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NORTHERN AFRICAN WIRELESS COMMUNICATIONS

APRIL/MAY 2021 Volume 20 Number 1

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- Operator's solution improves the lives of employees
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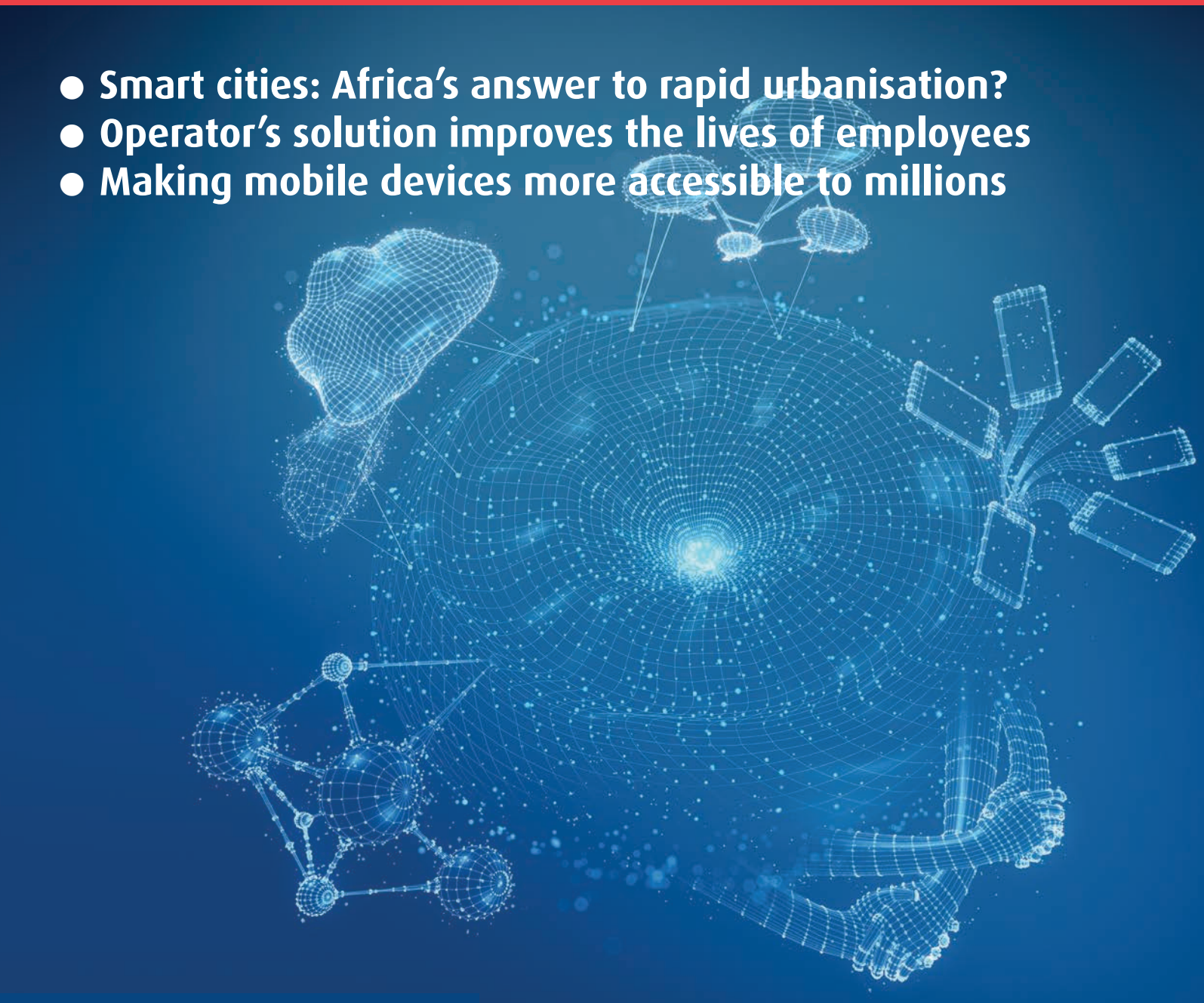

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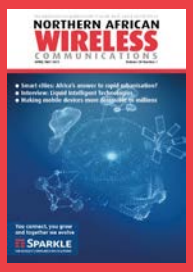

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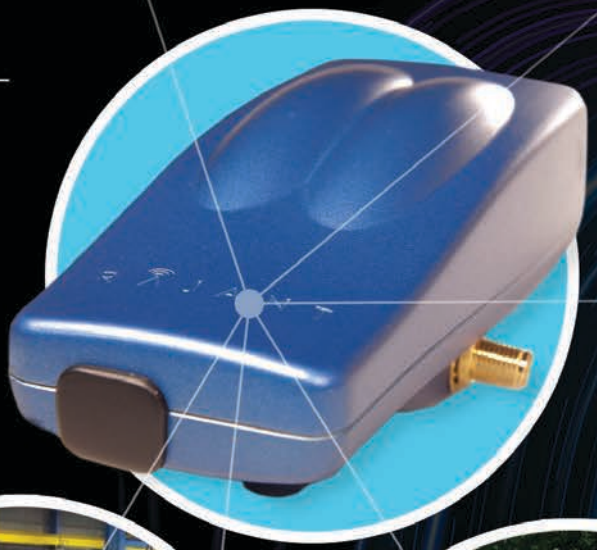

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Telecom Egypt picks Juniper and pens Sudatel connectivity deal

Telecom Egypt has selected UK-headquartered Juniper Networks to upgrade and deploy a network capacity expansion across its national infrastructure, serving a customer base of 9.8m for fixed-line services, 6.9m for broadband and 7.3m for mobile.

The operator has embarked on a network upgrade strategy designed to add more capacity and flexibility through automation while staying in line with the Egyptian government's Digital Egypt and ICT 2030 initiatives. The network will be equipped with 400G interfaces from Juniper's purpose-built IP transport portfolio using custom silicon to meet the growing bandwidth capacity requirements in Egypt, the company said.

"Telecom Egypt believes that the ability to respond to rapidly-changing customer needs is a key competitive differentiator, so improved infrastructure agility is key," said Mohamed Alfowey, chief technology officer of Telecom Egypt. "A faster, more resilient, and predictable network, in the context of remote working trends and skyrocketing demand for cloud-driven, 5G-ready, data-rich applications and services, enables Telecom Egypt to deliver this and meet SLAs while controlling operational cost and complexity.

The operator has embarked on a network upgrade strategy designed to add more capacity and flexibility through automation while staying in line with the Egyptian government's Digital Egypt and ICT 2030 initiatives

Meanwhile, Telecom Egypt and Sudatel, a telecommunications service provider in Sudan, have signed a cooperation agreement for international connectivity.

Under the terms of the deal, the two countries plan to make optimal use of the terrestrial optical fibre that connects them and to develop the latest technologies to support the transport of international traffic.

There are also plans to link Sudatel Group's landing station, which is in Port Sudan, to state-owned Telecom Egypt's landing stations on the Red Sea.

Orange leads solar panel deployment across Africa

Orange is accelerating its solar projects in Africa to reduce its carbon footprint to zero by 2040.

Across the entire region, many sites are not connected to the electricity grid and when they are, the quality of the grid often requires alternative backup solutions. To avoid using generators that use fossil fuels (ones that emit CO2), Orange said it is putting in place several initiatives such as solar panels.

In several of its subsidiaries, Orange is deploying innovative solar solutions and the latest generation batteries with partners specialising in energy. To reduce its environmental footprint, the French multinational is positioning itself in these countries as the biggest deployer of solar panels, with a renewable energy use rate already at over 50% for Orange Guinea, 41% for Orange Madagascar and 40% for Orange Sierra Leone.

These solar panel solutions have also been or will soon be deployed in other African countries where Orange is present, like Liberia, where 75% of Orange's telecom sites are equipped with solar panels. In total, Orange has installed solar panels at 5,400 of its telecom sites (some 100% solar, others hybrid) saving 55 million litres of fuel annually.

"We are proud to be the first company by number of solar panels in five countries in Africa and the Middle East," said Alioune Ndiaye, chief executive officer of Orange Middle East and Africa. As a stakeholder in the energy transition, Orange has included in its Engage 2025 strategic plan the objective of meeting 50% of the Group's electricity needs from renewable sources by 2025. We are aiming for net zero carbon by 2040."

Orange is present in 18 countries in Africa and the Middle East and has around 130 million customers as at March 31, 2021. With €5.8bn in turnover in 2020, Orange MEA is the group's main growth region. Orange Money, with its mobile-based money transfer and financial services offer is available in 17 countries and has 50 million customers.

Alioune Ndiaye, chief executive officer of Orange Middle East and Africa

Submarine cable DARE-1 now operational after five years of work

A new submarine cable that connects Djibouti, Somalia and Kenya is now active after more than five years of work. The 4,900km DARE-1 cable is equipped with the latest generation of optical fibre, courtesy of a consortium made up of Djibouti Telecom, Somtel, Hormuud Telecom and Telkom Kenya. They have invested a total amount of over US$81m. DARE stands for Djibouti Africa Regional Express.

"Under the leadership of our president Ismaël Omar Guelleh, this is a new step in our government's strategy to make Djibouti a hub for international cable systems," said minister of communication, posts and telecommunications, Radwan Abdillahi Bahdon. "The Minister goes on to say that "the landing and hosting of more than eight cables in Djibouti has given our country the precious distinction of being the most connected country and a technological centre for sub-Saharan Africa". DARE-1 is a new low-latency cable system aimed at bringing content closer to end-users in Africa, providing the region with much-needed internet capacity and access to global cloud computing services. The cable has a capacity of 36 terabits and will connect east Africa and is the largest cable ever built in the region in terms of capacity.

"We are very pleased that the DARE-1 project was completed on time despite the challenges and global restrictions caused by Covid-19," added Mohamed Assoweh Bouh, director general of Djibouti Telecom. "We fully understand the importance of bringing increased connectivity to east Africa."

NITA Uganda could merge with UCC

The National Information Technology Authority Uganda (NITA-U) could face abolition or merge with the Uganda Communications Commission (UCC), in a move to merge government agencies and authorities whose roles seem to be duplicated.

According to reports, the plan follows recommendations from the Ugandan government and a separate review team concerning government agencies, commission authorities, and public expenditure to ensure there is no duplication with existing ministries. It would give the UCC responsibility for major projects such as the National Backbone Infrastructure (NBI) scheme.

While the government recommended for NITA-U to be restructured into a department under the Ministry of Information, Communications Technology and National Guidance (MoICT), the independent review team called for it to be completely abolished and merged with UCC which will be retained as an autonomous body as it regulates some of the biggest taxpayers in the country. Alternatively, the NBI could be transferred to be managed by Uganda Telecom Limited (UTL) under the supervision of MoICT.

Meanwhile, the Ugandan government said that it has introduced a 12% tax on internet data, potentially hiking prices for online access in the East African country where consumers are already paying some of the world's highest internet costs.

Safaricom bids for Ethiopia licence

Kenyan operator Safaricom has made a formal bid to get a licence to operate in Ethiopia — one of the world's last major closed telecommunications markets.

The firm said it is submitting its proposal through a consortium it is leading with its parent firms Vodafone and Vodacom, British development finance agency CDC Group and Japan's Sumitomo Corporation.

Ethiopian authorities had told media that the Horn of Africa nation would award two telecoms licences to multinational mobile companies after pushing forward the deadline in response to requests for extension from interested bidders.

"The ECA has indicated that proposals from interested bidders must be submitted by 26th April 2021, and the successful bidders will be announced within thirty (30) days (subject to timings subsequently advised by the ECA)," Safaricom said.

The Ethiopian government is expected to assess the bids within a one-month window and announce the successful firms by the end of May.

A request for proposal for the two new licences was launched on November 27 last year and 12 companies expressed interest, including Safaricom.

Ghana set for enhanced internet access

The Ghana Grid Company (GRIDCo) and broadband infrastructure provider CSquared have made an agreement that will involve leasing of the former's excess fibre capacity to mobile network operators and internet service providers in the west African nation.

According to local reports, the agreement will enable the deployment of broadband infrastructure to deliver high-speed data services to businesses and homes, with a particular focus on remote areas.

Jonathan Amoako-Baah chief executive of GRIDCo said the partnership provides an attractive alternative revenue source for GRIDCo and gives CSquared new opportunities to drive its digital transformation in the west African market.

CSquared, started as a project within Silicon Valley giant Google in 2011, aimed from an early stage to build metropolitan fibre optic networks, which would be leased by operators and ISPs on a wholesale model and to act as a neutral operator of shared infrastructures.

The agreement will enable the delivery of high-speed data services to businesses and homes, with a particular focus on remote areas

The long-term vision for Google was to increase internet penetration in sub-Saharan Africa and also to reduce internet access costs.

Now independent of Google, CSquared currently owns and operates over 890 km of metropolitan fibre in Kampala and Entebbe in Uganda; more than 1070 km of fibre in three cities in Ghana; and 180 km in Monrovia, Liberia.

For the Ghana project CSquared plans to deliver customer and technical support, network security and last-mile connectivity to ensure safer and faster experience to customers and, of course, to improve internet broadband access and enhance internet affordability in line with the government's digitisation agenda.

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Hormuud Telecom pens mobile money first for Somalia

Somalia's Hormuud Telecom has launched the Horn of Africa country's first native mobile money app, WAAFI.

Available to customers across the country, the app provides access to a variety of digital resources. It also allows citizens to make in-country bank transfers using their phones, which is a first in Somalia.

"Somalia is a one-of-a-kind example of a country where digital adoption is widespread across all age groups and demographics," said Ahmed Mohammed Yuusuf, chief executive officer and chairman at Hormuud. "We are continuing to see a move towards a position where Somalia can claim to be the world's first truly cashless economy, and the rollout of WAAFI is an important step on that journey. Providing businesses and customers with more efficient technology is going to be a driving force behind the development of the Somali economy and its integration with the wider international community."

Available to customers across the country, the app provides access to a variety of digital resources. It also allows citizens to make in-country bank transfers using their phones, which is a first in Somalia

Using USSD technology, WAAFI is intended to be an enabler for new value chains and new business models in Somalia by eliminating inefficiencies such as typing an incorrect number during a transaction.

WAAFI aims to target this as it encourages cashless transactions through an in-country bank transfer feature. The app also aims to facilitate contactless transactions as businesses in Somali can generate QR Codes that enable WAAFI users to make direct digital payments.

Earlier this year, the Central Bank of Somalia issued its first ever mobile money licence to Hormuud Telecom, allowing its mobile money platform, EVC Plus, to be formally regulated and financially backed by the bank.

EVC plus, introduced in 2012, can be used to transfer and receive mobile money and airtime using SMS. It has more than two million users.

Somalia has one of the most active mobile money markets in the world, with 37% of the population having mobile accounts compared to just 8% with a financial institution, according to the World Bank's Global Financial Inclusion Database.

Expresso Senegal signs 4G licence agreement

Mobile operator Expresso Senegal has signed its agreement on the acquisition of the 4G license.

The new deal will give the company all the regulatory assurances relating to the continued deployment of mobile broadband technology. By 2022, Expresso Senegal wants to cover 80% of the population with its 4G.

This move comes almost ten weeks after it launched 4G services. After months of negotiations, the company finally got the green light from the regulator to offer the technology to Senegalese on February 26.

This was on the sidelines of a visit to the country by a strong delegation from the Sudanese telecoms group led by Magdi Taha, Sudatel's chief executive officer.

The licence will allow Expresso to cover many large cities. In December 2020, it held 18.96% of the market share, according to ARTP data.

The ceremony, held at the headquarters of the Ministry of finance and Budget, was attended by the minister of digital economy and telecommunications, the director of the Telecommunications and Posts Regulatory Agency (ARTP), and the CEO of Expresso Senegal.

Mali government demands lower internet prices

The Malian government is in talks with telecom operators to lower costs as the internet becomes an indispensable resource for development in Africa.

The country's minister of communication and digital economy Hamadoun Touré said that the state will not be afraid to take action if talks fail to progress and will consider entering the national market of a fourth mobile operator if prices for telecom services remain low affordable.

Touré said while discussions have been held with telecom service providers for a drop in the cost of Internet access, the ministry is also trying to convince operators that the fall in costs will not lead to a decrease in their profits but will instead cause them to increase with the increase in the number of users.

Demand for affordable, quality connectivity has grown in Mali as it has in many African countries. The lower costs that the minister of communications and the digital economy wants are the result of the government's strategy to give Malians access to opportunities offered by the internet.

