For communications professionals in southern Africa

SOUTHERN AFRICAN WIRELESS COMMUNICATIONS

NOVEMBER/DECEMBER 2019 Volume 24 Number 4

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Vodacom network-locking in bid to make phones more affordable

Vodacom said it has started network-locking some smartphone devices for the first time in years in a bid to make smartphones more affordable to the end user.

Speaking to journalists at a media briefing, chief officer of the company's consumer business unit, Jorge Mendes, said that contrary to popular belief, there are no regulations that prevent South African operators from network-locking phones, preventing them from being used outside the network on which they were sold.

Mendes was adamant that the move by Vodacom should not be seen as anti-consumer, but rather a way for the operator to subsidise handsets more aggressively, particularly at the entry level where affordability is a major issue.

The company emphasised that the move by Vodacom should not be seen as anti-consumer, but rather a way for the operator to subsidise handsets more aggressively, particularly at the entry level where affordability is a major issue

First National Bank's mobile virtual network operator, FNB Connect, became the first market player in at least a decade to sell network-locked phones when it introduced new models a couple of years ago.

However, the major operators have avoided doing it following a "gentleman's agreement" between them that they would no longer do it.

Nevertheless, Mendes said the market has changed and there was now a need to make smartphones more affordable to end users. One way of achieving this is to network-lock phones for a certain length of time.

Mendes said Vodacom's main rivals are also experimenting with network locking in "small quantities" and so his company has started locking thousands of devices for a one-year period to test consumer reaction. Users can unlock the devices provided they pay a "small fee".

"It gives consumers a choice – pay R799/month for an open device or R599 for a network-locked device," he said. "If you already made the choice to be with a network, the R599 proposition jumps out at you. We are prepared to invest more aggressively to bring prices down, but we need some protection so we can get a recovery from that investment."

Vodacom Tanzania to bring 4G to Zanzibar

Zanzibar residents and businesses will start to access faster mobile connectivity after Vodacom Tanzania announced plans to roll out 4G network in the next year.

This is part of the company's plan to extend services to the isles, according to the firm's managing director Hisham Hendi.

Average 4G download speeds are between 8-and-10 megabites-per-second (Mbps), with possible instances of up to 40Mbps.

Typical upload speeds are between 5-6Mbps, with possible instances of up to 15Mbps.

"Whenever I visit Zanzibar, I feel like I am at home in Egypt," he said. "It is a bit shameful when I come home and don't see Vodacom as strong as it should be. This is why we are looking up to expanding our services in Zanzibar hopefully very soon."

Hendi made the comments during an event to celebrate Zanzibar's heritage and culture, noting that the decision seeks to boost the firm's strength in the isles.

Broadcaster to enter Seychelles mobile sector

Seychelles company Intelvision, which provides TV and internet services to the local market, is understood to be moving into the mobile sector.

The only fixed broadband and pay-TV provider across the archipelago has revealed that it is a planning a network rollout in 2020 alongside Chinese tech vendor Huawei.

There will be an initial focus on 4.5G services but deploying 5G technology will also be part of the plan. The company said that it intends eventually to roll out a 5G network in Seychelles' inner islands as and when 5G devices become more accessible. The next generation will be introduced in June 2020 in the largest island, Mahé, beginning with the capital, Victoria, north Mahé and the airport. Over the following 12-18 months it will be extended through much of the rest of the nation.

Intelvision is currently the only fixed broadband and pay-TV provider across the islands

Currently only two network operators share the mobile market of the Seychelles: Bharti Airtel and Cable and Wireless Seychelles.

Telecom Namibia updates country's telex system

Telecom Namibia and the Ministry of Works and Transport have inaugurated a navigational telex (Navtex) station to the tune of N$7.5m at Walvis Bay.

The first of its kind in Africa, the station provides navigational and meteorological warnings, forecasts and maritime safety information to ships.

Furthermore, it has helped the southern African nation reach global maritime safety standards which is considered a major milestone for the country as a coastal state and budding maritime logistics hub.

Navtex, is a navigational system used on board the vessels to provide short range maritime safety information on coastal waters. It also forms part of the global maritime distress and safety system, which was developed by the International Maritime Organization.

The system was developed to save lives at sea by modernizing and enhancing the maritime radio communications system through satellite and digital selective calling technology. Unlike the old maritime radio communication services, the global maritime distress and safety system provides a more effective distress alerting service.

"I have no doubt that the investment into this state-of-the-art system will not only up our game in safety on our shores but keeps us compliant with international standards," said Walvis Bay deputy mayor, Penelope Martin-Louw.

Fernando Somaeb, chairperson of TN said that delivering infrastructure installations and upgrades highlighted on the national agenda across the various sectors of the domestic economy is a key priority for the company.

Navtex is a navigational system used on board the vessels to provide short range maritime safety information on coastal waters

"Telecom Namibia has always strived to provide advanced and reliable services to the Namibian nation and visitors to the country,"Somaeb said. "Neighbouring countries rely on the sound performance of their networks and infrastructure to further provide services to users of information and communications technology services in their countries. In this case, ships in transit through Namibian waters would have the assurance that their communication would reach the Namibian contact centre."

Gabon and Congo pen roaming MoU

Gabon and Congo have signed a mobile roaming memorandum of understanding (MoU), with the agreement to be implemented before December 2019. Under the terms of the deal, subscribers would pay no charge for incoming calls, up to a maximum of 300 minutes per subscriber a month. Outgoing calls would be billed at the local network operator's rates, while the higher of the two national rates would be applied for calls made to both countries.

The deal was agreed and signed by the heads of Gabon's Regulatory Agency for Electronic Communications and Posts (l'Agence de Regulation des Communications Electroniques et des Postes, ARCEP) and the Republic of Congo's Regulatory Agency for Electronic Communications and Post (L'Agence de Regulation des Postes et des Communications Electroniques, ARPCE).

Seacom sub cable suffers brief outage

Seacom's submarine cable system briefly experienced what the firm described as "a service-affecting outage" in late October.

The business, which launched Africa's first broadband submarine cable system along the continent's eastern and southern coasts back in 2009, published news of the outage in a series of tweets, beginning with the news that it was experiencing a service-affecting outage on its subsea cable system between Mombasa in Kenya and Zafarana in Egypt. "All linear transmission traffic on the Seacom subsea cable system on the east coast of Africa, to and from Europe, is affected," it added.

Seacom announced the outage at 10pm GMT on October 22, noting that customers with IP or other managed network services terminating between Dar es Salaam and South Africa would remain unaffected. However, they "could experience a slight increase in latency as traffic is routed over Seacom's West Coast transmission links".

The company announced at noon the next day that the service was back to normal. "We are still investigating the cause of the outage and will provide necessary updates as we have more information," it said. However, it remains unclear as to what caused the problems.

'MTN best network in SA' – report

MTN has the best mobile network in South Africa, according to the Q3 2019 Mobile Network Quality Report by MyBroadband Insights.

The report, based on 314,751-speed tests performed by thousands of Android Speed Test App users, documents five major South African network providers from July 1 to September 30, 2019.

Furthermore, the new research found that South Africa had an average mobile download speed of 24.68Mbps and an average upload speed of 9.03Mbps.

MTN had the highest average download speed at 35.31Mbps, followed by Vodacom on 31.19Mbps, Telkom on 22.42Mbps, Cell C on 17.18Mbps and Rain on 16.71Mbps.

In order to ascertain the best mobile network in the country, a "Network Quality Score" was calculated for each network using download speed, upload speed, and latency. The score out of 10 then revealed how the network performed in relation to others.

MTN achieved a Network Quality Score of 10.00, followed by Vodacom on 8.72, Telkom on 6.23, Rain on 5.88 and Cell C on 5.58.

The report also included network quality rankings for South Africa's major cities. MTN won in Cape Town, Durban and Tshwane while Vodacom and MTN were equal in Johannesburg. Rain had the worst network in Johannesburg and Pretoria while Cell C came out as the worst network in Durban and Cape Town.

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Broadband for all 'will cost US$100bn' – new report

African nations will need to get around 1.1 billion people online if the continent is to stand a chance of achieving universal broadband access, according to a new report.

Unveiled at the Annual Meetings of the World Bank Group, the *Connecting Africa Through Broadband* report found that less than a third of Africa's population has access to broadband connectivity and achieving universal, affordable and good quality internet access by 2030 will require a US$100-billion investment. The report also said urgent action was needed to close the internet access gap while providing a roadmap to reach this goal.

In order to get the 1.1 billion people online, the report said there was a need for exceptional and coordinated efforts from governments, the private sector, development partners and that the investment is worth it.

"The digital agenda is first and foremost a growth and jobs agenda," said Makhtar Diop, the World Bank's Vice president for infrastructure. "The working-age population in Africa is expected to increase by some 450 million people between 2015 and 2035. If current trends continue, less than one quarter will find stable jobs. Broadening internet access means creating millions of job opportunities."

A statement from the World Bank said that while the number of broadband connections in Africa crossed the 400 million mark in 2018 (nearly 20 times 2010 levels), the regional average broadband penetration -including 3G and 4G connections- is only 25% in 2018.

The number of broadband connections in Africa crossed the 400 million mark in 2018 (nearly 20 times 2010 levels)

"Mobile broadband coverage in Africa is still at 70% of the population. Even in North Africa, there is ample room for growth with 4G networks covering only about 60% of the population. Additional challenges, such as the lack of access to reliable and affordable electricity, make accelerating Africa's digital transformation journey even more difficult," the organisation states.

The report further found that nearly 80% of all required investments are directly related to the need to roll out and maintain broadband networks. However, connecting the unconnected is about more than just infrastructure: about 20% of required investment consists in building the user skills and local content foundations, and another 2-4% should be allocated to setting up the appropriate regulatory framework, it said.

'MTN can help Cell C'

The chief executive officer of MTN South Africa warned that the nation's economy could take a hit if troubled Cell C failed, as the former continues to be linked with acquiring its rival.

Speaking to South African financial newspaper Business Report, Godfrey Motsa said MTN would offer aid to its rival if there was a clear economic value to the move, highlighting the potential loss of thousands of direct and indirect jobs if Cell C collapsed. He also cited a broader ecosystem of suppliers along with the loss of taxes as examples.

If MTN did enter the race, it would go head-to-head with local rival Telkom and the world's biggest mobile operator, China Mobile, which reportedly opened discussions with Cell C regarding an acquisition in early October.

Telkom abandoned a previous takeover bid in 2017, but is apparently again keen on pursuing a deal.

Although MTN and Cell C remained coy on the status of talks, the former reportedly confirmed a fresh roaming deal was close to being agreed.

Interim figures boosted for Airtel Africa

Airtel Africa reported sustained growth across its voice data and mobile money operations, as its customer base grew by 10.4% to 104 million.

Revenue was up 8.4% year-on-year for the six months ended September 30, to $1.64bn, with the board claiming second quarter growth accelerated to 9.8%.

First half revenue was 11.4% and 12.6% in the second quarter. It said the constant currency revenue growth of 11.4% was driven by double-digit growth in Nigeria and east Africa, partially offset by a slight decrease in its rest of Africa footprint

Growth was said to be "broad based" across all services, with revenue in voice, data and mobile money up by 3.2%, 37.8% and 46.5% respectively.

Airtel Africa's reported underlying EBITDA was $719m for the first half, up 10.9%, while constant currency underlying EBITDA growth was 13.7% over the same period.

"These figures underline the strength of our ability to consistently deliver growth across voice, data and mobile money," said chief executive officer Raghunath Mandava. "This performance underlines our ability to consistently grow in double digits, powered by our growth engines of data and Airtel Money growing at 37% and 46% respectively. "This is the seventh quarter of double-digit growth with EBITDA margin expansion of over 90 basis points."

Mandava said that in July, the company reached an important milestone as it crossed 100 million customers across its footprint.

"Over the last six months we launched 4G services in Democratic Republic of Congo and Niger and 4G sites now account for 58% of total sites. Now we are ready to launch in Tanzania, thereby making 4G services available across all our 14 countries."

Revenue in the mobile money business grew 46.5% in the first half, and just above 50% in the second quarter, which Mandava said was the result of "compelling customer propositions" and investments in Airtel's exclusive franchise stores and kiosks.

Vodafone Starts OpenRAN trials in Africa

Vodafone Group has started trials of open radio access networks (OpenRAN) in the Democratic Republic of Congo (DRC) and Mozambique.

The UK firm previously has undertaken trials of OpenRAN with JSE-listed subsidiary Vodacom Group in South Africa.

The technology is expected to reduce the cost of providing internet and voice services by setting a standard for the design and functionality of hardware and software in radio access networks.

This is expected to increase the number of companies that can supply different components.

Radio access networks comprise the infrastructure, masts and antennae which telecom operators use to carry mobile traffic.

"OpenRAN improves the network economics enabling us to reach more people in rural communities and that supports our goal to build digital societies in which no-one is left behind," said chief executive officer Nick Read.

A leap into the future: Africa's journey towards future-proof networks

Technology has the potential to fundamentally transform countries enabling rapid improvements in industrial production, societal services and people's way of living and interacting with their environment.

Africa has gone a long way in its digitization journey from mobile telephony to broadband – connecting and digitizing entire sectors economies, jobs, education, healthcare, government and societies. As digital infrastructures and interactions become increasingly central to the functioning of Africa's societies and economies, affordable broadband access will need to be extended to billions of individuals.

Africa remains the fastest growing mobile market in the world. At the end of 2018, there were 720 million mobile subscribers in Sub-Saharan Africa, equivalent to a penetration rate of 81%.

Based on Ericsson Mobility Report findings, LTE subscriptions will see the highest growth in Sub-Saharan Africa. The region is also forecast to see stronger growth in LTE subscriptions at 34 percent between 2018 and 2024, though GSM/EDGE subscriptions will still be relevant, comprising 13 percent of the total subscriptions in 2024. The increase in smartphone penetration will continue to drive service providers' investment towards mobile broadband technologies, as well as WCDMA/HSPA and LTE networks.

Building a future-proof 4G network today will pave the way for a 5G-ready tomorrow, orchestrated by intelligent and efficient solutions, which will empower seamless connection in Africa.

