- **The LEO vs. GEO debate: what the experts have to say**
- **Firms future proof themselves with new tech investment**
- **Satellite's key role in the future of rural banking**

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Spacecom & ST Engineering iDirect demonstrate VSAT return

Spacecom and ST Engineering iDirect have demonstrated VSAT return capabilities on the AMOS-17 satellite, according to the partner companies.

They said the demonstration resulted in an "exceptionally" wide return link for a small VSAT of 40 Mbps using the iDirect iQ 200 modem's Adaptive TDMA return over AMOS-17's high power C-band HTS beams.

Conducted from the UK based SMS Teleport, the modem and antenna were installed in a communications truck located between Johannesburg and Pretoria, South Africa. The return data rate enabled simultaneous transmission of multiple high data streams from South Africa to Europe with a small antenna, resulting in the low-power communications-on-the-pause (COTP) solution. Both firms said this opens up operational and business opportunities such as emergency deployments, government applications, coverage of events and backhaul services.

"By utilising the iDirect Evolution platform and iQ 200, we can now offer a unique low footprint, low power and high capacity return

Conducted from the UK based SMS Teleport, the modem and antenna were installed in a communications truck located between Johannesburg and Pretoria, South Africa

links from any remote location, enabling users to enter new markets and facilitate new applications," said Tsachi Dahan, Spacecom vice president of vertical solutions.

"AMOS-17's C-Band spot beams provide superior throughput and efficiencies over Sub-Saharan Africa with connections to Europe, the Middle East and parts of Asia.

We look forward to presenting this unique value proposition to our customers brought about by this combination of satellite and ground segment."

Cape Verde Telecom considers litigation against regulator

Cape Verde's incumbent Cabo Verde Telecom (CVT) is considering legal action against the country's regulator ARME (Multisectoral Regulatory Agency for the Economy).

The state-backed operator's complaint is based on the watchdog's

decision to grant rival operator Unitel T+ permission to use CVT's submarine cable terminal in the capital, Praia.

Despite branding ARME's decision "illegal" in local news outlet Lusa, CVT is obliged to uphold its ORAE reference offer, under which rival

firms may receive wholesale access to its global submarine cable capacity. Local cable landing stations are covered under the offer.

Cape Verde's government acquired a majority holding in CVT via its National Social Security

Institute, when Brazil's Oi divested the stake and exited the market. Unitel T+ is ultimately owned by Isabel dos Santos, one of Angola's wealthiest women, via the Netherlands-headquartered Unitel International Holdings.

Firms compete for Ethio privatisation project

Ernst & Young, Deloitte, PwC and Roland Berger are competing to oversee the privatisation process of Ethio Telecom.

The Ethiopian government will soon announce the consultant hired to oversee the partial privatisation of Ethio Telecom, with Ernst & Young, Deloitte, PricewaterhouseCoopers (PwC) and Roland Berger in the running.

At the end of September 2019,

the Ethiopian Ministry of Finance, the department which manages the pre-privatisation process of Ethio Telecom, launched a call for expressions of interest to recruit an international company which will oversee the process of partial privatisation of the telecommunications operator.

KPMG, which is already evaluating the assets of Ethio Telecom, has been disqualified

due to a conflict of interest, which could arise following its current contract with the operator. KPMG was hired in August 2019 to conduct the valuation of the assets of the public telecoms company.

The consultant chosen by the Ministry of Finance will be retained for approximately 14 months and will undertake due diligence to verify the company's financial position, potential

litigation, taxes, contracts and will recommend a workable privatization process for Ethio Telecom.

The consultant will also be involved in the preparation of tender documents for the partial privatisation, will examine the initial evaluation of the assets, will identify the selection criteria for the bidders. The government has decided to sell 40% of Ethio Telecom for privatisation.

Liberian operator Lonestar boosts MoMo and social media

Liberian operator Lonestar Cell MTN has introduced two new initiatives to make mobile payment and social media access easier for its customers.

Access Bank Liberia customers can now send money from their MTN Mobile Money (MoMo) accounts to their bank accounts.

Bank customers will have to visit their nearest branch to link their bank account to their Mobile Money account, dial a special code on their phones, make sure they have their account numbers ready and follow the prompts. Account holders customers who are not yet

registered on MoMo can join with a free sign-up process.

The Liberian operator is also giving its customers free access to Facebook through its Facebook Flex service. Its customers can browse, post, update their status or comment on posts for free without using up their data

allowance. Users just need to connect to Facebook using the android app or visit the facebook.com mobile site through their phone's browser and select the Free Mode.

In addition, Customers can switch from Free Mode to Data Mode to view and interact with photos and videos.

Nigeria's regulator to look at social media

Nigeria's ministry of communications and the digital economy has unveiled a five-year Strategic Management Plan 2020-2024 (SMP) for the Nigerian Communications Commission (NCC) that contains plans to regulate emerging technologies and over-the-top services (OTT).

