses, and government and helping the country to progress toward achieving the UN's Sustainable Development Goals (SDG).

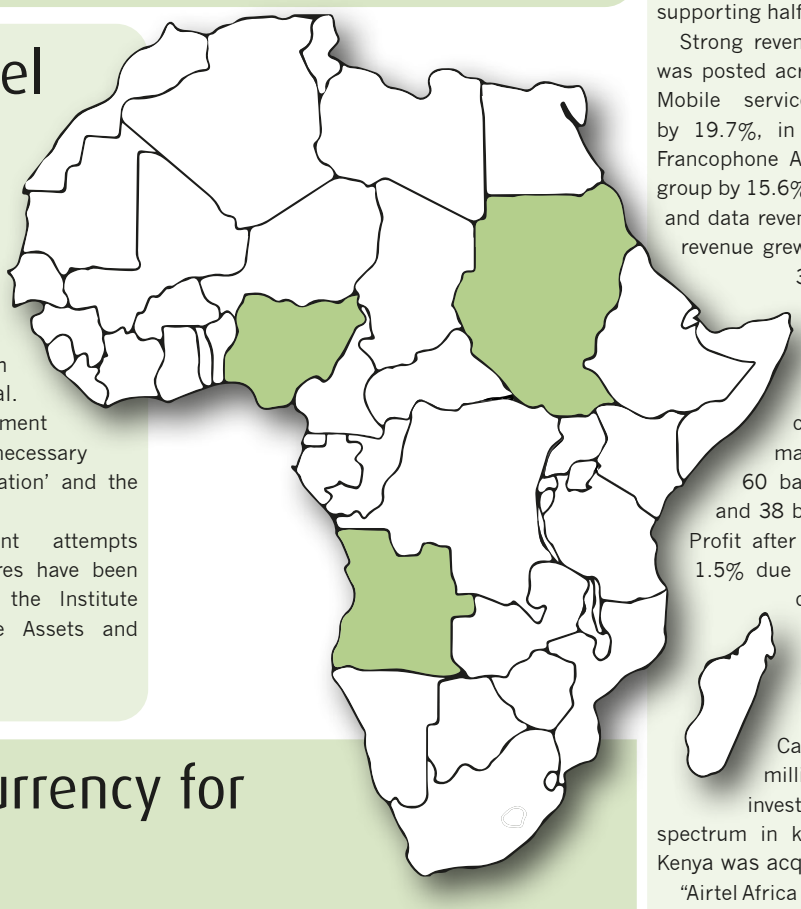
With this rebrand, Liquid will create more recognition and awareness of its ability to provide connectivity and digital solutions for local businesses, empowering them to transform their operations and compete on a bigger scale.

Angola's Unitel nationalised

Unitel has been nationalised by appropriating the shares of businesswoman Isabel dos Santos (via Vidatel) and general Leopoldino Fragoso do Nascimento (via Geni) who each held 25% of the company's capital.

The Angolan government reportedly felt nationalisation necessary to safeguard Unitel's 'legal situation' and the interests of the State.

After exhausting agreement attempts with the shareholders, the shares have been withdrawn and transferred to the Institute for the Management of State Assets and Participations (IGAPE).



No foreign currency for Nigeria

Nigerian telecom operators have been struggling to gain access to foreign currency since the start of the year, slowing down investment in network infrastructure. The situation has been criticized by Gbenga Adebayo, president of the Association of Licensed Telecommunications Operators of Nigeria (ALTON).

"Virtually everything we use in the sector depends on imports. You talk about base station equipment, generators and batteries, among other things. But the impossibility of obtaining foreign exchange has an impact not only on the expansion, but also on the upgrading of existing infrastructure," said Adebayo.

ALTON members have called on the Central Bank of Nigeria (CBN) to prioritize their access to foreign exchange amid the continuing worsening shortage, which is now affecting all sectors of the economy.

"Now that we are rolling out 5G, operators need access to currencies if the service is to expand. Many members are struggling, they cannot fulfil this obligation," said Adebayo.

Airtel Africa reports double digit growth for H1

Airtel Africa has reported its results for the first half of the year, which ended on 30 September 2022.

During the six months, Airtel's customer base grew by 9.7% to 134.7 million, with increased penetration across mobile data (up 10.6%) and mobile money services (up by 24%). Average revenue per user (ARPU) expanded by 7.2% in constant currency, driven by increased use across data, voice and mobile money.

Reported revenue grew by 12.9% in the first half of the year to $2,565 million, and 12.7% for the second quarter. Constant currency growth rate accelerated to 18.5% in the second quarter, supporting half year growth of 16.9%.

Strong revenue growth in constant currency was posted across all four reporting segments. Mobile services revenue in Nigeria grew by 19.7%, in East Africa by 12.4% and in Francophone Africa by 12.1% (and across the group by 15.6%, with voice revenue up by 12.0% and data revenue up by 22.1%). Mobile money revenue grew by 29.5%, driven by growth of 31.5% in East Africa and 23.6% in Francophone Africa.

EBITDA increased by 14.3% to $1,255 million in reported currency and by 17.8% in constant currency, with an EBITDA margin of 48.9%, an increase of 60 basis points in reported currency and 38 basis points in constant currency. Profit after tax was $330 million, lower by 1.5% due to higher foreign exchange and derivative losses of $160 million. Profit after tax excluding foreign exchange and derivative losses was up by 30.4%.

During the first half of the year, Capex increased by 26.9% to $310 million as the company continues to invest for future growth. Additionally, spectrum in key markets including DRC and Kenya was acquired.

"Airtel Africa continued to deliver strong results as its purpose of transforming the lives of people across sub-Saharan Africa through digital and financial inclusion gained further momentum, with growth accelerating in the second quarter," said Segun Ogunsanya, CEO. "Whilst we are not immune to the current macro-economic challenges and currency devaluation risks, I am pleased to report double-digit reported revenue growth in the period, largely driven by customer growth of 9.7% and ARPU growth of 7.2%, as we increased penetration and usage through our affordable service offerings."

Telcom Egypt expects double digit growth

Telcom Egypt has forecast double-digit revenue growth and earnings before interest, taxes, depreciation and amortization (EBITDA) of around 30% for the 2023 financial year. It is also targeting a ratio of capex to sales of around 20%.

To achieve these growth objectives, Telcom Egypt intends to capitalize on its strategy to take advantage of the dynamics of data, to monetize the infrastructure and to reduce costs while rationalizing investments.

In the first half of 2022, Telecom Egypt's net profit grew to 3.8 billion Egyptian pounds, compared with 3.9 billion Egyptian pounds in the same period of 2021. For the second quarter 2022, the company posted a net profit of 2.4 billion Egyptian pounds, up 38.2% from the second quarter of 2021 when the company recorded 1.74 billion Egyptian pounds.

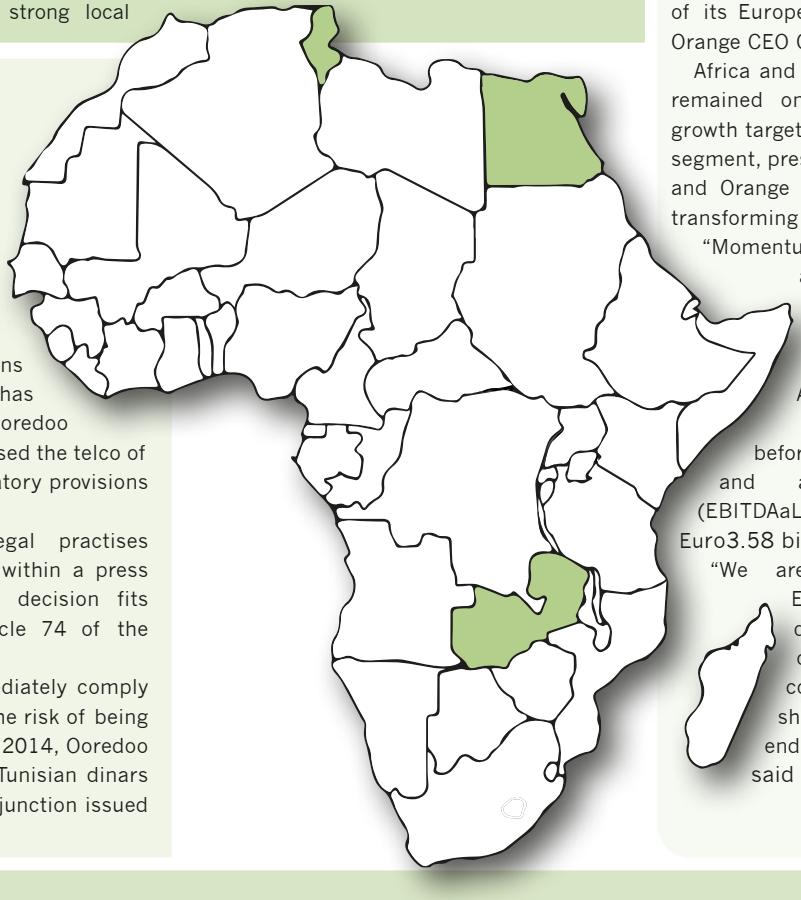
"We expect data to continue to be our main driver of revenue, with strong local and international demand, supported by improvements to our network and our world-class facilities – which clearly puts us in the lead to become the data hub in the region," said Adel Hamed, CEO of Telecom Egypt. "Operationally, we plan to grow our customer base and other key performance indicators by improving our services."

INT accuses Ooredoo Tunisia of non-compliance

The National Telecommunications Authority (INT) of Tunisia has issued an injunction to Ooredoo Tunisia. The regulator has accused the telco of non-compliance with the regulatory provisions governing retail offers.

INT has referred to illegal practises relating to commercial offers within a press release, and states that its decision fits within the provisions of Article 74 of the Telecommunications Code.

Ooredoo Tunisia must immediately comply with the recommendations at the risk of being inflicted with sanctions. In May 2014, Ooredoo Tunisia was fined 5.3 million Tunisian dinars for failing to comply with an injunction issued to it in September 2013.



Orange gains higher revenue in Middle East and Africa

Orange's activities in Africa and the Middle East saw revenue climbing in the third quarter of the current financial year by 4.2% year-on-year (YoY) to Euro1.8 billion. The growth is slowing, but still there.

Orange Group recorded 1% YoY growth in overall revenues in the third quarter, to Euro10.82 billion, with Africa and the Middle East as the main contributor to this growth.

"In an inflation-dominated macroeconomic environment, Orange has again delivered resilient results and demonstrated the complementary nature of its different markets. The Group's third quarter revenues grew by 1%, largely thanks to the contribution of its European countries and Africa," said Orange CEO Christel Heydemann.

Africa and the Middle East's slight growth remained on course to meet its annual growth target of around 6%. In its enterprise segment, pressure on margins remain intense and Orange is concentrating its efforts on transforming its business models.

"Momentum in the Africa region once again proved solid and resilient with continued growth, rising 4.2% despite the geopolitical context which weighed on West Africa," said Heydemann.

The company's earnings before interest, tax, depreciation and amortization after leases (EBITDAaL) increased slightly by 0.2% to Euro3.58 billion.

"We are confident of accelerated EBITDAaL in the fourth quarter thanks to the reversal of underlying effects and a commercial performance that should remain robust during the end of the year holiday period," said Heydemann.

Link Africa names Imran Abbas as new CEO

Link Africa (Pty) Ltd. has named Imran Abbas as its incoming chief executive officer with effect from 1 December 2022 from Craig Carthy who is moving on to new endeavours.

Abbas was previously the partner manager sub Sahara Africa at Facebook. He is an electrical engineer with formal qualifications including an executive development program through the Ross School of Business, M-Tech program in management (MBA equivalent) ,and a Bachelor's Degree in management.

