For communications professionals in northern Africa

NORTHERN AFRICAN WIRELESS COMMUNICATIONS

AUGUST/SEPTEMBER 2019 Volume 18 Number 4

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CONTENTS

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Egypt to start work on US$2.4bn network for new capital city

The Egyptian communications ministry has started work on a E£40bn (US$2.44bn) telecom network as part of the first phase of a new capital city being built east of Cairo, according to reports.

It signed a cooperation agreement with the Administrative Capital for Urban Development (ACUD) – the new capital's owner and developer – to begin working on the network over a six-month period. ACUD is providing funding for it.

Known as the New Administrative Capital, the new city is eventually expected to cover around 700 square km. The first phase, covering about 168 square km will have ministries, residential neighbourhoods, a diplomatic quarter and a financial district.

Although the providers of the new network have not been confirmed, government-controlled Telecom Egypt is widely-tipped to be involved, having been in other recent telecom and cloud infrastructure announcements in the country.

In March this year, US giant Microsoft and Telecom Egypt said they were collaborating to extend the former's cloud network in Egypt.

The latter said it was providing low-latency connectivity into and across the northeast African nation to help improve, increase and enhance performance for Microsoft customers.

The New Administrative Capital will eventually replace Cairo (pictured) as the capital city of Egypt

In December 2018, Liquid Telecom said it would invest US$400m in Egypt over three years as part of a major partnership with Telecom Egypt, which will include network infrastructure and data centres.

MainOne gives timings for submarine cable systems

MainOne has confirmed the scheduled landing of its submarine cable systems in Senegal and Cote d'Ivoire in September and October 2019 respectively.

With the cable landing stations (CLS) in both nations ready for installation of equipment in both Dakar and Abidjan, the company is poised to undertake the physical connection of the branching units on its 7000km-long omnibus fibre pair to the shore and terminal equipment.

The MainOne submarine cable is being installed by the Orange Marine specialised Pierre de Fermat vessel, which has arrived in Dakar, having picked up the fibre and ancillary equipment, including repeaters from Brest, France in early September. It will proceed to Abidjan to conclude the laying and final splice in the month of October, ready for service and commercial launch of the system scheduled for November 2019.

"MainOne is committed to leading the digital transformation across west Africa, driving economic growth and development by enabling and empowering the ecosystem through affordable and ubiquitous connectivity," said the chief executive officer (CEO) of MainOne, Funke Opeke. "We are determined ultimately to improve the digital services of the region and today marks the realisation of that journey for Senegal with the landing of the Submarine cable which will drive substantial impact on both GDP and employment."

CEO of Orange Middle East and Africa, Alioune Ndiaye added: "Africa is experiencing a rapid technological evolution with mobile broadband connectivity enabling a tech ecosystem. Orange, as part of its multi-service strategy, is an important partner in the continent's digital transformation as demonstrated by our continuous investment."

Ndiaye said that through the partnership with MainOne, "we expect to see improved high speed and affordable broadband services in Senegal and Côte d'Ivoire that will reinforce connectivity and guarantee reliable access to global broadband networks".

MainOne's submarine cable in 2010 became the first private subsea cable to deliver open-access, broadband capacity to west Africa, heralding the advent of high speed fibre-optic broadband in the region.

ATS selects Hughes Jupiter System

Algérie Telecom Satellite (ATS) has selected the Hughes Jupiter System to provide satellite broadband services to small-to-medium enterprises (SME) and home users.

ATS wants to develop and promote satellite telecommunications throughout Algeria, the largest country in Africa by land mass. It will launch satellite tnternet services employing the Jupiter System, including a hub and thousands of user terminals.

"To connect people throughout Algeria with satellite broadband service, we need a satellite platform that can deliver high performance and efficiency, with the right economics," said Yassine Sellahi, chief executive officer, ATS. "We chose the Hughes Jupiter System for these reasons, and also for its scalability as we look to grow our satellite Internet business and extend connectivity everywhere."

Ramesh Ramaswamy, senior vice president and general manager, international division, Hughes said the firm's strategy globally is "to connect the unconnected by delivering services directly where we operate the business" and working with selected partners like ATS in places where it does not.

"We appreciate the opportunity to help ATS launch service throughout Algeria and to bring the benefits of high-speed Internet access to the many that are unserved or underserved by terrestrial providers," Ramaswamy added.

Ramesh Ramaswamy, senior vice president and general manager, international division, Hughes
PHOTO: HUGHES

The Jupiter System is the next-generation very small aperture terminal (VSAT) platform from Hughes for broadband services over both high-throughput and conventional satellites. It supports applications such as community Wi-Fi hotspots, cellular backhaul and in-flight connectivity services, as well as broadband internet access.

Safaricom pledges support for green growth, the poor and inclusivity

Safaricom will invest more in programmes and initiatives that advance climate resilience, poverty eradication and inclusivity, according to senior executives at Kenya's largest telecom firm.

Speaking at the launch of the 8th edition of Safaricom's sustainability report, chairman Nicholas Nganga, said the firm will leverage on its large network coverage, products and innovations to support Kenya's sustainability agenda.

"We continue to frame sustainability as a business response to the challenges we face as a society, as well as a central facet of our purpose to transform lives," said Nganga.

The report, called Towards reducing inequalities highlights the innovative measures the publicly-listed firm has adopted to promote equity, diversity and inclusion in its supply chains.

Nganga added that Safaricom has already deployed additional resources to advance environmental stewardship, gender parity, inclusive growth, transparency and good governance.

"We have deployed a more advanced approach to our sustainability agenda in 2019, by focusing on activities aimed at reducing inequalities, as envisioned by sustainable development goal 10," he said.

This year's edition of Safaricom's sustainability report indicated the company has created about 979,000 direct and indirect jobs through its flagship services like mobile banking.

Stephen Chege, chief corporate affairs officer at Safaricom, said the company has adopted sustainable practice aimed at improving the socio-economic welfare of communities and their ecosystems.

"Our business continues to contribute towards successfully improving the quality of life for Kenyans across the country, creating sustainable livelihoods and delivering a wide range of products, services and initiatives that support businesses and families," he added.

Meanwhile, Sanda Ojiambo, head of corporate responsibility at Safaricom said the company has leveraged on its competitive edge in innovations to promote sustainable farming, climate adaptation and entrepreneurship in Kenya.

"We have taken proactive steps to help reduce inequalities, promote governance and sustainable livelihoods," said Ojiambo, who added that Safaricom has adopted robust measures to reduce carbon foot print across its core operations.

Telecom Egypt has no short-term plans for EGX

Telecom Egypt has announced that it has no plan to offer an additional stake on the Egyptian Exchange (EGX) in the short-term.

The company added in a filing to EGX that the major shareholder in the Egyptian telecom operator said that listing an additional stake is still being considered. It said it is currently working on several operating axes which will reflect the fair value of the share price.

Telecom Egypt said its current structure is based on five main business units, which are broadly divided into two sectors: the retail customer services business and the wholesale customer services business.

It recorded profits of E£2.133 billion during the first half of 2019, compared to E£2.061bn in the same half of 2018.

Telecom Egypt is the largest fixed-line provider in the country with subsidiaries operating across western Europe, Northern Africa and the Middle East.

The Egyptian Exchange (EGX) is Egypt's national stock exchange

Libyan civil war crippled telecom sector, says report

Libya's civil war has seriously crippled the country's economy and disrupted its telecom industry, according to a new report.

Libya – Telecoms, Mobile and Broadband – Statistics and Analyses 2019, conducted by Research and Markets found that much of the telecom infrastructure has been destroyed or stolen, including about a quarter of the country's mobile tower sites.

"Reconstruction efforts continue to be stymied by political and military disturbances which affect much of the country, while with two opposing administrations, in Tripoli and Tobruk, there is no consensus as to how to rebuild infrastructure on a national scale despite attempts to reach a political solution."

It further found that "due to these difficulties and of heightened national security issues", telecom services have been regularly disrupted, particularly in the eastern region of the country.

"In June 2017 mobile and landline services were restored in Sirte after having been disconnected by Islamic State (a group ejected from the city after a two-year occupation)," the report continued. "As a security measure, the main mobile network provider Libyana in July 2017 disconnected SIM cards owned by foreigners, on the basis that criminals and radical groups had been using the company's network for their activities. Reregistering a SIM card now requires proof of ID."

The report found that much of the telecom infrastructure has been destroyed or stolen, including about a quarter of the country's mobile tower sites

A new Telecommunications Law has been drafted and the Libyan government is in the process of establishing an independent regulatory authority. Since the downfall of Colonel Muammar Gaddafi and the old regime during the Libyan Civil War in 2011, 25 ISPs have already been licensed to compete with the government-owned former monopoly, as well as 23 VSAT operators.

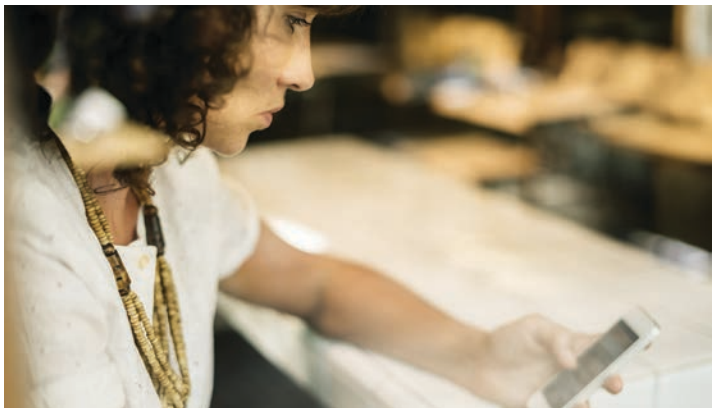
Africa mobile market down 1.8% but Nigeria remains largest

The African mobile phone market droped 1.8% quarter-on-quarter in Q2 2019, according to the latest figures from global technology research and consulting firm International Data Corporation (IDC).

Its *Quarterly Mobile Phone Tracker* report found that overall shipments for the quarter totalled 52.2 million units, down from 53.1 million units in Q1 2019. Feature phones accounted for 58.3% of the market, with shipments declining 3.7% quarter-on-quarter, while smartphone shipments increased 1.0% over the same period to account for 41.7% share.

"Feature phones remain an integral part of the African mobile phone market due to poor network infrastructure across large parts of the continent, particularly in rural areas, and the ease of use of these devices," said George Mbuthia, a research analyst at IDC. "However, the transition to smartphones is continuing, albeit slowly and the affordability of feature phones alone was not enough to stop this segment of the market declining in Q2 2019. Smartphones, on the other hand, enjoyed a recovery from the decline in shipments seen in Q1 2019."

Nigeria remained Africa's largest smartphone market in Q2 2019,



According to the report, overall shipments for the quarter totalled 52.2 million units, down from 53.1 million units in Q1 2019

followed by South Africa and Egypt. The first two saw smartphone shipments increase 3.6% and 0.2%, respectively, while Egypt saw 18.0% quarter-on-quarter growth after the market shrunk considerably in Q1 2019 due to the introduction of import registration and other import regulations.

Transsion (Tecno, Infinix, and Itel brands), Samsung, and Huawei were the smartphone market's leaders in shipment terms in Q2 2019, with market shares of 37.4%, 27.4% and 8.7% respectively. However, Samsung had the highest share by dollar value at 40.3%, followed by Transsion (21.9%) and Huawei (12.2%). Samsung's dominant revenue position in the market is sustained through timely product launches across all African markets, particularly in relation to its A-Series devices, which are shipped in large volumes.

Shipments of 4G-enabled smartphones increased 6.6% quarter-on-quarter in Q2 2019 to account for 70.8% of the total smartphone market, encouraged by the declining prices of LTE devices. IDC forecasts that 4G-enabled phones will make up 74.4% of the African smartphone market by the end of next year, with 5G phones expected to secure 0.4% share.

Kenya accused of blowing up 12th station

Somalia's Hormuud Telecom has accused Kenya of repeatedly targeting its relay stations along or near the border.

In a press statement, the accused Kenyan troops rigged powerful explosives on the 12th Hormuud station at around midnight on August 22nd, completely destroying the station - tower, generators and building and all – in violation of international law.

The statement further noted that in one of the earlier raids on the part of the Kenyan forces, lives were lost beside incalculable properties.

"These unlawful actions of the Kenyan troops and those leading their operational effort are now committing war crimes and will tarnish the efforts of the international community to stabilize Somalia," Hormuud said.

The company also highlighted the "devastating effect" the blasts left on dependents of the service.

"The destruction has disrupted all Hormuud Telecom services, disconnecting up to 4000 people from the rest of the country, and putting all economic activities on hold due to the disruption on mobile communication and EVC Mobile Money, which is a crucial lifeline to the vulnerable Somali communities in the rural areas," the statement said.

Hormuud also made urgent appeals to the Somalia federal government, the UN, the AU, human rights organisations and other international partners to quickly and expediently look into the matter and take necessary measures to "prevent more of these attacks and hold the Kenyan government accountable for their barbaric attacks".

VAS revenue in Nigeria down 74% in two years

Value Added Services (VAS) in Nigeria's telecom industry shrunk by 74% in two years as subscribers continued to opt-out of unsolicited messages through the 'Do Not Disturb' option.

Stakeholders in the sector made the admission at the 2019 Nigeria VAS stakeholder's forum organised by the Nigerian Communications Commission (NCC) in Lagos.

According to the VAS providers, the industry valued at NGN300bn in 2017 now generates only NGN79bn per annum.

Speaking to media at the event, the director, technical standards and network integrity at NCC, Bako Wakil, said the reason DND was introduced was not to bring down the VAS market, but to protect the interests of customers.

He added that if the industry joined forces to provide a solution to the DND issues, the commission would examine the solution proffered and see if it is acceptable.

The NCC said it had introduced the 2442 Do-Not-Disturb code activation for subscribers who did not wish to receive unsolicited text messages. A toll-free line was provided for consumers to report issues related to unsolicited messages and data renewals, among others.

"Two years ago, the industry was over NGN300bn but the figure we got today showed that the industry is about NGN79bn and it is declining and this is because of the introduction of DND," Wakil said. "The intention is not to bring down the market or the performance of the sector but as a regulator, we considered the consumers, with the kind of money they are losing without their consent."

He added that industry as a whole must address the needs of the consumers even though that has affected the investment in that sector. "If we get any solution that will take into cognisance the concerns of the consumers, we will look into it and implement it so that the sector will bounce back to its former glory," Wakil said.

Huawei and Close the Gap to help train remote communities

Chinese tech giant Huawei has partnered with Belgium non-profit organisation Close the Gap to provide digital skills training to rural and remote communities in Kenya.

Unveiled during ITU Telecom World 2019, Huawei's DigiTruck is a mobile digital classroom and Huawei's latest effort at driving its digital inclusion initiative Tech4ALL.

A statement issued by Huawei referred to the World Bank's latest report which points out that southern Africa's demand for digital skills in 2030 is as high as 230 million people, which is in stark contrast to the current and prevailing lack of digital skills in the continent as a whole.

"In Kenya, for example, despite being the ICT hub in Africa, internet users account for less than 50% of the total population, not only because more than 75% of the population live in remote areas, lacking stable power supply, but also because many people do not realise the real value of digital skills, who have never been exposed to smartphones or used the internet," the company said.

Huawei said its DigiTruck is designed to deliver digital skills to remote homes through mobile digital classrooms converted from truck containers. It is equipped with wireless broadband enabled by fixed wireless access, laptops and smart phones enabling internet skills to be taught aboard and incorporating VR content in digital education. It also has solar panels and batteries capable of powering it, so it can reach remote rural villages without electricity.

"For over 15 years, Close the Gap has been bridging the digital divide in developing countries by providing high quality refurbished ICT-devices to more than 5700 projects with a social impact," said Olivier Vanden Eynde, founder and chief executive officer of Close the Gap. "With the different DigiTrucks we have been able to reach even the most isolated communities that have little or no access to ICT, also bring quality training and education to these areas. With the support of Huawei, Close the Gap is honoured to coordinate a new DigiTruck-project in Kenya and make a positive impact on the lives of Kenyans."

Huawei says a total of 7,000 teachers and community members are expected to be trained within the first year of implementation

PHOTO: HUAWEI

According to Huawei, a total of 7,000 teachers and community members are expected to be trained on digital literacy, entrepreneurship, and online job opportunities within the first year of implementation.

AT introduces new service

Algérie Télécom (AT) has launched a new fixed telephone and internet service for its new residential customers.