Isa Pantami, minister of communications and the digital economy, said the plan helps actualise the goals contained in the country's digital economy policy. OTT includes the likes of Facebook and WhatsApp.

According to the Commission, the SMP, tagged ASPIRE 2024, is aimed at creating a seamless strategy to actualise the full benefits of the digital economy in Nigeria and also leverage on the provisions of the country's National Digital Economy Policy and strategy (NDEPS), as well as the National Broadband Plan (NBP).

The plan will cover guiding principles and act as the operation manual for the NCC in its bid to actualise the country's digital economy plans in the next five years.

In November 2019, president Muhammadu Buhari unveiled the country's NDEPS a month after the approval of the addition of the phrase "digital economy" to the ICT ministry. The plan was based on key pillars that sought to boost the country's digital economy.

In February, the ministry unveiled the NBP for 2025, with plans to achieve 70% broadband penetration and 90% 4G/5G coverage by 2025.

MainOne aids Burkina Faso project

Broadband infrastructure firm Main One has been asked by the government of Burkina Faso, backed by the World Bank, to provide bulk connectivity services to a group of operators for the next three years.

The consortium aims to deliver a turnkey project that will provide fibre optic transmission infrastructure between the capital Ouagadougou and Dakola. This is to be delivered in two phases within a three-year period.

A World Bank contribution of US$20 million, plus support from the government's PRICAO (Projet Régional d'Infrastructures de Communication de l'Afrique de l'Ouest) initiative, has enabled the setting-up of a 200km fibre optic transmission link from Ouagadougou to Dakola.

The first phase of the project began in 2018; the initial stage will provide capacity in Ouagadougou over three years. Phase 2 of the project will begin in the second quarter of 2020 and will lead to the provision of additional internet capacity in Ouagadougou and Bobo Dioulasso

A World Bank contribution of US$20 million, plus support from the government's PRICAO initiative, has enabled the setting-up of a 200km fibre optic transmission link from Ouagadougou to Dakola

within another three-year period.

MainOne has been selected to deliver the second phase and said it will provide 10 Gbps broadband capacity in Ouagadougou, together with 5Gbps in Bobo Dioulasso. MainOne currently delivers an additional capacity of 2.5Gbps to Ouagadougou to strengthen and secure the capacity initially

delivered in Phase I of the project.

In addition, MainOne said it has been able to provide its services in Burkina through terrestrial optical fibres connecting its landing point in Accra to the Burkinabe border town of Paga, where the organisation has established a physical point of presence specifically to address the needs of the Burkina Faso market.

Intelsat and AMN team up to connect thousands of remote areas

Satellite service provider Intelsat has joined forces with Africa Mobile Networks (AMN), a consortium that develops mobile network base stations in sub-Saharan Africa's rural areas, to connect a thousand remote localities in the region.

The deal for this project was signed in October 2018 and by the end of 2019, the two partners had succeeded in connecting more than

500 localities. Access to the mobile network was facilitated by AMN's solar-powered mobile connectivity solution and Intelsat's satellites positioned on the continent, providing mobile broadband connectivity.

"Bringing mobile connectivity to the most rural parts of Africa requires hybrid networks and innovative business models to truly close the business case," said Jean-Philippe

Gillet, managing director of Intelsat's network business. "Our work with AMN highlights how we can rapidly and cost-effectively, expand an MNO's (Mobile Network Operator) reach and deliver critical connectivity to communities who many previously thought were impossible to connect."

A total of 3.5 million more individuals that now have access to telecom services.

2Africa subsea cable announced by global and African partners

China Mobile International, Facebook, MTN GlobalConnect, Orange, stc, Telecom Egypt, Vodafone and WIOCC have all joined forces to build 2Africa, which they said will be "the most comprehensive subsea cable to serve the African continent and Middle East region".

The parties have appointed Alcatel Submarine Networks ("ASN") to build the cable in a fully funded project which is designed to enhance connectivity across Africa and the Middle East.

At 37,000km long, 2Africa will be one of the world's largest subsea cable projects and will interconnect Europe (eastward via Egypt), the Middle East (via Saudi Arabia), and 21 landings in 16 countries in Africa. The system is expected to go live in 2023/4, delivering more than the total combined capacity of all subsea cables serving Africa today, with a design capacity of up to 180Tbps on key parts of the system. Furthermore, 2Africa will deliver much needed internet capacity and reliability across large parts of Africa, supplement the fast-growing capacity demand in the Middle East and underpin the further growth of 4G, 5G and fixed broadband access for hundreds of millions of people.