"With more than 30 years of local and international telecommunications industry experience, he brings a unique set of skills, perspectives, and relationships to lead Link Africa into the future," said Willy Govender, chairperson of the board at Link Africa. "Building on what we have already accomplished, under his leadership we hope to hone our strategic direction, grow and develop our organisation, strengthen our partnerships, and build new relationships."

Vodacom Tanzania extends M-pesa to 8 SADC countries

Vodacom Tanzania's mobile financial services platform M-pesa has extended its international money transfer service to eight new countries in the Southern African Development Community (SADC). This will allow its subscribers to send and receive money through their mobile money accounts in these countries.

South Africa, Malawi, Zambia, Zimbabwe, Lesotho, Mozambique, Eswatini and DR Congo are now under Vodacom Tanzania's coverage. This initiative makes it possible to financially link the diaspora to their families back home, while international and inter-regional trade is made even easier thanks to mobile money, according to Minister Dr. Stergomena Lawrence Tax, at the Ministry of foreign affairs and East African cooperation.

"The advent of mobile money in international remittances has not only improved ease of access, but also reduced the cost of transfers, bringing us closer to achieving the Sustainable Development Goal (SDG 10) United Nations. We applaud this growth in this space and commend Vodacom M-Pesa for leading the way," said the Minister.

Vodacom began developing its international transfer portfolio from 2014 with Kenya. In 2019, the operator expanded the M-Pesa service to enable subscribers to send money across East Africa and receive it from more than 200 countries. In September 2021, the functionality to send money to all bank accounts in Kenya, Uganda, and Rwanda was added.

Talking satellite

Martin Jarrold, vice president international programme development, GVF

Capacity-building for Africa's space

I write this column at the close of World Space Week (4-10 October 2022), "an international celebration of science and technology, and contribution to the betterment of the human condition." With events held around the world, sub-Saharan Africa featured events in Cameroon, Ethiopia, Nigeria, and Zimbabwe, and GVF had a supporting relationship with Space Week Zambia in Lusaka, comprising exhibitions, presentations, and keynote speeches aimed at cultivating the mind of African youth towards interest in space education and the space industry.

Africa's aggregate space economy is small, and it is still relatively young. In 2021 African governments did increase aggregate space sector expenditures by some 9% to just over US$548m, with the continent's most advanced space market, South Africa, heading the budget list at US$154 million, followed by Nigeria at US$68 million, and Angola at US$24 million. More or less in line with these relative sums, South Africa has six satellites in orbit, Nigeria also has six; Angola just one. Ghana, Ethiopia, and Kenya also have sizeable budgets for space technology.

South Africa's first satellite, the Stellenbosch University-built SUNSAT, was launched in February 1999. Prior to SUNSAT, the continent had seen expansion in space activity with the establishment by the United Nations of Regional Centres for Space Science and Technology Education in developing countries, and with Nigeria chosen for anglophone Africa. More African nations started developing an interest in space and those already aware of the benefits of space technology in development started seeking means to procure satellites and acquire space-related knowledge. Since 1998 this Regional Centre has trained several hundred personnel from across Africa in such areas as the application of space technology in agriculture, transport, urban planning, environmental management, disaster management and natural resource management.

The next sub-Saharan African country into space was Nigeria, with NigeriaSat-1, built in the UK by SSTL; the third sub-Saharan country into orbit was Ghana, with the Japanese-built GhanaSat-1; AngoSat-1, manufactured by Russia's RSC Energia, was Angola's entrance into operating a satellite; Kenya followed with the University of Nairobi-built 1KUNS-PF; Rwanda's RWASAT-1, built by local engineers supported by the University of Tokyo, was lost to a decaying orbit.

One of the more recent of sub-Saharan countries to reach orbit was Ethiopia with the national Space Science and Technology Institute-built ETRSS-1. More recently still was the beginning of the space ambitions of the African island nation of Mauritius in the form of the nanosatellite MIR-SAT1, built to collect climate change data, and for weather forecasting, road traffic management, and maritime surveillance of Mauritius' Exclusive Economic Zone. The nanosatellite was built by researchers at the Mauritius Research and Innovation Council (MRIC), part of the country's Ministry of Information Technology, Communication and Innovation, with technical support from the United Nations Office for Outer Space Affairs (UNOOSA) and the Japan Aerospace Exploration Agency (JAXA).

Most of the above listed satellites – SUNSAT (South Africa), 1KUNS-PF (Kenya), RWASAT-1 (Rwanda), ETRSS-1 (Ethiopia), and MIR-SAT1 (Mauritius) – were in whole, or in part, the spin-off products of the development of national domestic academic space programmes, some of which covered such varied subjects as remote sensing, space weather, satellite communication, satellite geodesy, satellite meteorology and space law.

Where, as in the other example cases cited above, African countries have procured satellites with the help of foreign academic or commercial institutions there has been little or no technology transfer, and the technology and knowledge from externally funded programmes tend not to be domestically internalised with the impact that Africa loses human capacity and talent to non-African countries.

The 2022 EU Global Action on Space Market Report Africa noted that the continent's capability gaps benefit non-African space powers, such as China and Europe, with the more advanced space fairing countries increasingly projecting a mix of soft power and space-sector capacity across the continent. China is the largest beneficiary of space partnerships with African nations, enjoying huge commercial deals in building several satellites, and Europe has unveiled two investment initiatives worth US$29 million to develop the use of satellite technologies in Africa over the next few years.

Africa needs to develop a larger pool of local space experts in Earth observation, satellite communication, navigation and exploration. Earth observation in particular was identified in the WEF Digital Earth Africa Report, calling on African countries to leverage new-found satellite capacity to improve data collection and spur development.

Of course, science, technology, engineering and mathematics (STEM) are the underpinnings of technical careers in satellite but advancing human resource capacity to build space and satellite businesses encompasses skills beyond only technical expertise, and GVF – in partnership with SatProf Inc and the SSPI – has developed a resource to address these non-technical needs: the SBQ.

When writing previously in this column about the 'Space Business Qualified' certification, the Fundamentals Series of SBQ courses was still in development. Now the Fundamentals Series is complete and will be followed by a specialist series of courses covering satellite communications and broadcast, spacecraft and launch, and earth observation, navigation, and science, planned for release beginning later this year. Details of the five SBQ Fundamentals courses – which provide a broad introduction to all business aspects of key space industry sectors, including launch, spacecraft, communications, broadcast, earth observation, navigation, and exploration – can be found at www.spacebq.org. You can also follow SBQ at #SpaceBQ.

MobileMark

antenna solutions

KEEPING YOUR WORLD CONNECTED

with Advanced 5G Antenna Solutions for Autonomous Vehicles, Public Transportation, Precision Agriculture, Medical IoT,Robotics, and More!

www.MobileMark.com

Contact Us Now:
+44 1543 459555
enquiries@MobileMarkEurope.co.uk

Accelerating to Airport 4.0

Airport 4.0 enables airports to embrace paperless operations, enhance operational and situational awareness, as well as reduce costs so they can become more competitive, outlines Mohamed Amin, digital transformation, Nokia MEA

The adoption of Industry 4.0 digital technologies, such as IoT, AI, machine learning and data analytics are expected to revolutionize the operations of airports, accelerating automation, reducing costs, and monetizing connectivity — all with the goal of improving the passenger experience and overall airport operational efficiency. Leading African airports are increasingly being supported by service providers to digitize their operations and improve their passengers' experience with a complete set of innovative technology solutions that will help African airports to transform to Airports 4.0.

The biggest challenge is the fast adoption of new technology solutions while focusing on the day-to-day operations. Airports CEOs and CIOs know that they must transform the way they used to operate airports. Going digital and paperless in Airfield & MRO operations is a must and this is becoming more obvious in the wake of the pandemic, which resulted in increasing pressure on airport operations to cater for the growing number of passengers and increased airline traffic.

Bleeding edge technologies

The airport is the main smart city gateway, and the newly developed smart city's target is to attract and accommodate more visitors per year. That's why the first visitor experience on arrival at the smart city airport is key for the overall experience. Moreover, the airport is considered a small multinational smart city within itself with all its own services along with those from companies operating within the airport.

We cannot claim that airports are becoming testbeds for new technologies since they are highly regulated areas with intense security measures and critical operations. However, some leading European airports like Brussels Airport have been at the forefront of implementing new technologies like 5G-ready private wireless network. These new technologies have enabled them to accelerate digital innovation, facilitate the integration of future technologies to optimize the airport's overall operations, and increase the operational efficiency and reliability of airport systems by introducing technologies like IoT (Internet of Things), automated vehicles, mobile safety systems or track-and-trace technology.

Public vs private networks

Airports must provide broadband connectivity everywhere for wireless communications to function properly. The challenge in Africa is in encouraging telecom operators and regulatory authorities to provide more wireless spectrum to cater the broadband demand from passengers and for airport operations. This is in addition to allowing airports to use 4G/5G private wireless technologies for their operations.

The shared WiFi/public wireless networks in use today for passengers are susceptible to traffic congestion, cybersecurity threats and poor signal strength (resulting in unpredictable performance). The WiFi and public wireless networks are unable to prioritize bandwidth for critical applications. Moreover, WiFi does not support proper QoS (Quality of Service) management and public networks are engineered to meet non-critical customer needs. That's why they might be sufficient for passenger use but not for critical airport operations, which need private dedicated wireless networks.

Airport automation requirements are reliable, low latency, secure and scalable wireless infrastructure. This is especially true in the dense use case environment like the stand. Wireless connectivity should be guaranteed in this environment, including coverage, capacity and QoS, and to enable use cases such as automated gate bridge, turnaround optimization analytics and autonomous vehicles. These requirements can be addressed through dedicated private 4G/5G wireless networks for airport operations while keeping WiFi & public cellular for passengers and retail use.

The foundation of Airport 4.0

Private wireless networks create the foundation for Airport 4.0.

Indeed, one of the key pillars in an airport's digital strategy is pervasive, reliable, and secure wireless communications able to support a diverse set of use cases and applications. Currently airports typically employ publicly accessible WiFi, which is shared by passengers and operations staff. They also have a choice of several locally available mobile operator services. Because neither of these wireless services is up to the task of supporting the digital transformation of airport operations, airports need to consider a separate, purpose-built private wireless network to support their digital operations and mission-critical communications.

Once this private wireless foundation is there, it will allow the usage of new technologies for Airport 4.0 such as IoT, AI, machine learning and data analytics, that hold great promise for accelerating digitalization, while lowering operating costs, and monetizing the services that airports can offer to partners and tenants.

Of course, if a private network is taken down, contingency plans must be in place to support mission critical operations. Robust equipment and network architecture that are resilient by design must be implemented. Moreover, potential network failover scenarios must be tested before accepting it to be operational. ■

African data centre sustainability

Data centres have become key to Africa's mobile network operators, helping support the massive growth of data from voice and mobile, as well as emerging technologies like 5G and IoT. Amy Saunders discusses one of the most pressing considerations for those in the data centre world: sustainability

Data centres play a key role in our increasingly digital world, providing centralised locations for processing organisations IT operations and equipment to store, process and disseminate data.

For MNOs, data centres have become vital for managing the huge volumes of data and voice traffic – in the first quarter of 2020, more than 45 exabytes of data and voice and traffic passed through telecommunications networks – and with the ongoing 5G and IoT deployments, this data volume is set to skyrocket. African MNOs are investing heavily in data centres to keep up with demand brought about by digital transformation.

The importance of data centres is growing across the world as public and private sector enterprises alike are becoming increasingly digitised. This is reflected in the numbers; Allied Market Research reports that the global data centre market is expected to grow at a compound annual growth rate of 10.5% over 2020-2030 to reach US$517.17 billion.