In a statement, the government-run operator said: "Idoom 4G LTE DATA + VoLTE offers the opportunity to enjoy 30 GB of connection, unlimited free calls to landline and Volte." It added that the offer also includes a modem, all valid for 30 days for 4,500 Algerian Dinars.

In addition, "after the initial volume is exhausted", the customer benefits from a connection with a reduced speed up to 512Kbps.

"Through this new offer, Algérie Télécom confirms its commitment to serve its customers, to be attentive to their expectations and above all, to meet their needs, in terms of volume and speed of connectivity," the statement read.

The company has invited customers to visit its website: *algerietelecom.dz* or to contact web advisers on the Algérie Télécom Facebook page: *facebook.com/algerietelecomgroupe*.

Inwi launches mobile money service

Moroccan operator Inwi, a subsidiary of the group SNI and the Kuwaiti group Zain, has launched its "Inwi money" mobile money service, which utilises "Mobiquity Money", the digital money platform from Comviva.

It allows consumers to perform multiple financial transactions including person-to-person money transfer, airtime purchase, plus bill and merchant payments.

The company said consumers can access the service using any smartphone by downloading the 'Inwi money' app or alternatively resort to the USSD menu. Once downloaded, consumers then need to register – the service facilitates multiple levels of registrations ranging from self-registration to agents supported registration. The Inwi money service is currently available in both French and Arabic.

Inwi money allows consumers to perform multiple financial transactions including person-to-person money transfer, airtime purchase, plus bill and merchant payments

Key features include: the ability to instantly send money to other members of the Inwi money community, request money, recharge the mobile subscription balance and pay mobile subscription bill.

"We are delighted to offer Inwi money service which is powered by Comviva's mobiquity Money platform," said says Nicolas Levi, chief executive officer of Inwi money. "As it did in various countries, mobile money service aimed at simplifying and enhancing the lives of millions of Moroccans by providing them easy, fast and more convenient digital financial services."

Ghassane El Machrafi, chairman added: "By digitising money transfers and payments we participate to accelerate financial inclusion and to contribute towards the economic development of the country."

Facebook introduces initiative in a bid to 'Boost' Kenyan SMEs

Facebook has launched the Boost with Facebook scheme to provide SMEs in Kenya with digital tools to expand their business.

The US social media platform has partnered with Wylde International to train 3,000 SMEs in Nairobi, Kisumu, Nakuru and Mombasa to attract new customers. Training is free and open to SMEs through four to five-hour workshops – the first one was held the week of September 23rd in Nairobi.

Mercy Ndegwa, Facebook's head of public policy for east Africa, said Boost with Facebook will provide skills development for SMEs so they can thrive in a digital economy. The service also works as a website that houses and organises services, resources, and training available to SMEs, job seekers and community leaders via Facebook apps and services.

The launch of Boost with Facebook in Kenya comes on the back of similar schemes in South Africa, Nigeria, Cote d'Ivoire, Senegal, Cameroon, DRC, Benin and Guinea Conakry.

Broadbased and Dolphin sign pact

Broadbased Communications, an open access metropolitan fibre-optic network operator, has penned a memorandum of understanding (MoU with Dolphin Telecom, the operator of the African Coast to Europe submarine cable landing station in Nigeria.

Under the terms of the deal, Broadbased will provide last mile metropolitan fibre optic network connectivity on a wholesale basis to Dolphin Telecom's clients including mobile telecom operators and internet service providers (ISPs) in Nigeria, a statement said.

The ACE submarine cable system managed by a consortium of 19 telecom operators from Africa and Europe is being upgraded to 100G technology, which would increase its design capacity from 5.12 tera bytes per second to 12.8tbps.

It is supported by wavelength division multiplexing technology to accommodate future ultra-broadband networks.

Broadbased operates a non-compete, non-discriminatory, open access Metropolitan fibre optic network spanning over 3,500km of transmission, distribution and in-premise in all the major business districts in Nigeria's largest city, Lagos.

The company's managing director and chief executive officer Henry Iseghohi said that the MoU was a testament to the company's dedication to the open access, non-compete model, robust network architecture and the dedication of his staff.

Kenyans not bothered about data security

Kenyans are the least concerned about the security of personal data posted on internet, according to a global survey, which suggests they could be an easy target for cyber criminals.

An inaugural report by the United Nations Conference on Trade and Development (UNCTAD), the Digital Economy Report 2019, found that only 44% of internet users in the east African nation are concerned about their privacy online, compared to over 90% in Egypt and Nigeria.

This is the lowest level in the world according to the report and ranks poorly against the global average of eight in every 10 users.

"While there appears to be increasing concerns about data privacy and online security around the world, there is somewhat a 'data privacy paradox', as users continue to give away personal data and thus their privacy in exchange for different services. The lowest level of concern was noted in Kenya at 44%," said the report.

The report found that only 44% of internet users in Kenya are concerned about their privacy online, compared to over 90% in Egypt and Nigeria

Kenya does not have a data protection law, something that has made citizens suspicious of the government's data collection efforts, such as recent biometric (Huduma Namba) registration and national census.

UNCTAD' said its conclusion is based on findings of the 2019 Global Survey on Internet Security and Trust on 25,229 internet users selected from 25 countries around the world between December 21st, 2018 and February 10th, 2019.

GIFEC looks to avert emissions fears

The Ghana Investment Fund for Electronic Communications (GIFEC) has organised a forum on electromagnetic fields exposure in a bid to assuage public fear on emissions from masts, towers and mobile phones.

Taking place in Lawra, a small town in the upper west region of north Ghana, the forum was set up to address concerns about health consequences of radiation from telecom equipment, which triggered a temporary ban on erection of masts by the Ministry of Environment, Science and Technology.

It prompted GIFEC to launch a nationwide education forum to educate the public on electromagnetic fields exposure and its impact on health.

Speaking at a workshop in the Lawra Municipality, Abraham Kofi Asante, administrator of GIFEC said, "Since this discourse had not, and probably would not decrease in the foreseeable future, it has become extremely necessary to share more information about electromagnetic fields."

The Ministry of Communications commenced the educational workshops in 2010 to raise public awareness on the matter, which Asante said the forum would help ease public concerns on.

"It is my hope that at the end of the workshop, issues that have created barriers and opposition to the deployment of the networks such as the perceived health effects of radio frequency radiation, and laws and guidelines for regulating communications masts shall be addressed," he added. "By addressing these concerns comprehensively. We believe that the fears that have been created in the communities and among our people would be minimised, if not totally eradicated."

There were presentations by experts from Ghana Atomic Energy Commission (GAEC),Environmental Protection Agency (EPA), Ghana Telecom Chamber and the National Communications Authority (NCA).

NEC XON & INCELL sign co-op deal

NEC XON has partnered with INCELL International to use its smart lithium technology to serve wireless and tower communications operators, macro and small cell sites plus the commercial and industrial sectors specifically with off-grid, micro-grid and backup solutions.

The latter is known for developing some of the world's most advanced lithium batteries to provide backup power for telecoms sites and employs engineering controls to successfully make lithium solutions that are safe for robust industrial-commercial applications.

"INCELL's smart lithium batteries use half the space of lead acid batteries, weigh a quarter, and provide five times the energy density. These smart lithium cells also have a much longer service life, especially in cyclic environments," said Magnus Coetzee, MD of NEC XON's alternative energy division. "They're designed for indoor and outdoor use, so you can literally disconnect lead acid batteries, connect these, and walk away."

Coetzee added that there is low electrical energy penetration across vast tracts of Africa.

"This partnership will help us take energy opportunities to previously neglected areas, coupled with renewable technologies such as solar and wind," he said.

Stefan Jansson, chief executive officer at INCELL International added: "NEC XON has a very strong presence in Africa. Our technologies meet some of the industry's greatest challenges on the continent, such as the need for a small footprint, lower total cost of ownership (TCO), anti-theft, automatic reconnect and ease of use."

Jansson and Coetzee said the partnership will support the needs of the market in replacing lead acid batteries, which have comparatively short lifecycles at just a couple of years, compared with greater than 10 years for INCELL smart lithium batteries in field tests. INCELL's product portfolio covers the range from 30 to 250Ah, including 19"- and 23"-wide products and pole-mounted versions ideally suited to 5G rollouts, among others.

Egypt and Libya suffer news sites and social media downtime

Egyptians and Libyans experienced internet disruptions in late September, with service interruptions that appeared to target news sites and social media messaging.

NetBlocks.org, an organisation that tracks shutdowns and disruptions across the globe, reported that BBC News and other news sites were unavailable in Egypt, while some Facebook services also were blocked. This happened during the protests against president Abdul Fattah al-Sisi.

"Technical measurements show that the social media and messaging platforms became unavailable on Telecom Egypt and Raya on Sunday, amid heightened political tensions following the publication of videos alleging state corruption," said NetBlocks. "Egypt has seen some of its first political demonstrations in years after the political videos went viral on social media."

NetBlocks said its data confirmed widespread reports from users who said they were having difficulty accessing Facebook Messenger and other services.

"The new instances of network filtering are likely to impact media freedom and the rights to free assembly and association at a time when dissent is already limited in Egypt," the organization said.

NetBlocks.org reported that BBC News and other news sites were unavailable in Egypt

Meanwhile, in neighbouring Libya a spokesman for the International Telecommunications Company in Tripoli said Facebook went down due to a malfunction of the international provider.

Likewise, an official at the Libya Telecom and Technology (LTT) told reporters that Facebook had not been blocked but encountered a technical error and said the company had contacted the international provider to solve the issue.

The company added in a statement that engineers were trying to reach the power stations to provide them with the needed fuel to reactivate them and solve the problem.

Meanwhile, the Democracy and Human Rights Foundation condemned the policies of the Libyan government and called upon the free world to support the country's people.

"Blocking Facebook and imposing other fascist measures by the Libyan Government of National Accord is an affront to freedom, democracy, and human rights," it said.

Global pays its dues to Egyptian taxman

Global Telecom has paid the second instalment of the tax settlement amounting to US$82.3 million.

An agreement between the ETA and Amsterdam-based Global Telecom was signed in June to settle the tax dispute between the company and its subsidiaries and the former.

The agreement stipulates that Global Telecom will pay its tax dues as well as its subsidiaries' dues to the public treasury until December 31st, 2018, amounting to a total of US$136 million in two instalments. The first one is worth US$53.7m and was paid with the signing of the agreement, while the second is worth US$82.3m and was paid Monday, September 9th.

Head of the Egyptian Tax Authority (ETA), Abdel Azim Hussein, said that minister of finance Mohamed Ma'it emphasised the need to resolve this tax dispute amicably, to highlight the Egyptian state's keenness to resolve disputes with companies operating in the country agreeably, while preserving the public treasury rights.

The listing committee of the Egyptian Exchange (EGX) approved on September 9th the final delisting of Global Telecom Holding's shares, represented in seven issues, from the Egyptian securities list, in light of the company's commitment to the provisions of the optional deletion.

On September 5th, the EGX announced that Global Telecom Holding (GTH) purchased the shares of the shareholders affected by the voluntary delisting for £E167.4m. The deal was executed through 32.9 million shares, at £E5.08 per share, according to the statement.

Earlier, the extraordinary general assembly of Global Telecom Holding (GTH) approved voluntary delisting from EGX during a meeting, announcing that the company will buy back shareholders' shares at LE5.08 per share.

The company has 116 subsidiaries operating in Africa and around the world.

Safaricom boosted by Neon sales

Safaricom in Kenya has sold over 600,000 units of its sub US$50 Neon smartphone since April 2019, the company said. It has been positioned to address a new and increasing market segment based on the migration from feature phones to low-cost smartphones. "We introduced the Neon Smartphone range to cater to customers seeking quality and reliable smartphones at an affordable price," said Michael Joseph, the interim chief executive officer at Safaricom.

Airline debuts inflight Wi-Fi

Ethiopia Airlines, Africa's biggest and most profitable national carrier, has introduced inflight Wi-Fi for its customers. The airline on social media that it had launched the service which will start with its A350 fleets and that the service will use the latest broadband satellite technology (Ka-band). "With the state-of-the-art broadband satellite technology, passengers can now enjoy reliable connectivity while flying over the clouds," the Airline said.

Burkina Faso hindered by regulations

The telecom sector in Burkina Faso continues to be hindered by slow regulatory procedures and insufficient mobile spectrum, according to a report by Research & Markets. It said the west African country's issues are compounded by the poor state of fixed-line networks. which has held back the development of fixed-line internet services. This means the nation's fixed-line services are, proportionally, some of the world's most expensive.

Talking satellite

Martin Jarrold, chief of international programme development, GVF

GVF... in Conference:
Satellite "Ascendancy" Compared

I should begin this latest column by explaining my choice of sub-title. It is not meant to be a pun on the ascent to orbit of satellites atop launch vehicles. I am not intending to explore launcher flight dynamics, or to extoll the virtues of particular launch site locations over others (though, of course, equatorial launches are the most advantageous for several reasons, including that satellites intended to attain geostationary orbit, e.g., communication satellites, must have zero inclination with respect to the equatorial plane). Rather, my reference is to one of my earlier articles in this publication, in which I made observations on the growth of satellite in Africa – for example, satellite programmes, mainly, but not only, in the earth observation 'smallsat' arena, recently introduced or announced by such countries as (alphabetically listed) Algeria, Angola, Egypt, Ethiopia, Ghana, Kenya, Mauritius, Morocco, Nigeria, South Africa, and Tunisia – and my use of the word "comparative" refers to a panel discussion session that is now in preparation by GVF (and its partner organisation C21 Communications) as part of a conference on high throughput satellites we will hold in London at the beginning of December.

That panel session is entitled 'Starship UK' and it will look at the United Kingdom as a global leader in space-related innovation at a period of critical and accelerated development in... NewSpace*. The UK does, of course, have a long history of major contribution to space industries and space activities – early launcher development (where Britain was ahead of everyone else for some time); building satellites for scientific, military, as well as communication applications; astronauts on the International Space Station; to name only three – but NewSpace* is different. Like the African nations listed above, only on a significantly greater scale, Britain is becoming a regional space power, edging towards "front-runner" status in the Earth observation (and IoT) 'smallsats' environment.

The 2nd December conference, titled as the HTS Roundtable – GEOs, MEOs, LEOs: Enabling a Brave New World, will also address themes covering the HTS satellite operators already operating/planning to operate in GEO, MEO & LEO; the new paradigms of a multi-orbit future for the service providers and value-added resellers (VARS); and, ground segment network architecture innovations.

I've written here before about the importance of HTS for bridging Africa's digital divide and for achieving universal access to broadband. According to the Paris, France-based consultancy, Euroconsult, analysis of figures for 2017 and forecasts for 2027 shows that satellite's imperative contribution to backhaul for cellular/mobile networks will result in a four-fold increase in demand for in-orbit satellite bandwidth that is dedicated to cellular networks (2017 = 68GHz; 2027 = 269GHz), resulting in a multiple of x1.8 in satellite operator revenues from backhaul (2017 = US$1.4B; 2027 = US$2.5B). The differential multiple of these growth factors is a reflection of the effect of increased in-orbit (HTS) capacity on bandwidth capacity pricing.

Northern Sky Research (NSR), the Cambridge, MA, USA-based research and consulting firm, has found an average global decline in satellite capacity pricing of 18 per cent from 2018 to 2019 and estimates a further decline across 2019-2020. Though this figure is a global average and does not focus on the specific situation for the African continent, it is very firmly indicative of a general trend across all regions.

The continued evolution of HTS – from traditional GEO spacecraft (with throughput below 1Gbps) through to very high throughput satellites (VHTS, with GEO spacecraft throughput up to 1,000Gbps, or 1Tbps, and with next generation MEOs and LEO mega-constellations also in the mix), post-2020 – is, according to Euroconsult, re-shaping space segment costs. There is a clear pattern of significant decline in CAPEX per Gbps. Traditional GEO satellites had a CAPEX per Gbps of greater than US$60 million. With early HTS spacecraft the CAPEX per Gbps figure had dropped to just more than US$7 million. The figure has continued to drop through successive generations of HTS, and with VHTS capacities of 500Gbps to 1Tbps expected soon, the CAPEX per Gbps is forecast to reach almost as low as US$0.7 million.

But it's not just all about in-orbit capacity prices and reduced cost per bit. Other factors contribute to service pricing for the user – in the case of backhaul, the Mobile Network Operators (MNOs). Ground equipment efficiency has greatly increased since the introduction of Adaptive Coding & Modulation (ACM), and Forward Error Correction (FEC) technologies, resulting in satellite payloads optimising their spectral efficiency, thus reducing bandwidth prices. Additionally, more providers entering the market has, unsurprisingly, had the effect of introducing downward price pressures.