Empowering an Intelligent, Sustainable and Connected Africa

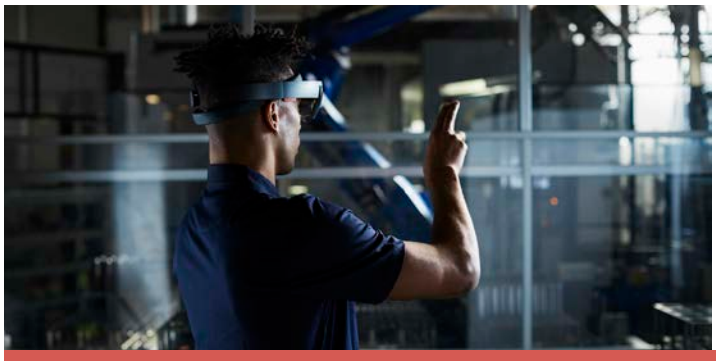
What is now needed is a framework that embeds ICT squarely in the efforts to address inclusive socioeconomic development in Africa. As we continue toward a more urbanized world and the impacts of climate change grow progressively dire, the need for innovations in line with Sustainable Development Goals becomes truly paramount.

ICT has a unique potential to enable other industrial sectors to move towards the low-carbon economy that will be central to meeting the Sustainable Development Goals (SDGs) of the United Nations (UN).

Digitalization creates an infrastructure that can boost livelihoods, promote financial inclusion, and improve access to health, education, government services and more. Furthermore, it aids in humanitarian matters such as addressing poverty and hunger, refugees, peacebuilding and disaster response.

Ericsson is a strong believer of using technology to create sustainable improvements in societies and utilize mobile broadband networks to tackle a range of global challenges. We take a proactive stance and collaborate with a wide range of stakeholders to scale the impact of our joint programs and initiatives in areas like climate change, education, human rights and humanitarian response.

Technology for Good is Ericsson's initiative where we use our expertise in new technologies, our solutions, and our advocacy to make life better around Africa. This is because internet access is a fundamental enabler to improve quality of life, as it provides the opportunity to access useful information and services – becoming a critical factor in fulfilling the SDGs.



We have used technology and its game-changing potential for making progress towards reducing environmental impact. For instance, our solar power solution is helping to reduce the dependency on diesel. In the Central African Republic, together with telecom operator. Maroc Telecom, we have rolled out a 3G modernization program using a solar hybrid solution to help reduce the carbon footprint. With 7.2 fewer hours of generator runtime per day compared to the conventional hybrid system, this equates to more than 7,000 liters of diesel saved per site, per year, and a 50 percent reduction in total yearly operating expenses.

Another great example is Ericsson Mobile Financial Services (MFS) platform, which provides easy-to-use, secure, next-generation mobile financial services. The flexible, reliable and efficient m-commerce solution includes Ericsson Wallet Platform, systems integration, operational support and further development opportunities. Millions of unbanked mobile users are now enjoying mobile financial services. The solution currently covers 13 African countries and several in South Asia.

Modernizing technological innovation towards the challenges that the countries are experiencing, will help Africa emerge its economy in a more sustainable manner. ICT can provide inclusive socio-economic development and has the potential for rapid service improvements and digital readiness across societies and industries.

Technological Transformation

Digital transformation is an incremental process, enhancing the current network in a step-by-step fashion. As the process unfolds, partnerships will prove essential to enabling a cross-industry engagement in refining 4G for the future.

The telecoms industry has grown rapidly over the past years, where fair competition, global standards and economies of scale have driven down prices, secured investments and improved accessibility and affordability. Today's mobile technologies and building practices offer two major advantages: Scalability of technology, as the demand for performance grows and Economies of scale, as solutions that have the greatest volumes continuously achieve decreasing cost per unit of output.

This facilitates deployment of cost-effective mobile coverage solutions, making it possible to connect low-income subscriber groups with low-cost, low-energy solutions where needed, in presently uncovered areas.

Across Africa, 4G mobile technology has the potential to drive the creation of a digital and all-inclusive future, essential in connecting personal and professional lives. Investment in 4G will result in rapid service improvements and digital readiness that can lead to inclusive socio-economic development and has the potential for creative solutions and forward-looking trajectories across societies and industries.

If Africa is to compete in the digital age, a focus on people is the starting point, around which we can build everything else including the infrastructure and systems required. We need to invest in the African talents and equip them with the right digital skills, ICT, IoT, data science, mobile application development, e-Commerce, mobile money, amongst others.

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China pulls funding for NetOne expansion

China has indefinitely suspended funding for NetOne's US$71m expansion project, according to the Zimbabwean media.

The measure is said to have been introduced after the government seized the investment capital, deposited in an escrow account, to obtain foreign currency. These funds have been converted into a local unit through the Zimbabwe Reserve Bank (RBZ).

It is understood these "financial movements" have complicated the cooperation agreements between the two countries, because the Chinese financial institutions currently involved in financing the project are not satisfied and have accused the company of an abuse of trust and confidentiality.

According to theindependent.co.zw, an indignant government source said: "It's a question of principle, of trust. How can you trust a robber who has your money? If someone steals money out of your pocket, can you trust him/her on your money in the future? These are the questions the Chinese are asking themselves."

NetOne's expansion project was expected to broaden the company's mobile telecom network by introducing and upgrading base stations across the country. This operation would have not only allowed more people to access telecom services but would have above all enabled the telecom business to record extra revenues through new consumers.

Viavi partners with Tait for automated critical comms testing platform

Viavi Solutions has partnered with Tait Communications to provide automated test capabilities for Tait P25 and DMR series radios on the Viavi 3920B Radio Test Platform, formerly an Aeroflex offering.

It means end-users have automated testing for Tait TP/TM 9100, TP/TM 9300 and TP/TM 9400 radio families.

The applications use the precision instrumentation of the 3920B to quickly perform automated tests to specifications defined by the manufacturer. Both companies said testing can be performed in less time, minimising service and support costs for end users and dealers.

Viavi offers different integrated, portable testing equipment and solutions for critical communication radio users across a variety of industries, including public safety, homeland security, military and paramilitary, private security, utilities, railroads, public transportation and hospitals.

Tait offers integrated voice and data communications solutions that improve workforce efficiency, safety, and are proven to perform in mission-critical environments. It serves customers from utilities, law enforcement and police, fire and emergency response, security and defence, transport, mining, oil and gas sectors.

"We are pleased to support Tait P25 and DMR Series mobile and portable radios on the 3920B. Tait's dealers and end users are now able to conduct fast and accurate automated testing which conforms to Tait's specifications," said Edward Latimer, product line manager of radio test sets, Viavi Solutions.

Ellery Hurn, partner manager, strategic partnering, Tait Communications added: "We are pleased to work closely with Viavi to provide additional value to our clients and further strengthen our Tait Tough reputation for endurance and resilience."

Tanzania to provide internet in Burundi

Tanzania will provide high speed internet connectivity to Burundi, after a service agreement was signed in Dar es Salaam between the incumbent Tanzania Telecommunications Corporation Limited (TTCL) and Burundi Backbone Systems (BBS).

It will be implemented over a 10-year period, said Waziri Kindamba, the general manager of the TTCL.

" TTCL will offer first class broadband Internet services through our stations in Kabanga and Manyovu, in the border region of Kigoma," added Kindamba, who also said the agreement allows TTCL to expand its portfolio of activities in the East Africa and Southern African Development Community (SADC) sub-region, with a population of nearly 350 million.

Beyond improving the internet in landlocked Burundi, the new internet services will also enhance the ease of local entrepreneurs to do business with those in the region.

The deal was signed days after the Tanzanian government has asked mobile operator Halotel (a local subsidiary of Vietnamese telecom group Viettel) to stop the interconnection of its fibre network in Burundi , without his approval. The continuation of this operation would eventually lead to a serious loss of earnings for the country.

Airtel Malawi slapped with MK820m fine

Airtel Malawi has been hit with a MK820m fine for allegedly breaching the Communications Act.

Malawi Communications Regulatory Authority (Macra) director general Godfrey Itaye told journalists that the operator paid a fine in July, but it remains in breach and will continue paying MK20m per fortnight until it meets the conditions.

"Upon renewal of its telecommunications licence in 2014, Airtel committed itself to have a minimum of 20 percent local shareholding," said Itaye. "This localisation of shares by Airtel was to be done within two years from the date Airtel's licence became operational on February 7, 2014."

Itaye said before a given deadline of November 25, 2018, Macra engaged Airtel Malawi on numerous occasions in an effort to localise the shareholding.

The Communications Act stipulates that any electronic service provider must have 20% of its shareholding locally, a condition that the mobile service provider failed to meet since its licence renewal in 2014.

Initially, Macra made a determination to fine Airtel Malawi MK500m in December 2018 and further ordered that it should pay another MK20m every 14 days for remaining in breach.

STL partners for broadband

India's Sterlite Technologies (STL) has partnered hands with South Africa's Frogfoot to deploy Fibre To The Home (FTTH) infrastructure in Soweto, Johannesburg. The latter, an open-access fibre network provider, will use STL's Air-blown FTTH solution to enable affordable, reliable broadband connectivity to up to 20,000 homes and lower-income groups in the Protea Glen East and West areas of the South African township of Soweto, according to a joint statement.

Data doing the talking in Zimbabwe

Fixed phone connection lines in Zimbabwe are now increasingly being used for data connectivity, with data revenue outstripping fixed phone voice telephony income, according to a report released by regulator the Posts and Telecommunications Regulatory Authority of Zimbabwe (Potraz). State-owned TelOne is the only local fixed phone telecom business that also offers internet services and a video-on-demand (VoD). Potraz said "the contribution of data increased, while the contribution of voice declined" during the period under review.

Rwanda set for launch

Rwanda's satellite RWASAT-1 is set to be launched into orbit in November this year. The news was announced by the country's minister of ICT and innovation, Paula Ingabire, during a joint press conference between the Rwanda Utility and Regulatory Authority (RURA), the Ministry of ICT & Innovation and the Japanese embassy. Patrick Nyirishema, RURA's MD, said the satellite might be launched on November 18.

Talking satellite

Martin Jarrold, chief of international programme development, GVF

Climate, environment, satellite & A digital ecosystem

During October this year I spoke at an event for information technology security professionals in Riga, Latvia, although the theme of my presentation was a little off the mainstream of topics addressed during the several tracks of the programme. My choice of title? *A "Network of Networks" for Digitally Driven Sustainability: A Cyber Secure Satellite-5G World.* An alternative title might have been "Triangles". What follows explains this cryptic alternative.

The train of thought which led to my choice of the actual title and theme relates to all the available evidence suggesting that we are not on track to avert two existential environment challenges: the nature crisis; and, climate change. Some scientists believe that the acknowledged biodiversity crisis is, in actuality, the beginning of the sixth mass extinction in geological history; and, over 98 per cent of the scientific community acknowledge climate change as a fact. It is equally acknowledged that Africa is the global region most likely to be severely impacted by both.

What has this to do with satellite communications? The link is all to do with data, information, knowledge. Whilst Africa is one region of the world which continues to face the problems of a digital deficit, or digital divide, there is another digital gap that is apparent, one made evident through the fact that of the 17 Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 – part of the *Agenda 2030* to achieve a better future for all humanity – 68 per cent of the 93 environmental SDG indicators cannot, according to the UN Development Programme (UNDP), currently be measured due to lack of data.

This other digital divide must also be bridged, enabling us to acquire and deploy data sets to build a digital ecosystem for the entire planet which will allow data flows to be eventually transformed into insights for sustainable decision-making. Radio communications, including satellites – and, therefore the related areas of the forthcoming "network of networks" with integrated **satellite** and **5G**, and of **cyber security** (see below) – have a key supporting role in achieving the 17 SDGs. The UNDP is working with partners on a digital ecosystem for the entire planet, as detailed in a UN paper authored by Jillian Campbell and David E. Jensen.

Requiring various "frontier technologies" – cloud & edge computing; artificial intelligence & machine learning; the Internet of Things; social media platforms; blockchain & distributed databases; software; mobile apps; augmented reality & virtual reality – as well as satellite, and related communications technologies, the building of such an ecosystem will, as I see it, have its foundations in a series of parallel relationship "triangles".

The three vertices of the first conceptual "triangle" are **Socio-Economy**, **Development**, and **Environment** – all elements of the 17 UN SDGs. The integrity and robustness of a digital ecosystem which will support each vertex and the relationship between the vertices will depend on the inter-relationships between the vertices of two other conceptual "triangles". The first of these features – **satellite**, **5G** (and, to some extent, previous generations of broadband mobile), and **cyber security**; and the second features the characterization of **5G** itself, divided between the three major use cases (the vertices?) of: [1] enhanced Mobile Broadband (eMBB); [2] massive M2M Communications (mMTC); and, [3] Ultra Reliable Low Latency Communications (URLLC). In combination, the major use cases encompass:

[1] Web browsing, video streaming and virtual reality, together generating 10,000 times more traffic than over 4G networks, with greater than 10Gbps peak data rates and providing 100Mbps whenever needed;

[2] Narrowband Internet access for sensing, metering, and monitoring devices, i.e., the Internet of Things (IoT) connecting billions of devices without human intervention;

[3] Services for latency sensitive devices requiring sub-millisecond latency with error rates that are lower than 1 packet loss in 10^5 packets.

The **satellite-5G-cyber security** inter-relationships have been well-addressed by GVF on behalf of the satellite industry (*Joint Statement on the Satellite Industry's Commitment to Cyber Security and a Secure Supply Chain*), as well as by, for example, the European Space Agency (ESA) in calling for proposed solutions to determine the viability of satellite-based services in support of cyber security and to assess technical feasibility and commercial viability for diverse, current and future, vertical sector users of satellite. Potential solutions will be enabled by space as a means to mitigate the cyber security risks and to enhance cyber resistance and the resilience of existing infrastructures, services and operations, and contribute to enhancing the end-to-end cyber security of space-based applications.

The 3GPP – the 3rd Generation Partnership Project producing the Reports and Specifications that define 3GPP technologies, including 5G – has said the incorporation of satellite networks will help enable 5G service rollouts in unserved and under-served areas, enhance reliability and increase service availability everywhere to the benefit of critical communications and transportation applications.

Governments, telecoms network companies and technology groups are working on heightened security standards for 5G and the Internet of Things. Whilst there are apparent flaws in 5G security – such as the use of fake mobile base stations to steal information – 5G data encryption and network user verification mechanisms have improved on 4G, but the 5G weak link is in communication of IoT devices connected to 5G networks, particularly when manufacturing default passwords on such devices are not upgraded.