A fledgling market

The African data centre market is in its infancy; however, demand is booming as the digital revolution takes hold.

Arizton Advisory and Intelligence reports that the African data centre market is expected

to expand at a compound annual growth rate of 12.73% to US$5.4 billion over 2021-2027, significantly above whole-world averages. The market is expected to comprise 1,355,000 square feet of floor area and 267MW of capacity by 2027. Research and Markets reports that Africa has more than nine data centres that have each added 30,000 square feet of white floor area or more in 2021. South Africa is the leading country in terms of investment at more than 50% in 2021, followed by Kenya, Nigeria, Egypt, and Ethiopia.

Market growth has been attributed to the advancement of technologies like the cloud, big data, and IoT, which generate more data through high-end applications and need more efficient systems for data processing. Significant recent activity by hyperscalers looking for more than 20MW data centre capacity has impacted on Africa. Meanwhile, several government bodies have taken initiatives to develop special economic zones (SEZs), free trade zones, industrial parks, high-tech parks, and business service parks that provide tax exemptions for data centre development. Kenya aims to set up special economic zones in Mombasa, Lamu, and Kisumu to attract data centre investment.

Key continent-wide investments that will positively affect the market include Kenya's construction of the first smart city, Konza Technology City; Teraco Data Environments has partnered with Routed for African Cloud Exchange; Microsoft, has announced the availability addition zone in Johannesburg; the National Information Technology Development Agency (NITDA) has released the Nigeria Cloud Computing Policy (NCCP) with the goal of achieving a 30% increase in the cloud adoption by 2024; MTN plans to become carbon neutral by 2040 via its Project Zero programme.

Leading by example

Homing in on Africa's leading data centre market, Arizton Advisory and Intelligence reports that South Africa will see its market expand at a CAGR of 11.15% in 2022-2027 to reach US$3.23 billion. Market size is expected to reach 555,000 square feet of floor areas and 103MW of capacity by 2027, while colocation market revenue should hit US$540 million.

South Africa has more than 20 operational colocation data centres, most of which are being developed according to Tier III standards. Johannesburg is the centre for investment in South Africa, followed by Cape Town, Durban, Centurion, and other cities like Port Elizabeth.

The regional growth is attributed to the increase in local internet and social media penetration driven by COVID-19, deployment of 5G, improved inland connectivity, and low electricity and land prices. Hybrid cloud services are gaining increased traction, with most enterprises using private and public cloud environments to improve information sharing and efficiently manage data. Research and Markets estimates that cloud adoption will grow up to 25% annually and is expected to generate US$1.5 billion by 2024. Additionally, South Africa is witnessing improvements in submarine and inland connectivity. For instance, 2Africa, the longest subsea cable, will connect South Africa with other countries such as India, the UAE, Saudi Arabia, Spain, the UK, Oman, and other countries.

The introduction of South Africa's Protection of Personal Information Act (POPIA) will protect the confidentiality of the citizen's personal data, which will boost the market. Moreover, the country is also home to several city projects like the Lanseria Smart City, which will be built near the Lanseria International Airport near Johannesburg over the next 25 years.

Enabling Africa's MNOs

The last decade or so has seen data centre technology become essential for telecommunications providers. Data centres are expected to help operation teams with simplified and automated data management that improves operational efficiency while cutting costs. Meanwhile, their customers are set to benefit from lower latency and higher quality services – a win-win for everyone.

With the rise of 5G, providers must transform their service infrastructure to meet new requirements, including high data rates, ultra-low latency, and massive machine-type communications. Incorporating cloud-native architecture into telecommunications data centre design is the key to enabling new services made possible by 5G that are application driven, agile, and mobile. This provides the best experience for the end user, and also optimizes and reduces bandwidth occupancy on the network transport side.

This technology presents an opportunity to provide services that maximize revenue opportunities with Opex savings. It helps deliver converged broadband and multi-access edge computing. This will result in an improvement of service velocity, agility, and operational efficiency that service providers can pass on to their consumer and business customers.

Moreover, using new-built local data centres rather than those apart from the continent enables MNOs to meet national data regulations, as well as benefitting from reduced latency.

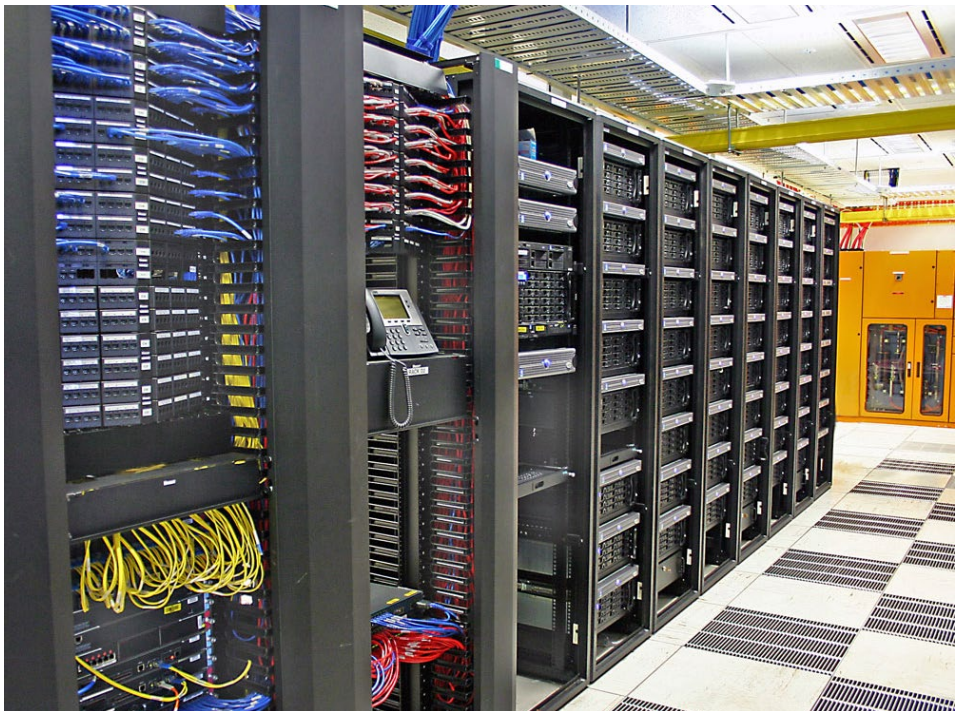
"MNOs using African data centres instead of data centres outside the continent will increase drastically their performance and ensure African countries data sovereignty to protect African citizens," said Paul-Francois Cattier, managing director, Africa Data Centres Association.

Recognising the opportunities offered by data centre technology, Africa's MNOs have adopted their use faster than anticipated; a fantastic development for those in the value chain but one that raises questions about sustainability.

Climate neutrality

Data centres are estimated to consume anywhere from 1-3% of a nation's total power consumption. This is just one reason why sustainability has become a key target for data centre operators and users alike. Many have committed to becoming climate neutral by 2030, and as of July 2022, 74 data centre operators and 23 associations have signed up to the Climate Neutral Data Centre Pact, which requires increased energy efficiency; clean energy; water efficiency; circular economy; circular energy.

The Climate Neutral Data Centre Pact recognises that legacy data centres present one of the biggest challenges. Those built 10 or more years ago consume huge amounts of energy and will require heavy investment in the years to come for decarbonisation.



"The industry has to look towards technology that allows balance from both energy-efficiency, along with the data centre's operational needs," said Stavros Spyropoulos, business development manager Africa region, Subzero Engineering. "It is not unusual to walk into a data centre in Africa and find not only the chillers working at 100% but also within the hall itself A/C units working full time to make the working environment more bearable. As costs increase, this is becoming more and more unsustainable."

However, most African data centres are modern constructs featuring more environmentally friendly designs. Moreover, for the many upcoming data centres on the continent, there are several features that can be incorporated from the planning stages to produce a greener installation. Immersion cooling, the application of artificial intelligence for workload management, and sourcing renewable materials for construction are just the tip of the iceberg. As well as proving positive for the environment, these green initiatives lower Opex for the lifetime of the data centre.

Indeed, many new ideas are coming into play, and vendors that can help source renewable energy, lower power usage effectiveness, and provide for greater building efficiency can expect to gain business in the years to come.

Energy efficiency key for sustainability

Data centres on the African continent face challenges unique from much of the world, including a hot, humid environment which requires more energy to cool and dry than those in Europe. With energy consumption accounting for a whopping 20-30% of the total cost of ownership for data centres, a large amount of which is associated with cooling measures, energy efficiency is key for both financial and environmental reasons.

"Energy efficiencies in data centres can come from two sides. The first is technical infrastructure of cooling. Cooling is a large energy consumer that can be reduced drastically with hot aisle and cold aisle urbanisation, as well as containment of hot aisle and in row cooling. Free cooling is available even in Africa given the right altitude, or overnight," said Cattier. "The second side is the IT on servers; following the latest ASHRAE standard for data server temperatures, the environment could decrease the energy needed for cooling. Moreover, the virtualization of servers where possible is an excellent driver to reduce energy consumption up to a factor of five."

According to the Africa Data Centres Association (ADCA), the average African data centre power usage efficiency ratio (PUE) is just 1.5, below the global average of 1.58. One of the reasons for this better-than-expected score is that most of Africa's facilities are modern and more efficient, a positive result from being a latecomer to the digital revolution.

Looking to ensure African data centres continue to improve on their environmental credentials, the ADCA has outlined the following plan for sustainability:

- Continued adoption of latest technology for new data centre construction
- Creation of an African Code of Conduct utilising the process of continuous improvement through, planning, and monitoring
- Promotion of the use of on-site renewable energies like solar, wind, water, hydrogen
- Development of a 'Keep it African' Label to ensure the maximum usage of construction materials and hardware are sourced from the continent
- Avoid the mistakes made in the past by global data centres lacking climate awareness

Power supply is notoriously challenging in parts of Africa and varies widely from country to country.

"The biggest challenge for Africa in the development of their data centre industry is access to a stable electricity grid, let alone a low carbon grid. In many areas a grid doesn't even exist or is so unreliable that on site generation is the only way to operate," said Simon Brady, head of data optimisation at Vertiv.

Indeed, South Africa has faced more than its fair share of power disruptions this year, causing chaos for MNOs and other enterprises relying on always-on connectivity, leading to the Pan South African Language Board (PanSALB) to crown 'load-shedding' as its word of the year.

As highlighted by both the Climate Neutral Data Centre Pact and the ADCA, renewable energy has a huge role to play in the African data centre market. Adoption of renewables varies widely across the continent, although the International Renewable Energy Agency (IRENA) states that solar is now the fastest-growing renewable energy source in Africa, with an increasing number of countries working to increase their solar capacities beyond 1GW. Northern and Southern Africa lead in renewable projects but countries across sub-Saharan Africa also have major renewable projects in the works.

"An ageing energy infrastructure in some countries means there is an overreliance on oil generators and operators need to look at more reliable sources," said Spyropoulos. "If you take Kenya as an example, it hosts the largest wind farm in Africa, Turkana Wind Farm. The wind farm covers 160 square kilometres and has a capacity of 310MW, enough to supply one million homes. 90% of all of Kenya's electricity being generated from renewable sources, such as wind and geothermal. However, in South Africa there is still a reliance on thermal power meaning currently it has a large carbon footprint."

Several governments are adding more renewable energy production to cater to the increased requirements from African data centre operators. In August 2021, Morocco commissioned the 300MW Boujdour wind farm, part of an 850MW integrated wind energy project. In South Africa, Eskom plans to invest US$7 billion for renewable energy plans for the next nine years.