The HTS Roundtable is not the next event on the GVF-C21 schedule. October 29th will see the return of AeroConnect – The Inflight Online Revolution at 35,000 feet. This conference dialogue will also reference evolution in the HTS ecosystem; evolution that will help facilitate the significant growth in aero connectivity that is forecast.

According to Euroconsult, the total of connected aircraft in 2017 stood at just 4,772; this number is forecast to rise to 27,919 by 2027. Over this decade aero connectivity demand for bandwidth is expected increase 20-fold (from 9GHz to 181GHz) and provider revenues are projected to increase 8-fold (from US$317million to US$2.5billion).

Bringing aero connectivity to the world's commercial air routes will certainly impact services flying between (some of) Africa's national capitals and non-African cities (in Europe, North America, China?) before it impacts international services within the continent, or national domestic services. However, with the anticipated accelerated growth in on-orbit high throughput capacity from, for example, the launching of the many mega-LEOs currently in development, and the practical roll-out of various emerging innovations in electronically steerable flat panel antenna technologies – fostering new and much cheaper terminal designs and reducing connectivity costs for the airlines – even more aircraft will become connected.

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Liberian regulator intervenes in row

The Liberia Telecommunications Authority (LTA) has waded into an ongoing price war between Orange and LonestarCell MTN, which dates back to 2012 with the former owner of Orange, Cellcom GSM.

Prior to the watchdog's intervention, the operators introduced campaigns offering subscribers three-day unlimited calls for US$1.

"The predatory price wars have stifled the growth of the sector and has led to a significant drop in revenues collected by the government that could be used to provide social services, among others," the LTA said.

Both operators also came under fire because their anti-competitive behaviour has resulted in market instability.

According to official figures released, between 2014 and 2017 the market lost US$49m to price competition after gross revenue dropped from US$150 in 2014 to US$101m in 2017.

"The LTA measure is in response to call for intervention by MNOs to stop predatory pricing wars which has stifled the sector growth and plummeted revenue significantly," said LTA chairman Ivan Brown. "Mobile network operators were forced to sell packages below market costs and were clearly not profitable. The promotional packages were sold at the cost of diminishing revenue to providers."

The regulator further directed the operators to maintain a floor price that would limit the number of minutes available to subscribers. It said following consultation, both players agreed to charge call minute at US$0.0156 per minute while a megabyte of data will now cost US$0.0218.

Operators have since readjusted their pricing and their campaigns. LonestarCell MTN said its subscribers can still enjoy the US$1 for three days offer, but it has capped the call duration to 45 minutes within its network and 10 minutes for calls made to other networks.

Prior to the watchdog's intervention, the operators introduced campaigns offering subscribers three-day unlimited calls for US$1

"So, effectively, you can buy a dollar $1 and call for three days as you used to but with a reduction in the allotted minutes," said Christal-Dionne Reeves, corporate communications and CSR manager for LonestarCell MTN.

PEOPLE MOVES & CHANGES

Date	Name	New employer	New position	Previous employer	Previous position
1/10/19	Ian Ferrao	Airtel Africa	Regional director	Vodacom Lesotho	Chief executive officer
1/10/19	George Mathen	Airtel Tanzania	Managing director	Bharti Airtel	Chief executive officer – homes
1/10/19	Philip van Dalsen	MTN Zambia	Chief executive officer	MTN Zambia	Chief executive officer
1/10/19	Bart Hofker	MTN Zambia	Chief executive officer	MTN Rwanda	Chief executive officer
1/10/19	Garsen Naidu	Cisco	Country Manager	MTN Zambia	Head of partner and system engineering organisations – sub-Saharan Africa
1/10/19	Mitwa Kaemba Ng'ambi	MTN Rwanda	Chief executive officer	MTN Benin	Chief marketing officer

LATEST COMPANY RESULTS

Date	Company	Country	Period	Currency	Sales (m)	EBITDA (m)	EPS (units)	Notes
8/8/19	MTN Group	South Africa	H1	ZAR	67.9bn	31.2bn	N/A	The group's service revenue expanded by 9.7% to R67.9-billion, led by growth of 12.2% by MTN Nigeria, 18.7% in MTN Ghana and just 3.3% by MTN South Africa.
30/7/19	Huawei	China	H1	CNY	401.3bn	N/A	N/A	Aggregate revenues up 23% year-on-year
29/7/19	Ooredoo Algérie	Algeria	H1 2019	QAR	QAR1.3bn	N/A	N/A	Results were further impacted by the depreciation of the Algerian Dinar by 3% year on year
22/7/19	Maroc Telecom	Sweden	H1 2019	MAD	MAD3bn	N/A	N/A	Figure relates to profit

Ericsson and MTN launch mobile money open API platform in Ghana

MTN and Ericsson have extended their Mobile Money partnership with the launch of an open API platform in Ghana.

The move will give entrepreneurs an opportunity to develop (EWP) revenue-generating applications. Under the terms of the new agreement, MTN will grant access to third parties to its Mobile API powered by Ericsson's Wallet Platform.

This will enable developers and programmers to get free access to MTN's proprietary software platform. Developers can now access it and create products that ease payment options and leverage the MTN clients registered on Mobile Money.

The MTN Mobile Money API can also be accessed online, saving time previously spent on submitting paperwork and a lengthy standard integration. Furthermore, the online system allows developers to test their products before going live, by using a sandbox available on the website at no additional cost.

Fadi Pharoan, the president of Ericsson Middle East and Africa, said "the ease to send, spend and receive money" using a mobile phone is becoming an essential part of people's lives. "Our new partnership with MTN in Ghana aims to develop a more open, easy and accessible mobile money network," he added. "Ericsson is driving this change of making Mobile money more open by collaborating with MTN to advance secure, flexible platforms that help build an interconnected and transparent financial ecosystem."

Sierra Leone takes out US$30m loan to fund project

Sierra Leone has secured a US$30m loan agreement to fund its contract with Huawei for the second phase of its National Fibre Optic Backbone Project.

Fibre cables will be installed in unconnected regions and enable MNOs and ISPs to expand their capacity and offer 3G and 4G services.

The regions include 19 cities -15 of which will get new backbone stations while a new metropolitan area network will be constructed in the remaining four, to serve around 2.6 million people.

The loan to finance the project was secured with the Exim Bank of China as a result of an agreement between the finance ministry and the bank's representative, the political counsellor of the Chinese Embassy in Sierra Leone, Wang Xinmin.

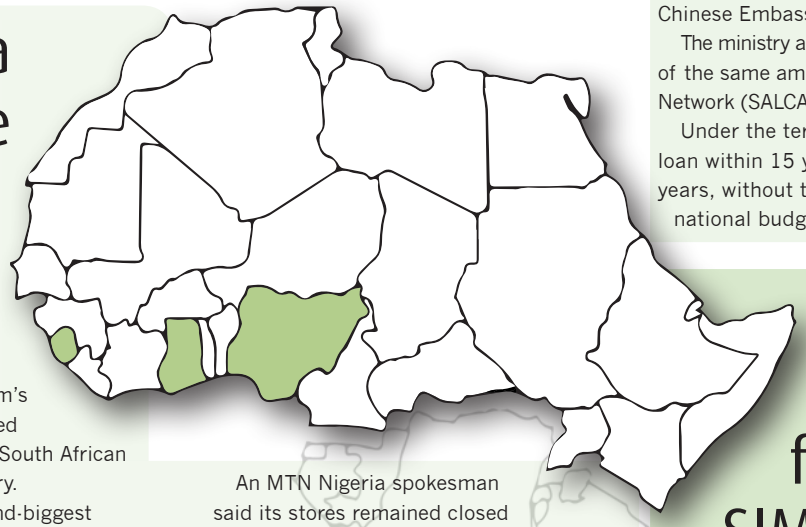
The ministry also signed an on-lending agreement of the same amount with the Sierra Leone Cable Network (SALCAB) which manages the project.

Under the terms, SALCAB must repay the loan within 15 years after a grace period of five years, without the recourse of applying to the national budget for support.

MTN Nigeria shares spike after partial re-opening

MTN Nigeria's share price hit a three-month high on 6th September after the telecoms firm's company offices partially reopened following a shutdown due to anti-South African attacks in the west African country.

Shares in MTN, Nigeria's second-biggest listed firm, rose 5.03% to NGN139.80 each, a level last seen in June. The local units of South Africa's MTN Group closed all stores and service centres in Nigeria after their premises were attacked following days of riots in their home country chiefly targeting foreign-owned, including Nigerian, businesses. The violence in South Africa has strained relations between Africa's two biggest economies, with Nigeria saying it would recall its top diplomat to Pretoria.



An MTN Nigeria spokesman said its stores remained closed as Northern African Wireless Communications went to press, but skeletal office operations were resuming while staff were asked to stay at home for safety reasons.

Prior to the shutdown, the telecom firm launched a mobile money transfer service, targeting Nigerians without bank accounts and said it planned to become a payment services bank once it obtains the necessary approval from the central bank.

Gambia: trio fined for flouting SIM card law

Gambia's regulator, the Public Utilities Regulatory Authority (PURA) has fined three mobile phone operators for failing to adhere to SIM card registration law.

Africell, Gamcel, and Qcell have all been fined a total of US$115,000 for selling SIM cards activated at the point of sale to subscribers without registering their identity as well as addresses and other details. They were charged US$595 for each SIM card sold.

In a statement, PURA said Africell was fined a total of US$110,700 because it sold the most SIM cards (186), while Qcell and Gamcel sold fewer.

"We embarked on SIM cards registration monitoring exercise for all operators countrywide," said Ya AmieTouray, legal, licensing and enforcement manager at PURA. "We bought SIM cards without following or going through the due process of registering our identity cards."

Touray added that it was not the first time Africell and Gamcel had defaulted and been fined, and there "was no change in the behaviour" of the operators.

Vodafone Ghana CEO joins council

Vodafone Ghana chief executive officer Patricia Obo-Nai has been appointed to the international advisory council of the west Africa STEM Hub organisation.

The organisation has a close association with the Western New York STEM Hub, USA and YALI Regional Leadership Centre, west Africa and its purpose is to empower students through life changing STEM experiences and to tackle careers in science, technology, engineering and maths.

The idea is to create an environment where people of all backgrounds work to maximise their individual potential. With 25-years' experience in the industry, Obo-Nai represents one of the leading figures in Ghana's telecom sector.

"The future is digital and it is our responsibility to empower the young ones to take up critical positions in this area in order to secure a better future for Africa," she said of her appointment. "I feel extremely privileged to be given this opportunity and I look forward to making a positive contribution to a worthy global cause."

5G is 'driving innovation'

Commercial 5G networks are going live across the continent, prompting innovation for new consumer experiences and presenting new opportunities for enterprises, according to Ericsson Middle East and Africa (MEA) president Fadi Pharaon.

Addressing media and analysts at GITEX 2019 in Dubai on 6th October, he also underlined the role the next generation will play in driving new revenue streams emerging from the digitalisation of different industries.

"The deployment of 5G networks will allow operators to develop new use cases, applications, services and revenue streams from IoT and industrial applications– sparking an unprecedented wave of innovation," he said.

In addition, Pharaon underlined how service providers can realise the full potential of 5G by giving examples of some of the most successful use cases globally. He also presented go to market strategies, including considerations on business models and value chain positioning, as well as network deployment requirements.

As part of the presentation, Pharaon said that many operators have already selected Ericsson as their 5G partner and that the Swedish company was first with publicly-announced commercial 5G contracts and commercial live networks across four continents, with more to follow.

Vodafone Zambia up for sale

Mobile Broadband Limited, trading as Vodafone Zambia, has been put up for sale after shareholders failed to keep the firm above water amid stiff competition in the southern African nation's data market.

The country currently has 16 ISPs all fighting for share, according to the latest report from the Zambia Information and Communications Technology Authority (ZICTA). They include Liquid Telecom Zambia, Hai, Zamtel and Paratus Telecommunications, a subsidiary of the Namibia headquartered Paratus Group Holdings.

However, cash-strapped Vodafone Zambia has struggled to maintain operations a year after it entered the local market in 2016 – citing "financial distress".

In July this year, the company issued a statement announcing that the delay in recapitalising itself by the shareholders resulted in network outages in the capital Lusaka and the Copperbelt region.

Vodafone Zambia said the so-called "financial distress" triggered a petition by employees to the High Court in Lusaka for business rescue. It led to the appointment of the business rescue administrator Luwita Sayila as the firm looked to attract new shareholders to the fold.

A business rescue plan was then introduced, which covered the comprehensive restructuring of the company's affairs including business, property, debt and other liabilities and equity. However, Sayila has since issued a notice inviting bids to secure new ownership and said interested bidders may acquire a complete set of bidding documents as of September 12th 2019 upon payment of a non-refundable fee of US$760.

"Mobile Broadband Limited hereby invites interested parties to participate in the open bidding tender for the sale of the company. Mobile Broadband Limited reserves the right to reject any and all bids, declare a failure of bidding or not award the contract at any time prior to contract award," read an excerpt from the notice. It is unclear at this stage how many bids have been submitted.

Tanzania mobile subs rise

Mobile subscription in Tanzania rose to 43.67 million in the three months ending in June, a 4.7% increase from the same period in 2018.

A report published by the state-run Tanzania Communications Regulatory Authority (TCRA) said Vodacom Tanzania, a subsidiary of South Africa's Vodacom Group, remained the front runner for both mobile phone subscribers and mobile money transfers.

Mobile phone use has surged in the east African country over the past decade, helped by the availability of cheaper smartphones.

The number of internet users rose to 23.14 million in June, up from 22.99 million year-on-year. Elsewhere, the number of people using mobile money transfers rose to 22.9 million in second quarter of 2019 from 20.8 million previously.

Vodacom Tanzania increased its share of the mobile phone subscription market share slightly to 33% from 32%.

Other major mobile operators in Tanzania are mainly made up of foreign-owned subsidiaries. They include Tigo, a subsidiary of Sweden's Millicom with a 27% market share, Airtel, a unit of India's Bharti Airtel with 26% and Halotel, owned by Vietnam's Viettel, has 10%.

Zimbabwe to keep 2% electronic transaction tax

The Zimbabwean government's 2% tax on mobile money and electronic transactions will continue despite a High Court ruling in September against the legal instrument behind the levy.

The intermediate tax on all electronic transactions is part of austerity measures implemented by finance minister Mthuli Ncube to generate more revenue for the state.

The Zimbabwe Lawyers for Human Rights (ZLHR) announced that High Court judge, Justice Zhou had set aside Statutory Instrument 205 of 2018 which had introduced the mobile money and electronic transactions tax.

"High Court Judge Justice Zhou has set aside SI205/2018 on the 2% transaction tax. The case was argued by (former Finance Minister and opposition member) Tendai Biti," the organisation said.

The ruling states that "the Finance Regulations, 2018 which are contained in SI of 2018 are invalid and hereby set aside".

The implications of the ruling has triggered debate in Zimbabwe because parliament fast-tracked the promulgation of the Finance Act of 2019, which also makes provision for the tax.

While Ncube has since confirmed the levy would remain in effect, Biti also said the government would use the Finance Act to defend its course of action.

Helios plans to list in London

Helios Towers, the African mobile networks operator, said it will list on the London Stock Exchange (LSE), after ditching plans for an initial public offering (IPO) last year which was expected to value the company at US$2.47bn).

The company said it hoped to raise US$125m through the issuance of new shares, in addition to the sale of existing shares by shareholders including the International Finance Corporation and telecom firms Millicom and Bharti Airtel.

Helios operates phone masts in the Democratic Republic of Congo (DRC), Republic of Congo, Ghana, South Africa and Tanzania.

It is understood that it dropped previous plans for a listing in March 2018, amid concern about political risk in DRC and Tanzania.

This time, Helios is planning a free float of at least 25% of the company and will use the proceeds to expand its services, including possibly into new territories.

Connecting Africa's Future: Working to Close the Connectivity Gap for sub-Saharan Africa's Unconnected Youth

Nelson Mandela once said, "our children are the rock on which our future will be built." There has probably been no greater influence on youth — and thus the future — than the emergence and advancement of digital technology. As UNICEF points out in its The State of the World's Children 2017 report, childhood itself is becoming increasingly changed by digital technology. Today, an estimated 71% of the world's 15- to 24-year-olds are connected. That still leaves 29% — or 346 million young adults — who are unconnected. Of those, approximately 60% live in Africa.