*Building a global digital ecosystem is firstly dependent on the gathering and accumulation of **RAW DATA** from multiple sources – economic, environmental and social – reflecting the conceptual "triangle" vertices of Socio-Economy, Development, and Environment, elements of the 17 UN SDGs. Secondly, the storage and processing of this data, and the connection of multiple databases with improved metadata, is dependent on an information and communications **INFRASTRUCTURE**. Thirdly, cloud computing and **AI ALGORITHMS & ANALYTICS** extract actionable, intelligence, **INSIGHTS & APPLICATIONS** – from multiple and integrated information streams – as metrics & 'performance dashboards' which are comprehensible to decision-makers.*

All this must happen with a much elevated and broader understanding of the long-term models and incentives that will sustain these efforts. What is needed is to determine how such efforts can protect data security, achieve interoperability, and maintain high standards, whilst answering the question "Will governance be voluntary and collaborative, or regulated and mandated?"

What Do IoT, 5G and Smart Cities all have in common?

By Femi Oshiga, vice president of Service Providers in the Middle East & Africa, CommScope

As we head to Cape Town, we'll be joining 15,000 tech enthusiasts who are eager to discuss Africa's connectivity infrastructure, disruptive technologies, digital services and ICT strategies. It's an exciting time for a region that has the chance to leapfrog in technology as 5G related activities become more widespread across Africa from mid-way through the decade.

According to GSMA, by 2025, there will be commercial 5G services in at least seven markets, including Kenya, Nigeria and South Africa, with 28 million 5G connections (equivalent to 3% of total mobile connections) between them. South Africa's data-only operator Rain has launched the continent's first commercial 5G network early this year and countries are moving quickly toward a state of readiness with 4G adoption approaching mass market and operators progressing with network modernisation initiatives.

Most people think of 5G as a new wireless service for faster smartphones, but it is also a medium that enables a city to become smarter. Citizens and visitors will one day demand new applications also be integrated into city services and capabilities. Growing urban demographics and the rapid expansion of cities forces governments to deploy smart city solutions to sustain city services, drive economic competitiveness, and enable a thriving environment in Africa and the Middle East (AME). Smart city initiatives in the region predominantly focus on four areas: mobility, security, sustainability, and public services.

Looking toward a smart future – a global perspective

To make things "smart" and improve overall efficiency, we connect IoT devices through a network to the cloud (and each other). Thus, anything "smart" requires connectivity, both wired and wireless, at least in most cases. The 5G networks of the future will bring sophisticated connectivity to these edge IoT devices with higher speeds, more machine-to-machine connections and very low latencies – enabling a new generation of applications and use cases that we haven't yet thought of.

Once we connect all the eyes and ears (IoT sensors) of the world to the data center brain, we can start generating intelligent data to drive new analytics and services. As well, more processing power is shifting to the edge, with the deployment of MEC (Mobile Edge Computing) moving closer to the actual end points and users to enable lower-latency applications.

All of these IoT edge devices and MECs need a home close to the users, which is why some city streetlights are morphing into smart poles. Streetlights are uniquely spaced throughout the city; they provide power and altitude and are ready for remodeling with LED replacements. Today, cities are eyeing two types of smart poles for replacing traditional streetlights:

- **IoT streetlight pole** – A streetlight pole can support public Wi-Fi deployments, environmental sensors, gunshot detection and LED lighting controls upgrades. Adding IoT edge devices transforms humble streetlight poles into smart IoT poles.
- **Telco pole** – These are the typical small cell poles deployed by carriers or neutral hosts to support cellular connectivity in dense areas. These poles are built for connectivity and will play a critical role in 5G mmWave deployments. By adding IoT devices, simple telco poles become smart telco poles. With telco poles, the connectivity backbone delivering a path between the edge and the cloud is already established, thereby enabling faster deployments. Due to the larger form factor of small cell equipment, physical constraints should be an early and primary guideline for aesthetic concealment in cities.

It should be noted that smart poles are part of a smart ecosystem and no single company can go at this alone. I am constantly asked if CommScope has any plans to build IoT sensors, software, apps or services for smart poles and my answer is "no, we need an ecosystem." Put simply, these interconnected products and services require multiple players to work in harmony to offer complex services.

This is why it is critical for the industry to support an open ecosystem that allows customers to choose their own edge devices, software and cloud providers. This is particularly important due to the long lifecycle (decades) of public projects compared to typical enterprise (years) engagements. In addition, regulatory guidelines should also be considered.

At CommScope, we provide the physical layer for smart poles and do that exceptionally well. This starts with the fiber and copper solutions connecting all the racks inside a data center. From there, we supply outside fiber solutions to connect these data centers to the central offices (head ends) for the carriers and all the way to the business/home or macro/metro cell tower. At these end points, we typically see the conversion from wireline to licensed or unlicensed spectrum wireless.

These wireless networks are also experiencing constant changes where licensed (4G/5G) and unlicensed (Wi-Fi, Bluetooth, LoRa, etc.) are beginning to converge. For example, smart buildings are expected to provide reliable cellular coverage inside the building along with ubiquitous Wi-Fi and support for IoT wireless networks. Add the upcoming CBRS private networking play and we soon realize we are building multiple networks under one roof – all delivering ones and zeros to endpoints. How will all these networks converge in the future?

By providing the connectivity piece in this complex puzzle, CommScope adds tremendous value to the customer. We will continue to build out our ecosystem so we can offer complete solutions with our partners. With the acquisition of ARRIS and Ruckus Networks, CommScope has the resources of a Fortune 250-sized company that is well placed to drive the future of connectivity in the region.

In a new era of IT, the network underpins everything

Below are example solutions that enable a smart future for network operators across the region:

- **Fiber for High-Speed and Robust Connectivity:** Smart cities will be built on fiber. CommScope's fiber technologies enable faster connectivity in buildings, the data center and central office.
- **Ultra-Connected Homes are Becoming a Reality:** Consumers are experiencing an increasingly digital life and network operators are seeking ways to unlock the best user experience. CommScope is delivering reliable, high-bandwidth Wi-Fi to every corner of the home and sees the smart media device bringing connected home technologies together for a unique personalized experience.
- **Powering Connectivity for Smart Cities:** As smart cities add new mobile-connected devices like security cameras and air quality sensors, they must have access to electricity. This is not always an easy task considering devices may be several hundred meters away from a power source. Network operators are using CommScope's powered fiber cable systems to speed and simplify installation, and power these types of network devices.
- **Digital foundation for Smarter Buildings:** As the number of connected devices grows, the location of these devices is becoming more important. CommScope's automated infrastructure management (AIM) system knows exactly what is connected, how it is connected and where it is located. The software automatically tracks changes, issues work orders, and documents the entire network. It also provides root-cause analysis in the event of failure, helping restore services faster. ■

5G to generate billions, says Ericsson

African and Middle Eastern network developers can expect a potential revenue opportunity up to US$46bn by 2030, provided they adapt their business model to become service enablers and creators.

That is according to Ericsson's 5G Business Potential beyond Mobile Broadband report. A sequel to the 5G Business Potential report, Ericsson highlighted the "industry verticals" that are prominent in the region and offer clear opportunities for 5G use cases.

"5G will introduce opportunities that will allow operators to adopt new business models and develop new services, applications and revenue streams," Chafic Traboulsi, VP and head of networks, Ericsson Middle East and Africa said at GITEX Technology 2019 in Dubai. "These new 5G applications and services are expected to have a profound impact on consumers, businesses and industry digitalisation which underscores the importance of releasing our research at this time."

Ericsson has identified four industry verticals that form the primary focus in the addressable 5G business potential opportunity and cited clear opportunities for the following 5G use cases: oil and gas (mining), transport and automotive, public Safety and critical infrastructure and manufacturing.

Airtel and Ecobank improve access

Airtel Africa and Ecobank Transnational Incorporated the parent company of African banking group Ecobank have signed a partnership which will allows both company's customers across Africa to improve their access to mobile financial services.

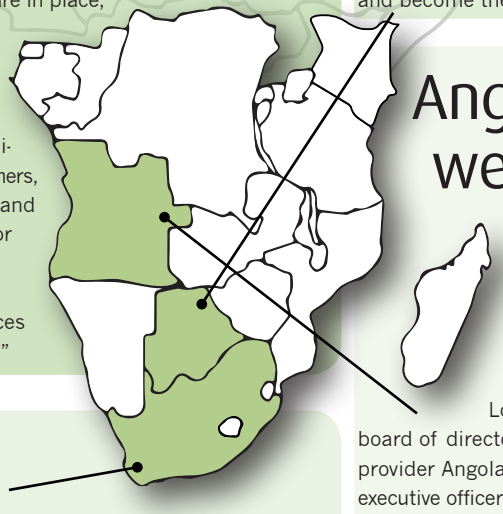
This partnership will enable Airtel Money customers, through Ecobank's digital financial services ecosystem, make online deposits and withdrawals, effect real time money transfers, make in-store merchant payments and access various products.

However, the deal is still subject to regulatory approval in each African market in which the companies operate. Airtel operates in 14 African nations and Ecobank has a presence in 33

The partnership will also allow Ecobank corporate account holders to make bulk disbursements, such as payroll payments, directly into Airtel Money customer wallets. Additionally, Ecobank will be able to sponsor Airtel Money to issue both virtual and physical debit and prepaid cards to Airtel Money customers.

"This partnership is a further demonstration of Airtel Africa's commitment to provide affordable, simple and innovative solutions for our consumers across Africa," said Raghunath Mandava, chief executive officer (CEO), Airtel Africa. "We will continue to offer locally relevant m-commerce solutions with partners like Ecobank in order to enhance the daily lives of our customers."

Ecobank Group CEO, Ade Ayeyemi said the firm was of the belief that financial inclusion can ultimately contribute to economic development, collaborating with major telecommunications providers in Africa is therefore a key strategic driver towards closing the gap between the banked and the underbanked. "Hence this partnership with Airtel Africa which makes Ecobank financial services available to any Airtel line registered on Airtel Money, in our markets where regulatory approvals are in place," he said. "This potential extensive reach will further provide convenience to customers, intra-country and particularly for cross-border transactions and remittances across Africa."



LTSA hires Marandure

Former ZOL chief executive officer (CEO) and chief commercial officer Denny Marandure has joined Liquid Telecom South Africa (LTSA) as its client executive responsible for business development for cloud and digital.

In an internal email to Liquid Telecom staff, LTSA chief sales officer Shau Reuben acknowledged the importance of the role Marandure has been tasked with along with highlighting some of his milestones.

"Denny Marandure has joined Liquid Telecom South Africa as a client executive responsible for Business Development for cloud and digital services. This is a key role in driving our transformational strategy and we wish Denny great success!" the email said. "Recently he was the chief commercial officer of Liquid Telecom Zimbabwe. Prior to this role, he was the CEO of ZOL Zimbabwe, the retail arm of Liquid Telecom Zimbabwe."

The email described Marandure as "an adaptive Denny is an adaptive and highly experienced global player" with extensive years of experience in providing value to large companies such as IBM, Lucent Technologies, PriceWaterhouseCoopers and Verizon Communications.

Mascom Wireless shareholders argue over sale

A battle is currently pitting the shareholders of the Botswana mobile operator Mascom Wireless against each other.

While South African-owned MTN reached an agreement with Econet Wireless Limited to sell its 53% stake in the business for US$300 million, the Botswana Civil Servants Pension Fund (BPOPF), also a Mascom Wireless shareholder through the investment vehicle DECI, has opposed it.

A mediation to find a solution to this dispute has been scheduled and it will be led by Sefelana Thapelo, a business lawyer based in Francistown. The purpose of this mediation is to determine whether MTN or BPOPF has correctly interpreted clause 12 of the shareholder agreement.

According to BPOPF, Article 12 stipulates that in case of sale of shares resulting in a change of control of the company, the seller must offer a preferential offer to the second largest shareholder and not impose his preferred buyer. MTN does not interpret it in the same way.

If Econet Wireless succeeds in acquiring the 53% stake, the Zimbabwean telecom group, which is the founder of Mascom Telecom and holds 7% of the shares, would increase to 60% and become the majority shareholder.

Angola Telecom welcomes new board of directors

The Angolan president João Lourenço has appointed a new board of directors for the state-run fixed-service provider Angola-Telecom-EP, led by new chief executive officer (CEO) Adilson Miguel dos Santos.

Angola's head of state also appointed other members to the position of the company's managers. They are Miguel Tandawembo Rodrigues Cazevo, António Sercal, Mandela Nsito Barros and Inocência Natália Diakelewote Miguel Zongo dos Santos.

Prior to the appointments, Angola Telecom-EP was managed by an interim management committee.

Announced via a statement released by the Civil Affairs Office, it is understood the decision to forge a new board is based on the conclusion of the company's restructuring process, aimed at making the company look more attractive ahead of subsequent privatisation.

Tigo Tanzania donates Tsh110m to health organisation to battle clubfoot

Tigo Tanzania has donated Tsh110m to healthcare organisation Comprehensive Community Based Rehabilitation in Tanzania (CCBRT) as part of its commitment to assist the health facility in eradicating clubfoot, while ensuring both quality and accessible treatment for all Tanzanians.

The telecom firm's donation also serves as a public awareness initiative about the importance of following up with a treatment to ensure recovery and preventable disability.

CCBRT partnered with Tigo to develop an SMS patient reminder platform, which sends reminder messages to the parents of all clubfoot patients, both four days and one day before their scheduled appointments.

The partnership has helped the health organisation significantly reduce the dropout rate.

More than 1,500 children have benefited from Ponseti Method clubfoot treatment and over 400 have received life-changing surgeries at CCBRT in the last four years.

Vox launches Lekelela Technical Services in South Africa

Vox, the ICT and telecom business, has partnered with provider Frogfoot Networks, Telkom and Cloudseed to launch Lekelela Technical Services (LTS) in South Africa.

The telecom staff and solutions vendor will operate with 51% black ownership and fulfil orders from the three partners. From Vox, it will install fibre, ADSL, Wi-Fi, PBX, voice, visual communications, SMS and fax solutions; from Telkom, ADSL and fibre lines; from Frogfoot, fibre lines; and Cloudseed, Wi-Fi and LAN connections and ad-hoc Wi-Fi connectivity.