On-site power supply has been highlighted as a key factor in obtaining reliable energy for data centres. Environmentally unfriendly diesel generators are frequently found at African data centres for backup during grid outages to ensure continued operations for customers, but these are used at a high price for the environment.

"Sadly, most on site generation in these developing regions is via diesel generation," said Brady. "On a more positive note, many of these developing regions have more solar hours, but data centre power density makes creating a net zero facility an expensive investment."

The delivery of on-site renewable energy is

challenging, since data centre form factors are compact, thus only a limited number of solar panels can be installed.

"With the most solarized area of the planet and the weakest energy grid, Africa will be obliged to achieve on site solutions for energy production as the best way to reach a climate neutral data centre," said Cattier. "It's been very interesting to see all these African Green Hydrogen projects breaking ground; these will certainly be used by African data centres."

Alternatively, signing long-term power purchase agreements with renewable power providers could make a huge impact on data centre sustainability, as well as the local grid; however, regulations on this vary across the continent.

"Using renewable energy is complex as most of the time, they are not permanent – solar during the night, wind, even water is sometimes not producing energy - so it's best to use a micro grid to juggle different sources of energy: the grid when available; battery storage; diesel generator; and renewables like solar, wind, hydrogen or water; and using the most effective and sustainable source at every moment automatically," said Cattier. "Using this mix of energy sources will enable the most sustainable data centre, while maintaining 99.999% uptime."

A green future

The African market is seeing some of the fastest growth in internet use and availability in the world due to a combination of factors including increased options, falling prices, and a fast-growing population with a high proportion of young people.

"Africa will reach a population of 2.5 billion by 2050, and most probably account for half of the global population at the end of this century, with a median age today below 18 years old. This young, dynamic group is adopting smartphone and internet as quickly as US teenagers, and leapfrogging Africa ahead in the digital world," said Cattier. "African MNOs have been big drivers of this change, bringing access to the internet, knowledge, business opportunities, healthcare, finance, commerce and simplifying daily life."

Alongside increased adoption of voice and data via mobile phones, and the onset of 5G, IoT and smart cities, data production and consumption are expected to continue to boom across the continent for the foreseeable, fuelling increasing investments in cables, fibre, and data centres.

"While the developed world is still expanding internet and mobile reach, and trying to do so sustainably, developing nations are being asked to invest in their infrastructure in a sustainable way, when we didn't have to," said Brady. "More needs to be done to help these regions get their infrastructure up and running with ESG goals in mind."

"The industry is responding successfully to this twin digital and sustainability challenge, with operational agility and technology innovation very much to the fore," said Spyropoulos. "Add in the burgeoning secondary/regional/edge market and there is, perhaps, no better example of how all of these factors are shaping the global data centre industry than in Africa right now."

Sustainability strategies are going to have a huge role to play to ensure that Africa doesn't contribute disproportionately to climate change. Global and local standards can help here, however, good intentions only go so far. Real action is needed across the entire ecosystem - from MNO, to service provider, through to the data centre owner, to consumer – to strive for and demand truly sustainable technologies, for the good of their wallet, and indeed the good of the world. ■

Digitising passive infrastructure is a must

Accelerating mobile internet adoption depends on a digital transformation of our network infrastructures, says Justin Head, founder, PowerX Technologies

The mobile internet has brought life-changing benefits to communities around the world - especially in rural Africa. Unfortunately, the cost of maintenance, rising energy costs and concern about emissions are restraining its spread.

There are few markets or industries untouched by the accelerating rate of digital transformation. From education, health and e-commerce to video conferencing, banking and remote working, mobile technology continues to shape our day-to-day lives. More importantly, mobile internet is playing an increasingly critical role in boosting socio-economic growth in some of the most disadvantaged geographical areas around the world.

Yet in sub-Saharan Africa, despite recent boosts in coverage, 19% of the population (source: GSMA - The State of Mobile Internet Connectivity 2021) still lives outside the footprint of mobile connection. Compared to the rest of the world, where less than 6% of the global population is geographically denied access to mobile coverage, the African subcontinent is woefully underserved.

The inequities are stark. Whilst more than half of the world's population had access to mobile internet in 2021, only a third of the population in sub-Saharan Africa was connected to the internet using a smartphone. What's more striking is that whilst mobile network operators, tower companies and technology providers consistently push boundaries to expand 4G and 5G coverage globally, less than 12% of the population of sub-Saharan Africa enjoys connection to these essential 4G/5G services.

Much is needed to bring digital transformation to the people and industries of this region - enhancing the lives and communities of people across the entire continent. Increased efficiencies and urgent investment are essential to rapidly upgrade network capacities - not only to provide more coverage but also to offer capacity for new users and migration to 4G.

The complexity of the task

Being custodians of mobile continuity of service is far from straightforward. More often than not, tower networks are built on multiple generations of technology - some state-of-the-art and some legacy - extended over vast geographical areas. They are also in a constant state of flux, with new tenants being added, subscribers being signed up to mobile internet services in huge numbers, and equipment being swapped in and out or repaired. All this against the backdrop of difficult and constantly changing geo-political conditions, challenging terrain, extreme weather, and more pedestrian (but no less problematic) issues

SOURCE: Northern African Wireless Communications

such as hardware failures, theft or unstable power supplies.

Combined, these factors make tower networks highly complex and difficult to manage. Keeping the lights on, both at the site level and at scale across big, dispersed networks, is non-trivial. Due to the scale and complexity of infrastructure and operations, it is inevitable that things go wrong. But when they do, the current modus operandi means problems end up costing more, divesting resources, and slowing down growth. The solution lies in a new paradigm – the digitisation of passive tower infrastructures.

The power of intelligent data

To achieve essential operational efficiencies and cost reductions, as well as ensuring resilience and bandwidth growth with optimal supporting CAPEX investment, the embedding of large-scale data intelligence into the core of daily operations is becoming a non-negotiable must-have.

The operational model for monitoring tower performance today relies on fragmented data sets and requires intensive, time-consuming manual interventions to find the issues that need action. At PowerX, we typically see operational teams having to join data across 10 or more data extracts, all from different systems, to distil the key measurements that they need to spot issues or measure performance. In addition, there are often instances where - even if remote monitoring systems (RMS) are installed - they present anywhere between 20-50% data gaps. Frequently they are poorly installed, missing key data points which make it difficult for operational teams to reconcile functions like power consumption or accurately measure if all the equipment is managed most efficiently.

A typical network of 10,000 towers, connected but without data intelligence tools, experiences a network-wide error. This might initiate an investigation by 10 or so tower specialists, but their time is limited so they can only (at best) perform a deep investigation for one issue at about 20% of the problem sites, using outdated manual processes and fragmented data sets. The result? Sending field engineers on-site to solve the problem, despite them having little information and being ill-equipped to immediately fix the unattributed error.

Unlocking the data to the power of X

Data is key to unlocking efficiencies at this scale - but only if there is a layer of technology to make it work at scale and significantly increase reach.

PowerX has been developing a new approach to tower operations, maintenance, and planning: placing industry-first artificial intelligence (AI) tools at the very heart of tower operations and decision-making. Using PowerX AI, tower teams see 20-40 optimised tailored settings for every site, every day. For the same typical 10,000-tower network referenced above, data intelligence means a lean tower maintenance team can implement over 100 million+ tunings a year, across 100% of the network, without any increase in manpower.

A single anomaly at a tower is a rarity. Our engineers typically see a minimum of at least seven anomalies per site. At a scale of 10,000 sites, that is over 70,000 anomalies that may require manual intervention. These might be anything from inefficient loads on generators and sudden drops in energy produced by power equipment to diesel leakages or suboptimal battery charges. How does a team of operational managers and NOC engineers wade through so much data to make the right priority call? The answer lies in leveraging data intelligence at scale to transform network operations center (NOC) heroes from 'problem finders' into 'problem solvers.' PowerX data intelligence equips NOC and tower specialists with a wealth of interconnected context so they can choose which sites to address first based on risk or cost, and inform field engineers to fix first time.

For every 10,000 towers, PowerX data intelligence delivers the equivalent of a team of over 350 specialists - without having to increase headcount. Quoting one of our customers (currently rolling out PowerX technology in Angola) this approach is like having "an accountant standing at the tower site, along with an operations manager, a technical guy, a sustainability consultant, a cell provider customer service rep and a data analyst all making decisions together to have this one little site in the middle of nowhere operating at the cheapest, most efficient, most environmentally friendly level possible."

This level of automation and scale is only achievable with our AI-driven approach. AI learns how a network operates down to each individual tower, collecting and analysing billions of data points across tower networks in real-time to unlock efficiencies, identify invisible anomalies and generate detailed audit trails. AI automation finds inefficiencies buried deep in operational data, automates time-intensive manual processes, and delivers continuous network optimisations at scale.

Key steps for data automation

1. Build a business-oriented data environment by integrating data from the different tower systems used to collect large-scale data in real-time. Then, deploy AI data quality audit and data fix techniques to help address gaps that prevent optimizations.
2. Apply a business lens to individual site data by ingesting hundreds of data points for each site in near real-time and creating new enriched metrics, applying ML models to continuously turn raw data into up-to-date unique business information for thousands of sites.
3. Detect previously unseen efficiencies by deploying ML/AI models exclusively developed for mobile towers. Deploy these changes at scale and detect anomalies that impact operational efficiency or put the site at risk.
4. Automate at scale by embedding in the real live systems the ML/AI models developed in a closed-loop approach to automate optimizations at scale with operational tools - including audit reports, notifications, trouble tickets, AI controls and AI 'what-if' simulations.
5. Finally, run operations to benchmark best-in-class operations at scale with league tables and comparison tools. These empower teams across the business to identify best-performing operations or OEMs either within the network or against the wider market.

Data intelligence at scale accelerates growth

This approach improves asset utilization by at least 10% - meaning that without data intelligence, every US$100 million invested leaves US$10 million sitting idly in the infrastructure. That US$10 million of CAPEX can be used to upgrade capacity for new users, move to 4G or provide more coverage.

Data intelligence reduces diesel consumption by at least 20-30%, along with associated costs and environmental impacts (on some sites we reduced CO2 emissions by half, helping customers deliver mobile connectivity without compromising on the environment). It means less fuel, less maintenance, fewer visits, fewer services, fewer genset replacements. And with auditable tools, we see increased investor confidence, bringing in new funds that can go toward upgrading capacity for new users, for 4G and more coverage.

The days of preprogramming field equipment and having towers run inflexible, disconnected scripts are over. The future for the telecoms industry – especially in underserved regions like sub-Saharan Africa - is the analytical and problem-solving power of artificial intelligence. It's time to smarten up our tower networks. ■

SOURCE: Northern African Wireless Communications

TELASYS
FIXED - FIBRE - WIRELESS - ENTERPRISE

Global consultant and reseller for all things telecoms, with an extensive service and supply network across North America, Central and South America, Europe, Africa, Asia, and other international locations

Solutions Delivered, Let Us Be Part of Your Network

New and Refurbished Telecommunication Equipment - Asset Management Solutions - Services and Support

Our Lab

Telasys' ESD compliant test and development facility provides unprecedented capacity offering the ability to test 10G, 100G and even 200G circuits on an extensive and ever growing range of platforms from the likes of Cisco, Juniper, HP, Alcatel, Nokia, Ericsson, Ciena and many more global manufacturers.

Within our own purpose built 2000 sq ft facility we undertake a variety of specialist procedures, testing and screening products to ensure complete OEM conformity is met by means of specification and operational functionality. This provides continued reassurance to our clients that no unforeseen issues delay deployment as even minor compatibility issues are flagged by certified engineers and resolved before dispatch.

Benefits with Telasys:

> Management and oversight by certified CCNA, CCNP and JNCIE engineers or equivalent accreditation.