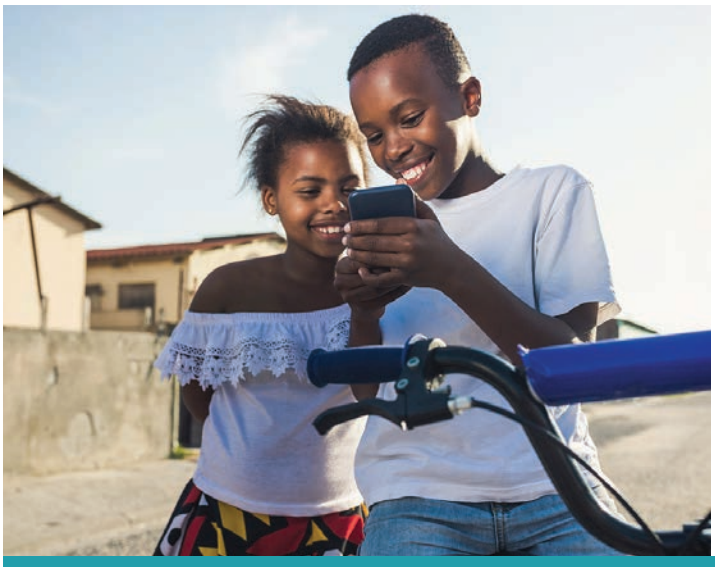
While Africa as a whole has seen rapid expansion of new technologies that has led to significant progress in information, communication, and human development, there are still many areas where gaps remain, especially across sub-Saharan Africa. This gap is largely attributed to the fact that much of the region is rural, resulting in a large portion of its 1 billion people who live beyond the reach of modern technology, including telecommunications. According to GSMA State of Mobile Internet Connectivity 2018, 40% of the population live in remote areas without access to 3G or 4G coverage — and ultimately without access to the internet.

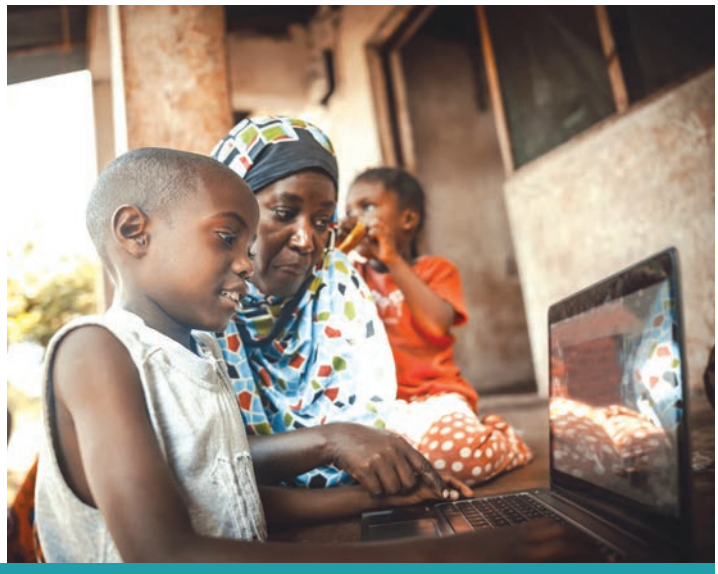
This is especially problematic for the region's young. More than 42% are under the age of 15. That means as many as 168 million or more sub-Saharan Africa youth miss out on the advantages of connectivity, including the ability to access information and learn important skills needed to succeed in today's digital world.

There are many reasons why communities in sub-Saharan Africa do not have access to 3G or 4G. The biggest barrier is the considerable investment in both time and money required by mobile operators to build out the necessary telecommunications infrastructure using fiber and microwave across long distances. Also, in some instances, buildouts using traditional backhaul may not even be feasible.

These barriers are exacerbated by the large number of small, economically challenged populations who are geographically dispersed across wide distances within and across country boundaries. That makes it difficult for mobile operators to justify the investment without some level of certainty that enough revenue will be generated from each site to break even, much less profit.

While providing 3G or 4G connectivity to unconnected areas of sub-Saharan Africa using fiber, or even microwave, for backhaul is ideal, there is an alternative space-based solution when other approaches are not economically practical or geographically feasible.





Last fall, Intelsat entered into a partnership with Africa Mobile Networks (AMN) — an integrator of mobile network infrastructure — to bring mobile connectivity to unserved communities in sub-Saharan Africa. AMN developed a low-cost solution, powered by a highly reliable small-cell solar-based system that can be deployed in less than six hours. AMN has powered this solution with the performance and efficiency of Intelsat's three high-throughput, Intelsat EpicNG satellites along with 23 other Intelsat satellites that cover the African continent. The result is a mobile network infrastructure that is a fast, cost-effective, reliable, solution that can easily scale to meet evolving connectivity demands.

The partnership is having great success, having recently reached a key milestone. More than 500 remote sites in sub-Saharan Africa have been connected, with plans to continue expanding mobile coverage to other parts of the region by the end of the year.

A space-based solution for expanding 3G or 4G coverage is ideal for telecommunications service providers for several reasons: (1) the ubiquitous coverage of satellites, especially those in geo-stationary orbit that cover 99% of the world's populated areas, make it ideal for quickly — and cost effectively — connecting remote communities virtually anywhere in the world, (2) the ability to dynamically distribute connectivity to multiple remote sites across vast distances is efficient and economical, and (3) it opens the door for new opportunities, ranging from increasing market share to expanding future business strategy.

This approach to connectivity — along with governmental, non-governmental, and multi-national corporations working together to address other issues, such as affordability, consumer readiness, and relevant content challenges — means millions of sub-Saharan Africans can access the internet, often for the first time. And when we close Africa's connectivity gap, millions of its youth are empowered and enabled to build a brighter future, one where connectivity with the rest of the world represents the norm, not the exception. ■

INTELSAT

www.intelsat.com/Africa-AWC

Nigerian telecom firms angry with plans to impose 9% tax

Telecom businesses under the protection of Association of Telecoms Companies of Nigeria (ATCON) said they will fight against fresh plans by the Senate to impose nine per cent Communications Service Tax (CST) on telecom operators and cable television service providers.

Previous attempts were suspended by the eighth National Assembly, following the objection by telecoms operators and their subscribers. However, a new plan has emerged just a few days after Ghana increased its telecom tax to 9% from 6%.

The president of ATCON, Olusola Teniola, said telecom firms would reject it again because of the problems it would cause subscribers.

"It has been brought to our attention the re-emergence of 9% Communications Service Tax (CST) that was previously suspended by the 8th National Assembly during the intervention of ATCON NEC to the Senate President on November 8, 2016 whereby it was acknowledged by the distinguished senators that the growth of ICT is critical to the creation of jobs and reduction in youth unemployment," Teniola said in a statement. "The Senate president agreed and assured ATCON and members at large that the tax would be set aside. In attendance at the meeting were the Senate President of the eighth National Assembly, Bukola Saraki, the then Chairman of the Senate Committee on Communications, Senator Gilbert Nnaji and Senator Solomon Adeola Olamilekan respectively."

Teniola said ATCON recommended to government that the tax base of the country should be widened to include more taxpayers.

South African firm faces listing ban

Blue Label Telecoms, the South African distributor of prepaid secure electronic tokens of value and transactional services, has failed to comply with Johannesburg Stock Exchange (JSE) requirements and is under threat of suspension and possible removal.

The largest exchange in Africa said the company had failed to distribute its annual financial statements and notice of annual general meeting within the four-month period stipulated in the listings requirements.

"If the above mentioned company still fails to distribute its annual report on or before 31st October 2019, then its listing may be suspended," the JSE said in a statement.

No further information was available before Northern African Wireless Communications went to press.

Cisco appoints SA country manager

Cisco has named Garsen Naidu as the new country manager for South Africa. He has been with the company eight years – his most recent post was head of the partner and system engineering organisations for sub-Saharan Africa.

"Garsen has led our partner and system engineering division for two years now, with a sales team that is focused on unearthing partnerships that enhance the digital transformation journeys of Cisco customers," said Clayton Naidoo, general manager: sub-Saharan Africa at Cisco. "His ability to deliver customer-centric technology solutions, his inherent technology talent and his aptitude for solving complex problems has made him a valuable member of our team, and I am excited for him to now head up our SA operations. Cisco strongly believes in promoting from within first and our other recent senior leadership appointments are also testament to this."

Cisco said in a statement that Naidu started out as a software development engineer in the aerospace industry and his sales career began at a South African aerospace company, which resulted in him successfully concluding key deals for the company in east Asia.

Garsen Naidu joined Cisco in 2011 as an account manager and then became client executive in 2012. He was then promoted to regional sales manager: public sector and enterprise solutions in 2014.

"This is a wonderful opportunity for me and I look forward to helping Cisco leverage the opportunities that lie ahead for FY20, while aligning our local priorities and vision to Cisco globally," Naidu said. "This will ensure that we deliver the very best solutions to our customers here in SA."

MTN changes CEOs in Zambia, Rwanda and Côte d'Ivoire

MTN Group has announced senior level changes to its operations in three African countries. MTN Zambia chief executive officer (CEO) Philip van Dalsen left at the end of September. Van Dalsen joined MTN in 2012 as CEO of MTN Cyprus. In January, he moved to MTN Zambia in the same role. MTN Rwanda CEO Bart Hofker has replaced van Dalsen, effective October. Hofker is a senior commercial telecom executive with extensive experience in mobile, fixed and integrated businesses, the company said.

Elsewhere, Mitwa Kaemba Ng'ambi has been named as the new CEO of MTN Rwanda. Ng'ambi's career spans more than 10 years in the telecom sector and she returns to MTN where she previously held the role of chief marketing officer at MTN Benin and several other roles at MTN Zambia. Ng'ambi joins MTN from Airtel Tigo Ghana, where she was also CEO. Prior to that, Ng'ambi was CEO of Tigo Senegal.

Finally, MTN also announced that the CEO of MTN Côte d'Ivoire Freddy Tchala has left after 17 years with the company. After leaving MTN Cameroon, he served as CEO in Guinea Conakry and Congo Brazzaville, before joining MTN Cote d'Ivoire in 2015. MTN said it will announce a successor in due course.

Airtel makes senior appointments

Airtel Africa has named Ian Ferrao as regional director of its east Africa business, while George Mathen has been appointed managing director at Airtel Tanzania. Ferrao has over 12 years' experience in senior management telecommunications roles in Africa. Prior to joining Airtel, he was the chief executive officer (CEO) at Vodacom Tanzania, CEO of Vodacom Lesotho and chief commercial officer at Vodacom Business Africa. Mathen brings with him over 20 years' experience in senior management roles, with rich experience in the telecom and EMCG sectors. Prior to joining Airtel Africa, he was CEO – homes, Bharti Airtel in India where he designed and implemented the Airtel Home Strategy. Before he took on that job, Mathen had a number of CEO roles at the Indian firm. He joined that company from Coca-Cola India, where he also served in a number of positions.

"He will be responsible for the profitable growth of the business and help Airtel to be the preferred telecom brand to bridge the digital divide and preferred partner to grow financial inclusion" said Airtel Africa CEO Raghunath Mandava.

The appointments took effect October 1st, 2019

Airtel Africa CEO Raghunath Mandava said the appointments will "help Airtel to be the preferred telecom brand to bridge the digital divide"

Teltronic uses CCW to launch eNEBULA

Teltronic brought to Critical Communications World (CCW) the new generation of eNEBULA infrastructure, a solution the company lauds for its robustness and reliability in hundreds of deployments all over the world. Its specific features cover public safety, transport of passengers and other professional sectors.

The firm says it continues developing and evolving its TETRA system to adapt it to the new needs and demands of critical communications users.

In order to do so, eNEBULA incorporates LTE broadband capabilities fully integrated with TETRA. This integration is carried out at all levels: infrastructure hardware and the network management system, control centre solution for both radio accesses and the terminals, due to the use of dual TETRA+LTE devices. As a result, through a single solution that preserves the investments made by TETRA users, Teltronic reckons "it is possible to evolve towards new broadband services" with features tailored to mission-critical users' needs.

During CCW, Teltronic has also presented the MCBS, a new outdoor base station with what it claims are multi-carrier capabilities. These benefits, it says, will mean a significant reduction in costs, in key aspects such as the optimisation in the design of networks, energy savings, or in the simplification of installation and maintenance tasks. *www.teltronic.es*

Amphenol RF introduces cable assembly line expansion

Amphenol RF introduces the expansion of its cable assembly line. The new series features the popular BNC connector to compact AMC micro connector designed with the widely used RG-178 cable. This assembly combines "the quick connect and disconnect versatility" of the bayonet coupling mechanism with the most commonly used micro RF connector on the market and is supposedly ideal for IoT, broadband, LAN, instrumentation and medical applications.

It features a straight BNC bulkhead jack on one end, which allows for various mounting options, connected to a right angle AMC plug. The RG-178 cable can be used in more rugged environments unsuited for most standard micro cables. The BNC to AMC fixed length cable assembly is available in standard metric lengths of 50 through 300mm, with custom lengths available through the RF cable assembly configurator, QuickBuild RF.

Meanwhile, Amphenol RF has introduced the Wireless Infrastructure Solutions Guide, a digital short-form catalogue designed to streamline the interconnect selection process within the wireless vertical. This guide provides customers with an overview of the next generation of mobile networks, 5G, and a breakdown of the core applications, alongside valuable product information required for developing the necessary infrastructure to support the increased data rates.

RF technology plays a key role in the next generation of mobile network standards established by 5G technology in order to enable low-latency applications including safe autonomous driving and 4K video streaming to smartphones. Amphenol RF connectors, cable assemblies and adapters provide high density, low cost solutions to support wireless connectivity. *www.amphenolrf.com*

ThinKom unveils new solution for satellites

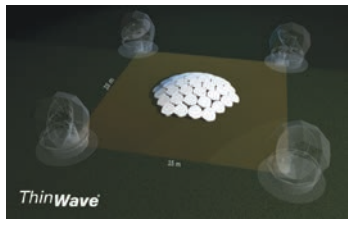
ThinKom Solutions has brought to market what it opines to be a new offering "for efficient and effective land-based gateways" – designed to accommodate both current and next generation low-Earth-orbit (LEO) and medium-Earth-orbit (MEO) satellite constellations.

The new gateway concept, which the vendor describes as an "array of arrays", is meant to provide an alternative to the large "antenna farms" of parabolic dishes currently used for support of geostationary (GEO) satellites. It is based on ThinKom's phased-array antenna technology, which the firm claims is currently in use on over 1,300 commercial aircraft installations around the world.

"The proliferation of cubesats, nanosats, microsats and other miniaturized satellites will require a new way of thinking when it comes to gateway antenna technology," says Bill Milroy, chairman and chief technology officer of ThinKom Solutions. "The answer is not to deploy more and larger dish farms. Instead, we're proposing an entirely new paradigm that's designed for the future yet employs currently available proven phased array technology."

Current-generation gateways employ large parabolic dishes which are necessarily limited to one link per dish.

ThinKom says its approach uses multiple, tightly arranged,

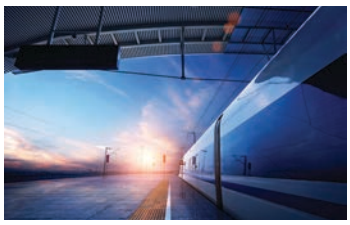


phased-array antennas, "which are coherently combined". The antenna units "work together" to track multiple LEO, MEO and GEO satellites simultaneously with look angles between five and 90 degrees in elevation and full 360-degree coverage in azimuth (an angular measurement in a spherical coordinate system, in case you didn't know). *www.thinkom.com*

TE's surge arrester frees up valuable train rooftop space

TE Connectivity (TE) is introducing the RSTI 68 for the railway sector, which, it says, can be mounted directly on the transformer and free up the rooftop. The firm says it is fully tested against shock, vibration and meets the fire and smoke norms of EN45545-2.

It further claims that the ever-growing number of double decker trains means high products on rooftops can create challenges with tunnels and bridges. However, it's not just about height; roof space on trains in general comes at a premium as more components need to be placed on rooftops – several of them requiring free space around them too, according to TE.



TE says the RSTI 68 surge arrester can be placed directly on the transformer and also at the rear side of the high voltage (HV) cable assembly that connects to the transformer. The product is designed for a sealed HV system, "giving maximum design freedom in its vicinity". What's more, TE says that for trains using the new Lopro circuit breaker, this secondary surge arrester can even be placed directly on it, "creating even more configuration freedom in the HV system".