LTS will install the physical connection and any value-added services over the connection at the same time. As a result, all stakeholders will benefit from lowered costs and reduced lead-time from the time of sale to delivery of invoice. By operating as a 51% black owned company, LTS should be positioned as a favourable supplier to companies that fall into the ICT Charter Scorecard.

"One of the major issues is the lag and backlog in installations," said Mayuri Mistry, CFO at Lekelela Technical Services. "By establishing a dedicated technical services provider under the umbrella of Vox, we aim to reduce installation times and streamline the entire customer experience within the ICT ecosystem. We are excited to kick this initiative off with five employees already in place, and ready to make installations happen faster and look forward to growing this number in the coming months."

Vox will also provide skills training and development, with a focus on technical expertise. Over time, skills training and support will extend beyond the technical realm to spheres such as financial and business management, marketing and communications.

MTN set to re-enter mobile money space

MTN will launch a new mobile money service before the end of the quarter, according to MTN South Africa chief executive officer Godfrey Motsa.

Speaking at the 2019 MyBroadBand Conference at Midrand in Johannesburg, Motsa said that there are 17 million people who are unbanked or underbanked in the country, which made it an opportune time to re-enter the market.

Although, he noted that similar mobile money services had failed twice previously, Motsa said that its current offering has remained incredibly popular in the rest of Africa.

"We have over 30 million customers on mobile money already and made around R8 billion last year," he said. "While I often hear people say that 'South Africa is not Africa', there are still 17 million people that are unbanked and need to be serviced," he said.

The Johannesburg-based operator launched a mobile money platform in 2012 – attracting over two million customers in the process. However, it shut the service down in 2016 citing 'commercial viability'.

Despite shutting down its mobile money service, MTN said it was still committed to having a key presence in the financial services arena.

Djibril Ouattara appointed MTN Côte d'Ivoire chief executive

MTN Côte d'Ivoire has hired MTN Congo Brazzaville chief executive officer (CEO) Djibril Ouattara as its new head, effective November 1. He will succeed Freddy Tchala, who left the same post in September. Current MTN Congo Brazzaville chief technical and information officer Ayham Moussa will assume the role of acting CEO of MTN Congo Brazzaville until a permanent appointment is found. No time frame has yet been given for finding a permanent replacement.

"Djibril is a seasoned executive with experience spanning more than 15 years in telecoms. In his most recent role as CEO of MTN Congo Brazzaville, he made significant strides in delivering on the company's BRIGHT strategy," the group said in an update to shareholders.

MTN also highlighted the fact that Ouattara had implemented a successful turnaround, including a network transformation. This helped MTN Congo Brazzaville win the award for best network in the country for two consecutive years, as well as an aggressive supply and distribution transformation leading to significant value share growth.

Malawi ditches tax plans

Malawi scrapped plans to implement a 1% withholding tax on mobile money transactions, following criticism from the country's largest operator and politicians.

In a letter to finance minister Joseph Mwanamvekha, Telekom Networks Malawi chief executive Michiel Buitelaar warned the tax would hamper the country's economic development and run contrary to a government aim of boosting financial inclusion, Nyasa Times reported.

The minister introduced the tax as part of the country's 2019 to 2020 budget. Now that it has been scrapped, Mwanamvekha instead plans to introduce a 20% withholding tax on trust funds set up by mobile companies to fund social programmes.

The Consumers Association of Malawi vented its anger at the proposed tax and said it would be most devastating to the poorest members of Malawian society.

Seacom and Vodacom team up

Telecom business Seacom and Vodacom Business Africa, the operator's enterprise-focused subsidiary, have joined forces to initiate the next chapter of both companies' African network connectivity ventures.

Since the launch of its business division, Seacom has substantially grown its customer and partnership base and the new partnership ensures that it can meet customer and partner demands beyond existing markets.

Vodacom Business Africa has a history of investing in the creation of network capability, supported by technological partners on the continent. This has increased connectivity and driven digital growth within the 47 countries in which it operates.

Managing director Guy Clarke said the main benefit for customers from the partnership was that their access was paired with a single contract execution across multiple territories, supported by cross-border customer service.

"The new partnership equips Seacom with this appealing capability, while extending its capacity when linking existing services across other platforms, including the Internet of Things, cloud and unified communications," he said. "We're confident our partnership will translate into growth for both parties."

Seacom chief commercial officer Steve Briggs said the addition of the Vodacom Business Africa network would significantly augment the geographic reach for its business clients across the continent.

"In addition, this opportunity further cements the strong commercial relationship already enjoyed between Seacom and the Vodacom group, which dates back to the launch of Seacom's original subsea cable system," he said.

Smart Telecoms 'closes' in Tanzania

Smart Telecoms, the network service provider, has officially shut down its business in Tanzania, according to the country's watchdog.

Emmanuel Manasseh, acting director general for the Tanzania Communications Regulatory Authority (TCRA) told the media that the network service provider submitted its business closure request in March of this year.

"They wanted an immediate closure in March, but we (TCRA) decided to give them a period of three months so as to give room for customers – who had bought voice, messages and internet bundles – to finish credits," he said.

Smart Telecoms officially ceased trading in June 2019. The firm started its operations in Tanzania after it bought what was formerly known as Benson Informatics.

Zambian minister calls for action

Zambia's transport and communications minister has called on the Zambia Information and Communications Technology Agency (ZICTA) to start sanctioning mobile phone service providers that are providing poor services.

Mutotwe Kafwaya said the regulator should start getting tough on service providers that flout standard of service guidelines.

Speaking at the launch of Velocity, the country's first unlimited broadband internet offer – powered by Zamtel – Kafwaya said the government is interested in seeing a fully-developed ICT industry in Zambia that meets customer expectations.

He also praised Zamtel for continuing to launch innovative products, which he said have helped meet the government's goal of universal access to ICTs.

Kafwaya added that the government is pushing the universal access to ICT agenda by putting up infrastructure that increases access to ICTs especially in underserved and unserved areas.

The minister said so far, 550 of the 1009 communication towers under Phase II of the GRZ Communication Tower Project are functional.

"Government's driving agenda for universal access for ICT for all Zambians is firmly anchored in the Seventh National Development Plan and Vision 2030 which places emphasis on access to ICTs for all citizens," he said.

Meanwhile, Zamtel chief executive officer (CEO) Sydney Mupeta said Velocity is the answer to customer's complaints about depletion of data and slow internet.

"Velocity is a response to a growing number of customers that need always-on high speed internet in their homes and offices thereby enhancing convenience," added Mupeta.

TN employees get pay increase

Telecom Namibia (TN) and the Namibia Public Workers Union (Napwu) have agreed a one-year wage agreement which will see all employees receive 4% increment across the board.

The agreement reached between NAPWU and Telecom Namibia "is by far the most effective and fruitful, because it was concluded on mutual understanding, respect and trust, said TN acting chief executive officer Armando Perny.

"During the negotiations, the parties considered the interest of the company as well as that of the employees, "he added. "The fundamental issue is that everyone is affected by the current inflation and economic depression and Telecom continuously strives to ensure that employees will be able to maintain their lifestyles and that of their families."

Let us celebrate the fact that management and the employee representatives put aside perceived differences in the interest of all parties," he said.

Matheus Ndeshikeya, Napwu executive personal assistant to the general secretary added: "Napwu and Telecom Namibia as parties to this collective bargaining process have settled and committed us to regulate industrial relations and dynamics sustaining equitable relationships between themselves." He also urged all members of staff to join forces in achieving the organisational deliverables and to successfully execute key operational plans. "This will ensure that Telecom Namibia maintains its market share in the industry," he added.

African nations paying high rates

Customers in African nations are paying some of the highest rates in the world for basic internet access, with some forking out more than a fifth of average earnings, new research has found.

The Alliance for Affordable Internet (A4AI) explored 136 low and middle-income countries for its annual Affordability Report, in which it looked at what consumers were paying out as a proportion of their income.

Middle-income examples in the report included Ghana and South Africa, while low income examples were Liberia, Mali and Mozambique.

An initiative of The Web Foundation, founded by inventor of the World Wide Web Sir Tim Berners-Lee, with partner organisations that include Google and Facebook, the A4AI's definition of affordability is 1GB of mobile broadband data costing no more than 2% of average monthly income. However, the average across the African continent is 7.12% and in some cases 1GB costs more than a fifth of average earnings. To put that into context, if the average earner in the US paid that percentage of their income for internet access, 1GB of data would set them back US$373 per month.

The report said such prices are "too expensive for all but the wealthiest few," and said cost was the primary reason why around 49% of the global population is still offline.

Citizens of Chad, the Democratic Republic of the Congo and the Central African Republic pay more than 20% of average earnings for 1GB of data. The most affordable rates in the continent are in Egypt at 0.5% and Mauritius at 0.59%.

Overall, the report found that costs are falling faster in low-income countries than middle-income counterparts, but in many cases prices remain prohibitive.

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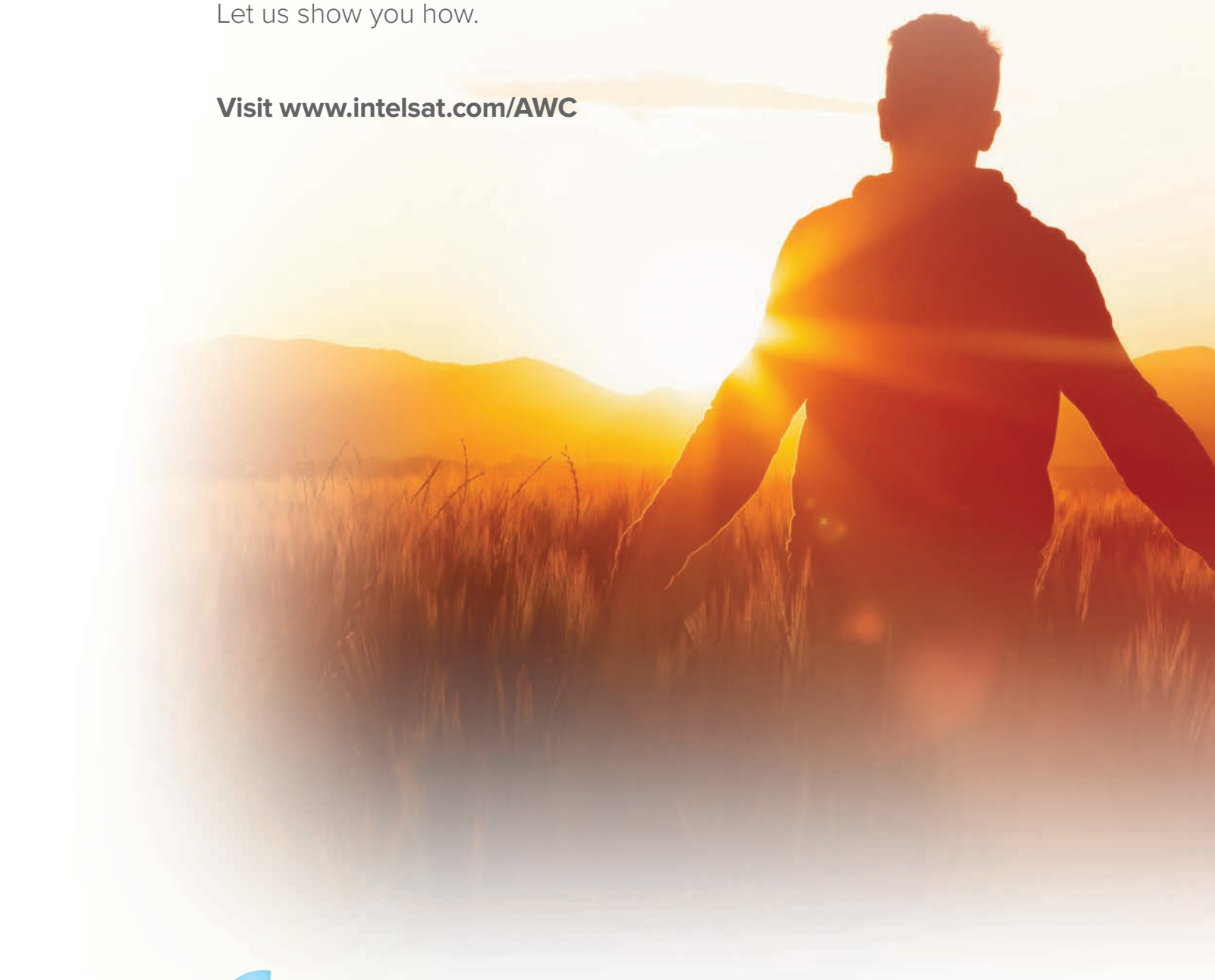

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Mara Group first to 'Made in Africa' smartphones

Rwanda's Mara Group two new smartphones have been described as the first "Made in Africa" models.

The Mara X and Mara Z will use Google's Android operating system and cost 175,750 Rwandan francs (RWF) (US$190) and RWF120,250 (US$130) respectively. Competing with Samsung, whose cheapest smartphone costs RWF50,000 (US$54) and non-branded phones at RWF35,000 (US$37), Mara Group CEO Ashish Thakkar says it was targeting customers willing to pay more for quality.

"This is the first smartphone manufacturer in Africa," Reuters quotes him as saying after visiting the company alongside Rwanda's president Paul Kagame.

He adds that companies assemble smartphones in Egypt, Ethiopia, Algeria and South Africa, but import the components. "We are actually the first who are doing manufacturing," he says. "We are making the motherboards, we are making the sub-boards during the entire process. There are over 1,000 pieces per phone."

The phones are an important step toward Rwanda's goal of becoming a new hub for the tech industry. *www.maraphones.com*

Sonim brings XP3 PTT flip phone to Verizon

The Sonim Technologies Sonim XP3 rugged flip phone has a dedicated push-to-talk button and is now available on the Verizon network.

The device is interoperable with field radios and smartphones, courtesy of Verizon's preloaded PTT+ application, which provides Verizon customers with push-to-talk capabilities.

"Flip phones are making a comeback among users opting for simple mobile communications," said Sonim chief executive officer (CEO), Bob Plaschke. "The addition of the XP3 gives Verizon business customers an affordable, ultra-rugged, reliable option that supports 4G calling, which has been a limitation for older flip phone models."