> 2000 sq ft ESD compliant lab facility at the forefront with 100G/200G test capability.

> Live environment for R&D and proof of concept screening.

> Full test reporting for customer transparency.

> Troubleshooting and support.

TL9000

bsi. ISO 9001:2015 Quality Management

Marlink delivers NaaS to global humanitarian relief organisation

An international humanitarian organisation actively involved in global relief operations in emerging markets was seeking a flexible solution to secure and improve the performance of the hybrid network. The entity required a safe and efficient network extension from its headquarters and data centre to remote country and regional offices, and into the cloud.

A key principle in global relief operations, the client required not only network services for its own offices and staff, but also the ability to share their services with other humanitarian organisations or to emergency responders on their premises, in Africa and beyond.

Seeking a managed, secure network

The humanitarian relief organisation needed to secure, manage, monitor, and improve the performance of its hybrid connectivity network. The global network largely consisted of many Marlink very small aperture terminal (VSAT) stations and unsecure local Internet Service Providers connectivity (ISPs).

The customer was faced with the challenge of managing the local networks at their remote premises and needed an end-to-end solution with the ability to easily scale up any office environment.

With cyber-attacks and data breaches on the rise, it was imperative for the relief organisation to protect its data. Therefore, a provider that could seamlessly manage all network links between the headquarters and data centre to remote country and regional offices, and into the cloud, was required. A full integration of network security was also a criterion to secure internet, critical data, LAN (WiFi and wired), voice and video conferencing, and collaboration tools.

"We needed a secure, scalable and cost-effective solution to manage multiple sized offices with multiple connectivity links. In addition, it was critical that our remote users have a secure and optimised access to cloud services to perform their work. Due to emergency conditions and sometimes lack of local resources in rural areas, the solution also needed to be easily implemented (plug-and-play) and immediately provide wired and wireless local network services to all users," stated the humanitarian customer.

Offloading network management

The humanitarian relief organisation duly appointed Marlink to deliver on its needs.

To improve network performance and enhance data protection, Marlink provided a customised network-as-a-service (NaaS) solution, acting as a single supplier of managed IT and network services and cloud access.

One key aspect of the NaaS solution is the software-defined wide-area networking (SD-WAN) orchestration. Application-based routing management enables traffic prioritisation and load sharing for more efficient bandwidth use and increased network capacity. The network management is centralised so traffic priorities, configurations, and network policies can easily be applied remotely across all sites in different geographic locations.

SD-WAN enables an intelligent assignment of key applications to different connectivity links including VSAT, MSS, fibre, 4G/LTE as well as Internet connections (ISPs). Based on the traffic priorities set by application, the network load is balanced, and path routing is defined to ensure optimised performance. Latency-critical services such as ERP, videoconferencing, cloud services and collaboration tools are prioritised and will not be interrupted.

The solution provided wired and WiFi network access to all local users. As an office grows, services can easily be expanded by plugging in additional access points for WiFi or network switches for wired networking. Additionally, network security was applied to protect critical data and eliminate unwanted traffic through intrusion prevention systems, firewalling, antivirus, DNS filtering, SSL inspection and web filtering.

Marlink also enabled cloud access to Microsoft Azure and Office365 by providing private high-speed peering from the Marlink backbone. Access to its data centre was set up through the Marlink MPLS Backbone.

Today, the humanitarian client has offloaded the day-to-day burden of running the network directly to Marlink, which took on responsibility for overall network management.

The NaaS solution is a flexible service; when the humanitarian organisation requires new, customised, or enhanced configurations and capabilities (cyber detection, firewalling, filtering, cloud access, bandwidth-on-Demand, etc.), it can be simply integrated through Marlink's unified portal in one click.

The following benefits were delivered:

- Secure connectivity for all the remote users
- Optimised traffic and bandwidth use for faster application performance
- Better user experience
- Full interconnection to cloud services through private high-speed peering
- Control of transport to Data Centre through the Marlink Backbone for faster data delivery
- Enhanced network security (WAN &LAN)
- LAN scalability options with plug & play deployment
- Proactive network monitoring
- Content filtering to ensure that other applications do not consume the bandwidth allocated to corporate traffic
- Enhanced visibility, control, reporting and alerting

"To help our customer get the best user experience to all their employees across the world, we support them by managing their large, hybrid WAN infrastructure," said Alexandre de Luca, president of energy, enterprise and government, Marlink. "They needed IT and network management services to optimise all the used connectivity links, from satellite to 4G/5G. Through a network providing the fastest speeds, low latency, and secure direct access to the cloud, we provide a Managed Multi-WAN and LAN infrastructure where we are managing global and local network parameters based on quality of service, including SD-WAN orchestration on an application-by-application basis. With this approach, our customer now experiences stable connections for data-intensive applications such as Teams call, and users working on remote sites have shifted from a local area network experience to a true cloud service. In short, we enable application control all the way from remote LAN to Cloud."

AMN connects remote villages with NaaS

Many rural areas in sub-Saharan Africa have no telecom infrastructure or power grid, leaving millions of people without mobile coverage. However, a network-as-a-service (NaaS) business model can provide a cost-effective solution for the millions of unconnected people living in these remote regions. Such a solution offers an efficient, affordable way for Africa's tier-1 mobile operators to expand their rural coverage.

Serving the underserved

In remote parts of the world that are currently underserved by internet, mobile connectivity can change lives. An entrepreneur can sell goods and services to online buyers; a farmer can find up-to-date information about market prices; a midwife can call for help for a mother in labour; a worker can send money to family in another village without paying high fees for a courier.

For mobile operators, however, connecting these rural communities is not always feasible. As of 2021, 140 million of the 1.16 billion people living in sub-Saharan Africa had no access to a mobile network. Of the 1.02 billion with coverage, 60 million have 2G coverage, while 290 million have 3G coverage, and 670 million have 4G coverage.

Many of these regions have no power grid and no existing backhaul infrastructure. As a result, mobile operators typically direct their limited capital to more densely populated areas where they can serve more subscribers.

Delivering mobile connectivity to Sub-Saharan Africa

Africa Mobile Networks (AMN) owns and operates network infrastructure that delivers services for mobile operators in Africa. Its NaaS model allows operators to expand their coverage deep into rural areas with no capital investments. A founding member of the Telecom Infra Project (TIP), AMN is part of the TIP NaaS Working Group, an industry coalition that works with partners to help scale NaaS models globally using its expertise in business models, site planning, and network design.

Looking at so many unconnected people, AMN designed a turn-key solution to bring 2G, 3G, and 4G voice and data connectivity to remote villages in sub-Saharan Africa, connecting communities that had never before had access to a mobile network.

AMN's sites are optimized for rural environments, delivering services to smaller, more remote communities than ever possible before. A unique site design integrates power, backhaul connectivity, and the local access network into a single structure that can be deployed within a matter of hours. Operating via on solar power, these sites are self-sustaining and environmentally friendly.

Small cells deliver a signal strong enough to cover a village, and each site can be upgraded to add more capacity to meet demand. Sites are connected via a two-way satellite link optimized to minimize latency and jitter, even during harsh rainy seasons.

However, bringing mobile services into the hands of the people takes more than a network. That's why AMN worked with manufacturers to develop ultra-low-cost smartphones. Local villagers receive training so they can serve as mobile ambassadors, helping others in their community learn how to use their phones and connect to the network.

AMN's mission was threefold: to build sites where there is no existing service; to provide growth opportunities to tier-1 network operators; and to deliver profits to shareholders. So far, AMN has achieved all three. The network has brought with it a bounty of new economic and personal opportunities. Some villagers have found work selling airtime or teaching digital skills to others. With access to financial services like mobile money accounts, people can save and transfer money reliably. Instead of sending letters, families can stay connected through voice and data services. Meanwhile, for policymakers, AMN's network provides a way to channel billions of dollars in capital meant for infrastructure development in emerging markets to where it's needed.

The key to AMN's success is its NaaS business model, which allows AMN to specialize in rural connectivity without typical operator legacy systems and overhead. In this model, AMN owns and operates the access network and local backhaul, building sites to reach new service areas. AMN connects these sites to the existing core networks of operators who access the network through wholesale agreements. The operator routes all network traffic and gains new incremental revenue from the sale of airtime. Without the need for capital investments, operators can easily expand their services into rural communities. As we all know, more operators result in more competition, which translates into lower costs for subscribers.

Benefits of the NaaS solution include:

- Access to digital economy, mobile financial services, and telemedicine
- Subscriber growth and service expansion for tier-1 network operators
- Large, economically sustainable market opportunity for NaaS providers

There are several commercial models for operators to choose from, depending on their business goals. In a revenue share model, AMN claims a share of the revenue generated by a site, but also accepts all operational risk. In an OpEx model, AMN builds sites wherever the operator chooses in return for a fixed fee per site, per month. Operators can also choose a hybrid model, which balances the risk and reward between the operator and AMN.

A connected future

Today, AMN operates nearly 2,450 sites in 12 countries with more than 2 million subscribers. That number is set to grow to 3,500 sites by the end of 2022. Ultimately, AMN aims to connect nearly 40 million subscribers with more than 10,000 new sites.

AFRICA TECH FESTIVAL

Including Anchor Events

Africa Com | Africa Tech

25TH ANNIVERSARY

7-11 NOVEMBER 2022 • CAPE TOWN

UNITING BUSINESS AND TECHNOLOGY TO CREATE A BETTER, MORE INCLUSIVE DIGITAL WORLD

SCAN HERE

CHECK OUT OUR FREE PASS OPTIONS.
FOR PAID PASSES, GET A 10% DISCOUNT WITH CODE:
AWC10

#AfricaTechFest

Ericsson solves network challenges with AI app suite

Ericsson has launched its **Service Continuity AI app suite**, the latest addition to its network support services portfolio, in order to simplify technology challenges for service providers. The suite utilises AI and machine learning (ML) to identify issues and provide predictive and pre-emptive support before they impact network performance.

The app suite is divided into five categories: insights; performance; assurance; self-healing; and energy efficiency. Each AI app is an intelligent algorithm created jointly with communications service providers to spot and address potential network issues quickly. The algorithms work within specific parameters to elevate performance in line with the goals of the service provider. An AI app is operational 24/7, ensuring complete oversight of the network, otherwise challenging without automation.

One of the apps is CPRI/SFP failure prevention, which identifies risks of service outage due to CPRI link failure that could adversely affect user experience. Usually, an outage would require an emergency site visit, but with the app, the service provider is able to monitor all relevant links path loss trends, and a site visit is only required once certain thresholds are passed. This can cut costs per site visit by around 30%, while the reduced downtime will enhance user experience and overall network performance and stability.

Other apps measure and analyse energy efficiency per site to deliver detailed insights into the root cause of any inefficiency. Ericsson has measured daily power savings as high as 15% with a European service provider by utilising the automated energy-savings function of an AI app that enables intelligent activation of the radio's deep sleep feature.

"Ericsson Service Continuity with its human-guided AI/ML network intelligence will empower our customers to think in data to constantly improve performance while adapting to changing market conditions," said Nello Califano, head of strategy & portfolio management, business area networks at Ericsson. "Our suite of AI apps will continue to grow as we create new ones together with our customers. We focus on the outcome, creating simplicity for scale."

Real Enablement Suite accelerates new IoT solutions to market

Globalstar's Real Enablement Suite is an innovative portfolio of satellite asset tracking hardware and software solutions, featuring a powerful application enablement platform for processing smart data at the edge.

With Realm, users can accelerate new solutions to market with AI-enabled applications that generate an advanced level of telematics data. Moreover, by defining smart data at the edge, clients only send the data they need over Globalstar's LEO satellite network, thus significantly reducing transmission costs.