The short circuit current is 20kA and the product is tested for 15kV and 25kV AC track systems. *www.te.com*

R&S and Marvin Test Solutions unveil new ZNBT40

Rohde & Schwarz and Marvin Test Solutions have partnered to introduce what they claim to be a "unique" turnkey solution suited for beamforming integrated circuits (IC) used in 5G mmWave (FR2) and satellite communications.

Beamforming, fast becoming a default concept in 5G NR and satellite communications, is a technology synonymous with the aerospace and defence sector.

This new R&S ZNBT40 is a multi-port VNA, which the companies claim enables fast, reliable and extensive verification and characterisation of beamforming ICs with typically 5, 9 or even 17 RF ports. It is a vector network analyser with a frequency range from 100 kHz to 40 GHz and a "true" multiport architecture.

In addition to testing multiport devices under test (DUT) like the beamforming ICs, it also allows parallel testing of multiple DUTs using up to 24 ports. The large number of ports, the companies claim, makes it possible to characterise a beamforming IC in full detail and see the cross-correlation effects while monitoring all antenna connections. *www.rohde-schwarz.com*

PTC680 combines TETRA functionality and broadband services in one device

Hytera claims this 325-gram device from its series of multi-mode advanced radios is a communication solution for all types of mission-critical operations as well as for daily business operations with special requirements.

The PTC680 combines TETRA wireless functionality, LTE technology and the benefits of an Android-based smartphone with flexible data transfer via Wi-Fi, NFC or Bluetooth in a single device. It is also said to be "sufficiently robust" (MIL-STD 810 G and IP68 certified) to withstand the harshest and most challenging environments.

Boasting two cameras – the front one has five megapixels and the back one has 13 megapixels – they take pictures and videos in full HD. The data storage of the radio (32 GB) can be expanded via micro SD card slots and the PTC680 captures video in real-time and provides continuous communication with back-end systems, such as emergency response communications to their control centres.

The company claims this ability to quickly share information results in faster response times in application situations, making situation-based decisions easier. It also says using this feature in industry makes operations much more efficient.

A 3.6-inch, high-resolution colour touchscreen user interface is supposedly "simple and intuitive" to use, even with gloves, for faster emergency response and quick access to information. It can be operated with just one hand via a rotary knob, a smart key, the PTT button and five programmable buttons. The most important information can be captured at a glance on the top display. *www.hytera.com*

Introducing the T901 from TECNO

TECNO, a mobile phone brand in Africa, offers the latest 3G smart feature phone T901 – the first of its devices to run on KaiOS .

It appears to be a significant step for both companies in closing the digital divide by bringing users–previously inhibited by device affordability–online for the first time. The T901 will be available in three colour options: gold, blue and black.

"With the arrival of T901 powered by KaiOS, users gain access to apps such as WhatsApp, YouTube, Google Maps, and others on an affordable TECNO smart feature phone for the first time," says Stephen Ha, managing director of TECNO Mobile. "The phone also supports GPS, Wi-Fi, and 3G, with significant network speed growth and better anti-signal interference performance as well as faster signal reception in call mode than those in 2G." According to Ha, T901 also comes equipped with the Google Assistant, allowing users to operate the device with their voice.

"Launching with TECNO is a significant milestone for both our companies," adds Sebastien Codeville, chief executive officer of KaiOS Technologies. "The digital divide in Africa remains large, and we're thrilled to be working side-by-side with TECNO to eliminate it. Visit any African city and you will understand how important TECNO is on the continent, with stores on nearly every corner; we can't wait to see the KaiOS-enabled T901 show up in all of these outlets."

T901 is equipped with a hybrid dual-SIM slot which TECNO claims can support two SIM cards and with 512MB +256MB memory. It boasts a 2.4-inch QVGA display with 240×320 pixels resolution and a 1900mAh battery, which enables 25 days of standby time and up to 19 hours of non-stop calling.

The new device comes embedded with both a front and a rear camera with built-in flash light, which is supposed to enable clearer photos at night and in other dark environments. *www.tecno-mobile.com*

Look out for...

ZTE and China Mobile show off 5G credentials at MWC Shanghai

China used Mobile World Congress (MWC) Shanghai 2019 to show off its 5G credentials by showcasing MU-MIMO Multi-User performance.

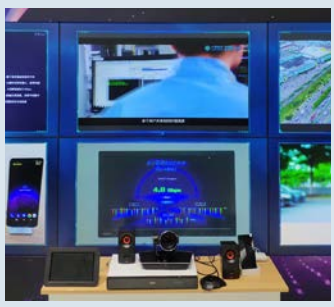
ZTE, the Chinese multinational telecom equipment and systems company partnered with China Mobile to achieve 5G single cell throughput over 3.7 Gbps, plus a single EU downlink data rate of more than 200 Mbps in a 5G MU-MIMO multi-user performance test.

It was performed at China Mobile's Guangzhou 5G field, using ZTE's 160M full-band 4/5G dual-mode commercial base station and 16 ZTE commercial mobile phones Axon10 Pro. The base station supports dynamic spectrum sharing, achieving dual-network integration at 2.6GHz.

MU-MIMO is the core technology in 5G, thanks to the "multi-antenna features that help maximise the utilization of spectrum resources", creating much greater revenue for users, according to ZTE.

The latter also said the test result showed a four-time increase in network system capacity than that of the SU-MIMO technology. The test footage and data were transmitted back to China Mobile's booth at MWC Shanghai in real time from Guangzhou.

ZTE and China Mobile have been strategic partners for a number of years, working together on 5G technical innovation and industry development. The two businesses jointly developed a 5G prototype base station, a 5G site, 2.6GHz NR IoDT and an end-to-end system.



It was performed at China Mobile's Guangzhou 5G field

Moving Wireless Forward

Mobile Mark is a leading supplier of innovative, high performance antennas to wireless companies across the globe. We've been in the wireless industry for over 30 years and have our roots in the early Cellular trials. We have grown and evolved over the years, along with the industry.

Today, we benefit from enhanced design capabilities and expanded production capacity – along with a greater understanding of new and emerging markets – all of which have allowed us to become one of the best antenna developers in our field.

Our customers have been our partners throughout the years. We believe in taking the time to understand our customers' individual needs. Through close consultation with clients, we are able to deliver innovative, tailored solutions that meet specific antenna requirements.

Rapid prototyping capabilities allow us to take our designs from concept to reality in an extremely short time span, and to verify the performance of the antenna. A variety of network analyzers and an anechoic chamber enable us to conduct measurements up to 13 GHz, and ensure that the antennas designed meet or exceed customer requirements.

We have onsite injection molding equipment and a fully equipped modeling shop staffed with skilled model makers to assist in the design phase and help us come up with a superior product – an antenna that not only meets the customer's electrical specifications, but is also very attractively packaged.

Mobile Mark antennas are used in many sectors of the wireless industry. Here are just a few examples:

Asset Tracking & RFID

Managing and tracking important assets can be a challenge in the field, and both RFID and WiFi offer effective wireless solutions. RFID / WiFi technology allows us to identify, monitor and track items ranging from medicine to fruit to parcels to people. Since each application has its own challenges, Mobile Mark offers a range of antennas so network developers can choose the right mix.

MobileMark
antenna solutions

We are now looking for distributors throughout Africa

Commercial Fleet Management

Mobile Mark has consistently lead the industry with the most extensive and innovative range of antenna solutions that combine multiple wireless technologies: from simple GPS & Cellular antennas to complex 6-cable antennas combining LTE MIMO, WiFi MIMO, DSRC and GNSS in the same antenna housing. This combination of wireless technologies allows fleet owners to track and/or redirect their fleets of cars and trucks for optimum efficiencies. Mobile Mark antennas are rugged enough to handle tough environments and efficient enough to maintain reliable connections.

Public Transit & Bus Management

From monitoring the location of the bus to monitoring the condition of its tires, wireless has become an essential part of professional bus management. Mobile Mark's multiband antennas allow the system to capture that information and transmit it back to a central monitoring station with real-time connectivity. For an added touch, real-time WiFi service can also be added for the passengers. That's why companies like INIT have selected Mobile Mark antenna to complete their product offerings. And they have made the following endorsement:

"INIT GmbH – as a worldwide leading supplier of integrated planning, dispatching, telematics and ticketing systems for buses and trains – uses Mobile Mark bus antennas in public transportation projects all over the globe.

For example: INIT has installed Mobile Mark antennas in projects located in Abu Dhabi, Hertfordshire UK, Turku Finland, Oslo Norway, Montreal Canada, Luxembourg, as well as several German projects.

In 2017, a fleet of more than 1,500 buses will have Mobile Mark Antennas installed in one of INIT`s current major projects for National Express, West Midlands, UK."

Remote Monitoring & Surveillance

Surveillance plays an important role in maintaining secure settings. Network deployments need to be low maintenance and weather resistant. Broadband surface mounts offer flexibility for multi-frequency coverage and are rugged and dependable. YAGI antennas provide practical point-to-point coverage. Our antenna solutions are designed to handle tough conditions while providing the reliable wireless connection you would expect from a Mobile Mark antenna.

Mining & Exploration

Modern mining operations rely on a battalion of vehicles, ranging from massive extraction vehicles to modest-sized material transport trucks. These vehicles operate in tough environments where high vibration is a frequent wear and tear challenge. Mining companies throughout Africa have relied on our rugged, foam-filled mobile antennas for consistent connections. Mobile Mark's infrastructure antennas have been used for rapid deployment and redundancy coverage for effective wireless coverage in isolated settings.

Smart Cities & Smart Highway

For cities and highways, the lynchpin of a successful "Smart" system will be dependable wireless connections. Companies like Kapsch understand this, and have worked with Mobile Mark to find ideal antenna solutions. Wireless networks must reach seamlessly into hard-to-cover corners of city intersections and along vast expanses of highways. They must be carefully embedded in city lighting and electrical meters. Mobile Mark offers both small network infrastructure as well as embedded antenna elements to help network designers tie all the pieces together.

Let us know how we can help

We understand the RF wireless world and are ready to help you evaluate your options. Contact us by email, phone or fax and let us know how we can help.

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Providing power to the towers

Solar, wind, batteries and fuel cells are all options when it comes to powering base stations. So why, in 2019, are we still using diesel generators? Robert Shepherd drills down to extract more information

Pollution, climate change and the environment have all, for want of a better expression, long been "hot topics". Whether it's the abundance of plastic in the oceans, the emission of greenhouse gases, melting icebergs or the way mobile network operators (MNO) continue to use diesel, governments and multinational corporations are coming under increasing pressure to do their bit before we all hoisted by our own petard and perish like the dinosaurs.

Yes, we can leave the global warming debate for another time, but when it comes to the harmful effects of diesel, the scientific evidence is overwhelming. There's also no doubt that some industries need to shoulder more responsibility than others – and there's also no hiding from the fact that the telecom sector is complicit in this too, if only for the fact a vast number of base stations around the world are still powered – if not 100% – by diesel generators. In general, they have an outsized impact on pollution compared to other sources of power because they tend to be dirtier per unit of energy provided.

Yet, while the method of powering telecom towers and base stations might not be on the tip of world leaders' tongues when they imbibe at their summits – usually having just flown on a gas-guzzling private jet – the industry is acutely aware that more needs to be done to migrate from diesel-powered generators to reusable and green energy sources.

Bladon Micro Turbine produces a generator that runs on diesel, kerosene, paraffin fuels or a blend (to prevent theft and reduce fuel costs). "Instead of having a piston based engine like all other diesel generators we use a micro turbine engine (like a turbocharger) to generate efficient electricity for telecom towers," says Stuart Kelly, the company's VP market development.

Conversely, some companies are the standard-bearers for re-usable and other alternative power sources. For example, MTN Cameroon became a trailblazer in Africa when it went green with solar-powered base stations. Evidence then that the industry is going some way to ameliorate the damage caused to our environment.

Alessandro Ravagnolo, a principal at telecom research house Analysys Mason says

MTN has invested in a big marketing push about what it's doing in the power space, but it's not the only operator that made the energy supply a key focus of their network strategy in

Africa and other emerging markets. "Orange is also very active, experimenting contracts with specialised ESCO companies that are charged with managing the energy infrastructure and achieve savings," he says. "Investments in reliable and cost effective power source is also a focus of towercos that, in most cases, own the energy equipment on their sites and pass the cost to the MNO customers."

Still, the rejection of diesel and take up of alternative power sources hasn't happened at the speed many would like. So, why hasn't there been a race to become completely green, take the moral high ground (and move ahead of the competition in the process)?

"Through their investments, MNOs are mainly seeking efficiency gains (cost reduction) but also improvements in the quality of service through reduction in the number of outages and downtime," says Ravagnolo. "It is not necessarily a move against competition as other operators can be expected to do the same at some point in time."

However, we are now in 2019, so while many operators are investing in a green future, why in 2019 are we still using diesel at all?

"Diesel is still the only prolific and available fuel for providing more reliable electricity to the telecom tower market especially in Africa," says Stuart Kelly, the company's VP market development. "The Bladon Microturbine generator can also run on cheaper kerosene or a fuel blend too. Other fuels such as methanol still do not have a reliable enough supply, nor does gas for that matter to allow it to be used at scale. There are over 180,000 telecom towers in Africa, over 35% are not connected to the electricity grid."

The sales and marketing department at HIMOINSA, which designs and manufactures diesel and gas generator sets, hybrid generators, lighting towers and control panels, says:

"In many parts of Africa diesel is a most readily available, cost effective, fuel source. HIMOINSA manufactures gas and hybrid units as well as diesel, but unless a reliable, cost effective alternative is available there will be a place for diesel units when businesses are reliant on backup power."

Giuseppe Taranto, telecom business leader at Ausonia says even if everybody would like to dispense of diesel, today gensets are still the only energy source which can guarantee energy when necessary.

"Solar and wind cannot give operators the power continuity the generators can offer, so the best way is to understand how you can reduce the run hours, get efficiency and fuel savings," he says. "Following this requirement towards OPEX reduction, some gensets manufacturer has designed and deployed different capacities of DC generators worldwide, as (the Italian company) AUSONIA. The DC Gensets are used as back up to site and as a battery charger when Grid/Solar/Wind is not enough to power the sites and batteries are low with voltage. On off grid sites, the operators also can save the costs of rectifiers and ATS, as well to the issues connected to their potential failures."

If you are reading this with very little knowledge of the wireless world, you would be forgiven for pointing the finger of blame at developing nations. However, Ravagnolo says both developed and developing nations are still using diesel and that the reason for this is due to the fact that being connected to the grid does not come with the guarantee of having a reliable power source.

"In emerging markets, the national grid may be powered for only few hours per day. In developed markets, this is rare but operators do not want to take the risk on specific strategic sites (e.g. exchanges) where they will have both backup batteries and generators," he adds. "Having diesel generators gives operators the certainty of the service provided tanks are adequately refuelled."

Stéphane Téral a technology fellow and an advisor for mobile infrastructure and carrier economics at IHS Markit Technology, says the reason diesel is still so prevalent is because research needs to be conducted first – and as ever, that takes time and money. "Because

The industry is acutely aware that more needs to be done to migrate from diesel-powered generators to reusable and green energy sources

Giuseppe Taranto, telecom business leader, Ausonia

"Solar and wind cannot give operators the power continuity the generators can offer, so the best way is to understand how you can reduce the run hours, get efficiency and fuel savings"

due diligence and planning start with thorough analysis and review of solar radiation, sunlight intensity, and solar panel geolocation as key parameters; depending on the BS location, diesel might still be the best alternative," he says. "The location of a needed BS is dictated by the coverage and capacity demand and sometimes PV systems can't work."

In Kelly's opinion, "diesel is still the only prolific and available fuel for providing more reliable electricity to the telecom tower market". He says: "The Bladon Microturbine generator can also run on cheaper kerosene or a fuel blend too. Other fuels such as methanol still do not have a reliable enough supply, nor does gas for that matter to allow it to be used at scale."

Prima facie, the power of diesel cannot be disputed. However, there are cost implications, too. After all, it's no secret that diesel generators require regular maintenance and two need to be installed so one is operational while the other undergoes maintenance. Are the costs sustainable?

"That's part of the Opex and you also need periodic replacement," says Téral.

HIMOINSA says there are numerous factors at work here. "When reliable power is required to guarantee the safety of mine workers, for example, then the cost is secondary to reliability," it says. "Total cost of ownership for the units needs to be taken into account. HIMOINSA is a vertical manufacturer so its units are designed and manufactured with efficiency and longevity as key factors. With 500-600hrs service intervals, excellent fuel efficiency, OEM support and remote management of the units the units efficiencies can be monitored and costs can be managed."