In its report Worldwide Mobile Data Pricing 2021: The Cost of 1GB of Mobile Data in 230 Countries, Cable.co.uk places Mali in the bracket of African countries where the average cost of gigabit is still quite expensive at US$3.28.

With more affordable data, Touré said he is certain that the government will be able to achieve its ambition of bringing Mali into the top 10 of the most digitalised countries on the continent. Better internet access will contribute to economic development, in particular by supporting the development of innovation and job creation.

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Musk's Starlink 'in advanced talks' for Nigerian licence

Elon Musk's SpaceX is in discussions with the NCC in order to obtain operating licences for its low Earth orbit (LEO) satellite constellation Starlink.

Discussions appear to have progressed significantly, with SpaceX's Starlink market access director for Africa, Ryan Goodnight, meeting NCC representatives in person recently to discuss the matter further.

"As the regulator of a highly dynamic sector in Nigeria, the commission is conscious of the need to ensure that our regulatory actions are anchored on national interest," said executive commissioner, technical services, NCC, Ubale Maska. "We have listened to your presentation and we will review it vis-à-vis our regulatory direction of ensuring effective and a sustainable telecoms ecosystem where a licensee's operational model does not dampen healthy competition among other licensees."

Discussions appear to have progressed significantly, with SpaceX's Starlink market access director for Africa, Ryan Goodnight, meeting NCC representatives in person recently to discuss the matter further

SpaceX has been launching LEO Starlink satellites at an impressive pace in recent months, with over 1,400 currently in orbit. However, this is just a fraction of the company's ultimate goal, with Musk targeting around 30,000 satellites to make coverage available worldwide.

For Starlink, Nigeria has been cited as a key emerging market. In March of this year, Starlink was reportedly aiming to launch services in Nigeria by the close of 2021, with ambitions to expand the service across the rest of Africa in 2022.

Currently, Nigeria's internet penetration is approximately 50%, but the government has stated that it wants to increase this figure to 90% of the country being online by 2025. Starlink could potentially play a key role in meeting this goal, with the company's broadband service theoretically available to anyone simply by setting up a small amount of related hardware: a small satellite dish, a router, power supply and mounting tripod.

This ease of access could make Starlink popular in Nigeria, particularly for the more rural communities with limited access to connectivity. In the past, South African-born Musk has said that Starlink poses no threat to traditional operators, instead only seeking to offer services to areas where deploying conventional connectivity is too expensive.

However, despite its broad accessibility, the cost of Starlink broadband will be prohibitive – at least for now. Currently, the Starlink's beta service costs US$99 a month, with a one-off payment of US$499 for the requisite hardware. Such a high price tag could see many Nigerians, and indeed most Africans, excluded from accessing the service.

Nonetheless, we should remember that this is still very early days for Starlink and regional price plans may be announced at a later date.

In the meantime, the additional satellites being launched are seeing Starlink's coverage and quality of service improve, with Musk himself noting that available speeds will double to around 300mbps and latency will fall to around 20ms later this year.

Telecom26 donates global SIMs for adult education programme field test in Kenyan camp

The first trial of a new digital learning programme for young adults has been deployed in the Kakuma Refugee Camp run by the UNHCR in Kenya and home to 200,00 people

The Beekee Hub is a semi-nomadic device which creates a wireless network so that students can access content inside the Hub from the browser of their own smart feature phones, smartphones, laptops and tablets.

It has been developed by Geneva-based startup Beekee, an EdTech spin-off of the University of Geneva, specifically for use in emergency settings where student numbers far exceed the number of available schools and teachers.

Telecom26 donated its Global SIM cards for use by the Beekee Boxes during the Kakuma Refugee Camp trial. When new educational material is ready, the Beekee team transmit it direct to the hub.

"Beekee is a brilliant educational tool precisely because students don't need to be connected to the internet to access content," said Robert Koldys, VP marketing and business development of Telecom26. "However, when the Beekee Hub does need connectivity, we are delighted to donate our SIM cards and connectivity service so that Beekee's capabilities can be shared with children and young adults who are keen to learn."

Network infrastructures: digital highways to be always connected

Sparkle is a leading global telecommunications service provider offering a complete range of Internet and Data, Cloud, Data Center, Voice and Mobile solutions designed to meet the ever-changing needs of Enterprises, OTTs and Content Players, ISPs, Fixed and Mobile Operators. As part of its expansion and transformation strategy, Sparkle is continuously increasing its efforts in innovating the product portfolio and in investing in a precise infrastructural expansion for the consolidation of its presence in selected key and high growth markets.

In this contest, Africa has always been a continent of reference for Sparkle and will be even more so in the future. Sparkle historically has been playing a major role in providing international connectivity services to North African markets through its open landing Sicily Hub. Strategically built with the target of increasing Sparke's take in the subsea cable's arena, it is connected to 18 subsea cables, provides a mature ecosystem in an open environment offering interconnection between cables, networks and peerings. This unique mix of neutral facility, private or public peering, quality, competitiveness and flexibility has made the Sicily Hub a marketplace of multi-breed interconnected players to trade any telecommunication solution and thus becoming one of the top internet hub for Africa. This has also reinforced Sparkle's positioning for the delivery of connectivity services for multinationals customers in all the North African countries: Algeria, Egypt, Libya, Morocco and Tunisia.

Elisabetta Romano, CEO, Sparkle

Sparkle is also actively pursuing the goal to connect to its global network and worldwide Tier 1 IP backbone "Seabone" the entire African continent and its most relevant players. Seabone, one of the Top 10 global IP players, provides ISPs, content providers and accelerators access to the Global Internet through state-of-the-art performance, robustness and reliability. To further strengthen its positioning, in the latest years Sparkle has invested in new projects such as the construction of the BlueMed submarine cable - to connect most of the countries bordering the Mediterranean to the main European hubs, in particular in Sicily, Milan, via Genoa, and Marseille - and the opening of new PoPs in Africa. These are the initial steps of Sparkle's expansion plan to support the growing IP connectivity needs in the African continent in the coming years. The new BlueMed cable, along with the other investments Sparkle is making in the Mediterranean to be even closer to Africa, will provide advanced connectivity and strengthen Italy's role as digital gateway between Africa, Middle East, Asia and Europe. The presence in various new PoPs located close to or in Africa (i.e. Lisbon and Madrid, Djibouti, Lagos and Casablanca) proves that the continent continues to be a market of primary interest where Sparkle offers its telecommunications services.

Sparkle leverages the infrastructures and digital highways it owns and it is investing to offer direct access to platforms to provide services and solutions and to give everyone the opportunity to always be connected. For this reason, it already offers a wide range of services to businesses ranging from connectivity, security, cloud to IoT solutions.

"Sparkle's challenge is to continue to provide connectivity and capacity globally in consideration of the constant growth in demand, which is also shifting geographically. If in the past the main route of internet traffic was between West and East, today the demand is growing exponentially from South, where the largest number of the next 'eyeballs', the new users, can be found" says Sparkle's CEO, Elisabetta Romano,

"Looking at the African continent, where Sparkle has a leading position in some countries, thanks to a technological leap today mobile allows the introduction of new technologies, such as 5G, and the use of new applications. Let's think of telemedicine for example: Sparkle can guarantee connectivity with low latency and, with access to 5g, cutting-edge services" concludes Elisabetta Romano.

In the longer term, the African continent is destined to have an increasing importance for Sparkle. In fact, an increase in demand for telecommunications services, as the needs for internet connectivity and access to content are growing with the concomitant development of 4G and 5G technologies, is directly related to the development prospects of the African economy and the demographic increase.

All aspects that are at the basis of the growing investments planned by Sparkle in the continent, also in partnership with local operators or with hyper-scalers/OTT to leverage on scale, cost efficiency and time to market. ■

Egyptian regulator sanctions telecom operators

Egypt's telecom regulator sanctioned five major operators a total of E£20.65m or US$1.3m, for breaching the mobile number portability regulations.

The National Telecommunications Regulatory Authority (NTRA) fined the incumbent operator Telecom Egypt E£3.9m, Etisalat Misr E£3.95m, Orange Egypt E£5.8m and Vodafone Egypt E£7m.

NTRA said the violations "were mainly related to the unjustified rejection of MNP requests, the unavailability of response to MNP requests within 24 hours from the date of investigation, or the non-activation of the number on the operator's network after MNP".

For the regulator, MNP was introduced to guarantee users high-quality services and the penalty imposed on telecom operators reflects the efforts made to ensure that users exercise their rights in the user-operator relationship.

Sanctioning operators is part of a series of measures taken recently by the telecom regulator to improve the quality of services offered to the public, including the introduction of a new mechanism to measure the time taken to resolve user complaints from the moment they are submitted to the operator.

NTRA said it wants to accentuate operators' responsibility in the telecom market. By ensuring that they constantly improve the quality of their services, the watchdog wants to guarantee the population a very high-quality telecom experience.

The authority added that it is working on improving the communication services provided to users on an ongoing basis and will not hesitate to ensure that telecommunications users obtain their rights.

It also aims to maintain a balance between users and mobile companies. The NTRA's number transfer system aims to ensure the user's freedom in choosing a network that best suits their needs,

Talking satellite

Martin Jarrold, chief of international programme development, GVF

10,000 Viewers & Counting

Pandemic... It is with us still, affecting everyday activities, impacting everyday decisions, circumscribing the scope of our endeavours. It has changed us; what we choose to do, what we can do, and what we are permitted to do.

Like many people since March last year, I have been doing a lot of work-related "Zooming". Virtual space has replaced aerospace and I have come to appreciate that webinars do have certain advantages. Of course, whilst there is something of an urge to return to real events, and to having human interaction with satellite industry colleagues and partners again, this will not be a return to "normal". We cannot yet grasp what the climb out of successive lockdowns might be like; the progress of global vaccines distribution and availability is far from equitable; and, the world won't be "normal".

The GVF-Satellite Evolution Group (SEG) webinar series actually began in May 2020. Pandemic lockdowns and travel restrictions had come to necessitate that the satellite industry, just like other communities of interest, gather only virtually. Meeting had to be online, and in response GVF and SEG forged this new, regular and frequent series of connections in the Zoom ecosphere.

The advantage of webinars is that with their being saved to the Cloud, their content has longevity, extending their potential audience over distance and over time for as long as the themes of their dialogues have continuing relevance, and an interested audience. As I've noted here before, the GVF-SEG series has proven to be a noteworthy success.

After the 25 March 2021 webinar in the series, 'Satellite Networks Solutions: Development & Evolution of Capability & Performance', which attracted 328 registrations from 70 countries, we received the following comment from an audience member in the Czech Republic, "Thanks to GVF for this unique webinar series." This was just one of many complimentary responses received since the series started. In another example of responses to the series we have people dialling-in all around the clock. Over the Zoom Chat function at the start of 'Satellite Networks Solutions' (3PM in London) we received this message – "Hello, this is Timor-Leste. It is 12AM here."

That webinar brought the total of our series viewers to well over 10,000 located in at least 141 countries, and we greatly appreciate the support of the diverse range of global audience members who have been joining us on Zoom since May last year. During this period the series has featured 28 broadcasts, including programmes for third party virtual conference organisers and in association with satellite industry companies. A visit to https://gvf.org/webinars/ will reveal the complete video archive as well as details of future online events which will build on the success achieved so far.

Reflecting the demand for coverage of more current satellite industry topics, and requests for further opportunities to sponsor events, the webinar series will continue for the forseeable future, and as at the time of writing we have just completed a short series produced in partnership with Intelsat. Like the rest of the GVF-SEG series, the below noted events have been recorded so you can catch up at https://gvf.org/webinars/.

Boosting Africa's communications network infrastructure requires a new roadmap to affordable and reliable connectivity, supporting the continent's digital transformation and enabling greater economic growth and meeting the growing need for shared prosperity. Broadband, fully integrated hybrid networks, smart device penetration, new business models and creative partnerships are the priority foundation to radical socio-economic advance, and it is the solutions to meet this objective that were examined in 'Connecting Africa to Broadband – Where You Need It, When You Need It' on 20 April.

On 22 April the focus was on how to 'Enable High-performance Network Coverage in Europe & MENA'. Driving the next wave of enterprise services innovation and transformation is the adoption of hybrid cloud and connectivity models to optimise the performance and resilience of current services at lower-cost. The transformation of satellite solutions for enterprises, and supporting applications in a secure, reliable, and cost-effective manner across EMENA comprised the foundation to this online dialogue.

More recently still, on 18 May, we presented Enable High-performance Network Coverage in Africa in partnership with both Intelsat and Liquid Intelligent Technologies Satellite. This programme featured, mbora, a customer end-user and wealth creation platform that establishes market gardens with groups of women smallholder farmers, and follows up by building a satellite connected Wi-Fi Hotspot hub with each cluster of market gardens to enable low-cost convenient access to financial services, a clinic, and digital channels for content and education, using internet connections. It is a prime example of what is being achieved through partnerships for connectivity.

For readers in south Asia this information may not seem of direct interest, but there are parallels in, for example, India, where 5,000 remote villages across 15 states get internet connectivity at speeds of 2-20Mbps from a partnership of Hughes India (a subsidiary of Hughes Network Systems) and ISRO. The Organisation's communications satellites, GSAT-19 and GSAT-11, and Hughes' Jupiter system, were contracted by Bharat Broadband Nigam Ltd (BBNL) – a special purpose vehicle created to implement the government of India's BharatNet network project – to provide affordable high-speed broadband access to rural citizens and institutions.

Our next significant, and geographically broader, Asia focus will be what is now called Asia Tech X 2021 (the virtual incarnation of what has in recent years been known as ConnecTechAsia 2021), which is scheduled for 14-16 July 2021... prevailing Covid-19 circumstances permitting. GVF will be providing virtual conference content in the form of a short series of webinars to explore the themes of 'Planes, Trains, Automobiles & Ships: Satcoms-on-the-Move'; 'Bridging the Divide: Enabling Affordable Business & Community Digital Connectivity'; and, 'Natural Disasters: Preparation & Response via Satellite'. A final thought. Wherever you are whilst reading these words... Keep well, stay safe..

Pandemic hits Safaricom revenue

Safaricom recorded flat growth in its revenues despite high growth in the mobile data segment because of the Covid-19 pandemic, according to its full-year end results for 2020.

A government directive to scrap transaction fees in mobile money transfers affected transactions of Ksh1000 and below to the tune of Ksh4.4bn. This, together with a generally subdued business environment, saw the company's revenue contract marginally.

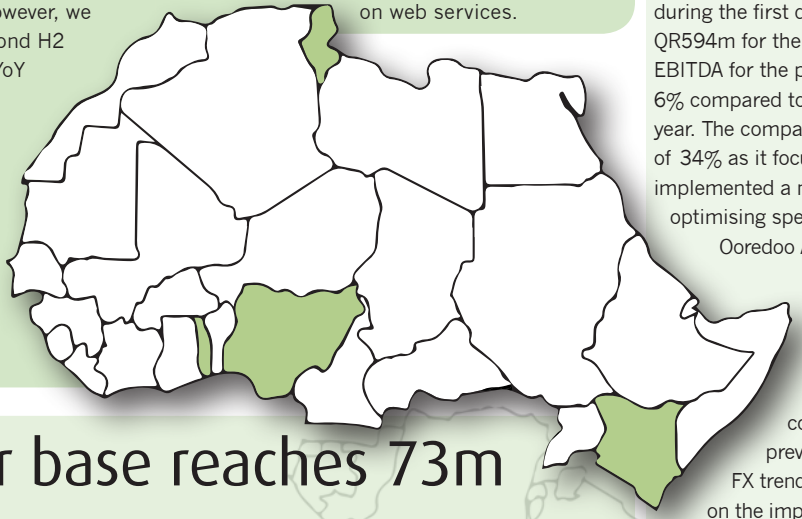
Total services revenue recorded a marginal decline of 0.3% to close at Ksh250.35bn the telco said. Mobile money, widely affected by the waiver on transactions, was subdued by 2.1% YoY to rake in Ksh82.64bn. The company's net income reduced by 6.8% YoY to Ksh68.68bn.

"The impact of our response to COVID-19 in zero-rating M-Pesa transactions weighed heavily on our performance," said Dilip Pal, chief financial officer at Safaricom. "However, we saw a gradual recovery in the second H2 with service revenue posting 4% YoY from a decline of 4.8% in H1."