"This newest innovation from Globalstar represents a continued commitment to IoT as a core business pillar. With Realm Enablement Suite, customers have the flexibility and agility they need to optimise data from their tracking devices and edge sensors," said Dave Kagan, Globalstar CEO. "Generating smart data at the edge for delivery to the customer endpoint makes all the difference in transmission efficiency and operational performance."

The Realm Enablement Suite comprises:

- Integrity 150 satellite solar-powered, long life asset tracking device. This delivers long-lasting, no-maintenance ownership for a variety of markets, including government agencies, transportation, energy, construction, agriculture and forestry. Integrated into the device is a GPS receiver, accelerometer, Arm CPU on Nordic Semiconductor's nRF5xxx SoC, standard and customizable messaging capability, tamper detection and BLE5 Bluetooth connectivity for a wide variety of sensors. Its flash memory offers 8Mb of storage for application data and firmware updates.
- ST150M satellite modem module. This helps partners create new products in a fraction of normal development time and cost. The module includes a GPS receiver, accelerometer, Arm CPU on Nordic's nRF5xxx SoC, 8MB external flash memory, integrated voltage regulator and BLE transceiver. Its low-power design enables integrators to minimise battery requirements. The ST150 Dev Kit provides an ST150M module with Arduino Uno Rev3 Form Factor and satellite and GPS patch antennas, the fastest way to develop and test technology designs before committing them to hardware.
- Realm enablement application platform. This is the key to unlocking the capabilities of field devices, slashing hundreds of hours of development time for new products and AI-enabled applications at the edge. The low code edge platform provides a lower barrier of entry for partners developing custom applications and solutions. Modular software features a Unified API for fast applications development and easy management

of all hardware, platform-specific, and value-added edge features. This includes the Globalstar BLE library and ela Innovation BLE (Bluetooth Low Energy) sensors libraries. The platform provides an ongoing applications development ecosystem as innovative solutions are added by Globalstar and shared by developers.

"The end-to-end design of the new Globalstar Realm Enablement Suite ecosystem removes the technology barriers to profitable innovation in the tracking and industrial IoT space," said David Haight, Globalstar's VP of IoT. "Realm delivers greater speed and lower cost in both development and deployment by providing the flexibility to innovate with the power to host applications and process data on edge devices for faster action and enhanced performance. The Realm Enablement Suite is what our partners around the world have asked us for."

SeeHawk Monitor automates network management

PCTEL recently launched its SeeHawk Monitor, an automated spectrum monitoring system for P25 public safety radio and other critical communications networks. The monitor also enables automatic testing of the uplink signal to determine whether in-building coverage complies with fire code standards.

The fully scalable monitor enables continuous monitoring of spectrum across multiple radio sites; rapid detection and characterisation service impacting noise and interference; investigation of issues with spectrum analysis in real-time or event replay modes; and automatic testing of the uplink signal during in-building coverage testing.

Composed of multiple Remote Test Units (RTUs), SeeHawk monitors spectrum and radio signals at each site, while the SeeHawk Monitor Platform Manager monitors and configures all RTUs. The monitor's uplink testing feature simplifies ensuring high-quality indoor coverage that complies with National Fire Protection Agency (NFPA) and International Fire Code (IFC) standards. The SeeHawk Monitor Platform Manager remotely manages automated uplink data collection on RTUs throughout the network.

Grandstream launches two dual-band WiFi routers, one with WiFi 6

Grandstream has announced the joint release of two new dual-band WiFi routers: GWN7062 and GWN7052. The routers provide 2x2:2 MU-MIMO to support mesh networking, wired AP connections, VPN, advanced QoS, and powerful security features.

The GWN7062 is powered by WiFi 6 technology and provides WiFi speeds up to 1.77Gbps for up to 256 concurrent users, while the GWN7052 is powered by 802.11ac WiFi technology to provide speeds up to 1.27Gbps for up to 100 concurrent users. By providing accelerated WiFi speeds with strong security protection and advanced features, the GWN7062 and GWN7052 are ideal for SMEs.

The GWN7062 and GWN7052 both provide enterprise-grade security features to ensure secure WiFi and VPN access, including unique security certificates and random default passwords. These routers support VPN to allow remote employees to securely connect to the corporate network from home or branch offices. To ensure easy installation and management, they include a built-in controller embedded within the product's web user interface. TheGWN7062 and GWN7052 will also be supported by GWN.Cloud, Grandstream's upcoming free cloud Wi-Fi management platform. For home use, the routers can support bandwidth-demanding applications, including smart office and home automation, video conferences, web meetings, 4k Ultra HD video streaming, online gaming and more.

The GWN7062 dual-band WiFi 6 router specifications include: dual-band 2×2 MU-MIMO with DL/UL OFDMA technology; 64-bit 1.2GHz quad-core processor; WiFi speeds up to 1.77Gbps to support up to 256 wireless devices; up to 32 total SSIDs, 16 per radio; 1x Gigabit Ethernet WAN port, 1x Gigabit Ethernet port (WAN/LAN configurable), and 3x Gigabit Ethernet LAN ports; 1x USB 3.0 port, 1x reset button, 1x sync button; embedded controller can manage itself and up to 50 Grandstream GWN Series Aps; supports mesh networks with Grandstream APs to provide network expansion; and built-in VPN support.

Meanwhile, the GWN7052 dual-band Wi-Fi router specifications include: dual-band 2×2 MU-MIMO; dual core 880MHz processor; WiFi speeds up to 1.27Gbps to support up to 100 wireless devices; up to 16 total SSIDs, 8 per radio; 1x Gigabit Ethernet WAN port and 4x Gigabit Ethernet LAN ports; 1x USB 2.0 port, 1x reset pinhole; embedded controller can manage itself and up to 30 Grandstream GWN Series Aps; supports mesh networks with Grandstream APs to provide network expansion; and built-in VPN support.

New VSAT service offered for small maritime vessels

Marlink has unveiled its new Ku-band VSAT service designed to meet the needs of smaller offshore, merchant and fishing vessels.

Sealink 60 is designed to provide flexible, regional connectivity to vessels seeking to upgrade from L-band services. The service offers clients the choice of two lightweight 60cm antennas with easy installation, available with a choice of service plans, with or without bandwidth guarantees. Sealink 60 can serve vessels in several regional coverage areas, as well as during transit between those areas.

"The introduction of Sealink 60 marks a further evolution of Marlink's VSAT services, since it will exclusively cater for vessels requiring reduced antenna size and maximum flexibility in terms of coverage and throughput," said Tore Morten Olsen, president, maritime, Marlink. "We understand that these smaller ships may regularly switch areas of operation or spend planned time in lay-up and we have designed our plans to deliver maximum value to our customers in these markets."

Users can enjoy unlimited usage with data speeds up to 5Mbps, and a choice of Maximum Information Rate (MIR)-only or combined MIR/Committed Information Rate (CIR) plans. The service can be upgraded from regional to global coverage, with short term bandwidth upgrades and up to six months of lay-up per year also available, to deliver full customer flexibility. Sealink 60 is hybrid-ready, combining the VSAT service with low latency, high-bandwidth terrestrial technologies like 4G to create a resilient hybrid network solution.

Marlink's onboard digital Xchange server oversees network management for crew and corporate connectivity, with prepaid 'crew calling' options for voice, email and web browsing on their own devices. This variety of options allows shipping companies to choose the right package to meet business and crew communication needs on board their vessels.

Look out for...

DARPA prepares for internet of satellites

The US Defense Advanced Research Projects Agency (DARPA) has made selections for its Space-Based Adaptive Communications Node (Space-BACN) program, which will create a low-cost, reconfigurable optical communications terminal to translate information between diverse satellite constellations. A Space-BACN satellite terminal will enable data to be sent anywhere around the planet at the speed of light.

DARPA is planning for a future where tens of thousands of satellites from multiple private sector organizations deliver broadband services from low Earth orbit (LEO). Space-BACN will create an 'internet' of satellites, enabling seamless communication between military/government and commercial satellite constellations. The program will facilitate collaboration among partners to ensure that the terminal is reconfigurable for interoperability among participating constellation providers.

There are three technical areas in the program.

Technical Area 1 (TA1) focuses on the development of an optical aperture for pointing acquisition and tracking and the optical transmit and receive functions. DARPA has selected CACI Inc., MBRYONICS and Mynaric for this area.

DARPA selected Intel for Technical Area 2 (TA2) along with II-VI Aerospace and Defense and Arizona State University to design a reconfigurable optical modem to support current and new communication standards and protocols for interoperability.

In Technical Area 3 (TA3), DARPA selected constellation providers – Space Exploration Technologies (SpaceX), Telesat, SpaceLink, Viasat and Kuiper Government Solutions (KGS) LLC (an Amazon subsidiary) – to identify critical command and control elements to support cross-constellation optical intersatellite link communications and develop the schema necessary to interface between Space-BACN and partner constellations.

AFRICAN WIRELESS COMMS.COM

for African wireless communications, as it happens

www.africanwirelesscomms.com

12,000 horses tracked via satellite IoT

Globalstar Europe's value-added reseller Spotter has deployed more than 12,000 animal tracking collars based on SmartOne C and SPOT Trace.

These satellite IoT devices are being used in Mongolia, Kazakhstan and Kyrgyzstan to track and safeguard horses, including high-value competitive racehorses. Horses are part of daily life in Central Asia and horseracing is a major sport in Mongolia. However, with the sparsely populated nation's 4.5 million horses roaming fence-free, keeping tabs on the animals is a major challenge for owners.

Spotter has deployed 9,000 SmartOne C-fitted collars and 3,000 built on SPOT Trace. Requirements differ among customers. Racehorse owners, wanting to keep particularly close watch over their valuable equines, appreciate SPOT Trace's hourly tracking.

Spotter has now delivered a further connectivity innovation with the launch of a dual-mode solution. The new hybrid collar leverages Globalstar satellite communications along with radio transmissions to create a low-cost solution that makes it possible for owners to track individual horses as well as a herd. The radio signals from collars on these straying horses are relayed to the Globalstar network via Globalstar's SmartOne C devices and complement satellite-enabled IoT signals.

Spotter's collars are already being used to track and monitor livestock, including cattle, sheep and goats, but are additionally helping conservationists to protect wildlife.

"We offer huge congratulations to Spotter for its phenomenal success, and we are so proud to enable such pioneering satellite IoT solutions for horse owners across Central Asia to help them safeguard their cherished herds," said Mark O'Connell, Globalstar General Manager for EMEA & APAC.

AI-powered cognitive software to advance Vodafone in Oman for 5G and mobile networking

Ericsson and Vodafone in Oman have partnered to empower Vodafone's network infrastructure development across multiple domains. Ericsson will provide AI-based cognitive software solutions for network optimization to facilitate data-driven decisions and support Vodafone in implementing zero-touch operations (ZTO) and anomaly detection capabilities.

The implemented solutions include Ericsson Expert Analytics (EEA) and network optimization cognitive software solutions. Combined, these solutions offer near real-time, multivendor, and cross-domain data analytics and optimization capabilities – utilizing a big data platform where scalability and performance are greatly enhanced.

"As we continue our digitalization journey, leveraging AI in network operations is critical to our business agility, customer satisfaction, and in simplifying decision-making processes," said Stelios Savvides, technology director, Vodafone in Oman. "Featuring advanced AI and automation capabilities, Ericsson's solutions are supporting our digital operator ecosystem utilize data-analytics to sustain growth, provide insights into network usage and drive improvements to ensure an enriching experience for our customers."