Ravagnolo says no business "will intentionally deploy a site that isn't sustainable" or has a negative business case. "A reduction in the cost to run a site would improve the business case for rural deployment, where a limited number of customers can connect to the cell site and generate revenue," he adds. "This implies that operators will be able to stretch their networks further."

Kelly disagrees. "In a word," he says, "no because 50% of operating expenses related to running a telecom tower is related to fuel and maintenance expenses for diesel generators. Bladon's proposition eliminates the need for monthly (or more) site visits related to generator maintenance and instead needs a two-hour service once a year."

Monitoring and managing the generators is usually straightforward in cities and other built up areas. But how easy is it to do so within rural environments, particularly in developing nations?

Taranto says that gensets are monitored via Wi-Fi or LAN connection, even with 4G modem being available today. "All the operational data and performance indicators are often stored on a web-server (cloud) from which the authorized personnel can monitor and control the power system in any place in the world, editing also statistic and report for their better analysis and evaluation of the power solutions reliability and real operational costs."

Téral says they are equipped with sensors and send information via the cellular network provided by the BS they power. "The base station itself is remotely monitored from a network operation centre (NOC) and therefore sends info about everything including power function," he adds.

"Drones are increasingly used to monitor remote sites," says Ravagnolo. "It is an effective measure to monitor the infrastructure for maintenance requirements but could also be used for security reasons." The latter is a whole new topic in itself.

He adds that mobile networks are expanding into more rural areas in emerging markets and the chances of having grid connectivity is low there. "Electricity grids are not expanding at the same speed," says Ravagnolo. "This means that MBO, or whoever is managing their energy infrastructure, will continue using diesel for a long time despite investments in solar and other energy sources."

However, Taranto adds: "In many countries the traditional set up to power off-grid sites was by means of installing a dual Gensets system (1+1, master and slave), but today, whenever possible, MNOs and TowerCos are trying to eliminate at least 1 DG on site, to be replaced with batteries, and possibly by adding also solar, if the site allows."

So, what of hybrid solutions? After all they work in other industries, such as the automobile one.

"Operators are increasingly deploying hybrid solutions, which included solar panels, batteries and one genset," says Ravagnolo. "No need for a second generator. The idea is that the site would be running on solar and the genset kicks in when more power is required or there is something faulty. This reduces consumption and cost substantially compared to sites running exclusively on diesel."


Alessandro Ravagnolo, principal, Analysys Mason


Giuseppe Taranto says even if everybody would like to dispense of diesel, today gensets are still the only energy source which can guarantee energy when necessary

Taranto concurs and adds that not only is the hybrid model "definitively the solution today", it's already passed 10+ years of operation on site and it's the one that had "really allowed" MNOs and TowerCos to reduce their OPEX and increase their savings. "However, even if many companies today offer hybrid solutions consisting into genset, battery and optional solar, only a few of them have the consolidated experience allowing to offer a debugged unit to the end user, so buyers should carefully take care of this when looking for potential partners," he says.

Kelly argues that the hybrid solution "has been borne out of necessity" to avoid expensive service visits for the diesel generator. "Combining a diesel generator with a box full of batteries, control electronics and solar panels has been the common practice," he adds. "However, if your baseline engine does not have a need for oil, service visits or require expensive (attractive to steal) batteries then there's no need to build a hybrid. For off grid sites, we have found that having a Microturbine running 24 hours a day using diesel or kerosene as fuel is far more economical, scalable, and least attractive to theft."

With regards to greenhouse emissions, Ravagnolo says upgrading to more efficient energy solutions is not just a matter of cost savings but it also allow reducing emission, which is good for the environment. "In some countries there may be some taxation associated with carbon footprint (aka carbon taxes) providing an incentive to operators to become more efficient and greener," he adds.

"A reduction in the cost to run a site would improve the business case for rural deployment, where a limited number of customers can connect to the cell site and generate revenue"

It's also important to remember that there are other options too. Fuel cells have often been lauded as the next big thing in the energy space, but the talk, until now has been more about how good they will be and less about how good they are. So, how long until they become the norm?

"Fuel cells are still at the early stage and also the supply chain is not diffused yet to in many countries and regions, so I guess many years will be still needed to have this technology widely deployable," says Taranto.

Kelly says the fuel cell trials his company has witnessed has shown that the supply chain for hydrogen or ammonia fuel cells is far from mature "especially in Africa" and the transport of it is more hazardous than diesel fuel. Large telecom operators are also risk averse and "therefore are not keen to embrace new technologies en masse".

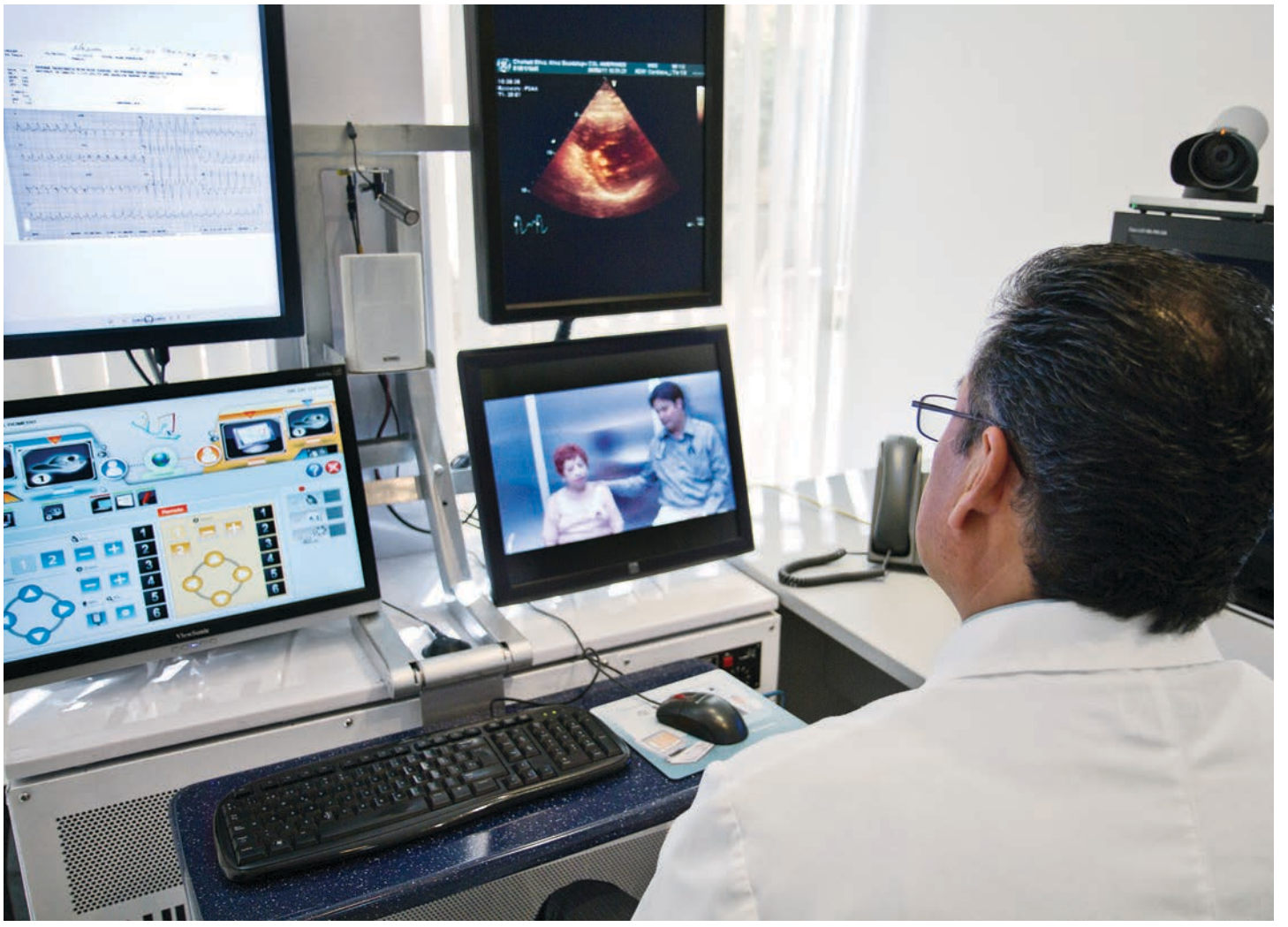
HIMOINSA says: "As the market and technology develops this will naturally increase efficiency and reduce the currently high cost of fuel cells."

Téral is less sure. "I don't know but one sure thing, with 5G requiring more cell sites, the demand for energy keeps going up so we need to find new alternatives," he says.

The GSMA report In early 2014 also says that for the first time, the number of mobile phone subscriptions in the world exceeded the global population. Now, with over seven 7 billion active mobile phone connections in the world – a number that will only grow – there can be no room for complacency.

What's more, GSMA indicates that future mobile subscriber growth will be concentrated in developing countries in Africa among populations that are currently 'unconnected' to mobile phone networks. In other words, developing nations.

Could 5G, as Téral points out, be the catalyst? ■



Bringing telemedicine to millions of Kenyans

Pan-African telecom group helps Mombasa hospital make telemedicine a reality for people who can't attend a consultation

Getting access to specialised medical treatment has been challenging for the 3.5 million people living on Kenya's sparsely populated 1,420km of coastline. Although treatment was available, it was mainly at referral hospitals based in the country's second largest city of Mombasa.

This meant that people in need of urgent treatment could end up travelling as long as a day in each direction. If the distance wasn't enough of a problem, travelling also costs money and in many cases the bus fare is seven times the person's daily wage.

"Travel costs were often prohibitive for patients," points out Hemed Twahir, medical director at Aga Khan Hospital Mombasa. "For example, patients coming from Voi to Mombasa spend around Sh700 on bus fares, which is a major cost at a time when most of the population struggle to buy even basic medication, and often cannot afford to visit the hospital for follow up appointments."

However, the hospital knew something had to be done to overcome these prohibitive distances – telemedicine. The hospital's initiative came at a time when Kenya was facing a shortage of healthcare specialists especially in dermatology (skin diseases and complications) and Otolaryngology (Ear, Nose and Throat (ENT) diseases.

"As healthcare providers strive to make specialists more accessible to patients in an affordable way through telemedicine, Liquid Telecom Kenya has been able to offer both the high-speed internet connectivity and software

to enable uninterrupted two-way audio-visual and data communication in a delivery that aligns exactly with our vision of driving digital transformation across Africa," said Adil Youssefi, chief executive of Liquid Telecom Kenya.

Aga Khan Hospital Mombasa decided it was time to provide telemedicine to its local clinics.

The challenge for the hospital was, of course, connectivity. It needed a 99.99% uptime guaranteed connection from Aga Khan Hospital Mombasa to its seven outreach clinics along the Kenyan coast. Furthermore, it needed to install a fibre network connection of sufficient quality to support telemedicine services.

Pan-African specialist Liquid Telecom was chosen to make it a reality. It established a high-speed connection of 24Mbps linking the main hospital and six of its outreach clinics. This was complemented by the Office 365 suite which offers Skype for Business, facilitating patient-doctor video appointments.

Suddenly, the less well-off were thrown – quite literally – a lifeline. If you visit Aga Khan Hospital Mombasa today, you will see that it now offers telemedicine services from its main hospital to its Ukunda, Kilifi and Voi clinics, which serve up to 200 patients a day. Delivered via Liquid Telecom's high-speed network.

The three clinics are offering specialist services in gynaecology, ear, nose and throat, and dermatology.

"When a patient at a clinic requires specialised attention, the clinicians logs a video request with the specialist and run a video conference with both specialist and patient," says James Siku, Head of ICT at Aga Khan Hospital Mombasa. "They also use our newly installed digital medical equipment to make a diagnosis, with everything about the patient recorded in the hospital records system."

However, the progress doesn't stop there. The hospital says plans are underway to further launch the service to its outreach clinics in Nyali, Changamwe, Mtwapa, and Bamburi Mwisho. They are set to roll out the video consultancy and diagnostic services.

"Thanks to our new digital equipment and internet, specialists can now see in real-time, say, the condition of the skin, and other vital readings, then offer consultancy and diagnostics online," says Sultana Shermana, interim chief executive officer of Aga Khan Hospital Mombasa.

The hospital has also invested in a state-of-the-art cardiac catheterisation laboratory that is first in the coast province for diagnosis of heart conditions and a 1.5 Tesla Magnetic Resonance Imaging (MRI) machine and runs a digital HMIS - managing inpatient and outpatient records, lab results and diagnosis – that is now accessible across all of its clinics and main hospitals.

Furthermore, it's not just patients who will benefit from this new telemedicine set-up. The hospital has already introduced e-learning courses covering Continuous Medical Education (CME) and Continuous Nursing Education (CNE) between the main hospital and its outreach clinics.

In addition, the hospital now runs knowledge exchange forums using video conferencing with public hospitals, such as Rabai, Tsangansini and Mariakani hospitals. The purpose is to exchange knowledge and discuss medical case management – in a collaborative process that drives best-practice treatment plans. The forums also help clinicians earn credits for their professional qualifications and credit transfers under Ministry of Health guidelines. ■

If you visit Aga Khan Hospital Mombasa today, you will see that it now offers telemedicine services from its main hospital to its Ukunda, Kilifi and Voi clinics, which serve up to 200 patients a day

Introducing drones to the villagers of Madagascar

The mere mention of the word "drone" can conjure up different emotions – anything from fascination and annoyance to pure fear.

Luckily, this case study tells the story of them being used for good. Madagascar's public health professionals, led by Dr. Peter Small, a professor of global health based at New York's Stony Brook University's medical school, wanted to help bring medical care to people in rural parts of the African nation. In order to do this, they partnered with a start-up drone company called Vayu, founded by Daniel Pepper, which aims to bridge the gap between remote villages and healthcare that is so often centrally available, but not so for local inhabitants.

The idea was to conduct an autonomous, long-distance flight of a drone to land and retrieve biomedical samples. In this case, they were blood samples collected by a health care worker in the field.

The machine flew from the central research facility and landed in the village and said health worker loaded it with real blood samples, before the drone flew back to the facility. This was a test with real samples and although this trip was just a one-stop round trip, with enough battery life, the drone could fly from location to location.

However, it wasn't as straightforward as it sounds. Small and his team needed to obtain permission from three different Madagascan ministries, each with different concerns about unmanned vehicles flying through their airspace.

The team also needed a drone that was capable of carrying large loads over long distances so Vayu selected one about the size of a picnic table, which can land, take off vertically, and fly autonomously as far as 40 miles (64km). With its helicopter-style propellers attached to static plane-like wings, the wing-and-propeller combination allows Vayu's drone to land precisely while still flying long distances economically.

Still, that wasn't the end of the challenges they faced. As well as wooing the ministries, the strangers had to gain the trust of – and educate - the villagers about drones. Many of these villagers live as their ancestors have for centuries and would be unnerved by flying vehicles.

Small relied on his colleagues at Stony Brook's ValBio research station, on the edge of Ranomafana National Park in Madagascar, who regularly dispatch health workers (by foot) to these remote villages.

"It's easy to say one could or will fly, but we actually did," Small said.

Today, drones fly to villages that aren't easily accessible by roads, in order to deliver medicine or pick up biological samples for analysis at a central medical centre. For remote villages in Madagascar's Ifanadiana district, where there are no roads, drones can fly to and from a central region in about an hour, compared to a trip lasting upward of 10 hours each way by foot.

Following the empowerment of the villagers of Madagascar, Vayu plans to launch pilot projects in other countries in different continents. ■

The machine flew from the central research facility and landed in the village and said health worker loaded it with real blood samples, before the drone flew back to the facility

PHOTO: NEWS.STONYBROOK.EDU

Discover the opportunity of African telecoms

TowerXchange Meetup Africa is the world's largest event dedicated to passive telecoms infrastructure. The event brings together strategic, investment, operational and innovation leaders from towercos, MNOs and their suppliers for two days of intense discussion and technology showcases. TowerXchange is the leading journal for the telecoms tower world, with researchers covering Africa, the Americas, Europe, the Middle East, Asia and China. The team is deeply embedded in the industry and each event is curated to target the most pressing topics, and bring together key decision makers.

This year the event is co-located with the FTTX Council Africa annual conference, highlighting the convergence across digital infrastructure which is taking place. As well as diversification, the event will cover changing revenue models for towercos and how this affects their investibility, new markets and geographic expansion, energy transition and power strategies and other approaches to operational excellence. Over 300 attendees regularly attend, and because of our in-depth research and personal relationships with industry we ensure the key decision makers attend and engage.