Nevertheless, the mobile data business grew 11.5% YoY to register revenue of Ksh 44.70bn, attributed to the increased use of data during the work-from-home directives in 2020.

"Despite a tough financial year, the company is committed to investing in the business and maintaining a consistent dividend payout ratio in line with our dividend policy," added Safaricom CEO Peter Ndegwa. "Our guidance for the financial year 2022 is at the range of Ksh105-108bn for Earnings Before Interest and Tax and Capital Expenditure guidance in the range of Ksh40 -43bn. But our most critical support to our country was and remains to ensure network stability to keep the country connected. During this period we accelerated the network roll-out specifically for 4G with over 1,000 new sites set up."

Ndegwa said the company has seen a 40% uptake of 4G devices on the Safaricom network. This was attributed to the company's campaign to offer low monthly payments for users who want to upgrade to 4G devices. Meanwhile, Safaricom is discussing the use of its mobile money service M- Pesa on Amazon's eCommerce platform. the two already partner on web services.



Ooredoo posts positive results in north Africa

Ooredoo Group posted a net profit of QR193m (US$53.1m) in the first quarter of the year despite a challenging macroeconomic environment, thanks in part to solid results in Algeria and Tunisia.

In local currency terms, Ooredoo Algeria's revenues increased 2% in Q1 2021 compared to the same period in the previous year, supported by the bundling of offers in the "My Ooredoo" App and the launch of plans targeting SOHOs and SMEs. Consequently, an EBITDA margin of 34% has been maintained. In Qatari Rial terms, the company's performance was impacted by the 9% year on year depreciation of the Algerian Dinar. Ooredoo Algeria reported revenues of QR 551m during the first quarter of 2021 compared to QR594m for the same period in the previous year. EBITDA for the period was QR188m, a decline of 6% compared to the same period in the previous year. The company maintained an EBITDA margin of 34% as it focused on cost optimisation and implemented a number of initiatives including optimising spend and digital efficiencies.

Ooredoo Algeria's customer base was 12.7 million in Q1 2021, up 3% compared to the same period in the previous year. The company reported revenues of QR394m in Q1 2021, an increase of 3% compared to the same period in the previous year supported by favourable FX trends. The company remains focused on the implementation of its value creation plan which includes expanding its digital proposition and streamlining its operations through the digitisation of its sales and distribution channels.

The company reported EBITDA of QR162m in Q1 2021, down 3% compared to the previous year. The company's focus on efficiency and cost optimisation supported a healthy EBITDA margin of 41% in Q1 2021. Ooredoo Tunisia changed the reporting of its prepaid customer's base from the original life-cycle definition to the 90 days network activity definition, aligning with the standard reporting methodology used in Tunisia.

MT customer base reaches 73m

Maroc Telecom's customer base reached more than 73 million at the end of March 2021, up 6.8% compared to the same period in 2020, the group said.

This performance was driven by the sustained growth of the customer base in the subsidiaries (+11.2%). The Mobile customer base had 19.3 million customers, down 3.2% year-on-year, while the fixed customer base continued to grow (+5.8% year-on-year) and amounted to 2.0 million lines at the end of March 2021.

The broadband customer base grew by 9.2% and reached almost 1.8 million subscribers.

"In a context still marked by the health crisis linked to Covid-19, the Maroc Telecom Group ends the first quarter with operating results driven by its international assets," said Abdeslam Ahizoune, chairman of the management board. "Its diversification strategy is once again proving itself and improving its resilience in this context of crisis."

Ahizoune added that the operator "is continuing its savings plan and is managing to maintain its profitability and focuses its investments" on strengthening networks, infrastructure and improving the quality of service.

Ethiopia loses US$500m from telco licence MoMo move

Ethiopia's decision to exclude mobile money from the terms of two new telecom licences cost the government some US$500m from bid levels, according to the country's prime minister Abiy Ahmed.

The block imposed to allow the country to build its own expertise in phone-based financial technology will be lifted after a year, the Horn of Africa nation's leader said. He was speaking at the launch of Telebirr, a mobile-payments service run by state-owned Ethio Telecom.

"This decision has cost us a high price," Ahmed said. "When it was decided to open up the telecom market about two years ago, one of the key areas of contention was the issue of mobile money."

The Ethiopian government has long been in the process of selling two new telecom licences, which is a policy at the heart of Abiy's economic-reform strategy. The move will open up one of the last major markets yet to welcome international investors and is intended to trigger a wider privatisation program to raise foreign-exchange and boost productivity.

The issue of mobile money has been vital to the progress of the auction. Financial technology is a major revenue and profit driver for African telecom operators, who are filling a gap left by traditional banks and taking advantage of soaring smartphone use.

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Cell C reports wider annual loss

South Africa's fourth-biggest mobile operator Cell C reported a wider annual net loss, mainly due to an impairment and once-off expenses in the first half of the year.

The net loss before tax came in at R5.5bn (US$385.5m) in the year ended December 31, from a loss of R4.1bn in 2019.

Cell C booked an impairment of R5.1bn and the once-off costs include recapitalisation costs of 434 million rand and network site restorations costs of 248 million rand, the company said.

Excluding the impairment, the net loss after tax would have been 380 million rand, it added.

Elsewhere, total revenue was down by 8% as its prepaid subscriber base, its largest revenue contributor, declined by 15% to 9.2 million customers as the carrier shifts away from unprofitable customers to boost returns.

"The company's strategy of focusing on more profitable customers is bearing fruit as the average revenue per prepaid customer (ARPU) has increased by 28% on a year-on-year basis," Cell C said.

Meanwhile, Cell C has been appointed as one of the preferred service providers to the South African government for the delivery of mobile communication services for the period April 1, 2021 to March 31, 2026. The mobile communication services contract is known as RT15-2021 and was previously held exclusively by Vodacom for a five-year period.

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In awarding the tender the National Treasury issued a request for proposals in October 2020.

One of its main requirements was that civil servants get completely uncapped mobile Internet access. The aim of the new 'transversal' contract is continued reduction of expenditure on mobile communication services. It would achieve this by, among other things, ensuring there was a set limit of mobile spend per civil servant of a maximum of R500/month.

TelOne claims US$2.6m in unpaid invoices

The unpaid phone bill that TelOne, Zimbabwe's incumbent telecom operator, is claiming from the government has reached US$2.6m as of March 31, according to the company's financial report for the first quarter of 2021.

This amount represents more than 60% of the total debt owed to TelOne, which now stands at US$4.3m. The operator said the money owed by the government is weighing on its cash flow and operations and it is increasingly facing financial difficulties that prevent it from paying its main service providers and meeting its various obligations.

The situation that exposes TelOne to a new penalty from the Tax Authority, which had served it with an $8.9 million fine in 2018 for late settlement of its tax obligations.

Furthermore, the government's unpaid bills to TelOne come at a time when the operator is in dire need of cash to remain competitive in the national telecom market. Demand is growing fast across the country and the mobile financial payments segment is also gaining in value. However, TelOne does not have the wherewithal to expand its network to meet demand.

Zimbabwe's telcos appeal for additional forex allocation

Zimbabwe operators saddled with legacy debt have appealed for increased foreign currency allocation to fund their infrastructure.

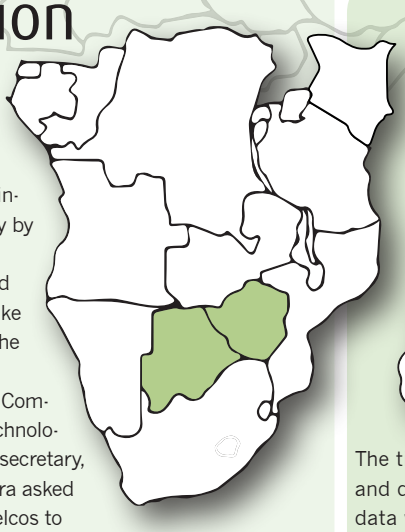
It announced that it will discard the 1:25 fixed interbank exchange rate system, which had been in place since February 2020.

The Reserve Bank of Zimbabwe (RBZ) replaced the interbank market with weekly foreign exchange auctions, in an effort to ensure the transparent and efficient distribution of foreign currency – and determine the Zimbabwe dollar exchange rate.

Speaking before the Parliamentary Portfolio Committee on Information Communication Technology, Postal and Courier Service in early May, TelOne senior finance manager, Bridget Hwata revealed various challenges being faced by the telecommunications industry and specifically access to foreign currency.

"We don't have the foreign currency to service our infrastructure," Hwata said. "We require US$2m per month for our operational cost, but currently at the auction market we only bid US$ 300 000 per week, which is far below what we need."

Hilda Mutsekwa, director of economics, tariffs and competition at the Postal and Telecommunications Regulatory Authority of Zimbabwe (Potraz) added: "The foreign currency that is being allocated to the telecom companies is inadequate. We have the vision to become an upper middle-income economy by 2030 and that means we need fast internet, like upgrading to the 5G system."



Information Communication Technology permanent secretary, Sam Kundishora asked RBZ to allow telcos to abstain from participation in the auction system.

Meanwhile, the Zimbabwean government has entered into a partnership with the International Telecommunication Union (ITU) and the United Nations Children's Fund (UNICEF) to implement a school connectivity project named the "GIGA" project. Last year, the government launched the e-learning strategy for schools to complement traditional forms of learning and mitigate disruptions to the education sector caused by the Covid-19 pandemic. Many schools faced financial challenges, so Potraz decided to pay for bandwidth for 400 schools across the country from May to December this year.

MTN cuts prepaid data prices to 30GB for R349

MTN South Africa has cut the cost of prepaid data and voice calls by tweaking its EverydayGigs plan and introducing a new one called EverydayTalk. The time-based tariffs offer cut-price voice and data options, starting at R29 for 1GB of data with one day's validity and R8 for up to 15 minutes of voice over three days (up to five minutes per day). MTN has cut the price of some data plans, including its 30GB option, which offers 1GB/day of data over 30 days. In addition, a new 90GB option, offering 3GB/day, costs R699. The new EverydayTalk plan offers up to 1 800 minutes of calls at R299 for 30 days. A weekly plan offering 210 minutes of voice, or 30 minutes a day, costs R49. MTN first launched EverydayGigs a-year-ago to help prepaid customers to stay connected by paying once and getting allocated data daily in lieu of recharging or converting airtime to a bundle.

Airtel Africa names new CEO, reports solid results

Airtel Africa has appointed Olusegun "Segun" Ogunsanya, current managing director and chief executive officer (CEO) of Airtel Nigeria, as its new CEO following Raghunath Mandava's retirement.

The former joined Airtel Africa in 2012 as MD and CEO Nigeria and has been responsible for the overall management of the company's operations in the region, the group's largest market in Africa.

Before joining Airtel Africa in 2012, the company said Ogunsanya held leadership roles at Coca-Cola in Ghana, Nigeria and Kenya as managing director and CEO.

Following Mandava's retirement, effective September 30, 2021, the company said arrangements have been made to ensure a smooth transition of responsibilities.

"We are delighted to appoint Segun Ogunsanya as the group's new CEO," said Sunil Bharti Mittal, chairman of Indian parent company Bharti Airtel. "He has displayed significant drive and energy in turning around the Nigerian business by focusing on network modernisation, distribution and operational efficiency. It is this commitment, together with industry experience, strategic vision, constant customer focus and proven record of delivery that will enable him to continue to deliver our strategic objectives and to lead the Group in the next stages of development."

Ogunsanya added: "Having been part of the Airtel Africa journey for the past nine years, I'm looking forward to taking up the role of CEO. On a personal note, as an Africa, I feel honoured to have the opportunity to lead a group that continues to make a difference to millions of people, bridge the digital divide and expand financial inclusion. This is an exciting opportunity to position Airtel Africa for further success in a dynamic continent full of potential." Ogunsanya will join the board of Airtel Africa October 1 2021.

Meanwhile, the operator has continued strong revenue growth, increased profitability and cash flow, and continued deleveraging as indicated in the recently released financial results for the period ended March 31 2021. It reported that revenue grew by 14.2% to $3,908m, with Q4'21 reported revenue growth of 15.4% while constant currency underlying revenue growth was 19.4%, with Q4 2021 growth of 21.7%. This was largely driven by 19.4% growth in underlying constant currency revenue, partially offset by currency devaluations, mainly in the Nigerian naira (10%), Zambian kwacha (34%) and Kenyan shilling (5.7%), in turn partially offset by appreciation in the Central African franc (7.1%). Reported revenue benefitted from a one-time exceptional revenue of US$20m relating to a settlement in Niger.

The operator has continued strong revenue growth, increased profitability and cash flow

Lycamobile now Uganda's third national operator

The Uganda Communications Commission (UCC) has granted a National Telecommunication Operator (NTO) licence to British mobile virtual operator Lycamobile, officially establishing the operator as the country's third national player under the new licencing regime, alongside Airtel and MTN.

Following the approval of the new licencing regime in June 2020, the watchdog allowed all existing telecommunications operators to apply for licencing category of their choice on condition they meet all requirements.

Lycamobile is a British mobile virtual network operator (MVNO) with a presence in 23 countries. In Uganda, it has operated under its parent company, Tangerine since 2008.

The company is expected to extend its network coverage to 90% of Uganda's geographical boundary within five years of acquiring the licence.

"The commission is confident that the entry of Lycamobile to the NTO market will further improve competition in the sector and ultimately benefit the Ugandan consumer," said UCC acting executive director Irene Kaggwa Sewankambo.

Furthermore, the operator is also expected to list a minimum of 20% of its shares on the Uganda Securities Exchange in accordance with the listing rules and guidelines set by the Capital Markets Authority and the Uganda Securities Exchange.

World Bank 'to invest US$200m in Ethiopia's telecommunications'

The World Bank will invest US$200m in Ethiopia's telecommunications sector but wants the country's government to open this market up to competition.

Ousmane Dione, World Bank country director for Ethiopia, Sudan, South Sudan and Eritrea said the organisation will invest in Ethiopia's digital economy and drive a new Digital Ethiopia Foundations project.

He said the project will provide funds to strengthen regulator the Ethiopia Communications Authority and to prepare the legal and regulatory building blocks for the digital ecosystem.

Part of the plan is to pre-purchase capacity from Ethio Telecom and new operators, through competitive bidding, Dione added.

However, the World Bank has also expressed concern over a decision by the government to limit investment by independent cellular tower companies. The financial institution argues that the decision compels telecommunication companies to use infrastructure provided by Ethio Telecom, and restricts infrastructure roll out – particularly in rural areas.

Part of the plan is to pre-purchase capacity from Ethio Telecom and new operators

It advised that new entrants be allowed to negotiate commercial arrangements and decide to either build their own infrastructure or purchase capacity from Ethio Telecom.

Dione warned that policies which seek to protect Ethio Telecom's infrastructure by allowing it to charge high prices for interconnections will end up harming the company.

He said Ethio Telecom will need to both collaborate and compete with the new entrants who will be the telco's biggest customers if prices are set fairly, and that Ethio Telecom has the potential to become a regional powerhouse - but only if it is well-prepared for the competitive environment.

Meanwhile, the successful bidders for Ethiopia's telecoms licences will be able to offer mobile money services, according to reports. However, they will not be restricted to using the infrastructure of Ethio Telecom, as had been originally suggested, Ethiopia had come under severe criticism from a number of authorities, including from the World Bank in February, for its stance on preventing new operators from offering mobile money and on limiting competition for infrastructure

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South Africa unit boosts Vodacom

Vodacom's South African business posted a healthy rise in revenue growth, fuelled by increased demand for connectivity, helping the group record strong results for the year ended March 2021. In South Africa, service revenue grew by 7% to R56.4bn on the back of increased data usage, with its successful summer campaign and demand for financial services collectively helping Vodacom. As a group, in the year, Vodacom's revenue was up 8.3% (7.4 %) to R98.3bn. The company also added 8.2 million customers, to serve a combined 123.7 million clients across the group, including Safaricom. Vodacom's total financial services customers, including Safaricom, were up 12.9%, or 6.6 million to 57.7 million, while earnings per share rose by 4.2% and headline earnings per share surged 3.7%.