By correlating metrics and events from the network ecosystem, the solutions support Vodafone in assessing customer experiences, retaining, and upselling subscribers, and prioritizing network investments. EEA also supports Vodafone in obtaining essential insights to support, optimize and monitor 5G deployments and subscriber adoption.

"In expanding the automation and AI-based functionalities in its ecosystem, Vodafone is unlocking the full potential for zero-touch operations across its network in Oman," said Nicolas Blixell, vice president and head of gulf council countries, Ericsson Middle East and Africa. "Being a trusted partner in this journey, we are determined to support Vodafone continuously enhance its customer experiences. Together we are working towards the realization of the digital transformation goals of Oman Vision 2040 and strive to collaboratively boost the digital infrastructure in Oman. We are looking forward to future partnerships with Vodafone in Oman to drive digital efficiencies across the Sultanate. "

The implementation of AI-based solutions and automation increases operational savings, improves business efficiency, and raises productivity. By combining AI and automation capabilities with aggregated insights, Vodafone in Oman will be able to increase network agility, and customer satisfaction, develop more efficient business models and realize faster time-to-market for various services.

Airtel Gabon looks to extend network

Airtel Gabon is negotiating with the Gabonese government to obtain 165 plots to extend its network coverage in the country.

The extension of its network would enable Airtel Gabon to improve the quality of the services provided to its subscribers and to acquire new ones. This comes amid increased competition in the local market where the coverage rate of services remains a major challenge despite the high penetration of mobile at 165.5%.

"We have requested the support of the authorities to see to what extent they can support us so that the allocation of its sites can be done as quickly as possible, so that we can launch our construction projects for these sites," said Amade Koussoube, CEO of Airtel Gabon.

According to the Market Observatory of the Electronic Communications and Postal Regulatory Authority (ARCEP), for the first quarter of 2022, Airtel Gabon had 1.4 million subscribers or 48.62% of the market share. Moov Africa Gabon Telecom controls 51.38% of the market with its 1.5 million subscribers.

NTT constructs new data centre in Johannesburg

NTT has announced the construction of a data centre in Johannesburg, South Africa, which will ultimately have 12MW, 6,000 m² of capacity.

With its new data centre, NTT intends to provide ICT services to hyperscalers and enterprises. The company plans to accelerate its data centre footprint in Johannesburg and other African cities to support the digital economy on the continent over the next few years.

"Our presence in Africa is underpinned by the significant digital evolution we are seeing on the continent. Businesses delivering new digital services need high-power-density data centre space, global connectivity, carrier neutrality, cloud network access, and on-line support site to ensure they can continue to grow," said Michael Abendanon, global data centers EMEA division manager for the MEA (Middle East and Africa) region at NTT.

The construction of NTT's first data centre in Africa comes amid increased competition in the growing African data centre market. This growth driven by strong demand for high-speed connectivity and cloud services, as well as the acceleration of digital transformation on the continent is attracting investment from local and foreign companies.

Gilat to deliver oil and gas connectivity in Brazil

Gilat Satellite Networks Ltd has announced that it was selected by Sencinet for Petrobras' oil and gas industry satellite connectivity project.

Petrobras, Brazil's largest oil and gas company, is modernizing and expanding its onshore/offshore telecommunications capabilities with satellite connectivity solutions powered by Gilat's SkyEdge II-c SATCOM network.

Sencinet is deploying Gilat's SkyEdge II-c within offshore platforms, ships, and land stations as part of the innovative managed services satellite connectivity project they are providing to Petrobras.

"Gilat's SkyEdge II-c multi-service platform offers many advantages, such as software VNO across multiple beams that permits us to meet the stringent service-level agreement (SLA) requirements of Petrobras with high quality and optimized deployment, as well as a smooth migration from Petrobras' legacy network," said Jayme Ribeiro, sales and marketing executive director at Sencinet. "There is a broad market for solutions like these all across Brazil and together with Gilat we plan to accelerate our growth with companies that provide services to Petrobras, as well as with private oil and supply boat companies involved in exploration and logistics throughout the country."

"I am pleased with the opportunity to expand and modernize Petrobras' legacy network, helping Petrobras address today's most demanding and complex business communication challenges," said Michal Aharonov, chief commercial officer at Gilat. "Working together with Sencinet, our valued partner in the region, we're able to deploy Gilat's SkyEdge II-c multi-service platform to deliver a wide range of benefits to the oil and gas industry, as well as to other important markets in Latin America."

Guinée Télécom to return in 2023

The Guinea Telecommunications Company (SOTELGUI), now Guinée Télécom, will return to the Guinean telecom market in the first half of 2023, according to Ousmane Gaoual Diallo, minister of posts, telecommunications and of the digital economy.

Guinea Telecom will be launched with 4G and 5G mobile technologies and is currently upgrading its infrastructure and raising the necessary funds after its bankruptcy due to mismanagement in 2012. In March 2021, the African Development Bank (AfDB) granted its support to Guinea within the framework of this project.

Guinea currently boasts 14.6 million subscribers spread across three operators. Orange holds the largest market share at 59.8%, MTN has 31%, and Cellcom has 9%. Once operational, Guinée Télécom will have to forge a place for itself within the market.

Huawei removed from UK's 5G public networks

Huawei technology must be removed from the UK's 5G public networks by the end of 2027 under legal documents provided to broadband and mobile operators.

The designated vendor direction document has been sent to 35 UK telecoms network operators. It puts the government's previous position to remove Huawei kit from UK 5G networks on a legal footing.

The ban on Huawei in 5G follows guidance from the world leading National Cyber Security Centre (NCSC) that the security of the company's products · such as equipment used at phone mast sites and telephone exchanges · can no longer be managed due to the impact of US sanctions on its supply chain. The sanctions, imposed by the US Government in 2020, stop Huawei accessing US semiconductor technology on which it previously relied.

Huawei has been issued a designation notice which categorises the company as a high-risk vendor of 5G network equipment and services. The designation notice sets out all of the reasons for which the government considers Huawei to pose a national security risk, including the impact of the sanctions.

The direction sets out the controls to be placed on operators' use of Huawei, following consultation with Huawei and telecoms operators, including:

- an immediate ban on the installation of new Huawei equipment in 5G networks;
- a requirement to remove Huawei equipment from 5G networks by the end of 2027;
- a requirement to remove Huawei equipment from the network core by 31 December 2023;
- a requirement to limit Huawei to 35 per cent of the full fibre access network by 31 October 2023;
- a requirement to remove Huawei equipment from sites significant to national security by 28 January 2023; and
- a requirement not to install any Huawei equipment that has been affected by US sanctions in full fibre networks.

The decisions have been reached following technical security analysis from the National Cyber Security Centre which takes into account our specific national circumstances and how the risks from the US sanctions are manifested in the UK. The decisions will not cause any delays to the government's digital infrastructure roll out targets.

"We must have confidence in the security of our phone and internet networks which underpin so much about our economy and everyday lives," said digital secretary Michelle Donelan. "Thanks to this government's tough new laws we can drive up the security of telecoms infrastructure and control the use of high-risk equipment. Today I'm using these powers and making it a legal requirement for Huawei to be removed from 5G networks by 2027."

Malawi to gain Starlink connectivity

The Communications Regulation Authority of Malawi (MACRA) has granted its first high-speed low latency broadband satellite internet service licences to StarLink Lilongwe Limited.

"StarLink has been issued with the following licences: network facilities, network services and application service which will be effective on the day when they will be published in the government gazette," said MACRA director general Daud Suleman.

The Malawi government is hoping that the new entrant will help the country tackle ongoing internet challenges, specifically the high cost of data. Consumers have initiated online campaigns to lobby for a reduction in the price of data and in April 2021, the government directed MACRA to engage MNOs to reduce their prices. While there has been some reduction, further concession demands on pricing continue.

"New internet players in the sector must know this as the government aims at ensuring that data services are affordable to all Malawians," said minister of information and digitalisation Gospel Kazako.

Malawi becomes the third country in Southern Africa after Mozambique and Zambia to grant regulatory approval this year for StarLink's internet connectivity.

Malaysia: Rohde & Schwarz to deploy spectrum monitoring solution

The Malaysian regulator has awarded Rohde & Schwarz a contract for a nationwide system of fixed spectrum monitoring stations that can be remote controlled at one national and five regional headquarters.

Rohde & Schwarz will supply numerous monitoring stations to replace existing systems and establish new stations. All are based on the R&S UMS compact monitoring and radiolocation system with a new combined monitoring and DF antenna. The antenna incorporates many features, such as an active / passive switch for adapting to different environments, along with horizontal and vertical polarization, completely in line with ITU recommendations. A site acceptance test is planned for March 2023.

The system features monitoring, direction finding and advanced R&S ARGUS spectrum monitoring software which is remotely controlled from regional offices and from the headquarter. R&S UMS is a compact outdoor solution that combines ITU-compliant monitoring and direction finding, allowing two or more stations interconnected also emitter location.

Minimum infrastructure requirements ensure maximum site selection flexibility. R&S ARGUS enables direct measurements, interactive routines and automatic procedures. The software combines powerful spectrum monitoring features with easy and efficient operation, making it perfect for both experts and less experienced operators. The solution will act as a critical regulatory tool in the efficient planning and utilization of the country's frequency spectrum resources.

OADC wins Best Data Centre/Edge Service Innovation award

Open Access Data Centres (OADC) won the Best Data Centre/Edge Service Innovation award at the Global Carrier Awards 2022 for its unique and innovative OADC EDGE offering.

OADC EDGE combines pan-African digital infrastructure – a network of inter-connected, open access, core and edge data centres – in a core-to-edge architecture which is extending data storage, processing and content delivery to point of consumption at the network edge, supporting improved application performance and enabling critical data to be processed locally.

"For a company which secured its initial funding less than a year ago - in November 2021 - to win such an award is testament to the impact our innovative OADC EDGE offering is having in transforming the data centre market in Africa. No other data centre service provider offers a similar value proposition on the continent," said OADC CEO Dr Ayotunde Coker. "As part of WIOCC Group and a sister company of carriers, carrier WIOCC, our converged open digital infrastructure enables OADC clients to quickly and easily connect across Africa - either via WIOCC's established pan-African open hyperscale network infrastructure or using other operators' networks."

OADC's unique core-to-edge architecture supports:

- Broadband operators, ISPs, 'eyeball networks' and MNOs; cost-effectively extending network reach
- the cloud community; migrating content closer to the network edge
- the enterprise market, implementing disaster recovery to third-party sites; processing large data sets close to their point of consumption and rolling out new applications for market differentiation
- consumers; benefiting from expedited deployment of life-enhancing social, educational, well-being and entertainment services

OADC EDGE started deployment in South Africa and in 2023 will undertake further rollout there and in Nigeria. It will also extend further into West Africa including the DRC, where OADC Kinshasa will go live in the first quarter of 2023.

The Gambia starts EMF monitoring

The Gambia Utilities Regulatory Authority (PURA) has acquired an electromagnetic field (EMF) radiation monitor with financial support from the World Bank. The acquisition comes in response to growing public concern about potential negative health effects of using mobile phones and base radio stations.

The EMF monitor will be used to check frequencies of 100Hz to 60GHz, which encompasses almost all frequencies used by telecommunications and ICT service providers nationwide. The initiative is part of PURA's remit to protect consumers under the Gambia Utilities Regulatory Authority Act 2001. The regulator is also responsible for ensuring and providing information on electromagnetic radiation from mobile phones and radio base stations to address issues that may cause alarm and panic to the general public.

"The assessment of possible health risks from exposure to electromagnetic fields is based on evidence from scientific studies and research," said Mamud Jobe, managing director of PURA.

PURA has already developed guidelines for electromagnetic radiation from electricity and telecommunications service providers in the country, which are consistent with those of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) regarding safe health exposure limits.