The 2Africa cable has been designed to improve resilience and

The parties have appointed Alcatel Submarine Networks ("ASN") to build the cable in a fully funded project which is designed to enhance connectivity across Africa and the Middle East

maximise performance, including the option of a seamless optical crossing between East Africa and Europe. The 2Africa parties and Airtel have signed an agreement with Telecom Egypt to provide a completely new crossing linking the Red Sea and the Mediterranean, the first in over a decade. This includes new cable landing stations and deployment of next-generation fibre on two new, diverse terrestrial routes parallel to the Suez Canal from Ras Ghareb to Port Said, and a new subsea link that will provide a third path between Ras Ghareb and Suez.

Furthermore, the cable will implement a new technology, SDM1 from ASN, allowing deployment of up to 16 fibre pairs instead of the eight fibre pairs supported by older

technologies, bringing much greater and more cost-effective capacity. The cable will incorporate optical switching technology to enable flexible management of bandwidth. Cable burial depth has also been increased by 50% compared to older systems, and cable routing will avoid locations of known subsea disturbance, all helping to ensure the highest levels of availability.

"MTN GlobalConnect is delighted to participate in this bold 2Africa subsea cable project," said Frédéric Schepens, CEO of MTN Group's wholesale operation, MTN GlobalConnect."

This initiative complements MTN GlobalConnect's terrestrial fibre strategy to connect African countries to each other and to the rest of the world. We are proud to

be playing a key role in providing the benefits of a modern connected life – a core MTN belief."

Alioune Ndiaye, CEO of Orange Middle East and Africa, added: "As one of the world's leading multi-service telecommunications operators and present in 18 countries in Africa and the Middle East, it was natural for Orange to be part of the 2Africa project. This major investment will complete our existing submarine and pan-African terrestrial infrastructures to provide access to international connectivity in a redundant fashion throughout the west coast of Africa. It will enable Orange to securely meet the demand for increased bandwidth necessary for the continued digital development of regions throughout the 2Africa system."

Internet Society report highlights opportunity to advance digital economy in Africa

A new report published by the Internet Society (InternetSociety.org) explains the steps African countries can take to bring faster and less expensive internet connectivity to the continent.

The report illustrates how better connectivity represents a key opportunity for countries to continue to develop more resilient digital economies.

Entitled Anchoring the African Internet Ecosystem: Lessons from Kenya and Nigeria's Internet Exchange Points Growth, the report reveals how a vibrant Internet ecosystem is critical to bringing faster, and more

affordable Internet to Africa.

Internet exchange points (IXPs), locations where internet service providers (ISPs) and other network operators meet and exchange Internet traffic, are a critical piece of technical infrastructure that improves Internet access by keeping internet traffic local. Without a local IXP, Internet service providers have to use expensive international internet connectivity to exchange and access content (usually hosted abroad). Allowing traffic to remain local results in faster and more affordable Internet access.

The report also gives an update on a study published by the Internet Society in 2012 which examined two of Africa's more advanced IXPs at the time – KIXP in Kenya and IXPN in Nigeria.

The growth of the IXPs in each country was "exponential", as were the cost savings from exchanging traffic locally rather than using expensive international transit. In Kenya, KIXP grew from carrying peak traffic of 1 Gigabit per second (Gbps) in 2012 to 19 Gbps in 2020, with cost savings quadrupling to US$6m per year. In Nigeria, IXPN

grew from carrying just 300 Megabits per second (Mbps) to peak traffic of 125 Gbps in 2020, and cost savings increased forty times to US£40m per year.

"Kenya and Nigeria are in a better position than ever before to cope with – and contribute to – the digital revolution that Covid-19 has accelerated as the internet becomes a lifeline for many people," said Michuki Mwangi, senior director of internet technology and development for the Internet Society. "It's clear Africa is ready to embrace the digital revolution to spur economic development."

Nokia and Algeria's Djezzy implement ultra-high network

Nokia said it successfully completed a trial with Algerian mobile operator Djezzy, using microwave carrier aggregation technology to support increased demand for capacity.

The trial utilised Nokia's Wavence microwave transport solution with an ultra-high capacity of 8.5Gbps over a distance of nearly 6 kilometers. With its reduced latency and high capacity, the solution will allow Djezzy to deliver compelling experiences to its 14.2 million subscribers.

"This is an important trial that delivers ultra-high capacity granting Djezzy a solid solution for Mobile Backhaul," Eric Bourland, chief digital and technology officer at Djezzy Algeria. "We believe this fast deployment of microwave carrier aggregation will help us achieve our goal of boosting eMBB. It also allows us to improve our network capacity in order to meet the growing mobile traffic demand in Algeria."

Giuseppe Targia, VP MN transport business unit, Mobile Networks at Nokia, added: "This trial demonstrates how carrier aggregation technology can be utilised to support the ever-increasing demands for data, particularly at a time when connectivity is so crucial. We are delighted to continue our strong partnership with Djezzy on this project and will continue to work with it hand-in-hand to deliver innovative microwave solutions that support its business targets."