Ukrainian buys SA firm

Ukrainian businessman Max Polyakov has acquired South African satellite manufacturer Dragonfly Aerospace. The founder and CEO of EOS Data Analytics, which specialises in the provision of advanced satellite image processing and analysis solutions, announced his move in an interview with Reuters. He said the deal signed for an undisclosed amount "gives us cost-control and mass production of components. It allows us to bring everything in-house". The businessman also expressed his ambition to see the devices manufactured by Dragonfly launched on the Alpha rocket of Firefly, one of his companies that specializes in the development of small and medium-sized launch vehicles for commercial launches to orbit. Dragonfly Aerospace allows Polyakov to manufacture and launch his small satellites into Earth orbit in this highly-competitive market.

Talking critical

Mladen Vratonjic, chair,
The Critical Communications Association (TCCA)

Mission critical communications – it's all about trust

Users of mission critical communications typically operate in environments and/or circumstances that are dangerous, challenging, and perhaps even life threatening. It is therefore essential that they need to trust the communications services that support them. In extreme situations, the communications channel is of vital importance – it can literally mean the difference between life and death.

For communication services to be truly mission critical, they need to be available always and everywhere. Natural disasters, terrorist attacks, road, rail or air accidents can happen anywhere - it is impossible to predict when and where incidents will take place. Therefore, excellent geographic radio coverage is the most important aspect for high service availability. The mission critical network must be resilient, with redundancy, fallback options and off-network communications capability.

And of course, the communication services need to match user requirements, to seamlessly support users' operational processes with interoperable services and prioritisation. Communication needs vary depending on incidents and response procedures, so the communications structure must be able to adapt efficiently. Examples of this include creating new communication groups, managing group memberships and combining different groups on the fly.

While there is an enormous amount of work going into making commercial 4G networks perform well enough to be considered mission critical, this is an ongoing process. It will eventually be the choice for users who need broadband services, but at present there is no other technology that can surpass the quality of TETRA as the service of choice for mission critical users.

Designed from its inception as a mission critical communications bearer, TETRA was first operational in the late 1990s and for that reason some term it an 'old' technology. It is indeed a mature technology, well proven and in use worldwide, but remains very much current, maintained and enhanced on a regular basis.

TETRA fulfils the operational requirements of a variety of end users. Today it is considered as the technology of reference across all mission and business critical market sectors, including but not limited to public safety and security, transport, utilities, extraction and mining, critical national infrastructure protection and the military.

TETRA is deployed across the African continent for public safety, transport, mining, and other markets. A nationwide TETRA system announced for the Ministry of Interior in Angola is part of the country's initiative to modernise the public security and safety service. The City of Cape Town, Cape Town International Airport, the Botswana Police Service and the South African Police Service are all TETRA users. The South African wine region of Stellenbosch and its municipal area are equipping public safety personnel such as police officers and firefighters with the mission-critical service.

Critical users need particular features to enable them to work effectively. These include secure encrypted networks, calls and two-way radio messaging, assured coverage, capacity and call quality, the ability to send voice, data and images, direct mode operation which allows rapid communications between groups of workers, for instance a first responder team at a major incident, and managed fall-back for additional resilience. In an emergency, voice will always be the most immediate form of communication, and the clarity of TETRA voice services is guaranteed through outstanding noise suppression capabilities and a special voice codec for optimised voice performance in challenging noisy areas.

Although TETRA is not a broadband bearer, its narrowband data capabilities have supported critical users for more than two decades. TETRA's data service was put to good use during the 2010 Football World Cup, hosted by South Africa. With operations over 37 venues, organisers utilised TETRA messaging to enable users at multiple venues to simultaneously submit standardised status updates and incident reports to the Command Centre in Johannesburg. This minimised voice traffic on the Johannesburg City TETRA network, ensuring the network was not overloaded with the huge amount of traffic.

TETRA has been designed from the bottom up to meet the needs of critical users. The European Telecoms Standards Institute (ETSI) develops and enhances the TETRA standard, and the number of dedicated features and functions now exceeds 300, and these will be relevant for many years into the future. Investments in infrastructure easily cover 10-15 years in the core and even longer for base stations. Devices have been shown to have a typical lifespan of seven to ten years in the field. Users, operators and investors rely on the very well documented standard, constantly being maintained, evolved and improved.

Through TCCA's Interoperability (IOP) process, in which all major TETRA vendors participate, TETRA provides multi-vendor choice. This allows customers to switch from one supplier to another without sacrificing network capabilities. TCCA's world-leading IOP process is managed by TCCA's Technical Forum, with results independently verified. The process was developed to enable a truly open market for TETRA equipment and systems. This benefits both the end users in terms of a wide portfolio of compatible equipment, competitive pricing and rapid development of new products; and the industry in terms of a wider accessible market, faster market take-up and better possibilities for investment in innovation.

Many national TETRA networks have been upgraded in the last five years and had their life extended – some have maintenance contracts beyond 2035.Control room vendors have their systems tightly integrated with TETRA networks, and many users have optimised operational processes around the flexible capabilities of TETRA.

TETRA is essential to the organisations using it; it is integral to the operational procedures of mission critical users. If organisations want to evolve to broadband in the future, those operational procedures will also need to evolve. Simply switching TETRA off and switching critical broadband on in one go will not be possible, so TETRA and broadband will co-exist for quite some time until new procedures are written, accepted, trusted and adopted by the users.

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Closing the gap - next step to a digital Africa

Millions still don't use mobile internet in Africa. Dion Price, CEO, Trustonic examines why this is and how we can make mobile devices more accessible

Over the last few years, the world has made huge progress in connecting the unconnected by delivering mobile internet access to millions around the world. In this regard, 2019 was a standout year for achievements. It marked the first year when there were globally more 3G and 4G mobile connections than 2G. It was also a year which saw the coverage gap reduce by half (from 50% to 25%) as 93% of the global population was covered by a mobile broadband signal.

However, despite these significant improvements in global connectivity, when we zoom into the statistics it becomes clear that there is still a lot of work to be done. This fact is especially stark in Sub-Sharan Africa which – according to the GSMA – is home to 67% of the world's population that is not covered by mobile broadband. Despite huge investments and various initiatives aimed at improving the situation, it is clear that more needs to be done to connect one of the poorest sections of our society.

The focus of many operators in Sub-Saharan Africa is on upgrading their existing 2G networks to 3G and 4G. From an operator's perspective, running a 2G network is costly and inefficient. This is especially true when they can re-farm the spectrum for use in their 4G networks, which a number of African countries have passed regulations to allow for. Additionally, by building out 4G networks they also have the opportunity to tap into a new market of millions that currently are not using mobile data, thereby the opportunity to grow their revenues. It is unsurprising that operators have been investing heavily in new and improved infrastructure.

These regional infrastructure investments have had a considerable effect. 3G coverage across Sub-Saharan Africa reaches now 75% compared to 63% in 2017, while 4G nearly doubled over the same period. However, the geography of much of Sub-Saharan Africa remains an impediment to closing the coverage gap. Development of new base stations for example can be a tremendous challenge in sparsely populated, rural and remote areas. Here, technological innovations such as RAN and backhaul have helped to make gains. Countries like Senegal have seen a dramatic transformation in connectivity over the last five years despite having a rural population of around 52%. In 2014, only 56% of Senegal was covered by a 3G network. This reached 95% in 2019 according the GSMA's Connectivity Index.

Other countries are following this example. In Ghana for instance, the government has announced its intention to connect 2,000 rural communities using open RAN solutions. Whilst encouraging, these developments are not consistent. Early this year, it was announced that Google's Loon project, a novel idea to connect the populations of remote areas, had collapsed. This came only a matter of months after Kenya had agreed to fast-track approval for the service. It is unknown how much investment those involved lost in this project, but the impact this may have on remote populations could be severe, delaying their access to mobile internet for perhaps, many more years.

Despite these challenges, it cannot be denied that the coverage gap has been decreasing. This however does not solve the problem of connecting the unconnected. Indeed 3.4 billion people who can access mobile coverage still do not use the internet. This is known as the 'usage gap' and is arguably a far more complex and difficult problem to solve. In fact, it is getting worse. Across Sub-Saharan Africa, the usage gap increased from 36% in 2014 to 49% in 2019.

The most obvious explanation for the growing usage gap is devices. The growth in infrastructure has not been accompanied by the necessary proliferation of devices needed to access data services. One answer to this is the development of affordable smartphones – which has been gathering speed in recent years. Internet-enabled devices are now being sold around the world at prices as low as $20. Nigeria for example, now has one of the most affordable handsets in the world, with MTN's 3G Smart Feature Phone. The cheapest internet-enabled device currently on the market, comes in at around 12% of average monthly wages in the country, down from 42% in 2017. In addition to this, data costs have also declined, leading to an increase in smartphone adoption among adults in the country to 28%.

While this is definitely progress, the full picture is not quite so rosy. Despite the average cost of mobile devices decreasing, it still sits at around 30% of average monthly wages in Sub-Saharan Africa. More shockingly, the median cost of an entry-level smart device still represents 120% of monthly income for the poorest – representing the 20% of the population. In addition, while data prices have been coming down slowly, more than half low- and middle-income countries still fall short of the UN Broadband Commission's target to make entry-level broadband services less than 2% of monthly income per capita.

Finally, we need to be realistic when it comes to the usability of these cheaper devices. While they are a step in the right direction, their specifications are not the same as what you would expect from even the cheapest mid-tier smartphone on the market. While these smart feature phones offer communities their first experience of mobile internet, all too often the poor user experience does not help to convince them of its importance to their lives. Lower spec devices have slower processing speeds, giving the user an inferior experience. In fact, many African users don't fully use their monthly data allowance for this reason. Indeed, the GSMA 2021 trends report points out that "while smartphone penetration has reached 50% on the continent, this overplays its significance as most are running legacy 2G and 3G speeds."

As we have discovered, whilst a lot has been done to address the needs of these underserved populations, it is clearly not enough. Many people still lack the devices to access technology services. This potentially jeopardises the investments made in the first place. The question is therefore: how do we get adequate technology into the hands of those who simply cannot afford it?

The answer to this, is a more nuanced and intelligent approach to device financing. We need to encourage operators and retailers to offer smartphones that are affordable, while also ensuring that they do not take on the burden of risk that this entails. Luckily there are ways to solve this. Using advanced security solutions, which give mobile operators and retailers remote access to devices and the ability to lock and control the device to encourage payment, mobile operators have more control in the face of unpaid bills. By giving operators this kind of control, it hugely reduces the risk-profile of a financed device.

The same technology is also able to lock a mobile device completely in the case of fraud, theft or trafficking. When mobile devices are such a lucrative target for these types of crime it is unsurprising that operators and retailers are reluctant to offer high-value commodities at affordable financing deals. However, with the ability to comprehensively shut down a device in the case of criminal activity, they can completely remove its inherent value. The effect of this is a reduction in crime and gives the operators and retailers the confidence to open financing to a whole market of people who were previously priced out.

The solution will not happen overnight, and it will require collaboration between governments, regulators, mobile operators, retailers, technology companies and even NGOs to succeed. However, the quickest route to address the inequalities exposed by the usage gap is to empower those who have the means of access to make these devices widely available to those who cannot afford it. Device financing is a way of making the unaffordable, affordable, with higher cost devices offering a far superior experience and usability whilst increasing access to the internet. ■

Africa's smartest cities

Africa was the fastest urbanising continent in the world prior to the arrival of Covid-19. Are smart cities the solution to its rapidly urbanising population?

Africa is still the planet's most rural continent, with a mere 40% of the sub-Saharan region's population living in cities. Even the sprawling and bustling heartlands of Cairo and Kinshasa, teeming with traffic, pollution, inadequate public services, are in their relative infancy and on the brink of a growth spurt.

In short, Africa, like any other part of the world, needs to plan for the future if it is to keep up with its predicted and expected future.

One idea that appears to be gaining traction are newly-developed satellite "smart cities," manifesting themselves in ambitious multi-billion dollar, hyper-liveable hi-tech cities populated with bustling, beautified boulevards, private condos and luxury cars.

Of course, money, culture, location and other factors mean smart cities around the world can be very different from one country to the next.

Ben Roberts, group chief technology and innovation officer, Liquid Intelligent Technologies

French telecommunications giant Orange has long been a major player in Africa ...

Keith Matthews, country manager for South Africa and sales director sub-Saharan Africa Orange Business Services, says wherever it's located, a smart city must be intelligent,

"Nairobi is dwarfed by the mega cities of Kinshasa and Lagos with populations of almost 15 million"

connected, agile, sustainable and innovative. "There is no difference in the core aim of building a smart city in Africa to anywhere else in the world," he says. "The smart city uses IT and digital technology extensively to improve the quality of life of citizens, and to boost the economic attractiveness and tourism potential for local authorities and companies." Matthews adds that smart cities improve lives through everything from mobility solutions to sustainable energy and smart grids. "However, they are dependent on the free, frictionless and efficient flows of data – this is what really makes cities 'smart' – supported by embedding and integrating key sophisticated technologies into the core of the city. Critically, smart cities should essentially be designed around human needs (human-centricity) and built on a foundation of trust," he says.

Ben Roberts, group chief technology and innovation officer Liquid Intelligent Technologies, the pan-Africa technology firm formerly known as Liquid Telecom, says cities in the world fall into three categories. "Very old and have evolved and expanded over centuries for example, Rome," he adds. " A new and planned city such as Milton Keynes in the United Kingdom, my own hometown, which was built from scratch and where everything has been planned and implemented to a blueprint. Cities/towns/even villages that have grown very fast such as Nairobi whose census results show the city has moved from a population of 2.2 million in 2000 to almost 5 million today. In Africa however, Nairobi is dwarfed by the mega cities of Kinshasa and Lagos with populations of almost 15 million."

Under its previous identity as Liquid Telecom, it spent the last decade building our fibre network which stretches 100,000km from Cape Town to Cairo across 13 countries.

Roberts adds that the arrival of millions of urban-dwellers has created problems for unplanned cities around the world both in terms of infrastructure and capacity. That said, he opines that African cities have an advantage over many older overseas cities for a number of reasons. One is a lack of legacy infrastructure and systems means that African cities can start with the latest technology available – evidenced in telecoms where countries leapt to 3G, 4G and 5G rather than invest in fixed networks. The second, he says, is a young population combined with an entrepreneurial zeal.

"Our young people have the same aspirations as their foreign counterparts - to have fulfilling and well-paid employment, good housing, healthcare, education, access to the digital economy etc.," Roberts continues. "However, Africa's key ingredient is its 'Can Do' attitude and the ability of its people to innovate and create home-grown solutions to the continent's problems."

Third, Roberts says, problems that affect the entire population of a city. "No matter how rich or poor you are in Nairobi, poor air quality affects us all which focuses the attention of government ministers," he adds. "However, this concept of the 'smart city', where technology and machine-to-machine (M2M) communications are leveraged to measurably improve the quality of life and efficiency of communities, can only succeed if connectivity is reliable and effective."

The paragon for many observers is Eko Atlantic in Lagos, Nigeria, built on land reclaimed from the sea, which is expected to house 250,000 people once completed. Hope City in fellow west African nation Ghana is slated to feature the continent's tallest skyscraper.

Rwanda, a regional leader in developing "smart cities," published a Smart Cities Blueprint in May to help foster the use of technology in urban management. The continent needs to find ways of improving urban life.

In 2017, Finnish gear-maker Nokia and regional development firm SRG collaborated with the government of Rwanda to deploy smart city technology in Kigali to improve the lifestyle and social sustainability of citizens. At the time, Mohamed Abdelrehim, head of solutions and business development, for Nokia in Middle East and Africa market, said the project was in line with the company's vision to use technology innovation to create social sustainability and make people's lives better and safer.

The city has since developed into an enviable example of a smart city, according to Roberts. "Kigali in Rwanda stands out as one of the cleanest and well-run capital cities in the region," he says. "And this is no coincidence, as it has institutionalised an agenda of urban planning and zoning with the aim to become a smart city at the heart of this."