There's more – the XP3 is IP68-rated, meets the MIL-810G standard for ruggedness (including drop protection) and comes with a three-year warranty as standard. It also has a 100 dB+ speaker with noise cancellation and is supported by a range of industrial-grade accessories such as rugged headsets, RSMs, vehicle kits and multi-charging bays. *www.sonimtech.com*

New 'TV White Space' solution from Radwin drives broadband to remote communities

Radwin says its new disruptive TV White Space (TVWS) solution is ideal for providing broadband to remote communities. It utilises unused TV channels in the 470-698MHz band to connect unserved rural customers to the digital world.

Leveraging upon the Israeli firm's broadband wireless access technologies, the new TVWS solution operates in non-line-of-sight scenarios and penetrates trees and foliage over extensive distances. The new TVWS solution also complements Radwin's existing carrier-grade sub 6GHz portfolio and is supported by its OSS tools to address all operational aspects of the network lifecycle.

"There are entire populations across the globe that live in remote areas who have no connection to the internet," says Sharon Sher, Radwin's president and chief executive officer. "Fixed wireless is one way to deliver broadband, however, in many rural areas, there are obstacles to direct line-of-sight connectivity. With our newly-launched TVWS solution, service providers can connect unserved remote communities to the information age, help bridge the digital gap and generate new revenue streams. Sher reckons rural communities can significantly improve their lifestyle and boost productivity "by accessing an unlimited array of online broadband services from healthcare, education, government services to entertainment".

The solution will be available globally in Q1 2020. *www.radwin.com*

Receiver antenna that enables EV wireless charging

Spanish firm Premo has designed "highly reliable receiver coils" for EV wireless charger applications – an innovation backed by European and international patents.

The WC-RX-Series (compact secondary coils) consist of a flexible magnetic core combining Flex-Ferrite blocks with PBM (Soft-Polymer Bonding Magnetic) with a D-type coil. The receiver antenna, Premo claims, is able to handle from 3kW to 11kW of power but the firm is already working on a 22kW version.

This wireless power transfer (WPT) requires no physical contact between the vehicle and the charging station, therefore overcoming the inconvenience and hazards caused by traditional direct-conductive methods.

The challenge is to replace the conductive charging method by WPT technology while maintaining a comparable power level and efficiency. What's more the end game goal is to dynamically power the moving vehicles on the road, automated guided vehicles on a factory floor and/or autonomous robots and forklifts in a warehouse. This may lead to a significant size reduced battery pack and extended driving range at the same time thus addressing the main concerns of EV, namely, the high prices of batteries and range anxiety.

For the past three years, Premo has been investing in inductive components design applying both the 3DPower concept (for the magnetics involved in WPT) and the ALMA concept (for long-range antennae using flex-magnetic core).

Together with its research partners, the company developed a technology supporting Inductive Wireless Power Transfer in the range of 90kHz. The magnetic core technology developed for Premo's WC-Rx-Series (secondary coils) provides a high efficiency power transfer in excess of 95% thanks to a carefully crafted combination and optimization of the coil (Litz wire) with a flexible-core configuration that avoids air gaps and reduces heating areas. *www.grupopremo.com*

‘Cloud accessible networks in the palm of your hand’

EnGenius Networks says its eponymous SkyKey is aimed at those interested in speeding up the process of managing feature-rich access points and switches and who want to save time by managing wired and wireless networks from a single platform.

The multinational wireless networking company says that even though the device is smaller than a smartphone, it is powerful enough to act as an integrated computer equipped with built-in sophisticated network management software and powerful state-of-the-art hardware.

A built-in free ezMaster management software controls EnGenius access points or switches directly.

The company further claims the EnGenius SkyKey puts an end to the need of a dedicated server usually required for managing a fully on-premises wireless network. Equipped with user-friendly software, the mini-workstation powered by either PoE or a 12V adapter prevents IT professionals from spending hours going through a challenging installation or maintenance. All tasks are performed via a user-friendly web browser interface. The device comes with integrated sturdy magnet strips allowing IT professionals to attach it to any metal surface.

Key features and benefits include cloud and private network management, secure cloud access, plug and play installation, easy web-based management interface, plus network overview analytics.

“The new addition to the EnGenius family brings extra benefits and convenience to the users,” says Sherry Wei, regional general manager at EnGenius Networks Europe. “SkyKey is fully capable of bridging the gap between on-premises solution and the company’s recently released cloud solution. The SkyKey gives IT professionals multiple ways to adjust global settings, monitor and visualise networks, and access statistics information of any type of network – wireless or wired.”

www.engeniusnetworks.eu

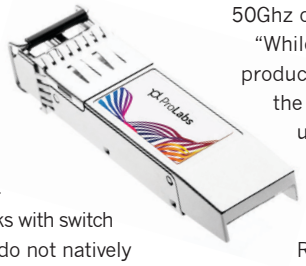
Infinet’s brand new Quanta 5

Infinet Wireless says its brand new 5GHZ point-to-point solution has a capacity of 450Mbps in just 40MHz. It also claims the Quanta 5 product has a processing power of 800,000 packets per second. Apparently, it provides the highest spectral efficiency available in today’s wireless marketplace, even when it’s tasked with operating in high interference environments.

The firm also reckons it’s fully future proofed as it utilises the Octopus SDR platform that allows new PHY, MAC and upper layer features via a firmware upgrade even for the units operating in the field.

Infinet further claims its Quanta 5 can be deployed in a diverse range of applications, from backhauling for Wi-Fi and 4G/LTE base stations to CCTV and video-surveillance infrastructures. It can also provide internet access to remote locations. What’s more, Infinet takes pride in its “unique combination of high performance, affordability and ease of installation”. *www.infinetwireless.com*

ProLabs add to portfolio with new Clarity Auto-Tuneable DWDM Transceiver



ProLabs, the optical networking and connectivity solutions business, says its self-tuning ProLabs’ Clarity Auto-Tuneable DWDM Transceiver is designed to save service providers cost and time to deploy new services.

As the newest member of ProLabs’ solution portfolio, Clarity is a plug-and-play solution that is “appropriate” for any OEM switch platform that supports SFP+ transceivers. Service providers can plug Clarity into the host and passive mux – and the transceiver automatically locates the open channel, tunes and locks onto the transceiver at the other end. It apparently auto-discovers and self-tunes to individual DWDM wavelengths without manipulation by OEM platform or peripheral devices and it’s system independent – meaning it works with switch platforms that do not natively support tuneable transceivers. ProLabs says it also reduces the complexity of tuning to specific wavelengths in the field as well as reducing inventory for spare DWDM transceivers. What’s more, the company claims it provides up to 80KM reach with full industrial temperature performance and is available in 50Ghz or 100Ghz channel spacing.

“While the idea of tuning products is certainly not new, the industry is accustomed to using products that require software or a separate device to perform this functionality,” says Raymond Hagen, global product line manager, ProLabs. “With Clarity, we have eliminated the need for technicians to track fibres or carry extra equipment to program the wavelength of each module during their deployment, which leads to faster deployment and reduced costs. It’s a win-win.”

www.prolabs.com

Look out for...

NGMN’s white paper on ‘air gap’

The Next Generation Mobile Networks (NGMN) Alliance has published its ‘Continuous Delivery in Telecommunication Network Environments’ white paper, which sets out concepts to tackle the ‘air gap’.

Mobile networks are becoming more software-centric and cloud-based, with greater use of network functions virtualisation (NFV) and software defined networking (SDN). At the same time as paving the way towards a more agile approach to service delivery and enabling greater network automation, mobile network operators’ teams are shifting from a traditional approach to a DevOps approach (which works to reduce the time it takes to deploy new software).

However, one barrier to this approach – identified in the NGMN white paper – is the ‘air gap’. That is the strict separation between live networks (production environments), test environments and development environments, which is required for security reasons. The air gap makes it harder to move software from one environment to another.

The white paper sets out a concept that addresses this problem, allowing network boundaries to be bridged while meeting strict security requirements. It was designed with close collaboration between security experts and their counterparts in the fields of continuous integration (CI) and continuous delivery automation. The concept takes advantage of cloud infrastructures and cloudified applications, but it is not limited to them and the authors claim that it also works well with classic data centres providing virtual machines or even physical network elements.

The concept also draws from findings gained in recent projects, including DevOps practices from major players such as Deutsche Telekom (DT) and SK Telecom (SKT) including feedback from more than 25 NGMN MNOs.

“This project has reinforced the importance of industry collaboration to expand and evolve telecommunications networks with a view to providing continuous deployment,” said Peter Meissner, CEO of NGMN. “Collaboration is key not just for NGMN but for the whole industry.

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Making 5G pay

Much is said about the potential for 5G and the doors it will open for new opportunities. However, the real challenge in Africa is going to be how to monetise this exciting new technology. Jon Howell and Smita Sarkar investigate

Africa will have to wait till 2022 to be introduced to the new generation of 5G cellular mobile technology, poised to offer reliable delivery of much higher data speeds than current data networks, a theoretical 20Gbps download and 10Gbps upload along with enhanced coverage. So does that mean that 5G will stay on the back burner for Africa?

"5G rollout in Africa will be much slower than Asia and Europe," says Kim Craven, managing director of Lifecycle Software. "There is less demand for high-speed, higher-cost bandwidth, more need for lower cost and accessible mobile services."

There will be pockets of opportunity for operators though. Affluent cities like Johannesburg will lead the way and, like in Europe, the replacement of fixed-line services with mobile broadband will be the way ahead for monetising 5G.

"Replacing copper and fibre infrastructure means cost effective and more reliable services that can be offered on a like for like basis, with unlimited data bundles being key to the uptake of the services," explains Craven. "This mobile broadband offering, along with VoLTE and other IP-based voice services, will be key in allowing the initial 5G rollouts to see ROI and fund growth into the interactive consumer base in later stages of its evolution."

Craven predicts that, other than affluent city areas, 5G handsets and 5G use will be minimal, with rather slow growth over the next 2-3 years. Significant growth in consumer use will only come when Asia and Europe have evolved their use of the technology and have found real world everyday use cases for the technology that Africa can adopt.

He isn't the only one who sees difficulties for African 5G. South African operator Cell C looks at 5G as an inevitability but they warn that unless the industry makes drastic changes to the traditional models of network rollout it's unlikely that it will make the impact that is hoped for. "The implementation of the nascent 5G technology has been hyped in the South African media, but the capital investment in LTE and LTE-Advanced (around R80bn over the last three years for industry) will be small in comparison to the investments needed to cover the same footprint with 5G technology," warns Cell C.

But other operators are much more positive about the technology's future. They feel that Africa with its increased mobile data usage, huge population, and a lack of fixed-line internet connectivity can prove to be a lucrative market for 5G and "this promise of high-speed connections will help operators leverage multiple untapped applications, especially in a market like Africa," according to Anil Krishna, head of African region at Comviva Technologies.

James Gray, director at Graystone Strategy, agrees. "If the 5G infrastructure is extended into rural areas, the super-fast broadband will offer

a real potential boost to communities to get access to high speed data via routers," he says. Although he warns that the big challenge with super-fast mobile data is the rate at which data can be consumed and costs can be run up, if users are not on large data bundles.

Perhaps consumers shouldn't be in the forefront of any operator's plans. Speeding up the ROI on their 5G rollouts will involve looking at what the technology can enable, for example enriched content services, enterprise applications, and IoT services. "Once 5G arrives, operators will be able to leverage their network and infrastructure to create new monetisation opportunities," says Clémentine Fournier, regional VP Africa at BICS.

According to Martin Morgan, VP marketing, Openet, one of the initial uses of 5G will be fixed wireless access (FWA). In countries where fixed line broadband penetration is low, the opportunity is to use 5G FWA to offer a real alternative to fixed-line broadband services. "There is also the option of leveraging 5G for remote health and education programmes and looking at partnerships with government agencies to use 5G FWA to deliver such services," he says. "But the question shouldn't be just about getting customers to pay. There are many innovative models such as partner-funded and ad-funded models that can be rolled out too."

Sami Saber, managing director, Middle East and North Africa, Syniverse, remarks that customers won't necessarily buy a new handset to get higher speed. Operators will need to develop use cases that fit the local market and address local consumer needs. "With the lack of fibre infrastructure in some countries, 5G has become a credible and fast alternative. Fixed-mobile broadband for many operators represents the shortest route to 5G monetisation, which can be enriched with services like Internet Protocol television (IPTV) and video on demand (VoD)," he says.

With 5G's core benefit over 4G being an increase in concurrent users from 4,000 to a 1,000,000 per km2, operators should think about targeting highly-concentrated populations where high-quality data access is limited. Mobiz CEO, Greg Chen, says: In reality, perhaps the best way to monetise 5G is to utilise the additional bandwidth offered to reduce the overall cost of data on 3G and 4G networks thus increasing data consumption."

There are other alternatives to selling directly to consumers too. "Instead of end-users paying telcos directly for connectivity, operators in a 5G world will be able to generate revenues by charging the companies that are providing 5G-reliant services to their customers. This business-to-business-to-X (B2B2X) model can vary as X can either be a consumer or a business, leading to many different use cases. And by identifying and tapping into these opportunities, operators have the chance to ensure that they get a return on their 5G investments," says Fournier.

Business customers will be a critical part of the monetisation journey. Just as for consumers, 5G services need to be based on use cases designed specifically to address business problems, unlock new services, and enable new market offerings. "There have been a number of reports and studies from different industry experts about the expected explosion of IoT devices in the next decade," says Saber. "IoT remains a key driver of 5G, and, with ultra-low latency and speed, the potential is immense."

Morgan also thinks operators need to look at selling applications beyond connectivity to businesses. "We're already seeing the emergence of 5G powered smart factories in Asia and Europe," he says. "But to do this operators need to look beyond the confines of being a traditional telecoms company. Businesses will pay a premium for guaranteed quality of service for 5G, this could be for applications such as mission critical IoT and production lines in factories."

Fournier says the number of IoT connections is booming worldwide. According to the GSMA, between 2018 and 2025, the number of global IoT connections will triple to 25 billion, while global IoT revenue will quadruple to USD1.1 trillion. "In Africa, a continent that hosts over half the global population growth, there are already a number of practical IoT use cases in verticals such as agriculture: for example, wireless sensors for tracking animals, and measuring crop growth and soil moisture. Other examples include mobile money, and mhealth," she says.

Anil Krishna, head of African region, Comviva Technologies

"5G will bring a new level of performance and new characteristics to telecom networks, enabling new services, new ecosystems and new revenue streams"

As the connectivity to support the IoT becomes increasingly commoditised, the onus will be on operators to expand their role in the value chain. From providing the essential tools and capabilities for partners to build IoT solutions, to becoming the end-to-end IoT solution providers, the opportunity is there for operators to seize, she feels.