During the trial, which took place in the city of Sétif earlier this year, capacity was increased from 3.5Gbps to 8.5 Gbps and covered a distance of 5.7 kilometres, demonstrating how carrier aggregation technology can be utilised to support ever-increasing demands for data.

Niger fights virus using satcom technology

The Niger government's response to the coronavirus is being supported with satellite capacity and equipment after a recent agreement with Avanti Communications.

Through the HYLAS satellite fleet and partners in 118 countries, Avanti provides dedicated fixed and flexible-beam satellite connectivity, with extensive coverage across Europe, the Middle East and Africa. Avanti is working with the HYLAS 4 satellite, launched in April 2018. Using Ka-band technology, it has 64 fixed beams serving Africa and Europe, as well as four independent steerable beams able to be steered anywhere visible on the Earth's disk from 33.5°W.

Using HYLAS 4 capacity, Avanti says it plans to provide resilient and secure satellite connectivity and equipment to ten government sites across Niger, keeping lines of communication open for key government bodies.

Avanti is collaborating with the National Agency of Information Society (ANSI), the technical arm of the government of Niger responsible for coordinating ICT solutions in the coronavirus response in Niger. The first site was set up on 15 April 2020 and the remaining nine will be installed over the next few weeks.

'Orange looking at Nigeria and South Africa', says company CEO

Orange is looking to make an entry into two of Africa's biggest markets, Nigeria and South Africa.

Speaking to media, the company's chief executive officer (CEO) Stéphane Richard said the company is looking to increase its footprint in Africa by establishing a presence in the west and southern African nations and could start proceedings later this year.

Orange's portfolio in the Middle East and Africa — 18 countries — is the telco's fastest-growing market, but it has yet to make a confirmed move to enter the region's biggest market.

The operator has been involved in the acquisition of some telco units across Africa. In 2016, when it acquired four of Airtel's units in Africa.

Telefónica, Telesat complete LEO test

Telesat and Telefónica International Wholesale Services have completed live in-orbit testing across a wide range of applications on Telesat's Low Earth Orbit (LEO) Phase 1 satellite.

The goal of the partnership is to improve agility and operational efficiencies and the two carried out a rigorous testing campaign to explore the feasibility of using LEO satellites for high-end services.

"As we plan, design and build our offerings to provide best-in-class connectivity for our customers, we are eager to explore how cutting-edge technologies like Telesat LEO can integrate with our global connectivity infrastructure," said Gustavo Arditti, satellite business unit director at TIWS. "Across every application tested, Telesat LEO delivered an outstanding performance, with significant improvements over what we can achieve via GEO satellites today."

The testing showed that Telesat LEO satellites could be used for wireless backhaul and is significantly better in performance

The testing showed that Telesat LEO satellites could be used for wireless backhaul and is better in performance over GEO links

over geostationary orbit (GEO) links. This is without the use of compression or TCP acceleration techniques that are typically required in 650ms latency GEO environments.

"The ability to demonstrate fibre-like performance via satellite across a number of applications that perform poorly on GEO satellite backhaul is a testament to the capabilities of our Telesat LEO network," added Erwin Hudson, vice president of Telesat LEO. "With its high-throughput links, ultra-low latency, and disruptive economics, Telesat LEO offers an unparalleled value proposition to expand the reach of 4G and 5G networks."

Specific test scenarios included: high definition video streaming, without interruption; a video conference with team which showed a user experience matching terrestrial and cellular; a remote desktop connection; a VPN connection without any delay or outages; FTP encrypted file transfers of 2GB in both directions; and IPSec tunnel encryption with no reduction in the performance of the link.

Airtel Africa empowers entrepreneurs across sub-Saharan Africa through digital solutions

There is no doubt that digital technologies will enable sub-Saharan Africa to overcome many of its challenges. This is because they present a solution to the lack of physical infrastructure, while also opening up the digital economy. E-health, E-education, E-energy and E-agriculture are creating endless opportunities for African entrepreneurs.

Everything is converging to make digital technology the main driver of economic and social development. Airtel Africa is committed to supporting pioneering enterprises, focusing on digital solutions to serve low-income communities across sub-Saharan Africa.

E-health – improving the efficiency of healthcare systems

Using mobile apps, e-health can help improve the transmission of information between healthcare professionals and patients, such as contact-tracing and vaccination records.

When Madagascar experienced an outbreak of plague Airtel Madagascar supported the WHO and the Malagasy Government to implement a comprehensive strategic response plan on the communication of prevention, symptoms, transmission and treatment of the disease. Through the introduction of a number that gave all subscribers free access to the WHO, a widespread SMS campaign and a free IVR service, Airtel Madagascar raised public awareness around prevention, reducing incidents in the community due to ignorance.