Keith Matthews, South Africa country manager and sub-Saharan Africa sales director, Orange Business Services

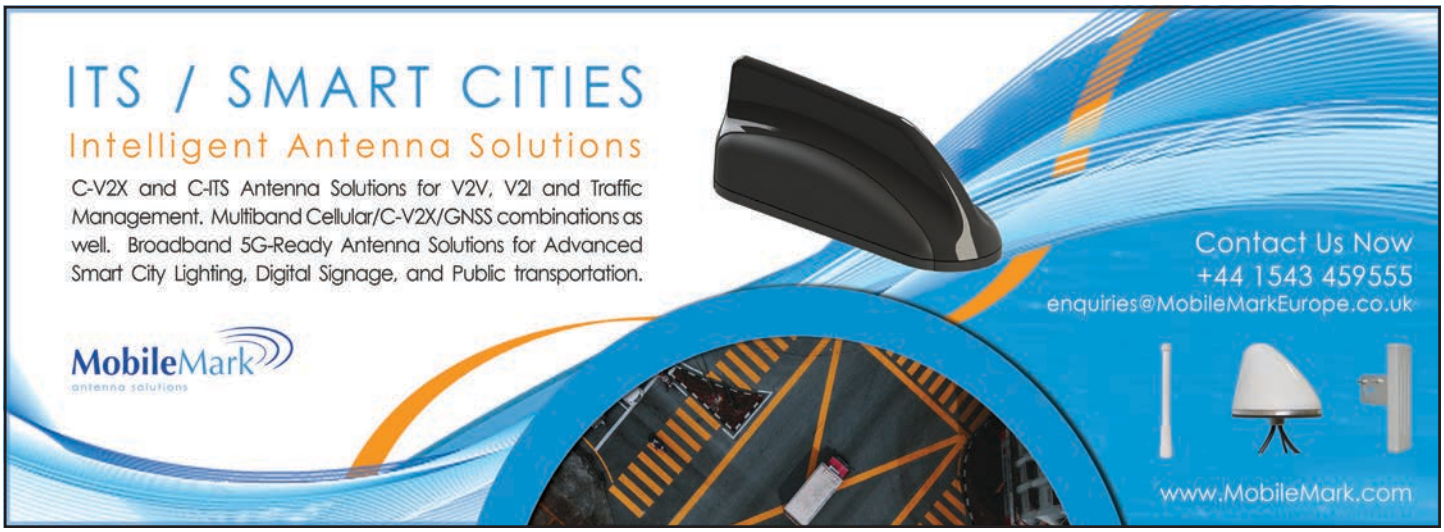
"There is no difference in the core aim of building a smart city in Africa to anywhere else in the world"

Liquid itself has been carrying out a lot of work in the Kenyan capital Nairobi, the headquarters for its east African operations, which it uses as a test-bed for most of its pan-African services.

"Nairobi is a city with a number of challenges, with perhaps traffic queues being the most obvious to visitors and residents alike," Roberts explains. "Large strides towards making Nairobi a smart city have been made in recent years with installation by the government of an extensive network of CCTV cameras and smart traffic lights in certain areas."

Liquid began by building and operating a robust smart city infrastructure for Nairobi. This comprises of a city-wide fibre optic metro backbone, which connects all major buildings and office parks, and serves to connect many communications towers. Roberts says this further enables multiple MNOs to offer 100% 4G and emerging 5G coverage in the city, along with ISPs that provide affordable uncapped data using fibre to the home and Wi-Fi last mile technologies.

It's no secret that air pollution is a particular problem in Kenya with the World Health



Organization declaring that it is the fifth largest cause of deaths and disability across the country.

Roberts says this pollution is caused by substantial increases in traffic levels, construction of high-rise buildings and new industrial activities releasing fine particulate matter into the air. "Poor refuse removal services result in citizens burning plastic and other garbage on roadsides which is also a major contributor," he continues. "To help provide reliable data about air pollution, our IoT air quality system has been rolled out across 3000 sites in Kenya following a trial in Nairobi. The sensors provide detailed neighbourhood measurements of airborne pollutants every 2 ½ minutes. This information is freely available to anyone via a simple dashboard."

Head further north to Egypt and just outside Cairo, you'll find the New Administrative Capital (NAC), a large-scale project that has been under construction since 2015. It's one of the projects for economic development, which forms part of a larger initiative called Egypt Vision 2030. Orange has long been a major player in Africa and Matthews, says the NAC is "a truly visionary project and offers a glimpse into the high-tech future" of Egypt.

"Orange already has a huge amount of experience of operating in the region. We have developed several smart city projects across the Middle East, such as in Saudi Arabia and the UAE and Orange has a long history of operating in Egypt in particular," he says. "Because of this, our knowledge and understanding of the environment will allow us to fully adapt the design of the infrastructure to the needs of the new city. The NAC is set to become Egypt's new financial and administrative capital, housing the main government departments and ministries as well as foreign embassies. It will be built based on five main pillars: safety, connectivity, integration, digitalisation and replicability."

When it comes to comparing NAC with other African smart cities, Matthews says its distinctive feature is that it is a greenfield project and concept consisting of an entirely new city, designed and built from scratch, whereas most of the other African smart city projects consist of deploying smart solutions in existing cities or districts. "The scale of the NAC presents its own challenges, and the solutions, priorities and operations deployed there will be different to other smart city projects across Africa," he adds.

As far as Nairobi is concerned, Roberts says it lacks a smart city plan but has all the elements of a smart city organically coming together. He adds that the purpose and mission of such a master plan could be a road map to co-ordinate the smart city activities of central and county governments, private sector companies, along with NGOs and civil society.

"Completely new cities in Africa like Tatu City and Konza Technopolis, both in Kenya, are being constructed from the ground up as tech enabled smart cities from day one with an aim to be the pinnacle of modern living in Africa," continues.

Nevertheless, even with access to the right

Liquid has enabled a successful precision farming deployment, now in its 3rd year of operation, in partnership with Twiga Foods at its Takuwa Farm, just outside Nairobi. The results have been an increase in yield of crops such as onions, as well as decrease in input costs, and the project recently won an IoT technology award at the East AfricaCom conference

technology, infrastructure and with enough funding it's been said that smart cities can only make sense if put in the broader picture of giving every African citizen the right to basic services. Is that a fair comment?

Roberts says that using technology and data-driven systems to solve real-life problems is both pragmatic and cost-effective in the long-term.

"Many African economies are driven by agriculture and Kenya is no exception," he says. "Outside of the large cities we are seeing smart technology being used in many ways to improve services. In the agricultural sector, Liquid is looking at ways that tech can enable precision farming in agriculture and in aquaculture."

Roberts cites examples of how Liquid, using the Sigfox 0G network, has enabled a successful precision farming deployment, now in its 3rd year of operation, in partnership with Twiga Foods at its Takuwa Farm, just outside Nairobi.

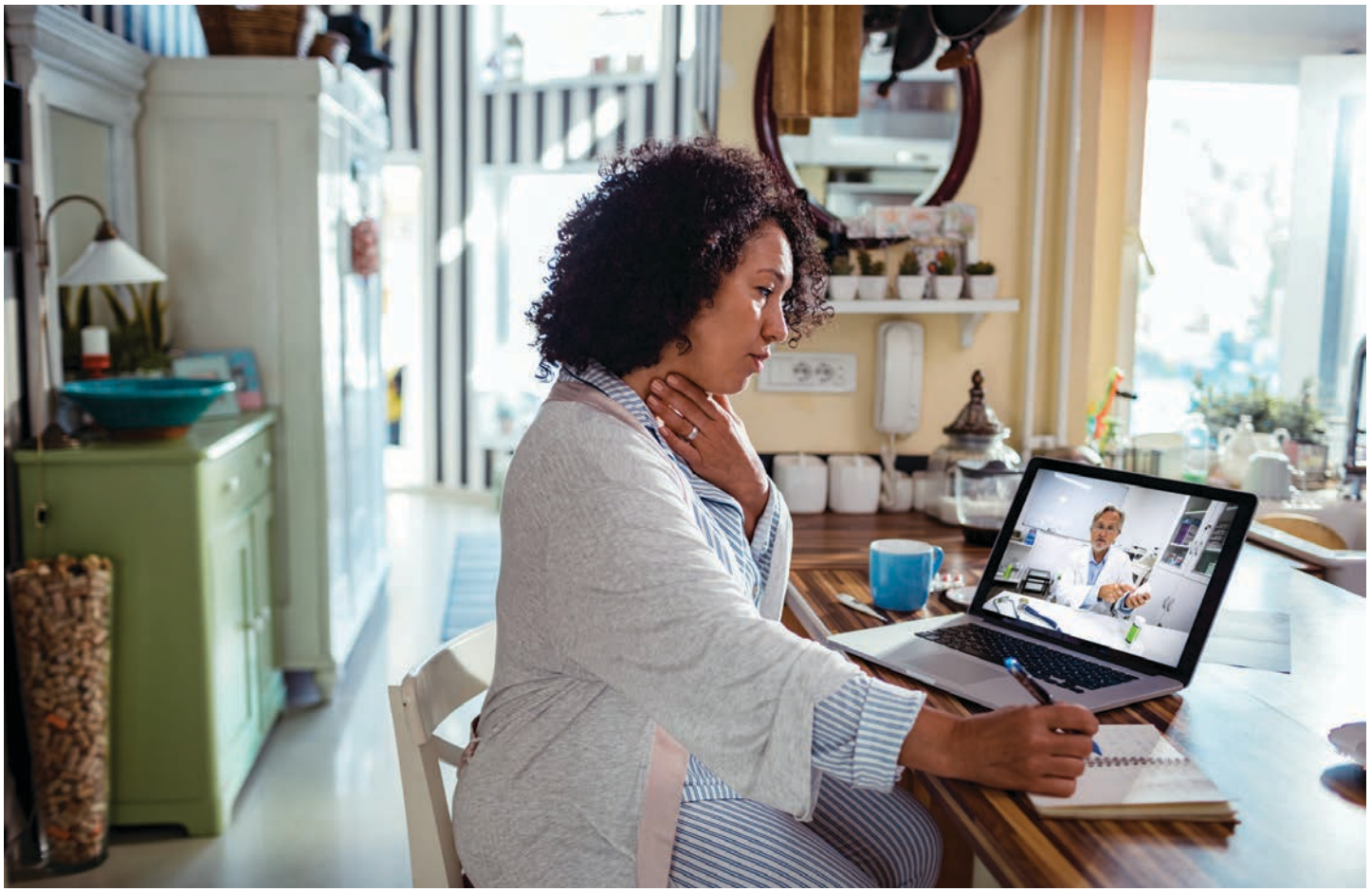
The results have been an increase in yield of crops such as onions, as well as decrease in input costs, and the project recently won an IoT technology award at the East AfricaCom conference.

"In the extreme western side of Kenya, Liquid has deployed sensors in Lake Victoria to help grow the yields of Tilapia fish farmers," says Roberts. "It is certainly my dream that the enablement of Agri-Tech will not only make a noticeable impact on the GDP of African countries but will also offer a bright future to the tech savvy youth who are born in rural areas to remain in their communities implementing technology for rural income generation, instead of heading to the cities in search of jobs."

For Matthews, smart city projects can help facilitate the delivery of services to citizens and help improve the quality of life for growing urban populations, giving more people easier access to local services and information. "A smart city is a complex ecosystem with an array of vertical activities, including digital solutions to improve access to health, facilitate mobility, enhance security... all coordinated by the smart city integrated operations and security centre, providing safe city and digital living services and experiences," he says. "Every smart city is a unique network of integrated services that may grow and develop organically over time as new use cases emerge and then evolve, supported by new bursts of innovation. The key to success is embedding intelligence, integrating sophisticated technologies, including IoT and artificial intelligence to make use out of the massive amount of data generated across the smart city."

In fact, Matthews goes on to say that as a result of a growing number of people living in cities, smarter cities can help improve the quality of life for citizens and create new opportunities to innovate. He says that Africa has the advantage of relatively little legacy infrastructure and so can move forward faster. "By making a city smart, the urban digital ecosystem can bring new opportunities for the creation of new jobs and small businesses, and also for existing companies to develop their business – creating added value for urban populations," Matthews adds. "Smart city solutions can also help ease traffic congestion, improve the information on city services available to residents, and help make areas safer through smart lighting and surveillance, and enhance the efficiency of utilities and energy consumption. Making a city smart and listening to people's needs and ideas can empower the population and help city administrators make the right decisions."

While Africa has its problems, just like every other continent, it is at least addressing them by embracing new technology and adopting wireless connectivity where and when it can. This can only lead to a very bright and smart future. ■



What a difference a year makes

Lessons learned from the global pandemic by Dan Losada, vice president, Hughes Network Systems

It is hard to believe that one year ago, we were at the start of the pandemic. It was around the annual satellite industry conference in Washington, D.C last March that we started to hear rumors of a highly contagious virus that was spreading from one continent to another. Most of us didn't know anything about "social distancing" or "herd immunity." By the time the satellite show shut down early in March 2020, global travel drew to a halt and stay-at-home orders became commonplace everywhere around the world.

In some ways, the global pandemic brought people together like never before, thanks to a singular, shared experience. No matter where you lived or worked, there was no escaping the need to stay away from people outside your household, work and study from home, and wear a protective mask. Zoom meetings across continents looked eerily monotonous thanks to commonly used digital backgrounds.

Yet, even as citizens from the Seychelles to Southern Asia to San Francisco shared the experience of staying at home, hand-washing and social-distancing, the vast differences in digital access grew more pronounced. Never has it been more apparent that those with Internet access have distinct advantages over those without.

Now, 12 months into the pandemic, as vaccine programs expand and stay-at-home orders lift, one thing is certain: Internet access is no longer a "nice to have," it is a necessity, enabling telehealth, supporting education and delivering social services.

New drivers of connectivity

The pandemic accelerated the need for connectivity around certain drivers. With COVID, there was suddenly a more pressing need to scale up

telehealth services. Mild COVID cases would be treated remotely so they wouldn't overwhelm medical facilities or further spread the illness. Elderly patients or those with pre-existing conditions were also better served by receiving care from the safety of their homes. Of course, all of this demands connectivity, as do the many pop-up sites and processes supporting testing and vaccine distribution.

The disparity between the connected and the unconnected was perhaps most glaring after the sudden shift to remote learning. School systems and communities, along with families and students without access at home, faced added stress and strain. There is simply no remote learning without connectivity. Even the bulk of today's in-class education throughout developed regions relies on connectivity.

In an environment where remote work is recommended and in-person services are rare, citizens in communities around the world still need access to basic health information and government services – at the local, state, and national levels. They need to be able to find updates on infection rates in their area, review World Health Organization guidelines or learn about quarantine related rules and restrictions. Connectivity is the public's best way to secure information and services.

Bridging the digital divide

Disparities in access don't have to span continents to be profound. For instance, in Indonesia, many citizens have direct-to-home Internet access—and yet, many do not. Across the island nation, there are places where cable or fiber are simply impossible to connect – making satellite the broadband of choice for many. To help connect the unconnected in Indonesia, both private industry and the government deliver satellite solutions. Pasifik Satelit Nusantara (PSN), the oldest private telecommunication and information service provider in Indonesia, provisioned the Hughes JUPITER™ System for broadband services over the PSN VI High-Throughput Satellite (HTS) and also implemented more than 5,000 Community Wi-Fi Hotspots to help connect even more. On the government side, BAKTI, a division of the Indonesian Ministry of Communications and Information, launched an initiative to help close the digital divide by deploying satellite connectivity across 8,000 cellular and Internet access sites.

Internet service providers (ISPs) and mobile network operators (MNOs) face two challenges in bridging the digital divide. The first is justifying the investment to extend service to reach these unconnected populations, many in rural and hard-to-access areas. The second is offering service at a price point the market can afford. When average per capita income is $315, as in sub-Saharan Africa, a monthly service fee of $40 dollars for Internet access is out of the question. To overcome both of these hurdles, satellite connectivity presents an ideal solution with three applications.

Direct-to-home service

Many people live in areas where there is no terrestrial broadband access, like hard-to-reach mountainous or desert regions or exurban communities where fiber or cable to the last mile was deemed too costly. Very Small Aperture Terminals (VSATs) have helped solve this problem by enabling delivery of satellite broadband services almost anywhere. VSATs comprise an antenna (the "dish"), an outdoor and an indoor unit. As convenient, two-way ground stations, they make it possible to transmit and receive satellite data practically anywhere. That means, ISPs can provide reliable, convenient, and affordable satellite connectivity services to consumers, as YahClick, the joint venture between YahSat and Hughes, is doing, for example, for thousands of subscribers in South Africa using Hughes JUPITER terminals.

Satellite backhaul

Satellite backhaul of cellular traffic has been used for decades, supporting no less than 70,000 sites today – with 200,000 sites projected by 2029, according to NSR. For cellular operators, a major barrier to expanding service in low density and rural areas has been the prohibitive cost of backhauling traffic over terrestrial facilities, whether using microwave, fiber or cable. The cost of terrestrial backhaul, such as fiber or cable, is directly proportional to distance, making it increasingly unjustifiable the further the reach from urban centers. What's more, not everyone can afford direct-to-home Internet service but nearly half the world's population has a smart phone and roughly half of all global internet access is by mobile device.