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Satellite is the answer for the two largest continents

Following the successful launch of the AMOS-17 satellite in early August, Eran Shapiro, director, business technology ventures at Spacecom tells us how it will help the Asian and African markets

Soon broadcast, telecom, data and Internet broadband signals will be bouncing back and forth from a satellite located at the 17°E orbital position. The satellite, AMOS-17, is the newest member of Spacecom's multi-regional fleet providing services to Africa, Asia, Europe and the Middle East. For the fast-growing populations and economies of Asia and Africa this is an excellent sign as satellite communications represents the future.

On August 6, 2019, from Cape Canaveral in the U.S.A., Spacecom's AMOS-17 communication satellite soared upward towards its orbital position upon a SpaceX Falcon-9 launch vehicle. Some 30 minutes after launch, the satellite separated from the launcher's second stage and, as planned, began its contact with ground stations. By the end of August, the satellite's solar panels and antennas deployed as programmed. The company expects commercial operations to begin in a few months following extensive rounds of In Orbit Testing.

Satellites in geo-stationary orbit stay in one spot during their lifetime. For AMOS-17, this is

the 17°E orbital position. This position high above the African continent enables the satellite to provide services with its powerful beams to Africa and Southern Asia. In addition, these beams connect Africa, Europe, the Middle East, India, China and other areas in Asia, and as far west as Brazil. From 36,000 kilometers in the sky, the satellite will provide a plethora of services to help fuel and feed digital communications.

Around the globe, especially for residents of Asia and Africa, broadband internet and telecom on-demand are staples of life. If one thinks about it, people are coming to the realization that the Internet is so intertwined with their lives that they need it for their existence, not unlike bread and water.

It is this need, especially for residents in rural and outlying regions, or those from mountainous and geographically difficult areas to reach, that satellite communications is vital. Vast areas in Africa and Asia are either underserved or have intermittent connections to the outside world because they lack reliable ground-based communication infrastructure. Due to the many citizens living in low-density population area such as in rural and outlying regions, straightforward economic justification for investing in ground telecom infrastructure projects by operators and governments is subdued. This means that even today, the digital divide between urban and rural areas is growing. This growing chasm needs to be eradicated.

Africa is a huge continent with one of the world's fastest growing populations. Within a few years, the continent's population is forecast to reach 1.5 billion – and it will continue rising. The amount of young people under the age of 18 on the continent is close to half of its population. Asia, with a population of 4.463 billion, or 60% of global population is also seeing a growth in youth with close to 26% being under the age of 29. These younger populations are the largest and most savvy consumers of digital communications as they are the major users of applications and downloads, and as this population grows, it will consume more and more capacity. Yet, today, the regions where many of these young people live, suffer from a lack of easy and economically viable internet access infrastructure.

For governments, reaching its far-flung or hard to reach populations with digital services is a must. The easiest and most efficient method of long-distance services and communications is satellite. For corporations expanding their businesses into new regions, satellite again is the preferred method of providing services, Internet communication and data transfer.

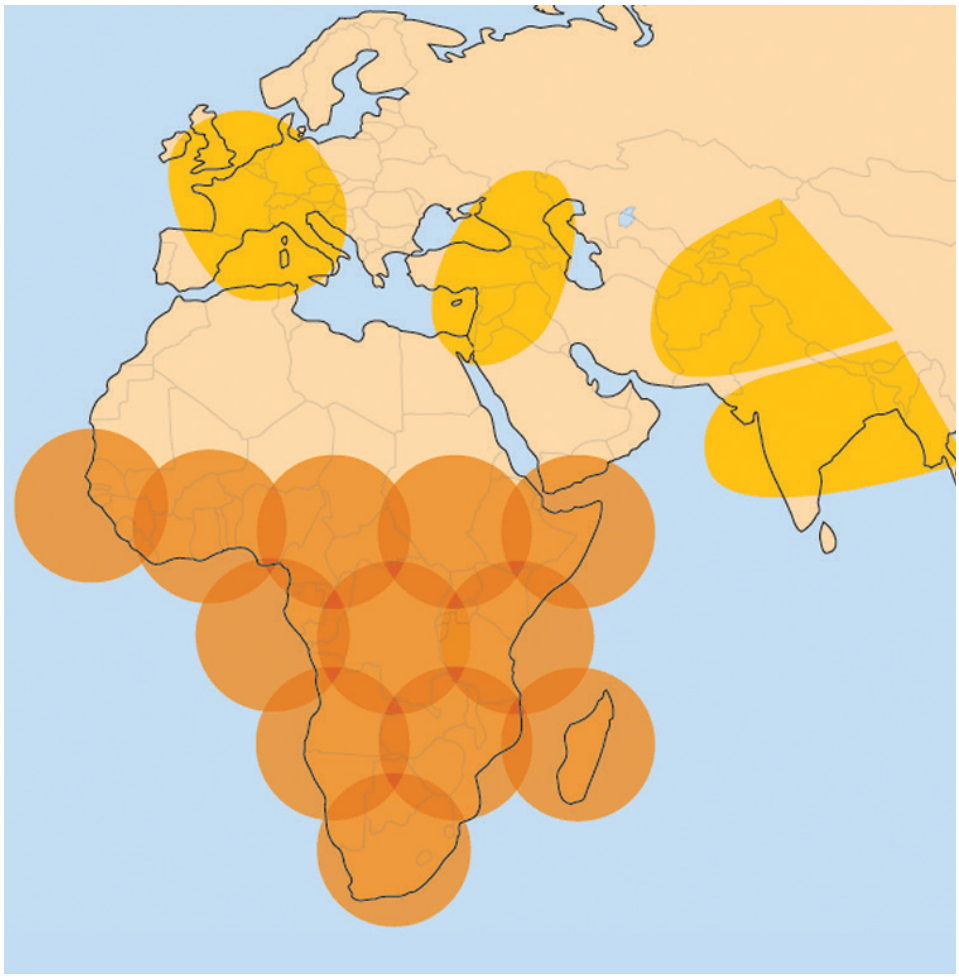
Spacecom took this into account in planning the satellite, ensuring that it meets the different needs of various communication services providers in Sub-Saharan Africa and Asia. By tailoring the satellite specifically to assist businesses and governments overcome the digital divide, the company's AMOS-17's beams can efficiently reach outlying regions to provide services for the growing broadband, broadcast and communication needs of governments, communication operators, MNOs, broadcasters and cellular companies.

"For governments, reaching its far-flung or hard to reach populations with digital services is a must"

One new technology utilized on AMOS-17 is a "digital channelizer." This element significantly enhances bandwidth efficiency by dividing uplink and downlink spectrum into independently routable sub-channels and providing a connection from any uplink coverage area to any downlink coverage area. It supports suppression of interferences, flexible capacity allocation, and other digital processing features for improved service while all command and control channels, as well as telemetry, are encrypted for maximum security.

AMOS-17's digital channelizer provides connectivity between all beams in all available bands in any combination. Thus, a client can use a combination of beams or can change its beam usage at any time to match all communication needs. It also enables a seamless combination of AMOS-17's fixed and steerable beams to a comprehensive integrated solution and ensures a fast response to customers' changing needs. For corporations operating in Asia and Africa, or considering expansion, this flexibility is a tremendous solution for multi-regional communications.

The opportunity is clear. By enabling service providers or governments the ability to offer an extensive array of services quickly, highly efficiently and at low cost to these populations, the satellite contributes to creating a new economic stimulus that excites corporate as well as government officials seeking to better serve their outlying populations. To get connectivity via AMOS-17, locals can set up a simple solar-powered terminal that functions in all types of weather, and requires very little maintenance, fueling, etc. It allows customers to minimize both their initial costs (CAPEX) and on-going operational costs (OPEX). This is what really sets this satellite apart: it creates a clear and vital economic case that helps close the digital divide and generate an open path generating improved communication between people. ■



AMOS-17's C-Band HTS enables provision of internet broadband services on one beam to a specific country, rather than using multiple beams for regional or full country HTS coverage

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South Korea's KT signs 5G deals with Europeans

South Korean telecom firm KT has inked roaming agreements with Italy's TIM, Switzerland's Sunrise and Finland's Elisa, which would allow its 5G subscribers to use the 5G networks provided by the three European players.

KT already has existing agreements with operators in 185 countries for 3G and LTE roaming and is now planning to extend those contracts to 5G as soon as 5G services go live in those nations. It has a similar agreement with China Mobile – though services have not been launched yet.

The price for customers during the 5G launch would be KRW55,000 per month and will have 8GB roaming data internationally. Subscribers paying KRW80,000 per month will enjoy unlimited roaming data. Premium customers will pay KRW130,000 per month for an increased speed limit.

Park Hyun-jin, managing director of KT's 5G business division, said: "KT is leading the roaming market with 'Super Plan', the first full data unlimited plan introduced in the industry with the commercialisation of 5G. We will continue to expand our service to other travel destinations."

NY construction firm lands major Saudi contract

A New York construction consultant has won a contract to provide project management consulting services for Riyadh-headquartered Saudi Telecom Company's (STC) redesigned plan for its current King Abdul-Aziz Telecommunication Complex.

Hill International will develop infrastructure, including roads, underground services networks, cables, landscape and hardscape, new buildings, plus the renovation and facelift of existing buildings as per the approved master plan design.

The operator has been on an aggressive mission since it lost the monopoly on mobile phone services after the assignment of a second license to Etihad Etisalat. In April 2007 its monopoly on fixed telephone services also ended. As a result, it has been enlisting help in order to get back on top.

Currently, the project consists of a headquarters building, an administration building, a multi-story car park, multipurpose buildings and recreational facilities comprising food and beverage outlets, health club and spa facilities, meeting facilities, retail outlets and a mosque.

The US firm will oversee the design and construction process to help ensure that STC and end-user requirements are implemented and achieved in the timeframe and within budget.

"STC is the leading provider of telecommunication services in the Kingdom of Saudi Arabia and is one of the largest operators in the Middle East," said Hill International's Adel Karem Jemah, senior vice president and country manager of KSA, said. "Hill is privileged to have been selected to help STC manage their new master plan and is committed to working with all stakeholders involved in this momentous project."

Free 5G and public Wi-Fi at Beirut airport

Lebanese telecom minister Mohammad Choucair in September launched 5G and public Wi-Fi services for all passengers at the capital Beirut's Rafic-Hariri International Airport.

The move is part of the Lebanese government's project aimed at expanding Beirut's airport to cater to an increasing number of passengers as the country heads into the next decade.

"Beirut's airport is among the very few airports to offer free 5G and public Wi-Fi internet connections starting today to all its passengers," said Choucair. "The internet speed at the airport is great now and all passengers can use it while waiting for their flights."

According to a recent study released by the airport in March last year, as many as 10 million passengers are expected to travel through the Beirut airport by the start of 2020, which has the capacity of hosting only six million passengers annually.

In 2018, Lebanese finance ministry approved 18 million US dollars in funding the expansion of the airport. The government said the introduction of the new wireless services was an important step toward future proofing the airport and keeping travellers connected.

Hispasat and Bansat partner for humanitarian effort

Spanish satellite telecommunications operator Hispasat has partnered with Colombian counterpart Bansat to offer satellite connectivity for a humanitarian mission in Colombia.

Organised by the Colombian government, the expedition is transporting humanitarian material and personnel to towns located on the banks of the Atrato, the third-largest river in the South American nation.

It will mean more than 4,000 families will receive kits for students and health and school supplies, as well as medical attention provided by the specialists taking part in the mission.

The members of the expedition, who work for public agencies such as the ministries of defence and health as well as private companies, will need communications in surroundings that have long lacked terrestrial infrastructure.

Satellite technology will help by providing coverage throughout wide footprints and VSAT terminals, which can be quickly installed to offer a high-quality internet connection.

The Atrato river is the third-largest river in Colombia

The mission started on September 5th and is expected to continue for a number of weeks.

Hispasat has had a subsidiary in Colombia since 2013 and has contributed to promoting digital inclusion and development in the country for a number of years, providing connectivity services in more than 700 points in Amazonas, Boyacá, Caldas, Cundinamarca, Guainía, Quindío, Risaralda and Vaupés.

In addition, the firm has installed Wi-Fi hotspots in remote towns in the departments of Bolívar and Sucre to offer satellite connectivity services which can be accessed on mobile devices by using prepaid passes.

Aussie complaints drop 21% in H1

The number of complaints made to Australia's telecom ombudsman fell 21.1% in the year to June to 132,387, according to the TIO's latest annual report.

Nevertheless, unresolved complaints took longer to close. In 2019, some 47% of escalated complaints were closed within 60 days, down from 77% in 2018.

The TIO said it showed the increasing complexity of technical issues and small business problems. Measures taken to address the problems include the creation of specialist teams to handle the escalated complaints, while working closely with the phone and internet providers to better understand why the issues remained unresolved.

Furthermore, the report also includes for the first time the top five issues in internet, mobile and landline services. Having a problem with a bill and experiencing poor customer service remain high, and expectations for quality and reliability of internet services is increasing, the ombudsman found.

Complaints about internet services (43,164) overtook complaints about mobile services (40,103) as the most complained about service type in the past year. Service and equipment fees, and no action or delayed action by a provider were the top complaint issues for consumers across internet, mobile and multiple service types, followed by the quality and reliability of internet services, and difficulties establishing a connection with an internet service.

The report further found an increase in complaints about changing provider or connecting to the NBN, to 8.6 per 1,000 premises in the second half of the year from 6.7 in the first half.

Vodafone secures Oman deal

Vodafone Group has signed a strategic partnership agreement with Oman Future Telecommunications (OFT), making the UK-based operator the third player in the Middle Eastern country.

The OFT consortium, led by Itqan Tech Development, had secured the Sultanate's third mobile network operator licence in October 2017. The acquisition was preceded by the cancellation of the tender process.

Under the 15-year non-equity agreement, Vodafone and OFT will work together to roll out a new mobile network and develop a number of new services using the Vodafone brand in Oman. OFT also becomes a part of the operator's Partner Markets programme.

The development of the new Vodafone branded network will start immediately with a commercial launch currently planned for the second half of 2020.

Vodafone Partner Networks chief executive officer Diego Massidda said he was delighted to start the strategic partnership with OFT and added how he is looking forward to developing a new network operator in Oman and contribute to the country's digital economy. He also said that this partnership will build into a strong and lasting relationship that will benefit customers of both companies.

Taliban fires warning to Afghan telecom firm

The Taliban has threatened to target employees and installations of the state-owned Salaam Telecommunication Company for not taking seriously the warnings of the group and conducting "intelligence activities".

Known as a Sunni Islamic fundamentalist political movement, the Taliban said in a statement that installations, offices and vehicles of the company will be treated as military targets and that the group will destroy the optic fibre lines. The group also claimed customers will also face the consequences of using the services of Salaam telecom company.

The Taliban said that Salaam is conducting intelligence activities and provides the ground for Afghan and foreign forces operations against the group.

Acting minister of telecommunication and information technology Mohammad Fahim Hashimi said the activities of the company will continue and that the security of its employees will be ensured.

"The Salaam company will continue its services to the people of Afghanistan. No threat will prevent the activities of this company. Urgent measures will be taken for the security of the company's employees," he added.

Vietnam's slow internet

Vietnam ranked 89th out of 207 countries and territories for internet speed and is far behind some of its neighbours, according to the cable.co.uk Worldwide broadband speed league 2019.

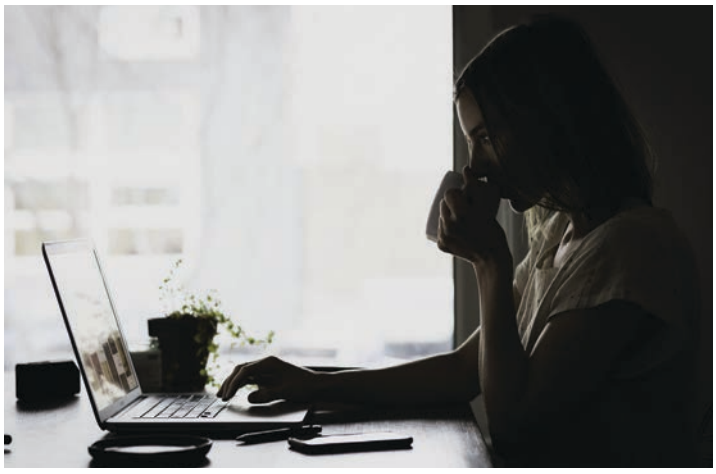
With download speed of 7.02 megabytes per second, Vietnam's internet speed ranking has plummeted 14 places from 2018.

The ranking was based on data collected over 12 months from May last year, analysing over 267 million speed tests across the globe.