E-education – enabling universal access to a higher quality of education

Digital technology presents a great educational opportunity, enabling universal access to quality teaching and reducing illiteracy.

Accelerated by Covid-19, E-education is making its way successfully into all levels of the educational system. Airtel Kenya is the first and main distribution partner of Kukua, a media and technology startup. They have developed and are distributing a learning application, SEMA Run, that teaches children aged 5-10 how to read, write and understand basic maths. The aim is to improve children's literacy skills, through an interactive mobile game, targeting 2 million Airtel subscribers. Children can learn at their own pace, get lots of practice and achieve specific goals, while the literacy pedagogy used as the backbone of SEMA was designed by leading literacy and education experts.

E-energy - access facilitation to energy through prepaid services

Access to electricity is essential for people's lives and livelihoods: from using fridges to storing food and medicine, charging mobile phones to stay connected, lighting up households and schools at night, to powering local businesses. Well-suited to small, remote communities, solar-powered mini-grids can be the answer, as cheaper, greener option for rural electrification.

E-energy solutions bring together off-grid Solar Home Systems (SHS), Internet of Things (IoT) and Machine to Machine (M2M) technologies. Airtel Chad enables Alternaprod Tchad SAS, a solar panel operator to remotely control SHS and mini-grid farm products, de-activating them if a customer's monthly pre-payments are missed as well as proactive servicing on active systems, such as degraded batteries or dusty solar panels. Airtel Chad supports access to solar energy, by enabling the operators to pay using Airtel Money either before or after the use of the solar panels.

E-agriculture – farms' productivity increases through mobile agriculture services

The sub-Saharan Africa region accounts for more than 950 million people, which is roughly 13% of the global population. By 2050, this population is projected to increase to 2 billion. Although livestock contributes an estimated 25% of sub Sahara's GDP the region still faces persistent challenges to bridge the increasing demand for agricultural production, while the lack of available tools prevents the full use of all available resources. E-agriculture solutions can help remedy this. Thanks to the use of drones and dedicated software, some actions can be performed remotely, using interactive maps, 360° crop and livestock monitoring, staff management and data analysis. By monitoring all available data farmers can achieve maximum yields for each plot of land.

Airtel Uganda has committed to supporting Jaguza Farm, a startup designed to support livestock farmers, with a data-driven, real-time platform to aid their decision making and help automate some of their processes. Airtel Uganda will support with the provision of a reliable, last-mile connection for farmers. Assisted by Airtel's 4G network, this solution will enable the monitoring, tracking and tracing of livestock. Airtel Uganda's M2M, USSD, bulk SMS, Airtel Money, internet and cloud services will complement the startup company's solution in increasing farmers' productivity, through mobile agriculture services.

The rapidly evolving challenges affecting all stakeholders within the healthcare, education, energy or agriculture industries has prompted greater need for innovation and that has meant turning to digital technology solutions. They cover:
- Real-time access to information: e.g. weather forecast or virus evolution.
- Payment solutions: all mobile financial services including insurance, credit or savings.
- Identity: identification and authentication enabling access to business applications.
- Human or device monitoring: IoT platform, sensors and data analytics solutions
- Connectivity services: Fixed data or mobile internet.

Harnessing the power of technology and empowering farmers, teachers, solar operators or doctors with the information to better manage their businesses and make informed decisions can help transform sub-Saharan Africa.

With access to these types of skills a continuing challenge in Africa and the costs of innovation and IT also a factor, it pays to work with the right partner to deliver.

So, how can Airtel Africa support African enterprises digitally?

1. As a leading telecom operator in 14 countries, Airtel Africa can provide fixed and mobile connectivity for voice and data services, data center and cloud services, M2M, productivity and collaboration solutions, mobile applications and mobile financial services.
2. Airtel Africa can leverage eco-systems and co-innovate with startup companies, technology providers, global partners, run proofs of concepts, as well as testing new business models with enterprise customers.
3. Airtel Africa can promote co-operation and partnerships between African enterprises and governments, NGOs and international institutions to accelerate their solutions.

If you would like to talk about digital technology transformation, please get in touch.

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www.airtel.africa
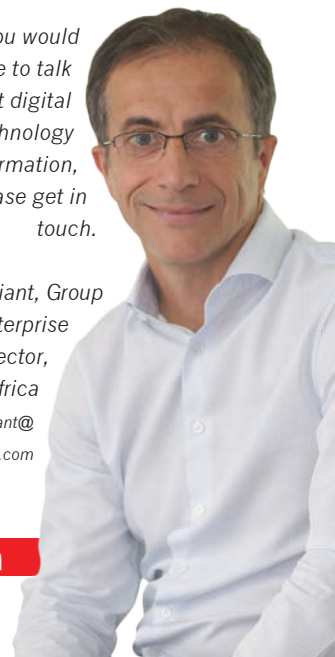
GSMA creates Africa and Asia digital inclusion fund

Mobile industry group GSMA has launched the Innovation Fund for Mobile Internet Adoption and Digital Inclusion, designed to increase mobile internet adoption and usage among those who have coverage but are not using it in Africa and Asia.