Providing cost-effective backhaul is now at the top of the priority list in justifying business cases to meet this growth. Next generation HTS and associated ground networking solutions such as the Hughes JUPITER System being deployed throughout Africa and worldwide present operators with a viable path to profitable expansion and the ability to connect more people who otherwise would not have access.

Community Wi-Fi hotspots

Satellite-enabled Community Wi-Fi Hotspot services successfully bring Internet to places where it is either not available or unaffordable for locals. Deploying Wi-Fi access points makes the last mile affordable for the consumer, who can access the service with any Wi-Fi enabled device. However, this kind of shared access still requires a broadband backbone to carry traffic to and from the Internet connection point.

In this model, a shared, high capacity VSAT can be configured readily to support traffic requirements of local users. The service enables providers to expand their networks cost-effectively and to make Internet available and affordable to unserved – and often ignored – market segments, while still attaining profitability. By sharing service costs among dozens of users, the price-per-user decreases substantially to align better with market rates.

For implementation, Community Wi-Fi is especially attractive to governments striving to provide Internet access to entire towns on short timelines and without massive cost implications. A shared VSAT model is also ideal for local service providers hoping to expand services to areas with smaller populations that may have lower per capita income.

As ISPs and MNOs around the world seek to serve growing broadband demands in their markets while expanding their wireless footprints, satellite Internet, satellite backhaul and Community Wi-Fi Hotspot services will continue to be an important part of the infrastructure. Simply put, satellite broadband connects the unconnected by enabling service providers to improve their offerings, deliver better throughputs, and support education, economic development and social connection.

The way forward: connectivity everywhere

Now, as we look to post-pandemic life, governments across Africa and Asia are exploring ways to ensure all citizens have the connectivity they so desperately need, with satellite offering the fastest and most efficient solution for hard-to-reach and remote locations. Governments are best positioned to implement effective connectivity. Certainly, that includes cable and fiber broadband where available and affordable. Yet, across large swaths of Africa and Southern Asia, satellite continues to proliferate as the technology of choice for connectivity–with good reason.

The BAKTI program and others underscore the rising trend of governments taking a more active role in bridging the digital divide. In Botswana, Botswana Telecommunications Corporation uses satellite (and the Hughes JUPITER System) to expand its high-speed business broadband service across the country with hundreds of remote terminals connecting businesses and homes.

One of the largest telecommunications companies in East Africa uses satellite broadband to deliver video and Internet access to schools. In the Philippines, Cignal TV Inc., the premier direct-to-home satellite provider, offers Internet service to two million subscribers using the same JUPITER terminals and network management system that Hughes employs to power HughesNet®, the company's flagship satellite Internet service with more than 1.5 million subscribers.

Around the globe, governments and communities, ISPs and MNOs alike were overwhelmed by all that the pandemic wrought. But today, the focus has shifted from managing dramatic spikes in network traffic, to understanding how to better serve existing customers and apply innovative ways to expand services and connect everyone. Because pandemic or not, the lesson we've learned above all others is that we need connectivity everywhere. ■

Testing the network

The increased usage of IoT, streaming and other services mean operators are faced with commercial and technical pressures to continually protect and enhance their network. Robert Shepherd looks at some network optimising tools at their disposal

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The need for high-performance increases by the day, courtesy of IoT streaming and other demands and so must the rate of network optimisation. As far as operators are concerned, monitoring user activity (no, not snooping) and experience along with sending alerts immediately upon detecting network and service instabilities can drastically reduce the negative effect that network problems have on end-user applications.

When voice, data, video and messaging services fail to deliver the expected quality levels, network and service operations centres need to be notified instantly to take prompt action. This is particularly important in critical hotspots such as shopping malls, airports, commercial centres, train stations, highly-populated areas, key commuting routes and public transport.

Network optimisation consists of two key parts: initial and continuous optimisation. The former occurs during network implementation to prepare it for the launch. The aim is to ensure that the agreed objectives for coverage, quality and service performance are met. These objectives are often defined as target values for sets of key performance indicators (KPI) that measure network performance and the quality of end-to-end services.

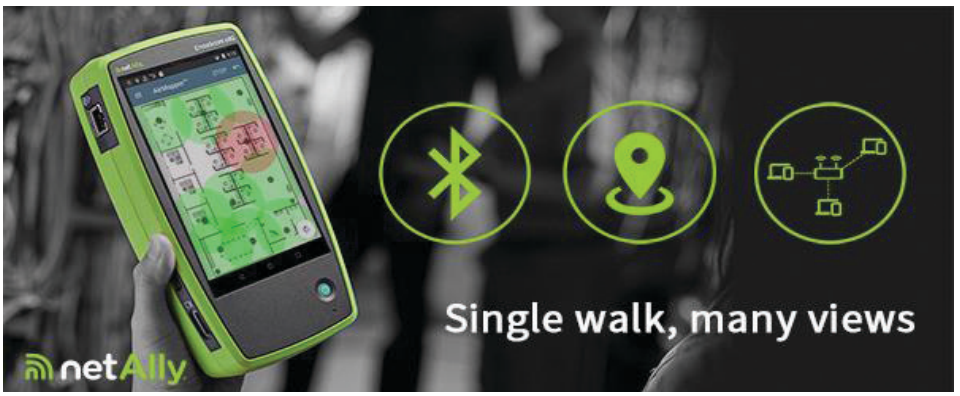
Continuous optimisation is also an integral part of network operations, particularly in a world where networks are constantly changing. The network capacity has to continuously increase due to an ever-growing traffic demand; new network elements are regularly put into operation and new services are introduced, and coverage is extended.

In March, Orange signed-up with Finnish tech firm Nokia to roll out the vendor's 5G optimisation platform across its markets. The French operator said it would help to maintain service quality at a time of increasing network complexity. The deal covers deployment of Nokia's self-organising networks (SON) platform, which provides optimisation across RAN equipment from any vendor.

Orange plans to eventually use the technology in all its global divisions, starting in Europe with France and Spain. It will be heading to Africa next, the operator said, Indeed, Orange SVP of radio networks and 5G Arnaud Vamparys said at the time that "a platform able to deal with all equipment from any vendor would allow it to maintain network quality and customer satisfaction in the next-generation era. Nokia added that the platform would allow Orange to automate RAN configuration and optimisation processes and ultimately improve network performance.

Of course, there's a raft of solutions out there ready to avail themselves to operators across the continent. Let's look at some of them.

The Viavi CellAdvisor 5G, the company claims, "is the industry's most easy-to-use, innovative, and comprehensive base station analyser". It is a field-portable solution to validate and deploy 5G radio access networks. Furthermore, its combination of real-time spectrum analysis and 5G beam analysis, as well as the ability to test fibre, coax, and air interfaces, makes it a versatile cell site test solution. Whether the operator is performing signal analysis, interference analysis, or just inspecting fibre connections, Viavi claims this one instrument "can do it all". Its apparently easy-to-use interface, complemented by cloud-enabled Viavi StrataSync, makes it simple to create reports and close projects fast.



Other benefits include the ability to validate and deploy all physical interfaces, such as fibre, coax and RF, as well the option to upgrade to new features and technology with software licenses, Perform PIM detection plus interference analysis and hunting with the same solution. With regards to applications, there is Interference analysis and PIM detection over CPRI, comprehensive RF signal analysis and antenna analysis with optional RF source. Rohde & Schwarz offers Qualipoc, SmartMonitor and SmartAnalytics, which combine to form a solution for QoE-centric (quality of experience) network monitoring.

The smartphone-based network probes "QualiPoc" for data collection, which can operate as static probes distributed over several network hotspots (e.g. shopping malls, event venues etc., moving probes in a fleet setup, e.g. installed in taxis, public transportation and a combination of the above. It also has web-based controlling software "SmartMonitor" for test configuration and real-time dashboard. It's replete with remote real-time control of network probes and remote test configuration. Additionally, there is web-based analytics software "SmartAnalytics" for data analytics: a software suite to implement comprehensive data analytics based on measurements from network problems.

Next up is GL Communications, which offers its PacketScan – All-IP Analyzer. The solution can capture and analyse high volumes of phone calls over a wide range of protocols on IP and Wireless (2G, 3G, 4G, IMS, and 5G) networks. It can capture, analyse and monitor large-scale networks for surveillance and troubleshooting.

The PacketScan is a high-density multi-protocol 2U rack mounted network monitoring appliance that can capture and process packets over IP on high-speed Ethernet links of 1 Gbps and 10 Gbps links.

Packet Data Analysis (PDA) is a tool for live monitoring of signalling and traffic over IP. It is distributed with GL's Packet Analyzers, allowing users to monitor live IP networks including capture, analysis, and reporting of every call in detail.

Hot off the press, NetAlly has just launched EtherScope nXG v1.5 software with Bluetooth and BLE (Bluetooth Low Energy) site survey capability as part of its AirMapper Site Survey Ecosystem of products. Bluetooth is the second most popular wireless technology in the world, used for many applications from indoor location services to IoT device connectivity. However, until now, there were no solutions in the market to perform location-based surveying and visual heatmapping of Bluetooth beacons. NetAlly spotted the gap in the market and so produced the first bluetooth and BLE site survey solution on the market.

NetAlly says the new functionality will allow EtherScope nXG users to perform a passive bluetooth or BLE site survey using the AirMapper app and internal radio, thus providing full visibility into bluetooth network coverage and performance through the company's Link-Live Cloud Service. It will also allow users to perform both Wi-Fi (active and passive) and bluetooth surveys on the same walkthrough, making it quick and easy to validate Wi-Fi network performance while at the same time validating indoor location services or IoT deployments, as well as possible 2.4GHz Wi-Fi interference caused by bluetooth co-existence in the same band.

"It's surprising how many bluetooth devices are already present in most environments, and with the expansion of location-based services such as way finding and asset tracking, it's only going to increase," says James Kahkoska, chief technology officer at NetAlly. "But deployment is a very manual process, prone to configuration errors." ■

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Assurance, conformance and performance testing

This segment consists of the Mobility Infrastructure, Customer Experience Management, Service Assurance and Automation Platform Technologies lines of business.

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Vodafone unfurls mobility solution at Massmart

Telecom giant Vodafone created a custom telecommunications solution to improve the lives of employees at a major chain

The African telecommunication industry, like the region itself, has been changing at an accelerated rate. The continent grew at 8.7% CAGR in real GDP terms between 2000 and 2010 and, despite the ongoing COVID-19 pandemic, forecasts suggest sub-Saharan Africa will continue at 2.7% in 2021.

Massmart is a South African firm that owns a raft of local brands, including Builder's Warehouse, CBW, Game and Makro. On paper, it is the continent's second largest consumer goods store chain, focusing on supporting both high and low-end income groups. The company is owned by Walmart Group with a 51% stake and the headquarters are in Johannesburg, South Africa. Massmart runs over 400 stores in the country and 12 more in other parts of the continent, employing over 35,000 people.

Over the past few years, Massmart has been growing rapidly, both organically and through acquisition. This significant increase in its workforce and the need to share their staff benefits to employees, demanded the involvement of a telecommunications service provider. In order to address this, Massmart turned to Vodafone to support its vision and also look to future plans for employee engagement.

Nevertheless, Massmart needed to change with the times if it was to maintain its position or, indeed, improve it. The company knew it had to enable its HR services to keep track of the rapid personnel changes, but simple consumer mobility deal would not have been sufficient. With such huge growth in volume and fast staff turnover in the company, they needed to find a unique, custom-made solution to cover communication services for as much of their workforce as possible.

Having won the contract, Vodafone had to take a close look at Massmart's operations in order to get a much fuller understanding at the task in hand. Following a full and comprehensive assessment of the volume and complexity of the situation at the chain, Vodafone created what it described as a "compelling and unique proposition to offer mobile solutions to their people". In addition, they created a dedicated on-line platform for the company's HR and Employee Benefits team to engage with them.

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This bespoke solution consisted of an exclusive management system and competitively priced contracts, involved 8000 staff overall and was signed for a two-year period. The arrangement included the option for Massmart's staff to receive a smart phone, with monthly benefits of 300 MB of data usage, 120 free minutes and 200 text messages. The unique management on-line platform supported the HR and Benefit teams with easy communication to employees who were otherwise extremely difficult to reach. With the management tool, Massmart can now effectively transmit the latest company service news, update the general knowledge base with useful information such as retirement and insurance benefits. As an added bonus, the application and the special telephony service also give Massmart's staff access to otherwise inaccessible online information in their everyday life.

With this deal, Vodafone has proved to be a flexible service provider, a company capable of delivering flexible and engaging deals, to an organisation which supports greater causes, such as Massmart.

The innovative thinking of Massmart – the fact that it offers smart phone and data services to personnel has paid dividends. Not only did it enhance staff lifecycle management, but the company also demonstrated to its workforce how valuable they are by providing the option of having an easy and practical on-line platform for self-development and staying up-to-date with company's news and improvements.

For Massmart, the collaboration with Vodafone yielded some good results. First of all, simplicity. With the exclusive mobility service construction, Massmart said it can enjoy simplified telephony costs, tracking and Vodafone's customer service.

Then comes accessibility. Due to this unique solution and Vodafone's 24/7 availability, Massmart enabled many low and medium-income families to have access to information on the internet for the first time in their lives.

Finally, Massmart has ubiquity. Thanks to the flexibility of Vodafone's offer, not only was Massmart able to achieve improved employee engagement, but also improve the lives of the staff and their families by providing a smart phone and data assets.

The rest, as they say, is history. ■

The all-new CDM-650

Comtech's new CDM-650 Satellite Modem leverages the heritage and feature set the company's SLM-5650B/C, CDM-625A and CDM-425 modems – the company says - which have been adopted and deployed globally to support government and commercial applications.

The CDM-650 was purpose-built for secure government and military networks, and is suited for fixed location, on-the-pause and communications on-the-move applications. Furthermore, the product features turbo product codes, three LDPC code families, VersaFEC-2 high performance LDPC short and long block forward error correction and a range of modulation, including BPSK, QPSK, OQPSK, 8PSK, 8-QAM and 16-QAM.

By employing the combination of what Comtech describes as "state-of-the-art forward error correction and modulation techniques", the CDM-650 can optimise satellite transponder bandwidth usage.

"We are pleased to introduce the new CDM-650 Satellite Modem to address the needs of foreign government and military entities," says Fred Kornberg, chairman of the board and chief executive officer of Comtech. "The advanced feature set available in the CDM-650 provides the performance, reliability and scalability needed for secure and mission-critical networks." *comtechtel.com*

Introducing the Wearable Smart Radio by Doodle Labs

The Wearable Smart Radio by Doodle Labs is a compact, wireless mobile mesh router with an integrated Wi-Fi hotspot to allow internet-enabled devices (laptops, tablets, smartphones) to connect to the mesh network.

It apparently provides long-range, high-speed private wireless mesh connectivity for personnel in the field. The Wi-Fi hotspot capability allows field workers to seamlessly collaborate with other team members both in the field and offsite locations using the devices they already have. Field workers can use the company's productivity enhancement apps on an encrypted private wireless mesh network.

The Wearable Smart Radio supports many use cases in industry sectors like construction, agriculture, logistics and material handling, healthcare, public safety, disaster management, border patrol and defence deployments. *doodlelabs.com*

Wittra takes IoT straight to 'proof of value'

Wittra says its 'IoT Network Kit' is redefining the IoT landscape by taking customers straight to 'proof of value'. The company claims its solution provides a simple, practical approach for tracking and monitoring assets. What's more, its 'ground-breaking' positioning technology enables total asset visibility in all environments never considered possible using narrow-band technology.

Reducing the complexities in any IoT project Wittra offers unique pre-integrated, pre-tested and pre-secure products for immediate deployment. Based on open standards to ensure interoperability and ease of integration users can collect, communicate, and control assets. Devices run on a 6lowpan IP-based true mesh radio network which uses the sub-GHz spectrum providing long range and good penetration of structures for robust and reliable data delivery in any setting.

The Network Kit contains the Wittra gateway, sensor tags, mesh routers and all the associated accessories ensuring your IoT project is up and running in hours; deploying the Wittra Solution via its cloud-based API "is simple and intuitive offering a true 'IoT Out Of The Box' experience for use across many market sectors".