Vietnam's average broadband speed was recorded as 10 times slower than Singapore at 70.86 Mbps, more than three times lower than Malaysia (23.86Mbps) and more than two times slower than Thailand (18.21Mbps).

However, it is ahead of Indonesia, the Philippines, Myanmar, Brunei, Cambodia, Laos and Timor Leste.

Around 64 million people in Vietnam, or over half of the country's population, are online. It currently has six submarine cable systems, plus a 120-gigabit channel that runs overland through China. However, frequent undersea cable ruptures have given Vietnam a reputation for unstable internet connections.



With download speed of 7.02 megabytes per second, Vietnam's internet speed ranking has plummeted 14 places from 2018

Meanwhile, Singapore has been pushed down into second place by Taiwan, which tops the world with an average broadband speed of 85.02Mbps. British dependency Jersey is third with 67.46Mbps, followed by Sweden with 55.18Mbps.

South Korea claims another 'first'

South Korea's SK Telecom has claimed a first – winning the race to successfully test and use a 5G standalone (SA) terminal, base station and network core earlier this summer.

The successful data transmission on a pure 5G network was initiated with base stations and core equipment from Ericsson and terminals from Qualcomm, the operator said.

SK Telecom operates on the non-standalone (NSA) core, which means the operator relies on a 4G LTE network core to support both generations of cellular technology. The firm said it planned to commercialise its 5G SA infrastructure in the first half of next year, along with other new capabilities such as network slicing and mobile edge computing (MEC).

Although SK Telecom is not the only operator moving hastily toward a 5G SA core, it is among the earliest and most advanced so far. Over the last few months, T-Mobile US completed a 5G SA data session using equipment from multiple vendors. Ericsson also readied 5G new radio software operators will need to deploy a pure 5G network, while the Swedish giant and Qualcomm initiated a 5G SA data connection test. Elsewhere, Nokia, Huawei and ZTE, and other vendors and operators are also completing trials and moving toward 5G SA deployments.

Norwegian government gives Huawei the green light

Norway's cabinet minister Nikolai Astrup, the man tasked with leading digital efforts across the government, said Chinese technology giant Huawei is free to operate in the country.

The news, which was first published by Reuters and then picked up by other news agencies, is good news for the embattled technology giant, which has been shunned by some countries due to its ongoing row with the US with regards to spying accusations.

"We have a good dialogue with the companies on security, and then it is up to the companies themselves to choose suppliers," said Astrup. "We haven't got any bans against any suppliers in Norway."

Norway was one of the countries which was considering a ban on the grounds of national security, though this now appears to be a process designated to the past. It also demonstrates decisive action from a government.

Huawei, which is said to have strong ties to Beijing, has denied the claims from the start.

Although Norwegian telecom operators are seen as fast-followers for 5G deployment, as opposed to leaders, they now have certainty. Other countries, such as the UK where services are already launched, remain in the dark as decisions are still currently being made. EE, Vodafone and Three are still waiting to hear if Huawei will play a role in the UK's digital infrastructure future.

Telenor, Norway's largest telecom business, plans to launch commercial 5G services in 2020, while Telia and Ice will also be prepping themselves following the country's first 5G spectrum auction in June. Post auction, Telenor and Telia each secured two 10 MHz blocks 700 MHz spectrum, while Ice collected two 10 MHz blocks in 700 MHz and two 15 MHz lots in the 2100 MHz band. Further auctions are planning over the next few years, with the valuable 3.4-3.8 MHz and 26 GHz bands up for bid next year.

Philippines police handed Hytera DMR network

The Philippines National Police (PNP) launched Hytera's digital mobile radio (DMR) communications system in a bid to strengthen PNP connectivity through digital transformation.

Unveiled during the Philippines Communications and Electronic Service 77th Founding Anniversary, Chinese firm Hytera provided "an intelligent" DMR trunking system and about 20,000 digital terminals. The new system can be integrated with many others, such as the public switched telephone network (PSTN) and a car identification database for queries.

"During the actual demo, we witnessed a seamless connectivity with regional headquarters from PRO-7 and PRO-11," said PMAJ Crysler M. Benedicto, chief of Com Center Section, FOCCD, CES. "The communications and radio check between officers is very clear. And it is a very understandable connection by using the DMR of Hytera, which is deployed nationwide."

The previous PNP analogue radio communications system was put in service in 1995 and has a lifecycle of 10 – 12 years

The previous PNP analogue radio communications system was put in service in 1995 and has a lifecycle of 10 – 12 years. Its APCO P16 technology was outdated compared with the radio systems used by PNP counterparts in other nations. Furthermore, serious communications issues had arisen because of the old system, including high costs of maintenance due to frequent repair and spare parts shortage, poor interoperability, inadequate coverage and low frequency efficiency.

"The DMR technology provided by Hytera is very, very clear, particularly in our area — Davao City – where we are implementing Tier 3," said PLTCOL Donel A Sungkip, AC, RCEO11. "Currently, all major events in Davao, the city where the Philippine president is located, are relying on this technology, particularly the product of Hytera. As we speak, it is being used for another important event in another province for their celebration. I bring my Hytera radio with me here in Manila, and it is still working and has very nice voice reception."

A series of live demos were carried out during the event.

Russia rushing to get 5G

The Russian government aims to have reliable 5G communication in all the major cities of Russia by 2024, according to plans for the "digital economy of the Russian Federation".

Five of Russia's major telecom operators are planning on launching 5G commercially in 2020 and one player, MTS, has signed an agreement with China's Huawei Technologies to carry out 5G network trials over 2019-2020. It is also working with Swedish manufacturer Ericsson to test smart city solutions over 5G/IoT networks in the Republic of Tatarstan.

Another operator, Beeline, received frequencies in the 25.25GHz-27.5GHz bands to carry out 5G trials in Moscow, St. Petersburg, Novosibirsk, Tatarstan Republic and Krasnodar. It is also working with the Moscow authorities to deploy a 5G network, NB-IoT, Smart City and virtual/augmented reality (VR/AR) solutions. To further develop and implement 5G and internet of things (IoT) services, Beeline has partnered with Skolkovo Foundation to establish a competence centre to facilitate technology integration in Beeline's business.

Five of Russia's major telecom operators are planning on launching 5G commercially in 2020

Meanwhile, Megafon and Rostelecom, established a 50:50 joint venture for 5G development. The former plans to pool its 5G-suitable spectrum including 24MHz in a 3.4GHz-3.6GHz band in Moscow, gained through the acquisition of Neosprint in April last year. Elsewhere, Rostelecom is working with a state corporation, Rostec, to develop a 5G roadmap. Rostelecom's responsibilities include the development of a section of the roadmap concerning the deployment of 5G infrastructure using domestic technologies and stimulating market demand for 5G.

The fifth telecom firm Tele2, in partnership with Ericsson, has launched an experimental 5G zone in Tverskaya Street in central Moscow. Over 50,000 base stations will be deployed across the country over the next five years.

Ethiopian PM invites Israeli investors

Ethiopian prime minister Abiy Ahmed has invited Israeli investors to consider investment in his country's telecom sector. He made the announcement when he visited Jerusalem in early September to meet his counterpart prime minister Benjamin Netanyahu of Israel. "In Ethiopia we have given due emphasis to widening the business space for the private sector to engage in all," Abiy said.

Oi 'in talks' with Spain's Telefonica

Brazilian telecom firm Oi SA is in talks with Spain's Telefonica SA and Italy's Telecom Italia SpA to sell its mobile network to avoid insolvency, according to reports. Oi has been struggling to turn around its business since filing for bankruptcy protection in June 2016 to restructure approximately 65 billion reals of debt. Reuters reported that the South American country's largest fixed-line carrier expects to raise more than 10 billion reals (US$2.4bn) by selling its mobile operations.

PM promises lower bills

Canadian prime minister Justin Trudeau's Liberal Party has pledged to lower mobile phone bills if re-elected. The party would seek to reduce the cost of wireless services by 25% within four years, according to a statement. To make it a reality, the party will work with telecom companies to offer plans at globally comparable prices, encourage competition and allow regulators to step in if that competition does not lead to lower prices.

Q&A

Anshoo Gaur
CEO
STL – Network Software

When was your big career break?
For me, a career is an evolving and continuous process. I don't believe in big career breaks.

What is the best thing about your job?
Primarily, I consider the ability to lead and define the future solution for arguably the most dynamic industry in the world today – telecommunications – as the best thing. Secondly, my job allows me to unleash the talent of the youth and channelize it in the direction that can help change the world.

What is the hardest thing about your job?
Getting customers to acknowledge that the changed operating context requires them to adopt a different set of platforms, practices, partners and mindsets is the hardest thing. The customers know that something has got to change but are not able to figure out what it is. The challenge for them is identifying the best way to offload legacy platforms, practices and mindsets.

> "My paternal grandfather has been a big inspiration for me... he rejected many offers from the British to trade prison time for giving up the freedom struggle."

Who has been your biggest inspiration?
My paternal grandfather has been a big inspiration for me. He was a Gandhian who spent his life in prison during the freedom movement. He rejected many offers from the British to trade prison time for giving up the freedom struggle. His humility, integrity, hard work and patriotism were unlike anything I have ever seen. He passed away when I was relatively young, but he remains as an inspiration to look up to and emulate.

What has been your career high to date?
I am not clear about how highs and lows are quantified in a career. My career so far has given me a lot of learning opportunities and this continues to be the case. I look at highs and lows from the point of view of alignment with the defined purpose of my life. Good alignment with purpose means high and low alignment means low. And on this scale, the career and personal decision we made to come back to India 13 years ago for multiple reasons was a high. The 'career' might have been 'better' if we did not relocate, but the alignment with purpose would be missing and hence this was the right choice and we have never regretted the decision.

What has been your career low to date?
Again, the time at which we do things that are not completely aligned with the purpose is a low. Similar to the urgent-important conundrum, I sometimes find myself dealing with things that I am just not able to assess for purpose alignment. I just go with the flow and later realise that there was no alignment. I consider staying longer than I should have in my earlier job as a low. I was clearly very busy and had a lot to do but in hindsight, my alignment with purpose had taken a hit. The 'important' part is to be aware and not allow this to become the norm and the good news is that I did not let that go on for too long.

What is your biggest regret to date?
I don't want to sound clichéd but I do not have regrets on the professional front at all. I'm a strong believer in 'everything has a reason' and I do not spend time looking back. Personally, not spending enough time with the kids is a constant regret. I have tried to make up in different ways, but it is not enough.

What would you say is the best technological advancement in your lifetime?
We are in the age of technology disruption. Technology is at the core of the digital wave. As per Singularity University, the technology change is exponential. In the next 100 years, we will experience progress equivalent to 20,000 years. If I look back, just when I have seen the greatest technological advancement, I get surprised by something amazing that comes along.

What is the best business lesson you have learned?
The harder you work the luckier you get. In the end, there are no short-cuts.

If you had to work in a different industry, what would it be?
I would remain in the technology industry since it is at the heart of what is changing the world, something that fascinates me, and more importantly, a big catalyst to help me be aligned with my purpose. I would consider spending more time investing and mentoring companies that solve complex unaddressed problems in the world. Healthcare and education are of special interest to me as those are probably the two industries that will look very different in the next decade than they are today.

What is the biggest challenge the industry faces at the moment?
The biggest challenge is letting go of the technology – products and practices - that got us here. These were good for the past but not good for the future. We are in a most dynamic industry and legacy is a burden.

Which competitor you admire the most and why?
I find that a few of them have important attributes to admire and learn from them. Further, in today's converging world, I admire and learn from other industries as well. I make it a point to attend at least one conference every year from an industry completely unrelated to me. Interestingly, these are the places of the greatest learnings that I have had. Closer to our industry, without naming any, I admire the delivery capability of one of our competition. It has a legacy to defend. So, it thrives on driving FUD (Fear, Uncertainty, and Doubt) created in the minds of customers. It does not necessarily put the customer first but they do get things done, which is important when we deal with mission-critical systems. From another competitor, I learned the importance of design and anecdotally I learnt a very important concept of WIDIWIG (What I Design Is What I Get) from them. When you apply it to any business challenge you usually realise that the problem was inevitably how things were designed. Design plays a critical aspect of the success of the product.

> "I am not clear about how highs and lows are quantified in a career. My career so far has given me a lot of learning opportunities and this continues to be the case."

What is the best thing about working in this industry?
The pace of change is breath-taking. In 2018 we had bots & assistants, video streaming and IoT in home automation. In 2019 we are closer to 5G and all the hyper-data applications it will support.

What do you want to do when you retire?
I love work, I am sure the nature of work that I do will evolve but I do not intend to retire. I believe in the power of youth and what they can do to change the world. I will continue to help in unleashing this talent to help solve the complex problems that the developing world faces. ■

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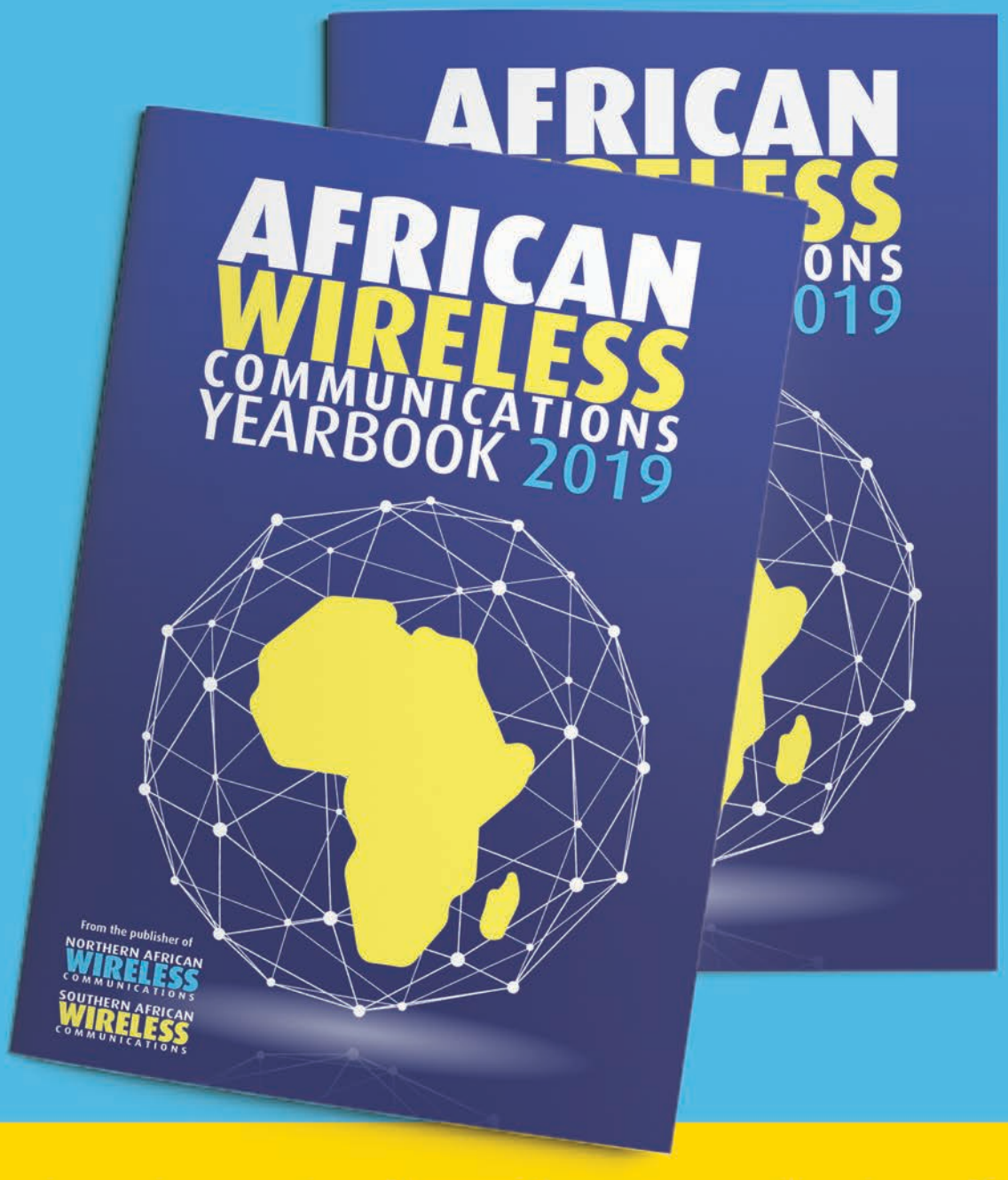

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