However, Craven has a note of caution. Although business take up of 5G services will be critical to the speed and commercial success of all 5G rollouts across Africa, he feels that existing IoT applications do not require 5G and it will only be when applications are developed specifically for 5G that IoT will drive significant commercial uptake.

Africa is a vast and diverse market. "South Africa and some north African countries, for example, are emerging markets, while others are considered 'frontier markets'," says Fournier. "In less developed countries there may be challenges, but these regions also hold opportunities for developing connectivity, use cases which are not possible elsewhere. In fact, some countries in Africa are arguably now leading the way in some markets, such as mobile money."

Operators shouldn't be discouraged though. "Despite the low ARPU across Africa (an average revenue per mobile user of between USD5-10), we have seen the emergence of new technologies such as 4G – albeit at a different speed to other continents," she says.

Craven thinks this is the critical point, that initially 5G has to replace services that people are already paying for in a commercial manner. "This means not only pricing 5G in line with existing services but significantly increasing broadband bundles to ensure it can be used without a large usage penalty," he suggests.

Ultimately, there could be technical limitations that will exclude those who are near the breadline. "Due to the increase in frequency adopted by 5G, its coverage per node will be significantly lower. Therefore many more nodes are needed to cover the same distance that 4G

Craven predicts that, other than affluent city areas, 5G handsets and 5G use will be minimal, with rather slow growth over the next 2-3 years

currently covers," explains Chen. "This would mean that only densely populated areas urban areas would get to utilise this."

Morgan thinks other business models might allow prices to be brought down. "5G will see many new partnerships as companies look to use 5G as a delivery channel for their services. It will be in the interests of these companies to have a large base that can use their services, so we will see such partner companies subsidising, or paying for, 5G access for some sections of the population," he predicts.

He points to Peru and how Telefonica is using innovative approaches to overcome the high cost of connectivity and the relatively low incomes of consumers. "Telefonica is partnering with Facebook and national banks as part of their Internet Para Todos (Internet for All) scheme to deploy internet connectivity. The result is that they will have connected half a million people in only one year in Peru with a goal of connecting the entire population," says Morgan.

With IoT maybe a long-term goal and consumers being slow to adopt, are businesses in the position to pay for 5G services?

"The simple answer is yes," says Saber. "Businesses have different priorities, such as revenue, customer experience, and cost. So a business will sign up to 5G if that can help improve their businesses in a high-priority area, for example. It just needs to be cost justified."

Krishna is of the opinion that in the context of Africa, "select use cases certainly have the potential, particularly in the agriculture, health, and manufacturing segments. These businesses may not be averse to paying, keeping in mind the potential to generate return on investment."

Operators have to look at the ROI for 5G, and it's the same for those businesses who are considering purchasing 5G services. "If the pricing is linked to the value that the service or application over 5G delivers, and if it can demonstrate operational efficiencies, reduced wastage or more efficient use of manpower, then there is a business case to be made," says Gray.

The business user marketplace is ready to pay for this believes Morgan. "There was a recent study by CapGemini of 800 industrial companies that showed that 79 per cent of industrial companies would expect to pay a premium for the guaranteed Quality of Service that 5G delivered, and 78 per cent said they'd pay a premium of enhanced speed and reliability, and 77 per cent willing to pay extra for enhanced security. There are numerous 5G features that enterprises will be willing to pay extra for," he says.


Greg Chen, CEO, Mobiz

According to the GSMA, between 2018 and 2025, the number of global IoT connections will triple to 25 billion, while global IoT revenue will quadruple to USD1.1 trillion

Fournier is keen to point out that despite the vastness of the African continent, and the remote nature of some towns and social groups, mobile and digital communications have been able to connect the previously unconnected. She is confident that 5G will help revolutionise several industries, including utilities, banking, health, transport and farming.

"For example, in some regions of Africa there is only one doctor for tens-of-thousands of people, they can now connect patients remotely to healthcare professionals, without having to travel long distances, and check medicine stocks in neighbouring towns. And by using smart agriculture technology, farmers across Africa have improved their control over the process of growing and harvesting crops, and rearing livestock," she says.

For operators, a new generation of telecoms technology throws up all sorts of issues. "Not all operators are ready for 5G," warns Morgan. "Some will be hindered by legacy systems, such as billing systems that were designed to bill voice calls and SMS. The good news is that there are new options to implement Digital and 5G BSS as an adjunct to legacy kit, or even on a new greenfield site for new digital brands."

As part of its product portfolio, Syniverse offers data clearing which validates and transfers billing data, used for example when operators need to charge for roaming. So Saber is well placed to comment on how ready operators are, "to monetise 5G-era services, a supplier must be able to accurately charge for its product in an ultra-fast, low-cost way. Blockchain will ultimately address this challenge. This technology, among other things, may eventually eliminate a large portion of the current process for revenue assurance."

"In reality, perhaps the best way to monetise 5G is to utilise the additional bandwidth offered to reduce the overall cost of data on 3G and 4G networks"

"However, operators are not ready for this quick charging, and it will require rapid infrastructure-level technology to deliver it. The good news is that solutions are now being tested that will allow this to come to fruition soon," he says.

Fournier believes that there is huge potential for 5G across Africa, but there are significant challenges for operators to overcome. "First and foremost, is cost. To balance the level of investment and capitalise on the IoT opportunity, operators need robust platforms for customer management and billing. Opting for a cloud-based platform will minimise technical effort and upfront costs, making them more accessible to a broader market," she says.

To leverage the power of 5G technologies, operators need to rethink their role and what value to deliver, and what business models to use. "5G will bring a new level of performance and new characteristics to telecom networks, enabling new services, new ecosystems and new revenue streams," says Krishna. "Given that the use cases for enterprises will add another dimension in the form of newer revenue models and streams, the billing system will also need to accommodate such enterprise billing scenarios, in addition to the traditional end-user billing models."

There could be other challenges to take on. For example, suggests Gray, "will operators be willing to collaborate to reduce costs by site and spectrum sharing?"

Perhaps it's best to leave the last word for an actual operator. Cell C believes that at a basic level operators are ready. "Most operators will have prepared their physical infrastructure and software solutions. But whether they are ready to invest so heavily remains to be seen."

It certainly appears that 5G has a lot to offer, as long as telecoms firms can afford to make the leap to the next generation and find new use cases to complement the more traditional business market customers. ■

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IoT weather station for improved food and water security

Two examples of how IoT has become invaluable to utilities and the world of agriculture

Weather touches pretty much all aspects of farming life, affecting multiple disciplines such as agriculture, hydrological forecasting and emergency alert systems.

That means the ability to forecast weather is critical to agriculture and to ensuring a viable, adequate water supply. Even prior to climate change, millions of farmers worldwide were facing the effects of uncertain weather conditions, with insufficient and irregular rainfall, floods, droughts, and soil degradation all contributing to reduced yields.

Like the rest of the world, Africa is facing the ongoing, monumental upheaval of climate change. In sub-Saharan Africa, agriculture accounts for more than 30% of GDP while employing more than 60% of its working population. The effects of changing environments will need to be addressed if the continent is to up its food production to meet its own needs. Central to that goal is the expanded acquisition of weather data to help farmers plant the best crops at the correct time so as to optimise production.

Reliable, cost-effective weather stations, strategically placed, can help farmers decide when and what to plant; when to apply fertilizers or pesticides; when to harvest; and how to manage livestock. Basically, farmers can plan food production growth with advanced knowledge of weather conditions. For example, automated weather forecasts make it possible to manage crops in real time, providing early warnings, helping farmers

adjust irrigation, improving soil management, and providing the optimal time to harvest. This expanded understanding of regional environmental conditions helps create a knowledge-based farming community that can improve productivity through highly focused weather insights.

Responding to Africa's needs

To address the growing need for up-to-date weather information, the Trans-African Hydro-Meteorological Observatory (TAHMO) initiative seeks to install and operate up to 20,000 weather stations in sub-Saharan Africa.

The first TAHMO weather station was installed in 2012. Now in 2019, TAHMO has installed more than 500 weather stations in Benin, Burkina Faso, Cameroon, Chad, Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Mali, Malawi, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

In collaboration with the Meter Group, TAHMO has developed a small, reliable, automatic weather station with no moving parts. All the sensors are in a one-piece sensor unit, which employs bi-directional communication for remote firmware updates and data transmission. The weather station itself is solar powered, and the cost for the station is quite low when compared to other varieties with similar functionalities. The station is built using current Internet of Things (IoT) developments in sensor technology and that helps makes the cost much lower.

The TAHMO weather stations records data at a five-minute interval, which then is transmitted remotely over the GPRS network hourly (or at a higher temporal scale). This high-resolution data can be aggregated into daily, weekly, or monthly data sets according to the needs of the user. A multitude of weather attributes are available, such as temperature; rainfall, barometric and vapour pressure; relative humidity; solar radiation; wind direction and speed; lightning strikes; and a library of historical data.

Data only is useful when it actually is used. To that end, TAHMO, which is a non-profit organisation, makes its weather station monitoring data available to national meteorological agencies, government entities, or scientific research users for free. Basically, any researcher seeking to develop peer-reviewed articles for publication can obtain any and all data once they have signed a no- charge agreement clarifying end usage of said data. Fees are incurred only for non-research use of the data. The fees then are used to maintain and grow the observation network.

The majority of weather stations are being installed at local schools (primary, secondary, and at universities), where teachers are using the data from their 'hosted' station in their classroom lessons. Weather stations in schools serve multiple purposes. The concept is to make science, geography, and math education a natural part of students' lives by seeing how weather data translates into quantitative information. This process builds and conveys weather and climate knowledge to the next generation of people on the front lines of climate change in Africa. And, by having the station within school boundaries, theft becomes much less of a problem than if the stations were widely dispersed in fields.

"The TAHMO project is ambitious—seeking to work across the African continent, making millions of measurements per day, and feeding them every hour to the entire global community," says John Selker, co-Director, TAHMO. "Aeris provided the platform we needed to be able to reliably and easily manage communication to a complex continental-scale network of sensors. Aeris support has allowed us to react in hours to critical issues, which is fundamental to our users gaining confidence that essential data will be delivered in cases of weather emergencies, and reliably for the long term so that TAHMO data can be woven into their enterprises."

Today, TAHMO is active in 21 countries in west, southern and east Africa. Its weather monitoring stations currently ship with Aeris SIMs installed, thereby shortening the deployment process and lowering the cost across the entire supply chain. After experiencing the level of support from Aeris, TAHMO decided to use the Aeris SIM cards globally on its network.

TAHMO says it is committed to serving the public by advancing the free and open exchange of hydro-meteorological data collected with its monitoring stations. By allowing the free download of all its raw data for scientific research and governmental applications, TAHMO supports and adheres to World Meteorological Organisation (WMO) Resolution 40 and Resolution 25 (policies and practices for the exchange of meteorological and related data).

For TAHMO, the partnership with Aeris is producing better coverage at a reduced cost. The heightened support service from Aeris is enhancing the wide application of the weather station solution in most parts of Africa. Improved farm productivity now has an IoT weather roadmap. What's more, farmers throughout Africa are starting to reap the benefits. ■

Remote monitoring

On average 37% of South Africa's water supply is apparently being lost before it reaches users due to leaks. As a result, water conservation has become a critical issue for the region.

That means African utilities are today looking beyond the meter and they require innovative end-to-end connected solutions that enable utility operations to run more efficiently, reliably, safely and of course, cost-effectively. This is while they tackle the key issues of non-technical losses (NTL) due to electricity theft and non-revenue water (NRW) that has been lost before it reaches the customer.

Honeywell and Vodacom are cooperating in the pilot in the City of Matlosana, a local municipality in Dr Kenneth Kaunda District Municipality, in North West.

The two companies have set out to prove use cases and underline the benefits for utilising NB-IoT for smart utility metering applications covering water and electricity metering.

For water metering, the main aim is to identify water leaks and losses, as well as conduct water balancing. For electricity metering, the objective is to prove bi-directional communications and provide benefits for future smart metering applications, such as pre-payment.

Utility metering requires cost-effective, reliable and robust two-way communications for advanced metering infrastructure (AMI) and automated meter reading (AMR) applications. There are emerging communication technologies that offer the potential to change the communications landscape. One of these , Narrowband-Internet of Things (NB-IoT), is a low-power Wide Area Network (LPWAN) technology developed to enable efficient communication. For water metering where there is no power source from the meter, Honeywell is providing an NB-IoT modem.

This supports a long battery life and operates with a pulse output from the meter most commonly used in Africa today. This combination provides an ideal platform for use in the African region.

Honeywell Smart Energy's partnership with Vodacom promotes NB-IoT for water and electricity smart metering AMI solutions. In addition, Vodacom's NB-IoT infrastructure can be used in conjunction with Honeywell's smart metering technology. This modem-driven, end-to-end software solution enables customers to implement advanced state-of-the-art analytics, revenue assurance and protection and smart pre-payment to improve utilities' operational performance.

Through the pilot at the City of Matlosana Municipality, Honeywell and Vodacom say they have proven the use cases and the benefits for utilising NB-IoT as a communication technology for smart utility metering applications in water and electricity metering.

The solution offered has identified water leaks and enabled timely water balancing. Furthermore, the electricity meter communications have also been successful and highlighted that smart pre-payment can be implemented with the use of NB-IoT.

"Vodacom working together with Honeywell are showing how the benefits of NB-IoT, long battery life of remote devices and deep signal penetration, assists in actively monitoring service delivery points that are not easily attainable with other existing communication technologies," says Lawrence Juku, executive head utilities of Vodacom South Africa. "We are specifically looking at the water use case for accurate metering of bulk meters and supply points, which are typically located in non-powered, underground chambers, to enable utility managers to get an accurate view of the water supply network by balancing the system and detecting losses in real-time."

Currently this project is on-going but as the project develops further, Honeywell and Vodacom will share future updates on this important initiative, which is changing the communications landscape in Africa as we know it. ■

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Africa: the next big feature phone opportunity?

Sebastien Codevile, CEO of KaiOS Technologies explores the potential of "affordable" smart feature phones

With more than 300 million "dumb" phones in use and 800 million people still unconnected to the internet, Africa is the next frontier for smart feature phones. But even with this vast opportunity, challenges still loom large on this magnificent continent.