It is supported by the UK Department for International Development (DFID), the Federal Ministry for Economic Cooperation and Development (BMZ) in Germany, the GSMA and its members.

The rationale behind the creation of the fund is to find innovative ways to solve the usage gap for the digitally excluded in the world's two largest continents. Mobile operators have invested almost $USD1tn in network infrastructure over the past five years, bringing mobile internet coverage to 91 percent of the world's population, but 3.3 billion of the 7.1 billion people covered are not currently using mobile internet services, said the GSMA.

Innovations include those designed to improve the accessibility, usability and affordability of handsets and mobile internet services for citizens who are unable to access them as well as those focusing on improving basic digital skills and confidence to access and use mobile internet. The safety and security of individuals regarding the use of mobile internet is another prime objective.

The GSMA added that the fund will support startups or small to medium enterprises (SMEs) with innovative new products, services or business models which can address key barriers to mobile internet adoption and use, driving digital inclusion for those currently digitally excluded, including women.

The safety and security of individuals regarding the use of mobile internet is another prime objective

Liquid Telecom in IoT farming partnership

Liquid Telecom has joined forces with Kenya's Twiga Foods to increase agricultural productivity through precision farming.

The former said in a statement that it deployed a complete precision agriculture Internet of Things (IoT) network system to improve farm productivity at Twiga's Takuwa farm.

This system includes four different types of agriculture sensors: a comprehensive weather station, soil moisture, and temperature probes, borehole water meters, and sensors for measuring irrigation water acidity and salinity.

Liquid Telecom CEO east Africa Adil Youssefi said the system takes advantage of the pan-African firm's extensive low-power wide-area IoT network using 0G Sigfox technology covering 85 percent of the population in Kenya at lower costs than other technologies.

"These sensors provide critical information to the Twiga agronomy team," Youssefi said. "The smart weather station provides real-time data that helps farm managers deploy the most effective farming methods for irrigation and the application of pesticides. Furthermore, the water quality

The system includes four different types of agriculture sensors: a comprehensive weather station, soil moisture and temperature probes, borehole water meters and sensors for measuring irrigation water acidity and salinity

sensors provide specific metrics that help the team to optimise their fertilizer application. Additional data gathered and monitored on a real-time basis include temperature, humidity, rainfall, and wind speed."

The soil probes installed at Twiga's Takuwa farm measures moisture levels and temperature at six different depths into the soil, giving precise information of soil quality and irrigation needs at the roots of specific crops. This is set to directly increase yield and productivity and will benefit Twiga's food security efforts during and beyond Covid-19.

Peter Njonjo, CEO, Twiga Foods, said that increasing business efficiency through digital solutions is one of the main reasons the company partnered with Liquid Telecom. "By using smart devices, we have automated multiple processes across the farm's production cycle," he said. "For example, the use of soil probes in monitoring the soil moisture in the expansive farm has resulted in an efficient use of water, as irrigation is only done when the soil moisture level is low. I would encourage other farms to also deploy IoT solutions to aid in food security for our country."

SatADSL and YahClick partner to enrich satellite comms in Africa

SatADSL, the Brussels-based satellite service provider, has partnered with UAE counterpart YahClick to enhance its connectivity offering across sub-Saharan Africa.

Under the terms of the deal, SatADSL acts as a virtual network operator (VNO) partner to YahClick, which is owned by Yahsat and its partner Hughes Network Systems.

This means SatADSL is able to combine the capacity purchased from YahClick with its cloud-based service delivery platform (C-SDP) to deliver a full range of flexible satellite services across Africa.

"Working closely with SatADSL enhances the quality of our service delivery as we continue on our mission to unleash human potential

through satellite broadband connectivity," said Farhad Khan, chief executive officer at YahClick. "The agreement will provide our customers with the best broadband solutions available, connecting them with the rest of the world through a fast and affordable service. In this uncertain period of enforced social distancing and self-isolation, we are delighted to help bring people together, supporting them to work, learn, and stay informed remotely."

YahClick gains full access to the SatADSL's licensed partner network spanning 45 countries worldwide and boasting over 3,500 deployments, which gives YahClick opportunities to expand its distribution.

"I am excited by the possibilities

that present themselves ahead," said Michel Dothey, chief commercial officer at SatADSL. "Partnering with YahClick does more than just give us access to the company's service delivery platforms – it significantly increases our ability to make a tangible and lasting difference in and across the communities from west to east Africa we serve as part of our global connectivity offering."