Each tag contains several sensors which include temperature, accelerometer, gyroscope, magnetometer, and positioning. Additional sensors can be added via a plug on sensor approach covering humidity, ambient light, and air pressure. The mesh network is extended in range by the addition of Wittra's Mesh Routers creating a multi-hop self-forming and self-healing true mesh network.

"With the launch of the Wittra IoT Network Kit, I believe we position ourselves at the forefront of the IoT industry. It is a response to clear market needs to provide practical IoT solutions that bring value to customers quicker and with much less complexity", says Thomas Bennet, CEO of Wittra. *wittra.se*

Evina's anti-fraud mission continues with TrafficScreener

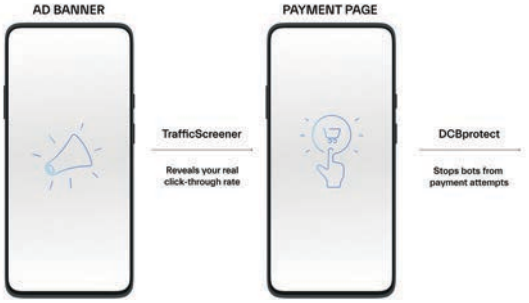
Evina, the specialist in cybersecurity for mobile payments, has unveiled a new tool that it says extends the anti-fraud protection throughout the entire monetisation flow, starting from the source of traffic.

The Paris-headquartered firm with operations in Europe, the Middle East and 15 African countries says TrafficScreener helps merchants master mobile traffic monetization by detecting fake visits.

After creating Evina DCBprotect, the anti-fraud solution that blocks bots at the time of payment, Evina now leverages the same cutting-edge technology to detect bots as they arrive on a merchants page.

"When dealing with a CPC (cost per click) model, merchants need to know what type of click - fraudulent or authentic - is leading to their webpage, " say Farid Taha, chief customer officer at Evina. "This has long been a blind spot when dealing with ad traffic and it's why Evina created a tool that provides visibility on all visits following ad clicks."

This new product represents the flip-side of Evina DCBprotect which stops bots from making payment attempts. Now, traffic monetisation can be mastered while fraudulent payments by bots are similarly prevented. While DCBprotect protects the payment page from bots, Traffic Screener detects bots that derive directly from the banner ads. By revealing real traffic and real conversation rates, merchants can optimize their mobile monetisation activities. The aim is to reduce the 20% of budget merchants lose when they acquire fake traffic. Specifically, TrafficScreener enables merchants to receive real figures that reflect the quality of their traffic. *evina.com*



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HD-EFI product series expands with thread-in configurations

Amphenol RF says it is "proud to announce the expansion" of its HD-EFI product line, "designed to satisfy" the need for a compact RF interconnect solution. The latest addition to the HD-EFI series consists of panel mount receptacle jacks, a common component in wireless infrastructure filters. These HD-EFI jacks feature thread-in mounting and post contacts for easy installation into wireless filters, amplifiers and distributed antenna systems.

HD-EFI thread-in connectors are engineered with white bronze plating to improve low PIM performance and set them apart from the existing options. These connectors are available as straight panel mounting receptacle jacks in both smooth bore and limited detent interfaces. These 50 ohm connectors are designed for crash-proof mating, achieved by using a conical interface and unique plug design, and offer excellent electrical performance through 6 GHz, along with all the existing benefits of this product line.

The HD-EFI product series is a micro-miniature interface which allows large board tolerance stack ups, blind mating and multiple RF lines. In addition to the thread-in connectors, various PCB and cable-mount connector configurations are available. *amphenolrf.com*

MOTOTRBO Ion: Making yourself heard

Motorola's MOTOTRBO Ion is a next generation business-ready smart radio with voice, broadband data and multimedia capabilities to connect teams, inform operations and keep businesses running smoothly.

The device brings real-time intelligent data to existing business workflows. Its fully open Android application ecosystem allows for seamless integration of the mobile data applications that commercial industries depend on, such as those used for enterprise-grade barcode scanning, as well as team communication platforms used for messaging, meetings and shared content.

The MOTOTRBO Ion smart radio is purpose-built for a variety of enterprise environments. The dual microphones, speaker size and audio engineering provide crystal clarity and noise suppression for powerful audio that outperforms smartphones, especially in loud environments. The device also features an integrated camera to send photos and videos, and can even stream video in real-time.

With an ultra-rugged design, it stands up to harsh conditions and exposure to dust, water and repeated drops. It features cloud-based programming and provisioning, remote updating and real-time device monitoring, allowing businesses to deploy and maintain their radio fleets with minimal touch and downtime.

To keep the roaming workforce connected anywhere you do business, the MOTOTRBO Ion enables seamless communication through voice and data, over both public and private networks. *motorolasolutions.com*

'Innovative v45C qualified for operation on Intelsat FlexMaritime network'

Intellian brings to market its v45C antenna, which has also been qualified for operation on the Intelsat FlexMaritime network. By combining Intellian's compact, antenna with Intelsat's FlexMaritime High Throughput Satellite (HTS) service, this approval will deliver global connectivity to customers in the smallest package available to date.

Until now, service providers have required antennas of 60cm or larger to deliver high throughput services owing to the higher power demanded by smaller units, but with the advent of HTS technology teamed with innovative antenna design, the use of more compact antennas has become possible. The v45C has been developed to bring VSAT to new markets where there is limited space available for communications equipment, such as workboats, leisure craft, fishing boats, small commercial and government vessels.

Intelsat is among the first to take advantage of this capability with the addition of a 45cm category to its FlexMaritime HTS service. VSAT delivery to small antennas has traditionally been restricted to localized regions in order to conserve power, but through the use of spot beam technology, HTS satellites can overcome this limitation. By providing high-power service to small, tightly-focused areas, frequencies can be reused across the satellite's coverage area, supporting global service while reducing the cost of delivery. *intelliantech.com*

Look out for...

Nokia achieves 5G speed record

Nokia achieved a 5G speed record during a trial with Türk Telekom in the Turkish capital city, Ankara.

The record, which reached over 4.5 Gbps, is the first to be achieved on 5G New Radio (5GNR) only, utilizing Nokia's AirScale 5G RAN solution on 26 GHz mmWave spectrum, 800 MHz bandwidth and a single user device.

During the trial, Nokia's AirScale Base Station connected with a mobile device to transfer data across Turk Telekom's 26Ghz mmWave spectrum at a peak speed of 4.5 Gbps. Nokia was selected by Turk Telekom to deliver the ultra-low latency, connectivity and capacity required to test the full range of 5G connectivity in the scope of this trial.

The high speeds achieved during the trial will enable more high-bandwidth and latency-sensitive enterprise services, such as remotely controlled devices for industrial needs or mission-critical applications. 5G-powered networks will also allow customers to enjoy VR/AR experiences, download 4K video content or games in a matter of seconds, as well as enable enhanced capacity fixed wireless access connectivity.

Nokia said that "with this successful test", the companies are effectively demonstrating how a 5G rollout can improve service quality and download speeds for consumers, as well as supporting enterprise and business use cases, including Industry 4.0 and digital transformation.

"During the trial we solely used mmWave spectrum over the 5G test network which reached record speeds above 4.5 Gbps," according to Yusuf Kıraç, chief technology officer at Türk Telekom. Thanks to this technology, which provides numerous benefits for users and operators, we achieved the high speeds and large capacity targets promised by 5G. These technologies also act as a bridge to develop and pave the way for "Terahertz" systems that provide ultra-high speed and capacity, which are planned to be used in 6G.. We will continue to lead the development of all new generation technologies in our country, as we are doing today."

MOTOTRBO ION

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More Telecom acquires Powercom Pacific

Australia's More Telecom has acquired national internet and phone provider, Powercom Pacific, substantially increasing the company's SME customer base.

The purchaser is the land down under's most successful and longest-running NBN providers with a sister retail business, Tangerine Telecom.

Powercom Pacific owns several brands including Powercom, Montimedia and QTelecom and all customers will be migrating to More Telecom.

Under the terms of the acquisition, Powercom Pacific staff will be moving with the business and maintain ongoing employment with More.

More Telecom general manager, Andrew Branson, said the acquisition strengthens the More business

which is expanding in both customer numbers and product offers.

"The More business consistently seeks exciting expansion opportunities and with Powercom, we identified a business with complementary cultural and business models," he added. "The Powercom customer base consists of long term, loyal, small business owners who want excellent service and we are confident we can deliver on this front."

Under the terms of the acquisition, Powercom Pacific staff will be moving with the business and maintain ongoing employment with More

More Telecom has also expanded its SME reach via the launch of other business services such as More Payments and More Bookkeeping.

The More Telecom and Tangerine Telecom business model works on a B2B/B2C business model delivering more efficiency and faster speeds due to the balanced bandwidth loading between the business peak hours during the day and the consumer peak hours during the evening.

Deutsche Telekom upgrades telecom sites

Deutsche Telekom (DT) has built up 5G capacities at 75 locations across Germany, the operator said in a release.

The company added that it had implemented Dynamic Spectrum Sharing (DSS) to upgrade these LTE sites and has created additional LTE capacities at 173 locations.

DT also noted that its 5G network currently reaches around 80% of the German population, while LTE population coverage is now 98.6%. it had previously said that its technical teams have already upgraded a total of 45,000 antennas for 5G services during 2020. The German telco expects its 5G network to reach 90% of the country's population by the end of the year.

By the end of March, more than 66 million people in around 5,000 towns and cities across Germany will be able to use the telco's 5G network. Over 50,000 5G antennas are already transmitting with 5G across the country.

DT started the rollout of its 5G network in a limited number of cities across Germany at the beginning of July 2019.

In February, it installed the first 5G standalone antenna in Garching, near Munich, to carry out trials of this technology. Deutsche Telecom connected the antenna to a 5G standalone core network via cloud infrastructure.

The operator also noted that the infrastructure in the core network will also be fully upgraded to a new, cloud-based 5G architecture.

Orange to lay off 485 employees

Orange Spain business will lay off up to 485 employees in the coming weeks, citing years of shrinking income amid Spain's hypercompetitive and increasingly low-cost telecommunications sector.

The France-headquartered operator had already signalled that competition in Spain - its second-largest market - was a long-term trend in the region after posting worse-than-expected results in the first quarter.

Orange, like a number of other players, has been facing growth issues separate from the pandemic's impact as the sector, which has spent extensively on infrastructure such as fibre-optic cabling, scrambles to fund its upgrade to next-generation 5G networks.

"The telecommunications sector has spent years enduring revenue loss as a consequence of the hypercompetitivity of the market and the multiplicity of low-cost actors," Orange Spain said in a statement. "This (context) is a huge challenge for the company, which has shouldered intensive investments in the past 20 years and needs to keep doing so amid the technological transition."

The statement added that adapting operations by reducing the workforce will be essential to ensuring Orange's competitiveness in the face of structural changes, noting that negotiations with labour unions would begin imminently.

WIOCC extends connectivity to new locations in SA

West Indian Ocean Cable Company (WIOCC) has extended its national hyperscale network in South Africa with 30 news points of presence (PoPs).

Part of a multi-billion-rand investment, the PoPs are along the country's southern coastline, on a new 1,700km terrestrial link between the cities of Durban and Cape Town.

WIOCC said it will also mean more affordable connectivity to coastal towns from Somerset West, Grabouw, Caledon and Swellendam in the Western Cape, through to Doonside, Kingsburgh and Isipingo in KwaZulu Natal.

Furthermore, WIOCC's policy of not imposing aggregation restrictions, will allow clients to serve multiple end-users over a single WIOCC connection.

"This latest addition enables internet service providers, mobile network operators, content providers and cloud operators to deliver their services more cost-effectively into a significant number of additional locations," the company said.

This capability has been integrated into WIOCC's, 16Tbps-ready, optical transport network (OTN)-enabled hyperscale national backbone network and its wholly-owned metro networks. The flexible infrastructure is easily and quickly scalable, meaning clients benefit from rapid turn-up of capacity from 1Gbps up to multiples of 100Gbps.

Services available from WIOCC in South Africa include high-quality Carrier IP Transit (IPT), point-to-point national connectivity and high-performance Metro Connect, as well as open access colocation services in specific locations.

Mexican president attacks telecoms firms over roadblocks to registry

Rights groups say it poses a human rights violation and could lead to wrongful convictions if people's identities are stolen

Mexican president Andres Manuel Lopez Obrador attacked the country's telecoms companies for impeding an initiative to create a national biometric mobile phone user registry that is opposed both by industry and rights groups.

Backed in May as a measure to improve public safety by the Senate, the registry would require companies to pay for collection of their clients' biometric data, which would then be stored and managed by the telecoms regulator.

Telecoms sector groups argue it would cost the industry hundreds of millions of dollars to implement. Rights groups say it poses a human rights violation and could lead to wrongful convictions if people's identities are stolen.

The Latin American country's data protection body plans to challenge the registry before the Supreme Court. Judges have also suspended its implementation, according to local media.

However, Lopez Obrador said operators were impeding a law designed to protect people.

"These telephone companies... have a lot of power, in addition to acting with great hypocrisy, because they already request that data to contract a telephone service," he said at a press conference. "Now as they also have lots of money to buy or rent media, they're running a campaign against us," he added, singling out Telmex, a unit of America Movil, the company controlled by the family of Mexican billionaire Carlos Slim.

Supporters of the measure say it will help crack down on criminals who use unregistered pre-paid phones for kidnapping and extortion calls. The registry's information would be available by request from law enforcement officials.

While over 150 countries around the world maintain cellphone user registries, only about 8% of those also require biometrics, according to global telecoms industry lobby GSMA.

Russia launches satellites for UK telecom

A Soyuz rocket took off from the Vostochny cosmodrome in Russia's Far East, carrying 36 UK telecommunications and internet satellites, the Roscosmos space agency said.

London-headquartered OneWeb is working to complete the construction of a constellation of low Earth orbit satellites providing enhanced broadband and other services to countries around the world.

The company is competing against billionaires Elon Musk and Jeff Bezos in the race to provide fast internet via satellites for the world's remote areas. Images released by Russia's space agency Roscosmos showed the Soyuz rocket taking off against hazy skies Monday April 26 at 7:14 am local time.

"All satellites have been successfully placed in target orbits and have been taken under customer control," Roscosmos said in a statement.

"Mission success!" OneWeb posted on Twitter. The UK company plans for its global commercial internet service to be operational by 2022, supported by some 650 satellites.

Monday's launch was the third batch of its satellites placed into orbit from Russia, with earlier launches from the Vostochny cosmodrome of 36 satellites each taking place in March and in December.

OneWeb's first six satellites were also launched by a Russian-made Soyuz rocket, taking off from the space centre in Kourou in French Guiana in February 2019.

The company launched 68 more from the Baikonur launch site in Kazakhstan in 2020.

Iliad posts disappointing results but steps up 5G spending

French telecommunications group Iliad reported slightly weaker than expected first-quarter revenue growth and said it would revise a key cash flow target as it steps up spending on 5G networks.

The company, controlled by billionaire Xavier Niel, reported like-for-like revenue growth of almost 5% for the first three months of the year, helped by a rise in mobile and broadband subscribers.

However, Credit Suisse and JP Morgan analysts said the figures for its main French market and for Italy were slightly weaker than expected, while Poland was ahead of forecasts.

Iliad said it would review its 2021 cash flow target for France in order to speed up spending on 5G networks in the country, where it launched the cheapest offer of the four main operators late last year.

To help ramp up spending, the Paris-based group said it would sell its 30% stake in On Tower France, which it values at a minimum of 600 million euros (US$731m).

Iliad, which had previously guided for a French operating free cash flow of around 900 million euros this year, said it would give a new target in September, also taking into account a global shortage in semiconductor components.

The company said it expected to turn a profit from its Italian business this quarter - sooner than previously forecast - but delayed the launch of its broadband offer there until after the summer as a result of the Covid-19 pandemic.

In Poland, it said its integration of mobile operator Play - bought in late 2020 - was proceeding ahead of schedule, with 8,000 new customers added over the first three months of 2021.

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China Mobile targets Shanghai Stock Exchange listing

China Mobile, the world's largest mobile operator in terms of subscriber numbers, has approved plans for a potential US$6.06bn listing on the Shanghai Stock Exchange.

As part of that plan, the Chinese state-owned company will issue up to 964.8 million shares or 4.5% of its total issued shares," the operator said in a statement.

According to a local media report, the funds raised from its listing in the A-share market will be used in a series of projects. They include 5G boutique network rollout, artificial intelligence (AI), cloud computing, and next-generation mobile communication technologies such as 6G, involving a total of 56bn yuan (US$8.71bn).