Many people believe that Africa is poor. With an average income of $6.6 per day and 36% of the population living in extreme poverty (on less than $1 per day), there is some truth to that. At the same time, many countries on the continent are showing signs of growth. According to the World Bank, Sub-Saharan Africa economies are expected to grow at 2.6% this year, accelerating to 3.7% by 2020.

Zooming in closer—beyond just the macro-level numbers—signs of this progress appear all across the continent. Governments see the importance of technology and are driving policy and capital towards modernizing infrastructure. As a result, homegrown technological innovation is happening and start-up hubs are springing up everywhere.

Powered by connectivity

One of the remaining hurdles to fuel this growth is affordable connectivity. As mentioned in the introduction, almost 800 million people in Africa are still unconnected today. Despite the progress in many areas, several barriers stand in the way of widespread internet access:

1. Poor network infrastructure
2. Device affordability
3. Costs of data
4. Lack of localised content
5. Financial inclusion

Let's look at these issues in detail.

Poor network infrastructure

Network infrastructure in Africa is of poor quality, especially in rural areas. For example, Nigeria's average mobile download speeds clock in at just 16.01 Mbps, far below those in developed markets—between 30 to 40 Mbps. While urban areas are starting to see decent 3G and 4G coverage, smaller towns and the rural countryside rely on 2G connectivity. This detail is important because the story of Africa is still a rural story, with 62% of the population living in the countryside.

Luckily this situation is changing. The business case for improving mobile connectivity in rural areas is becoming more evident to carriers, especially since the launch of KaiOS-powered phones like the MTN Smart T, Orange Sanza, and TECNO T90. As such, network operators are starting to upgrade their infrastructure to 3G and 4G/LTE, even outside of the big cities.

Device affordability

In Africa more than anywhere else, device affordability is a crucial barrier to moving people from 2G voice and text-capable phones to 3G/4G devices that can access the internet. According to research from GSMA, the threshold lies at US$34. Below that point, even those in the lowest income groups are capable of upgrading to a data-enabled phone.

Until recently this barrier forced people to choose between a feature phone without internet access, or an ultra low-budget smartphone with a limited user experience. Now, with KaiOS-powered smart feature phones in the market, there is an attractive alternative: a device that is affordable, yet provides a smooth user experience and all the essential capabilities of a smartphone.

Costs of data

Once a user has purchased a phone, there's still the "cost of ownership" in the form of a monthly data plan that has to be factored in. Most smartphones come with a data plan of at least $10 per month. For someone who can't afford a $35 phone, such monthly costs are unacceptable.

To reduce the costs of data, KaiOS Technologies works closely with network operators to design new data plans priced between a 2G (voice and text) plan and a full-blown smartphone data plan.

There are many ways in which we achieve reduction of data costs together with carriers and content providers:

- KaiOS minimizes data requirements on both the OS and content (apps) side.
- We work closely with partners to provide specific content and features that don't require additional charges.
- We're implementing advertising solutions that give users free data in exchange for engaging with ads.

Lack of localised content

Africa is not Silicon Valley. This observation seems obvious, but it doesn't get enough thought when you consider how our modern tech products are developed. While innovation is on the rise in emerging markets, products coming out of Silicon Valley—and to a lesser extent other parts of the USA—still form a disproportionate amount of our tech "intake."

There is nothing inherently wrong with this. Many of the innovations from this infamous region in California are truly phenomenal and satisfy universal needs. Yet some problems can only be identified and addressed by a local, someone who's familiar with the culture and lifestyle in a specific region.

There are already great examples of this, like Anitrack (which allows farmers to track their livestock), Asoriba (a church management application for worshippers and religious leaders), and LetiArts (and African gaming studio). But on this point, there is still a gap in Africa, or at least an opportunity to bring the local content that's already available to a much wider audience. Growing the number of connected users, while simultaneously supporting local developers, is what's needed to bring the digital revolution to everyone in Africa.

Financial inclusion

In places like Nigeria, Tanzania, and Uganda, less than half of the adult population have a bank account, nor have they ever conducted a digital payment. Also, less than 10 percent of the adult population receive income (e.g., wages, social security) via a bank account. A lack of trust and access to financial services cause these issues.

Financial inclusion needs to improve dramatically to drive the digital revolution in Africa. Without the means to easily make and receive payments, innovation is slowed or even blocked altogether. It also makes the job of poverty reduction difficult as people can't plan their financial futures and are unable to do the most important thing that leads to prosperity: saving.

Research finds a strong correlation between mobile internet connectivity and financial inclusion—the adoption, usage, and sustainability of financial services. The rise of mobile money on smart feature phones can play a central role in extending the reach of formal financial services in Africa, as demonstrated by the success of mobile money services in countries like Tanzania, Uganda, Kenya, and South Africa.

The emerging ecosystem

With all of the above pieces coming together, the smart feature phone is now a compelling proposition to change the digital landscape in Africa.

The device and monthly data plan are affordable even for those in the lowest income groups. With support for local developers and content—in addition to the global apps that are already available on KaiOS—people will be able to enjoy the fruits of the digital revolution in areas like education, entertainment, business, health, and finance. This means real progress towards closing the digital divide and a positive impact on the lives of millions of people in Africa in the years ahead. ■

The shift to 5G: innovative capabilities to extend far beyond previous generations

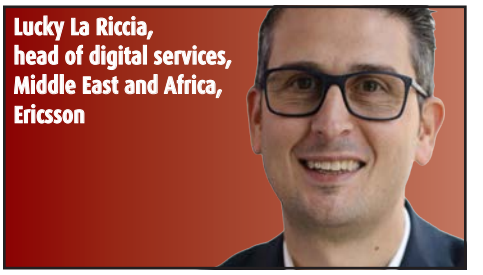
Africa is on the road to 5G and here's how it's going to take this journey. Lucky La Riccia, Ericsson's head of digital services at Ericsson Middle East and Africa tells all

If you visited GITEX in Dubai back in October, you would have seen first-hand just how quickly technology is moving and changing the way we live. There was a flying motorcycle and other incredible technological advances that caught the eye of visitors and global media outlets.

The Ericsson booth was, unashamedly, a tribute to 5G. From the immersive sports demo to remote operation of vehicles, VR football, telemedicine and 5G connected music, healthcare and gaming, Ericsson's booth welcomed a sea of people excited to know more about our 5G future.

Journalists, analysts, consumers and Crown Prince of Dubai Sheikh Hamdan bin Mohammed

"It is a technology which can enable millions of different use cases"



Lucky La Riccia, head of digital services, Middle East and Africa, Ericsson

bin Rashid Al Maktoum stopped to check out technologies that were unimaginable in the past and are now at our fingertips.

But why is all the emphasis on 5G when it seems like a distant dream for most countries?

There is a push for 5G deployment in order to enhance both the consumer and enterprise experience. It is a technology which can enable millions of different use cases. Some of the use cases will be immensely beneficial to society, not even in the future, but already now. When you think about efficiently connected healthcare, it is positioned to make a positive impact in people's lives. These are all experiences enabled by the high throughput and low latency of 5G that none of its predecessors have been able to achieve.

With the growing demand from consumers, industry and IoT for mobile communications, service providers today are focusing on improving the performance and efficiency of 4G networks, while supporting their digital journey towards 5G.

We, at Ericsson, support service providers with three key goals: secure relentless efficiency, enhance customer experience and open new revenue streams while providing consumers with more cost-efficient services.

Our main aim is to help service providers maintain their networks with the latest technology so they can benefit from all that advanced technology offers and provide their customers the best mobile broadband experience available. 5G, Cloud Native and automation will be necessary to our customers, in their pursuit for relentless efficiency and optimal end-user experience in mobile broadband.

It is important to note that 5G is not just a technology shift, it is an innovation platform that will accelerate the development of countless use cases. There is no doubt that similar to global consumers, African population also share the great desire for fast speeds and unique use cases the next generation of mobile wireless is poised to deliver, and this poses a great opportunity to grab.

Talking about the future, we're at a critical time for 5G as selected markets roll out their 5G networks and early adopters get their hands on the first 5G-enabled devices. What operators need now is to enhance their networks to pave the way for 5G deployment – which will help

Ericsson's GITEX booth welcomed a sea of people excited to know more about our 5G future

PHOTO: ERICSSON.COM

them migrate to 5G in their own time and in alignment with their business needs.

A frequently asked question is – Will increased bandwidth mean poor coverage?

The answer is simple. At the end of the day, 5G in itself is a tech shift. Coverage and bandwidth is something that each service provider really needs to plan, design and optimize, so it's not inherent that if you have one it will result in another. Like any other technology shift, 5G requires strong planning and implementation and this is an important factor to be considered for any operator.

It is ideal to formulate use cases first and then talk about the network, bandwidth or other aspects of planning that go into developing a successful strategy and ensuring a timely rollout and improved customer experience.

I know a lot of people will wonder how operators in Africa will make a good business case when so many consumers live on very low incomes. It's important to remember that 5G isn't just a consumer technology. Yes, 5G will offer lower latency, higher throughput and an enhanced mobile broadband experience for the consumer – helping to meet the mobile data demands of tomorrow. But it will also help bring to light new business opportunities not addressed today.

In fact, the benefit to the end-consumer doesn't end there. Service providers will be able to address new value chains and revenue streams in the digitalization of industries.

This is where you get effective use cases in the areas of mobile healthcare. Or think about manufacturing or oil and gas, a lot of these industries can benefit from making decisions on the fly and facilitate greater benefits for the society at large. Although enhanced mobile broadband is the first "high profile" use case for 5G, these are just some of the opportunities emerging from the digitalization of industries.

At the core of all this innovation is a singular idea – that ICT has the power to transform society. It plays a key role in each of the United Nations' Sustainable Development Goals, providing the infrastructure needed to achieve them. It also enables financial inclusion through m-commerce and allows people to connect with millions instantaneously.

What's more. Ericsson is working hard to bust myth around healthcare issues associated with 5G. It is important to note that independent expert organizations have established the exposure limits for radio waves based on many years of research. The limits are recommended by the World Health Organization (WHO), among others, and include large safety margins. 5G equipment, whether it be mobile devices or base stations, will meet the same safety standards as the equipment used in previous mobile communication networks.

So, are we all ready?

I can certainly speak for Ericsson and globally, Ericsson is currently supporting 19 5G live networks across 4 continents. All those networks use Ericsson Radio, Ericsson Core, or both. In the Middle East and Africa alone, we've announced four contracts so far. When it comes to Africa, we support our customers with the same commitment and passion in their journeys, providing them with flexible options to transition forward in the best way that suits them and their consumer. ■

Orange CEO shares supply chain fears

The chief executive officer of French giant Orange warned an industry conference in the US about a "loss of trust in global supply chains" that could lead to the costly break-up of the entire market.

Stéphane Richard told the Mobile World Congress Americas show in Los Angeles that restricting access to components and products would hit the entire industry and threaten the survival of 5G as a global standard.

A major Huawei customer in several international markets, Orange is understood to have been worried that a ban on the sale of US components to the Chinese vendor could disrupt operations – although Richard did not refer to Huawei in his presentation.

"The global supply chain is intricately entwined, with key software and hardware components sourced from all over the world," said Richard.

In 2018, a similar ban on component sales to ZTE, a fellow Chinese vendor, caused problems for European customers such as Italy's Wind Tre, which blamed the punitive measures for delays to a network project and the subsequent loss of customers.

US authorities have also been leaning on European governments to exclude Chinese vendors from 5G projects on security grounds.

Pressure on Merkel to exclude Huawei

A group of MPs from Angela Merkel's centre-right Christian Democratic Union (CDU) is pressing the German chancellor to keep Chinese vendor company Huawei out of the country's 5G network, for the sake of national security.

The push comes after Berlin in October released a new "security catalogue" for telecoms networks, which critics said lacks teeth because it only obliges Huawei to sign a "no spy" clause while generally opening 5G tenders to the Chinese telecoms giant.

Merkel has come under fire for her decision from allies like the US, which warned the move could have serious implications for future intelligence-sharing between Berlin and Washington.

Critics have claimed that Germany is kowtowing to pressure from China because it fears trade retaliation from the Asian powerhouse, which is Germany's biggest trading partner and an important export destination at a time when the German economy risks sliding into a recession.

However, Huawei and other Chinese telecom companies have long rejected suggestions that their equipment is vulnerable to spying by the Chinese state and said European countries should make their own decisions about 5G security.

The push comes after Berlin in October released a new "security catalogue" for telecoms networks, which critics said lacks teeth

Japan's KDDI to invest in Bangladesh

Japan's second largest telecom company, KDDI, is keen to invest in Bangladesh's 5G network, IOT, other digital technologies and special economic zones and connectivity sectors.

A two-member KDDI delegation led by its global ICT division general manager Hiroyasu (Hiro) Morishita visited posts and telecom division minister Mustafa Jabbar at his ministry office in the secretariat in Dhaka.

The minister said under the leadership of prime minister Sheikh Hasina, the telecom and digital technology sector of the country has become a target sector for the foreign investment in the last 11 years.

Jabbar described Japan as a true friend of Bangladesh and urged Japanese entrepreneurs to invest and take advantage of the investment friendly environment.

Thailand makes another bid to auction 5G spectrum

Thailand's telecoms regulator the National Broadcasting and Telecommunications Commission (NBTC) has announced details of 5G spectrum auctions scheduled to begin in February 2020, with licences to be issued across four bands and rollouts to start in March.

The watchdog said it would auction spectrum first in the 2600MHz and 26GHz bands, and later in the 700MHz and 1800MHz bands.

A total of 190MHz of 2600MHz airwaves will be released in 10MHz blocks, while 2700MHz in the 26GHz band will be divided in 100MHz blocks, the newspaper said.

Operators will be restricted to a maximum 100MHz in the 2600MHz band and 1200MHz in 26GHz.

In mid-2020, three 5MHz blocks of 700MHz spectrum will be sold at a reserve price of THB17.58 billion ($581 million) per block. The 1800MHz spectrum will be split into seven 5MHz blocks, with a starting price of THB12.5bn per licence.

NBTC said it plans to finalise the auction details next month

NBTC said it plans to finalise the auction details next month and invite bidders by December 20.