He added that the company's "ability to offer high throughput Ka-band services will significantly impact the fate of some of the most underserved countries in the world", helping them to cross the digital divide and make the most of their "considerable potential".

Telecom Egypt's additional measures to navigate coronavirus

Telecom Egypt has introduced new precautions to combat the coronavirus, such as approving working from home to reduce the number of employees present in company offices.

The operator has also adopted e-mail as a preferred means of communication, while doubling the monthly packages of mobile services for its workers. Telecom Egypt has also decided to grant a 14-day leave for working women who have children under 12-years-old. Furthermore, the company has suspended all training programmes for employees and prohibited travel abroad for all employees. Domestic travel will be done in coordination with the direct manager.

Telecom Egypt adopted a video conferencing system as a means of holding meetings and also prevented the company from having food delivered outside of the office, closed the cafeteria and called for people to use the mini-market.

According to its preventive measures, the company has discontinued the use of electronic fingerprint attendance devices and replaced them with manual signatures.

Employes have also been instructed to avoid approaching people

The company has taken a number of preventive measures to confront the novel Coronavirus, and according to its preventive measures, the company has discontinued the use of electronic fingerprint attendance devices and replaced them with manual signatures

showing symptoms of respiratory diseases such as coughing and sneezing, and advises people to catch their coughs and sneezes with disposable tissues and to thoroughly wash their hands. The Egyptian goverment holds an 80% stake in the operator, which has a fixed-line subcriber base of six million.

Mauritanian operators sanctioned over poor service

Three main mobile operators in Mauritania were again sanctioned by the Mauritanian Telecommunications Regulatory Authority (ARE) for the poor quality of services in many cities, localities, agglomerations and road axis.

Mobile operators Mauritel (the local arm of Maroc Telecom), Mattel (a subsidiary of Tunisie Telecom) and Chinguitel (a subsidiary of Sudatel) were fined more than 95 million ouguiyas (about U$2.5 million).

The sanction comes after a control operation carried out by the regulator between April 17 and May 22 this year. Mauritel was slapped with a fine of 62 million ouguiyas, Mattel got a 27.32 million ouguiyas penalty, while Chinguitel must pay six million ouguiyas.

The first sanction occurred on January 2 this year and the operators were fined a total of 143.72 million ouguiyas (about US$3.7 million).

Kenya brings in additional internet privacy measures

The Kenyan government will create in the coming weeks a data commissioner to improve privacy protection on the internet, according to the country's minister of information and communications.

"Our goal is to protect people's privacy," Joe Mucheru said on June 21, a week after the education minister George Magoha denounced the ease with which school children now have access to pornography via the internet. The government said it needed to act sooner rather than later, before it became a bigger problem.

Mucheru asked the Communications Authority of Kenya (CA) to present within seven days a clear roadmap on how to train Internet users and ensure that Kenyan cyberspace is safe. In addition, he called on all internet service providers (ISPs) to ensure that the many young people who are now learning online are protected on the internet and that parents can control how their children use it.

The minister said that on the government side, actions have already been taken to teach young people how to use the Internet smartly. It is understood that more than 5,000 young people are currently being trained through the Ajira program. Initiated by the Ministry of ICT, the program is designed to empower trainees to access online job opportunities as well as give them career advice where appropriare.

Kenya has a number of ISPs in the market, including Zuku, Airtel Africa, Telkom Kenya (an Orange subsidiary), Faiba internet and Safaricom, the largest telecom provider in the country.

Nexttel employees dismissed for strike

Telecom operator Nexttel, the Cameroonian subsidiary of Vietnamese Viettel, has started the process of laying off its employees who have been on indefinite strike since June 11.

Some 50 employees have already received their dismissal letters stating the same motive for dismissal: "dismissal for gross misconduct."

"On May 11, 2020, we received a correspondence from a labour movement, of which you are a member, informing us of claims against the company. On 10/06/2020, we were greatly surprised to receive, from your union, a notice of unlimited strike action that would take effect the next day, without allowing the company to prepare itself to better organize the framework in which the discussions were to take place. On Thursday 11/06/2020, you were formally identified among those who took part in this strike, which has dealt a serious blow to the company's reputation and image. This is unacceptable! " read one of the letters co-signed by resources director Ahmadou Maliki and general director Haman Oumar. "On the ground of all the above, you are informed of your dismissal for gross misconduct as of today, Friday, June 12, with all the legal effects that this entails," the letter continued.

The National Union of New Technology and Communication Workers (Syntic) described the move as unfair dismissal. After Nexttel's top management refused the mediation of the labour inspectorate, the prefectural authorities of the city of Douala, where the company is headquartered, also began negotiations during which the company's general management promised to ease the tensions. "But today, we are surprised by these letters of dismissal distributed in the streets," Syntic said employees from the technical department of Nexttel sent a list of claims to the general management. They notably demanded "the reinstatement of colleagues who have been blocked since the beginning of the strike."