Furthermore, the company said that if the actual funds raised fall short of the amount needed, the company will supply the rest from internal resources or money raised from other sources. The planned share sale in Shanghai may make the nation's largest wireless telecom operator the first red-chip company to trade A-shares on the Chinese stock market's mainboard.

China Mobile's plan to enter the mainland A-share market follows a similar move by Hong Kong-traded rival China Telecom, which said in March that it plans a Shanghai main board offering that could raise US$4bn.

However, both companies are being ejected from the New York Stock Exchange (NYSE) after former US President Donald Trump issued a November executive order barring American funds and investors from owning stock in companies believed by the government to have ties to the Chinese military. The Trump administration had strained relations with China, after the former accused the latter of spying through companies such as tech giant Huawei.

However, China Mobile did not say the Shanghai offering was linked to the US delisting. China Mobile will hold a meeting for shareholders in Hong Kong on June 9 to seek approval for the proposal.

Bahamas considers mobile entrant

The Bahamas is assessing the viability of introducing a third operator to the archipelago's mobile market to compete with current incumbents ALIV and BTC (Bahamas Telecommunications Company).

Watchdog the Utilities Regulation and Competition Authority (URCA) is expected to undertake an evaluation before the end of June 2021.

The electronic communications sector policy in URCA's Draft Annual Plan 2021 states: "the government of the Bahamas will consider whether further liberalisation of the mobile telephone market should be undertaken in the form of a third mobile operator. The policy requires that URCA provide advice and recommendations to the government on this matter, including a feasibility and market analysis to support any recommendations made."

Only one licence was available at the time, with REV beatinf a rival bid from Virgin Mobile Bahamas. Latin American group Digicel dropped out of the race due to concerns over the steep concession requirements

BTC's monopoly over the Bahamian market was finally broken in November 2016 by the launch of ALIV – the mobile unit of Cable Bahamas (REV) which won the country's second licence at auction a year prior.

Only one licence was available at the time, with REV beatinf a rival bid from Virgin Mobile Bahamas. Latin American group Digicel dropped out of the race due to concerns over the steep concession requirements.

Qatar-based telecom giant Ooredoo appoints first female CEO in Oman

Qatar-based telecommunications giant Ooredoo has taken an unusual step and appointed Noor Al-Sulaiti as chief executive officer (CEO) of Ooredoo Oman, making her the first woman appointed to this position in one of the group's main markets.

Al-Sulaiti has been in the telecoms industry for 17 years and recently held the position of CEO of Starlink, one of the group's companies. Prior to that, she was general manager at Phono and FASTtelco in Kuwait.

Noor's experience has equipped her with a deep understanding of the market, products and delivery channels, the company said. As Ooredoo Oman embarks on a new era, Noor is anticipated to steer the next phase of its strategy.

This will be centred on driving the country's digital transformation, nurturing the development of its people and to help realise the goals of Oman's 2040 Vision.

Telecom Italia 'could drop Huawei'

Telecom Italia is considering cancelling a contract with Chinese tech giant Huawei for supplying equipment to build part of the telecom firm's 5G network in Italy.

According to reports, Telecom Italia sent a letter informing Huawei of its intention to withdraw from the deal due to nervousness surrounding security.

The USA has been pressuring countries to ban Huawei equipment, citing security risks. Although Huawei has continuously denied posing a security risk, so far only Britain and Sweden have so far banned the company's equipment in Europe.

Telecom Italia c had initially planned to give the contract to Huawei and Ericsson, but later brought in Nokia to share the contract among the three companies.

Although Italy has not imposed an outright ban on Huawei, under current legislation it can impose strict conditions on 5G deals involving non-EU vendors.

Telecom Italia's move follows a review of its supply policy, including a cost and benefit analysis.

The company had already ruled out Huawei from the core of its 5G network, where sensitive data are processed, by not inviting the Chinese company to a tender last year.

Türk Telekom's net profits more than double in first quarter

Türk Telekom, Turkey's largest telecommunications company, scored US$911.8m in consolidated revenues in the first quarter of 2021, posting an annual increase of 20.4%.

The operator's profits more than doubled to reach US$163.2m despite a currency depreciation, it said. Türk Telekom's investments in the first three months of this year rose by 40% to US$156m. The number of the company's subscribers reached 50.6 million, with an increase of 2.2 million in the last 12 months.

"We have achieved a strong base to revise our expectations for 2021 upwards," Türk Telekom CEO Ümit Önal said. "Under current circumstances, we are expecting a revenue growth of 16%, nearly US$1.8bn in EBITDA [earnings before interest, taxes, depreciation and amortisation] and US$960m of investment spendings."

Türk Telekom's investments in the first three months of this year rose by 40% to US$156m

More than 600,000 Türk Telekom subscribers skipped from the asymmetric digital subscriber line (ADSL) to a fibre broadband subscription package, according to Önal's remarks. Currently, over 27 million households in Turkey connect to the internet via Türk Telekom.

The operator is working with Nokia to develop its 5G network.

Telecom outage disrupts internet in Alaskan capital

Technical problems with Alaska Communications services temporarily knocked out 911 service in Alaska's capital city April 22 and continued to disrupt internet service into the evening.

The Juneau Police Department posted a message on social media that afternoon saying that its phone lines were down because of the problem and anyone with an emergency should call an alternate number instead of 911. The City and Borough of Juneau said shortly before 2:30pm that 911 service had been restored. Local schools were affected, with phones and internet out across the district.

Company spokeswoman Heather Cavanaugh said the operator "identified that the outage is tied to an issue with one of our two subsea fibre optic cables. We are working to reroute traffic as quickly as possible, isolate the issue and restore service. We have crews mobilized and will work around the clock until service is restored."

At the Alaska State Capitol, lawmakers and staff were unable to access information online, causing several committees to cancel afternoon meetings. The Legislature's website was knocked offline for much of the afternoon and had not been restored by 8pm.

The House Finance Committee, considering the state operating budget, was briefly delayed before resuming work at 2:20pm. Lawmakers there continued to work into the evening.

Citymesh wants to be Belgium's fourth MNO

Citymesh is preparing to enter Belgium's mobile market after announcing its intention to apply for the spectrum package set aside by the country's regulator for a potential fourth national mobile operator.

In December 2020, Citymesh was acquired by IT service provider Cegeka, at which time the former that the acquisition would secure it the necessary capital and expertise required to achieve its long-held aspirations of becoming Belgium's fourth mobile network operator.

Now, the company has announced that the new partnership it will be able to secure the required investment of around €100 million in order to apply for reserved spectrum package.

"Citymesh has had the ambition for years to become the fourth telecom operator," said Citymesh CEO Mitch De Geest. "We have found the final pieces of the puzzle; we have national 4G and 5G spectrum, a clear vision and, together with Cegeka, a strong and complete offering to shake up the telecoms market in Belgium."

The spectrum package will give Citymesh access to 700MHz, 900MHz, 1,400MHz, 1,800MHz, and 2,000MHz spectrum, which the company will add to the spectrum in the 2,600MHz and 3,500MHz bands which it already owns. This broad array of spectrum will not only allow Citymesh to provide improved B2B services, but also present a competitive consumer offering.

"We have the great advantage of being able to build our networks from the ground up according to the latest standards," said De Geest. "Thanks to sufficient capacity in the 5G package, we can also use these state-of-the-art 5G networks to realise a unique offering on the consumer market."

Belgium has been seeking a fourth mobile operator since at least 2019, with the market being dominated by Proximus, followed by Orange Belgium and Telenet. A study by the regulator in 2018 had concluded that a fourth national operator could reduce prices.

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Q&A

Simon Fletcher
CTO
Real Wireless

What was your big career break?

I think in terms of establishing my career, my entry to the international technology arena came when I was thrust into the front line of creating the joint venture between NEC and Siemens to create the first global market platform for 3G. For a number of years, it was the market-leading platform for 3G products. It really shaped my philosophy for how projects of similar scale should be approached and how large corporations through strategic collaboration can effectively compete in an early adopters market.

The second break would be when I was invited to be the Chair of the Green Radio Programme, a UK-based research programme tasked with looking at energy efficiency of networks. Around the same time, I headed up the UK delegation to China on a number of occasions to talk to them about energy efficiencies for radio networks. This shaped my view on the importance of sustainability and energy efficiency and how ICT can contribute.

Who was your hero growing up?

I'd have to say Bill Gates. I remember my first experiences with the early personal computers and recognising something that was going to change the way we lived and worked every day. Through my formative years I was always dabbling with computers and playing with programming and MS DOS and windows were emerging and I think that's when the initial spark, pardon the pun, of interest for electronic engineering was lit and, in many ways, that was the defining moment for my career direction. Given that, there's really no doubt that Bill Gates, who for me was the instigator of the personal computer revolution has to be named as my childhood hero.

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

That's a very hard question – I remember people through my career giving good advice, but I think truly good advice is so clear, so logical that it becomes part of your ethos, your whole ethic, rather than something a specific person shared. Many people like to give advice and I think that's a great thing. Giving advice is a way of sharing experience and shows our inherent human nature to want to help others. Advice is usually based on personal experience – good or bad – and giving advice is our way of trying to impart knowledge that we've gained though our lives either through success or failure and wanting others to benefit from it without the trial and error that we ourselves have experienced. My best piece of advice would be to listen to those who give it and consider what they've been through to get to that position of giving advice – that tells you the true value of the wisdom they are trying to share.

If I was to single out an individual, I would have to name Walter Tuttlebee who really brought home to me the concept and importance of open innovation – especially in terms of shaping outcomes of projects and initiatives.

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

Apart from this question... I recall one of my early attendances of MWC and taking part in a technical panel session. During the Q&A after the discussion, I was asked by a journalist what impact the development and adoption of smart cities would have on television and the media – the sectors she was involved in. The discussion panel was focused on the much wider picture; the infrastructure, transportation, connectivity, energy systems and IoT – the broader impact of smart cities on the socio-economic activities, but she was hyper focused on her sector, her role, her industry. It was a bizarre moment when I was in front of an engaged and switched on audience, being quizzed by someone who effectively wanted to explain how this big, far-reaching topic, would impact her role. I think the rest of the panel was quite pleased that her question had been fielded by me and not themselves and wonder to this day if she had attended the session from the very start or just come in for the Q&A at the end.

If you could live anywhere, where would it be?

I've been fortunate to travel a lot through my life and career, and two places have always resonated – Norway, where my wife has family, and Japan, where I have visited many times for work. While they are very different cultures on the surface, there are distinct similarities in terms of the friendliness and welcome that both give to visitors. They also both have strong records for their use of renewable energy, which is something that is close to my heart. In my career, I've always been aware that the communications and technology that are my work has the potential to help build a more sustainable energy future and this is something I'm keen to explore further in the years to come.

What would you do with US$1m?

Obviously and predictably, the first thing would be to pay off the mortgage, but after that I think I'd want to look at investing. The UK has a fantastic history of entrepreneurial inventors and small companies in the start-up space can go a long way with some initial seed investment. That type of Angel investment has always appealed and being able to play a role, however small in start-ups that could be the next big thing is something that appeals.

Which law would you most like to change?

I think with reference to my work for Real Wireless, there is a need to simplify and update the planning restrictions on the height and location of masts and infrastructure. It's all moving in the right direction, but there's certainly more that can be done to assist deployment.

On the bigger picture side of things, I hold the sustainability and ESG agenda in the corporate space close to my heart. Establishing regulations around corporate entities to make ESG more than just an extended CSR policy would be something I would like to see. It would really help drive business and industry towards a more sustainable future. The sector is certainly ripe for more effective governance and incentivisation.

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

I would have to say financial services and investment banking. It may not be an obvious choice, but it's probably influenced by my father who worked as a banker loaning to new start and established businesses, so I was exposed to that sector from an early age. Looking back, I clearly decided to rebel against that direction and pursued my career interests in electronic engineering.

In an ideal world, maybe venture capital investment would be my alternative choice...and maybe when I have that million dollars from the earlier question that could still be an option! While others may wish they'd pursued a career in medicine or politics, I think my alternative career may well have seen me following in my father's footsteps more closely.

What's your career highlight?

As I mentioned earlier, I was part of the team working on the spec and integration management for the first jointly developed 3G base station. The pinnacle of that was being present in the lab for the switch on and testing of the first base station. It was jointly developed by NEC and Siemens, and the atmosphere in that lab as it was switched on was something I will never forget.

I'm also very much enjoying taking part in the UK5G Advisory Board working in a committee that is focussed on helping the UK benefit from 5G. Working as co-chair of the International working group gives a unique opportunity to consider the UK role on an international stage. ■

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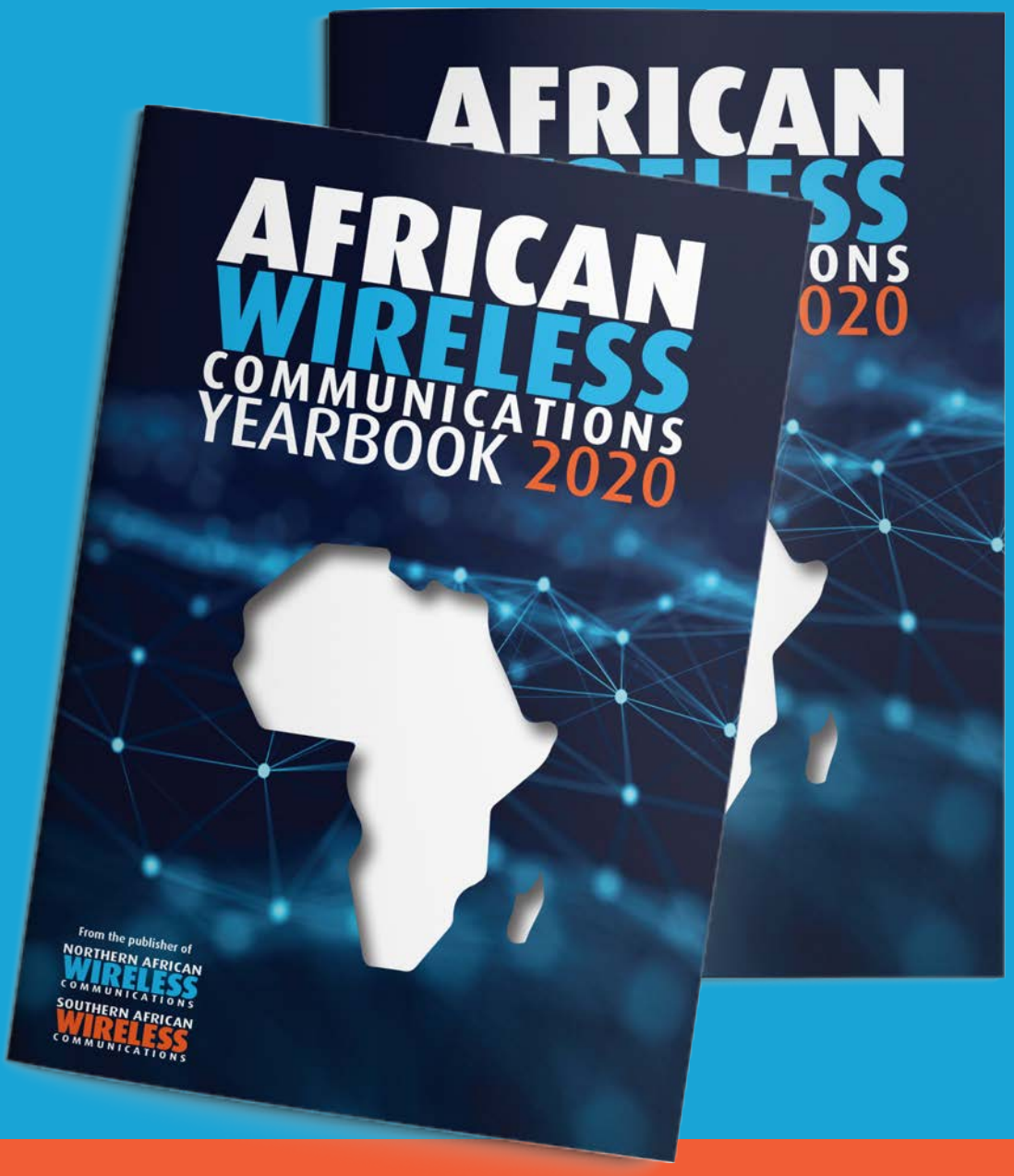

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