MTN Congo launches 5G

MTN Congo has launched the pilot phase of 5G, with commercial services expected to be available to customers soon.

This pilot phase should enable MTN Congo to prepare the ground for the launch of commercial 5G in the country, in a context of growing demand for high-speed connectivity. Satisfying this demand will allow MTN Congo to strengthen its position on the Congolese telecom market and increase its revenues.

"MTN Congo is in the process of materializing Congo's entry into 5G mobile telephony technology, with speeds exceeding 10Gbps and whose tests are are carried out with great success," said Léon Juste Ibombo, minister of posts, telecommunications and the digital economy.

Marlink connects Plastic Odyssey

Marlink is providing a free hybrid connectivity solution for the global Plastic Odyssey expedition, the world's first floating laboratory vessel dedicated to plastic waste recycling. The vessel will use recycling solutions to convert plastic to fuel, and act as a local recycling unit, showcasing waste reduction initiatives and promoting new thinking around plastic use.

"Plastic Odyssey is truly grateful to Marlink for its support of this project and its commitment to helping us reduce, reuse and recycle plastic around the world," said Simon Bernard, CEO, Plastic Odyssey.

The solution combines Sealink's VSAT connectivity with global 4G roaming and a package of solutions including the Xchange platform for smart connectivity management. The Plastic Odyssey will be equipped with a 1m VSAT antenna and an L-band backup solution. The Telemed service will be provided for remote healthcare care for crew safety.

Smartphone shipments fell 9.7% yoy

Global smartphone shipments fell by 9.7% year on year (yoy) to 301.9 million units in the third quarter of 2022, according to preliminary data from the International Data Corporation (IDC) Worldwide Quarterly Mobile Phone Tracker.

This is the largest-ever third-quarter decline and the fifth consecutive quarter of decline for the smartphone market as shipments continue to struggle amidst weakened global demand and economic uncertainties.

"A majority of the decline came from emerging markets where lack of demand, rising costs, and inflation impacted consumers with lesser disposable incomes," said Nabila Popal, research director with IDC's Worldwide Tracker team. "With high inventory coming into the quarter, shipments and orders by OEMs were further reduced in an attempt to deplete inventory. Although Chinese vendors continue to suffer the most, all vendors were impacted, including Samsung and Apple. While Apple is the only vendor to deliver positive growth this quarter, it still faced challenges as its growth was stunted in many markets, including China, due to the poor macroeconomic situation."

All regions, except Central and Eastern Europe, are expected to decline for the entire year. Emerging markets in Asia/Pacific,

Latin America, the Middle East, and Africa should see a significant double-digit decline.

"Looking to 2023, the market's expected recovery, which we continue to believe will happen, will be pushed further into the year. Moreover, we now expect a steeper shipment decline for 2022 and a softer recovery in 2023."

Telecom IoT market expands at 21.9% over 2022-2032

The global telecom Internet of Things (IoT) market is estimated to reach almost US$3,31,542.6 million in the next decade, according to Future Market Insights, expanding at a compound annual growth rate of 21.9% from US$45.7 million in 2022.

Growth has been attributed to increasing demand for improved connectivity solutions to connect smart devices. Technology plays a crucial role in the development of this market, and innovation is partly responsible for driving its rapid growth. The other aspect supporting growth is intelligent transportation systems being more widely adopted, as well as the ever-growing number of smartphones and tablets available.

Telecom operators are using digital platforms that combine connectivity, analysis, mobile security and cloud to support business, and all these generate major opportunities to grow revenue. Important applications, including logistics tracking, traffic management, smart healthcare and others, are also contributing to the growth of the telecom IoT market.

Some of the other factors contributing to the increasing adoption of telecom IoT are the growing penetration of smart connected devices and the demand for automation in communication operations and network bandwidth management. Moreover, the development of next-gen wireless networks and increasing use of smart technology and distributed applications are predicted to cause considerable growth prospects for the telecom IoT market in the future.

North America will be the largest market due to stringent IoT regulations and the presence of a large number of telecom IoT service providers in the region. However, the APAC market is expected to witness exponential growth as the fastest-growing region for telecom IoT due to the growing smart devices market and smart technology, as well as having a large number of early adopters of smart technology.

As well as a growing demand for better connectivity solutions to connect smart devices, another major driver is an increased need for mobile computing devices and network capacity to access connected services. The growing desire for a telecommunication cloud for smart network bandwidth management and automation in communication operations is also boosting growth.

The main challenge within the IoT telecom market is the necessity for the network operator to be able to provide fast, reliable and uninterrupted connectivity. Additionally, the increase of connected devices and management of personal data have brought about significant issues regarding the privacy and security of customer information.

Malaysia on the cusp of 5G

Celcom Axiata, Digi, Telekom Malaysia (TM), and U Mobile have separately agreed 10-year deals with Digital Nasional Berhad (DNB) enabling them to begin offering 5G services via the network later this week.

Celcom said from 1 November, customers will be able to access 5G services at no extra cost until the end of the year. U Mobile has said that customers with compatible devices will be able to connect to the network from 3 November.

Telenor Asia launched, targets mobile adoption

Telenor has formed Telenor Asia, an independent regional entity headquartered in Singapore. Telenor Asia will take on full oversight and responsibility for the company's operations in Bangladesh, Malaysia, Pakistan and Thailand.

"The strengthened team at our Singapore headquarters will add value to our operations and safeguard our interests in the region. This will also help us ensure value creation of our assets, and we will explore structural partnerships or, in the future, a potential IPO," said Jørgen Rostrup, head of Telenor Asia. "The foundation for our continued growth in Asia is how our services help improve people's lives and empower societies. In a recent survey we conducted of 8,000 people in South and Southeast Asia, a resounding 93% said that mobile connectivity improved their quality of life."

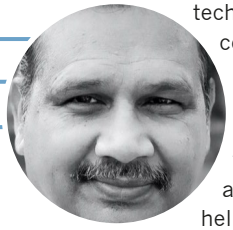
Each market will have dedicated investment management teams to take on an asset manager role and represent Telenor's interests in local boards. The team in Singapore will be strengthened with expertise in finance, operations, risk management, governance, people management and responsible business.

In 2021, Telenor Asia signed merger agreements in Malaysia and Thailand. Once complete, Telenor Asia's portfolio will comprise leading telco players in three large Asian markets, with more than 200 million customers and US$10 billion in revenue. To achieve a target of US$1.2 billion in cash flow by 2025, Telenor Asia will realise synergies from the mergers and maximise opportunities across three areas:

- Increasing mobile adoption and data usage in Bangladesh and Pakistan. There are more than 150 million people in these two countries without mobile devices and 50% of the current customer base subscribe to voice services only.
- Growing business-to-business (B2B) revenue. Current revenue contribution to Telenor Asia from this sector is around 5%.
- Expanding customer value by offering value added services beyond core mobile connectivity.

Q&A

Dr Junaid Syed
senior vice president, engineering and operations, Curvalux



What was your big career break?

My first career break came thanks to a so-called 'failure.'

I was training to become a pilot as part of my first degree in aero sciences, when I had a realisation; the world of academia was my strong suit, the cockpit, well, a little less so. Flying was not the right profession for me. I recognised this 'failure' as constructive feedback and changed my path.

This was a significant turning point. I returned to university to continue my studies, taking an electronics engineering degree with majors in microwave and aircraft electronics, graduating with a gold medal.

I spent several years working in academia and industry as a R&D designer producing patents for wireless communications and actively contributing to regulatory bodies. This led to my second eureka career moment; I decided to add commercial experience to my R&D background. That allowed me to talk to customers and have a better grasp of the problems in the real world. Suddenly I was faced with hurdles like climbing towers, network optimisation, budgets, and an array of constraints that operators must deal with daily.

Nowadays, I can wear an R&D or a business hat depending on the situation and can act as an interpreter that brings these two worlds closer together.

Who was your hero when you were growing up?

I am fascinated by the world of technical innovation. Scientists leading R&D have always had my admiration. As a young student, I learnt about James Maxwell, responsible for the classical theory of electromagnetic radiation. At that time, I did not really appreciate his works, however, later when I was working in industry and able to see the application of his theory, all clicked into place, and he became my hero.

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

I find artificial intelligence (AI) fascinating. AI is not a field on its own, in fact, intelligence is being applied and developed in every industry, including telecommunications, where it is enabling exciting developments. In the case of the antennas, it helps create software defined antennas that can dynamically adapt to changes in the environment.

Where would you live if money was no object?

Scotland has been my home for the last 20+ years, and I love it here. It is beautiful and peaceful, out of my window, all I can see are rolling fields and sheep. In the past, I thoroughly enjoyed living and working in many countries in Asia, the Middle East, America and Europe. It is enriching to meet people from different cultures, and I feel fortunate to now work alongside an international team spread across the world.

Which law would you most like to change?

Almost half of the world's population has no or poor connectivity. The pandemic has demonstrated ever-growing demand, that having internet access is no longer a luxury, but has become a necessary requirement for economic growth, education and entertainment.

To be able to serve the community without hindering other services, we need to look at the regulations to facilitate the use of new technologies providing connectivity to the unconnected. I'd like regulatory bodies to change the regulation for spectrum allocation and management to help companies expedite the development of innovative technology, to make more efficient use of the spectrum and be brought to market as soon as possible.

What's the strangest question you've ever been asked?

When I was a member of the ETSI TM4 committee, I highlighted the need for more innovative work in antenna development, including updating regulations from an antenna design perspective. As I was representing an antenna manufacturer, I was asked; "Why don't we see much change in the design of antennas?" I took that back to the manufacturer with the understanding that the ETSI would work to support antenna innovation through developing new standards. The response from my employer was extremely positive and triggered the beginning of a series of novel design works to design antennas more efficiently.

> "Ideas alone are not enough to drive innovation; turning concepts into solutions, financing the development, satisfying demand are some of the many factors required for ideas to take shape and materialise. "

What would you do to increase the speed of innovation?

Ideas alone are not enough to drive innovation; turning concepts into solutions, financing the development, satisfying demand are some of the many factors required for ideas to take shape and materialise.

We can accelerate innovation through a structured approach by using the TRIZ Matrix to formalise the process of innovations. It works by analysing how generic problems are resolved and then you can customise that method to your specific problem increasing the speed of the resolution.

I am also a firm believer that close collaboration between academia, industry and government is key to drive development of ideas and innovation.

What's the greatest technological advancement in your lifetime?

I may be biased but I think the biggest breakthrough in my lifetime is in telecommunications. The advancement in mobile & satellite communication technologies, devices, optical fibre, IoT is unprecedented and have reduced the world to a global village. The development of both terrestrial and satellite communications has changed our lifestyle, the way we do operate. It has opened a world of possibilities and empower people whose visibility may have been hidden or voice unheard.

What's the one possession you can't live without?

I have always believed that there is not one single physical thing I cannot live without at this stage in my life. I would miss open spaces of natural beauty though if I did not have access to them.

What would you do with US$1 million?

I'd happily get involved in scientific research to design and produce innovative solutions to solve the world's problems like connectivity for all.

I'd love to become hands-on in research facilities but also channel some of those funds towards charity organisations working to support clean drinking water and the education of gifted underprivileged students. ■

Do you want to be involved with the 2022 edition of the African Wireless Communications Yearbook?

We're looking for the usual quality of comment and opinion from thought leaders, industry influencers and technological experts within the African marketplace.
For all editorial enquiries contact Amy Saunders – amys@kadiumpublishing.com

We have key sponsorship options within specific technology chapters and on primary positions.
For all advertising enquiries contact Kathy Moynihan – Kathym@kadiumpublishing.com

See the latest edition on www.africanwirelesscomms.com