This marks NBTC's third attempt at holding 5G spectrum auctions. It first detailed plans to auction 2.6GHz spectrum in 2016, targeting 2017 to conduct the process, but the sale was subsequently pushed back with no alternative announced. In January, it outlined plans for an auction across the 6GHz, 28GHz and 2.6GHz bands, establishing a dedicated team to draft the conditions for this. Operators dtac, TOT and CAT Telecom later joined forces to launch 5G testbeds at two universities.

Singapore to see early 5G rollout

Singapore will increase the number of its 5G networks from two to four, encouraging competition and facilitating an early rollout in 2020.

That is according to global ratings agency Fitch Ratings, which said the decision to increase the number of licenses would intensify competition and spur product innovation, particularly in the enterprise segment. As a result, this would drive the execution of timely 5G network services in the city-state, the company said in a statement.

Singapore's Infocomm Media Development Authority (IMDA) recently announced the 5G regulatory framework to "drive a timely, cost-effective and robust 5G network rollout" by 2020.

Fitch further noted that the regulator plans to assign 5G spectrum based on the financial standing of applicants and their network security designs. IMDA expects to announce the results by mid-2020.

The authority will grant two mobile network operators the rights to operate nationwide networks – as proposed in a public consultation in May - and another two that will have the flexibility to deliver localized 5G services on a non-standalone basis during the initial period. Since a non-standalone network was less costly, it would give small network operators such as TPG a fair chance to roll out 5G services, according to Fitch.

IMDA expects to announce the results by mid-2020

Portugal to hold 2020 5G auction

Portugal's telecom regulator said it will hold the country's first 5G spectrum auction in the second quarter of 2020.

Autoridade Nacional de Comunicações (Anacom), which will hold the auction between April and June next year, will auction off six bands of spectrum, including the 700MHz and 3.6GHz bands.

"The allocation of rights of use for frequencies should be subject to an auction procedure as this is potentially a more transparent and objective process for all stakeholders and less intrusive in their business plans," A statement from Anacom said.

It is understood that all three of Portugal's mobile network operators, Altice Portugal, NOS and Vodafone Portugal will take part in the auction, although none of them have yet commented on the watchdog's proposal.

Anacom will release more details of the auction after a 20-day period of public consultation.

The Iberian country has been a European leader in fibre network deployment and will hope to use its relative abundance of fibre assets to fast track its 5G mobile network rollout.

MPT cleared to launch new service

Myanmar's state-run operator MPT has been granted a mobile financial services licence by the country's central bank after a lengthy approval process. The market leading operator first announced its planned MPT Money service in March 2018 and has been waiting for permission ever since. The service is aimed at accelerating Myanmar's digital economy by fostering greater financial inclusion.

Israel's Bezeq hit with fine

Bezeq Telecom, Israel's largest player, has been fined 30 million shekels (US$8.6 million) for what the competition regulator said was an "abuse of the firm's monopolistic position". The regulator said Bezeq blocked competitors from deploying wired communications networks using the company's infrastructure. It also imposed a financial penalty of 500,000 shekels on a senior but unnamed Bezeq official and said it intended to levy a further eight million shekel fine on Bezeq for misinformation during the authority's investigation.

Alaska Comms name CEO

The Alaska Communications board of directors has named William (Bill) H. Bishop president and chief executive officer (CEO). Bishop has served as the firm's interim CEO since June 2019. He joined the company in 2004 and has served in several leadership roles, including senior vice president of customer and revenue management and chief operations officer. Bishop will also serve on the company's board of directors.

Oman's 5G roadmap

Oman's Telecom Regulatory Authority (TRA) has granted telecom operators Omantel and Ooredoo the right to use a 100MHz 5G spectrum, which will offer endless opportunities for upgrading their services.

Both firms will construct and install 4,400 stations in the Sultanate to operate 5G technology in the next five years, including 1,000 stations in the year 2019-2020.

To enable the effective roll-out of 5G services and encourage investment in the sector, the Omantel and Ooredoo will be exempted from the annual frequency usage fees for 12 months.

TRA also announced details of Oman's 5G roadmap, which will contribute to the research and development in crucial sectors, including education, health and logistics.

The announcement was made at the special 5G Roadmap event organised by TRA, which discussed the planned rollout, legislative developments as well as the readiness of operators to launch the super-speed network commercially.

"Working with the TRA and other government and private sector entities to deliver 5G, we'll be taking the Sultanates technology to the next level," said Ian Dench, chief executive officer at Ooredoo. He added that his company has been preparing for the transition to 5G wireless technology since 2017, recently rolling out operational trials, demonstrations and experience zones at stores in Muscat and Salalah.

Ooredoo have recently rolled out 5G operational trials, demonstrations and experience zones at stores in Muscat and Salalah (pictured)

Bakcell gets nod for Vodafone Ukraine bid

The Antimonopoly Committee of Ukraine (AMCU) has given the green light to Azerbaijani mobile operator Bakcell to pursue its bid to acquire Vodafone Ukraine from Russia's MTS.

Vodafone Ukraine is the country's second largest mobile operator and is owned by MTS indirectly via a holding company based in the Netherlands.

The AMCU floated an option for Bakcell's bid in October – at the time MTS noted that it was open to options but no clear framework for a deal had been agreed.

"The Antimonopoly Committee of Ukraine has given permission to Bakcell LLC (Baku, Azerbaijan) for the indirect purchase of shares of Preludium BV (Amsterdam, Netherlands) which [holds in] excess of 50% of votes in the management company. This will allow the Azerbaijani company to acquire indirect control over [the] Ukrainian mobile operator known under the brand Vodafone,"the AMCU said in a statement published on its website.

New route to connect OZ with Middle East

Australian subsea firm SUB.CO is to build a new express route between Australia and the Middle East.

According to a company statement, the new cable will directly connect Perth with the city of Muscat in Oman.

The Oman Australia Cable (OAC) will comprise a three-fibre pair system, with the option to upgrade to a four-pair system as required. There is also the option to extend the cable to the southern Omani city of Salalah and onwards to Djibouti on Africa's Eastern coast.

"I am delighted to be building a new, express route providing diversity and low latency between Australia and EMEA, while at the same time avoiding some of the challenges associated with building through the shallows of the Sunda Strait and busy South China Sea," said Bevan Slattery, founder of SUB.CO. "For me, the Oman Australia Cable is the final piece of an important puzzle to improve Australia's resiliency and recognises the growing importance of Oman in becoming the new 'Cloud hub' in EMEA."

The new cable will directly connect Perth with the city of Muscat in Oman (pictured)

Perth has also seen three new subsea cables land in the city to meet demand for capacity in the region.

"OAC will be highly complementary to the recent submarine cables between Perth and Singapore as well as Indigo Central, which will be used to extend OAC to Australia's cloud capital - Sydney" added Slattery.

The Oman Australia Cable will begin construction before the end of 2019 and is scheduled to be completed by December 2021.

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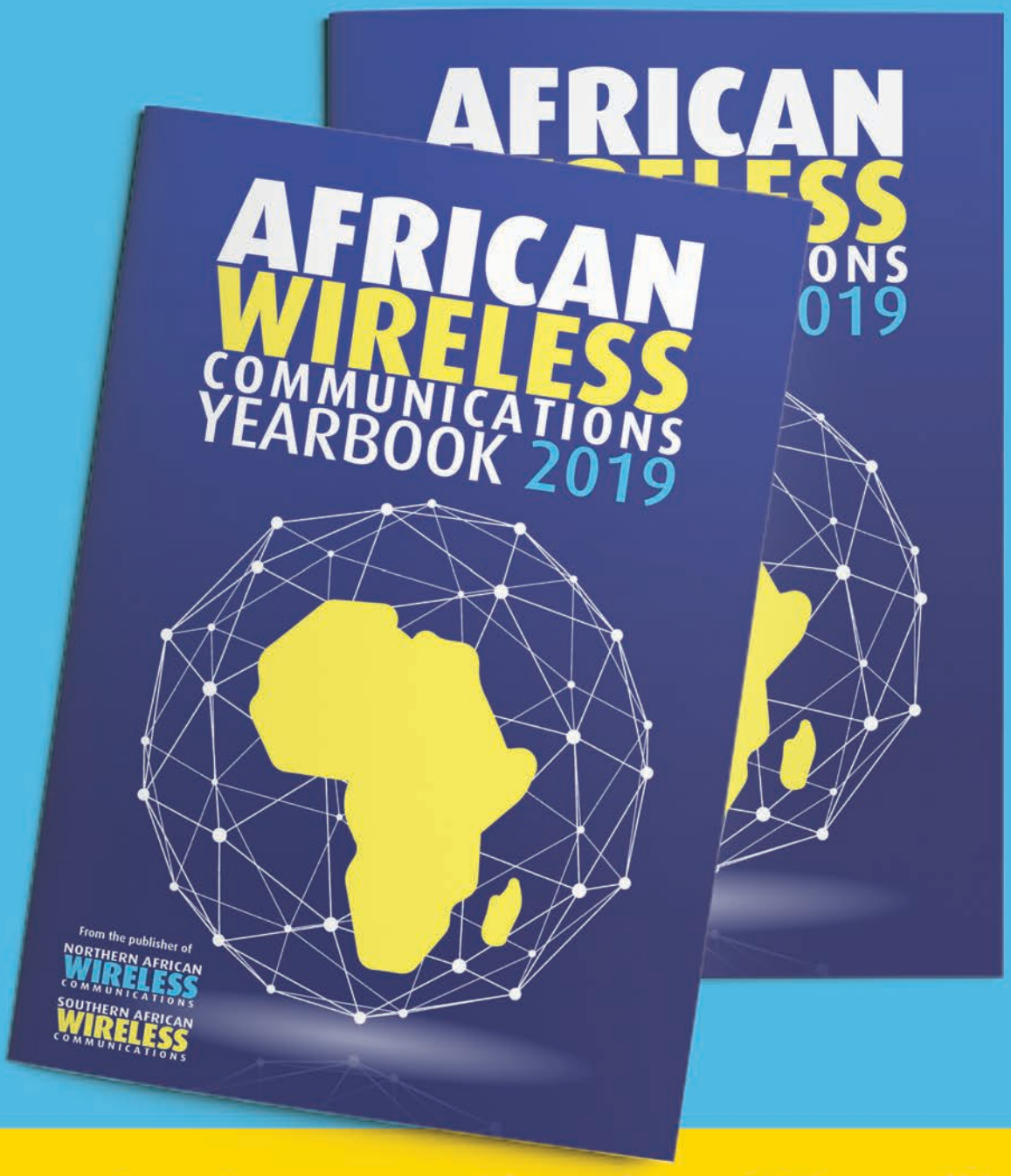

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Q&A

Gerard Lokossou
CEO
Orange RDC

What is the best thing about your job?

The best thing about my job is the constant change and challenges that come with it. The telecommunications and digital technology industry moves and changes all the time and at a very fast pace. Therefore decisiveness, flexibility, excellence in execution and speed are critical in my job, in order to stay ahead of the game. Because of these evolutions and changes in the industry, I also often have the feeling that I am working every year in a new company as I constantly evolve my mindset by unlearning and re-learning new ways of working. A second thing that I find really interesting in my job is coaching and working with people to make them grow – I would say I have a collaborative leadership style. This is because I have learnt that when trust in leadership exists, it brings out individual responsibility and accountability in every team member.

Who has been your biggest inspiration?

A lot of people have had an impact on my career – at different stages and in different ways. I would say however, that my greatest inspiration so far was my CEO, during my first telecommunications experience some years back. Although he had an academic background in engineering, he was very comfortable in holding in-depth conversations across various business areas. Moreover, his leadership style was very open and authentic and one of my greatest learnings from him is that pressure should never be an excuse to neglect the human side of the business. He was always able to balance the need to achieve the business bottom-line whilst finding the time and the financial investment to ensure employee engagement and make employees happier at work. This is something I always try to keep in mind and reiterate in my role.

What is your biggest regret to date?

I would not describe any of my experiences or decisions as regrets. Sometimes we win and sometimes we do not. I think what is important and most valuable in both scenarios is the learnings I take away from them. Every experience is a new learning curve and regrets can only come when we lose without taking lessons from it! If I lose from one decision I make, I try to understand why as to do things differently.

"A lot of people have had an impact on my career – at different stages and in different ways."

What would you say is the best technological advancement in your lifetime?

With the rapid advancement across all industries resulting from technology, I would say the best technological advancement of my lifetime is yet to come. There is no doubt that we are making great progress in all industries, thanks to technology and I look forward to seeing where this will lead us to. Perhaps what I am looking forward to the most is seeing these technological advancements in medicine: that will help further cure cancer or neurological conditions such as autism for example.

What is the best business lesson you have learned?

Over the years, I have noticed and learned that performance is a relative notion. The main factor for true success is to never be satisfied with the status-quo. You have to be very curious, have a critical eye on things and be able to unlearn and re-learn constantly to do better.

What, in your opinion, holds a lot of African nations back?

I believe it is primarily our mindset and myopic aspirations for the continent. Most of the African countries are yet to realise that our potential can only translate to value if we are able to transform them into concrete beneficial actions. We are potentially rich; but only potentially until we work it and translate it into infrastructure and platforms that will enhance communal wealth and progress. There is still a lot of awareness to be raised on this.

"Over the years, I have noticed and learned that performance is a relative notion. The main factor for true success is to never be satisfied with the status-quo."

If you had to work in a different industry, what would it be?

I have worked so far in FMCG and the telecommunications industries. I really enjoyed working in both these industries as the learnings I have made are invaluable. As I said before, I never have two days the same! If I had to change, I think I would perhaps try the supply chain or the logistics industries. Other interesting ones would also be mining or the renewable -energy related industries. There is a lot going on in these areas.

What is the biggest challenge the industry faces at the moment?

Speed. Although we cannot deny that the speed of technological evolution is bringing positive advancement in all areas of business, it also brings its challenges. Finding the right balance between what technology offers and the time required to benefit from an optimal return on the huge investment needed to deploy and maintain the related infrastructure is a big challenge that we have to face.

Which rival do you most admire and why?

I don't think there is one I can specifically name – I respect all of them, for different reasons, and that makes me eager to continue to learn from them and to grow in my role and as a person.

What do you want to do when you retire?

Spend a lot of time with my family whilst further exploring my passion for farming. I want also to keep mentoring the new and future generations to help them maximise their true potential and have a greater and better impact in their society. ■

"What I am looking forward to the most is seeing these technological advancements in medicine: that will help further cure cancer or neurological conditions."

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