KaiOS helps Lagos in lockdown e-education

KaiOS Technologies smart feature phones are being distributed across the state of Lagos to help school children continue their education during the Covid-19 lock-down period – and supplement their learning once schools re-open.

This initiative has been led by Robert and John, a Nigerian innovative research and Development company, in partnership with the Lagos State Government and KaiOS.

The First Bank of Nigeria is sponsoring the first batch of 20,000 KaiOS-enabled devices which come with activated MTN data SIM cards. These devices are being distributed to school children from low-income families (where household income is below US$100 a month) who have one year of state secondary school left. Communal solar panels are being installed at central places within the villages so that the devices can easily be charged.

These smart feature phones running on KaiOS will have the

Devices are being distributed to school children from low-income families who have one year of state secondary school left

Roducate app – and a handful of other useful apps preloaded. Access to other content will be blocked so the device will be solely for educational purposes.

Designed and developed by Robert and John, Roducate is said to be "the first mobile learning app in Nigeria with all the approved curriculum materials for primary, secondary and select university courses".

Speaking from his office during a ceremony to mark the distribution of the first 20,000 smart feature phones, Babajide Olusola Sanwo-Olu, the governor of Lagos State, requested

that private companies in Lagos and beyond contribute to the initiative, with a target to sponsor 300,000 devices to school children in the coming months.

"I am proud that Lagos State is taking the lead in Nigeria in using innovative technology to help improve the education of the next generation," he said. "I am grateful to Robert and John for developing this impactful app, KaiOS for supporting the platform that integrates well the Roducate app and other essential content in affordable smart feature phones – and to First Bank for funding the first KaiOS devices".

Local loop unbundling, national roaming and number portability almost ready

A multidisciplinary working group has been set up in Algiers to draw up a roadmap that will contribute to the effectiveness of local loop unbundling, national roaming and mobile number portability.

The Algerian minister of post and telecommunications Brahim Boumzar told the press that the task of this working group will be "to examine the various technical, legal and economic aspects inherent

in the implementation of the provisions enshrined in Law 18-04 of 10 May 2018 laying down the general rules relating to the post and electronic communications, in terms of infrastructure sharing, pooling of resources, promotion of competition and encouragement of investment in the telecommunications market".

National roaming and local loop unbundling will allow fixed and mobile operators to pool their net-

work capacity to offer high-value services to subscribers, particularly those in living and working in remote areas without coverage. Number portability will empower consumers and force operators to be more rigorous in the quality of services to retain their subscribers.

The action taken by Boumzar is in line with the strategic direction taken by the government to achieve the country's digital transformation.

Nigeria in no rush to roll out 5G

The Nigerian Communications Commission (NCC) has announced that it is developing a policy for the deployment of 5G technology in the country, despite successful 5G trials in cooperation with MTN Nigeria in six areas in November last year.

The tests involved different

equipment vendors and spectrum in the 3.5GHz and 26GHz bands. As well as performance, the tests aimed to ensure compliance with health and safety guidelines.

Now that the tests are a thing of the past, the NCC has begun work on a deployment policy, noting that

5G will not be deployed until the policy is concluded and approved. A public consultation with relevant stakeholders, including government and private sector representatives, will follow.

As things stand, the NCC has not suggested any dates for 5G rollout.

Airtel's 10th

Airtel Africa will complete 10 years of operations this month. Parent company Bharti Airtel set up its presence in Africa with the acquisition of Zain Telecom's Africa operations in June 2010. The company has reached more than 110 million customers, bridging the digital divide and increasing financial inclusion. It also provides telecommunications and mobile money services in 14 countries across sub-Saharan Africa. "In these challenging times, the Airtel Africa team along with our partners are working hard to provide our customers with reliable voice, data and mobile money services," Raghunath Mandava, CEO, Airtel Africa, said. Airtel Africa employs more than 3,300 people across the continent, with another 1.6 million people earning through working with Airtel Africa as entrepreneurs and in its distribution network. Its voice, data and mobile money services are driving growth and transforming customers' lives.

MTN Uganda gets 12 years

The Ugandan government has reached an agreement with MTN Uganda to renew its licence for 12 years. MTN will pay Ush372 billion for the licence that commences on July 1, 2020. The telecom company said in a statement that "MTN Uganda and the Commission will conclude the signature of the License Agreement within the coming days.

Kenya MoMo extension

Kenya's central bank has extended a set of measures introduced to encourage the use of mobile payments during the Covid-19 pandemic. Some of the measures have been made permanent while others have been extended to the end of this year, the Central Bank of Kenya says in a statement published on June 24. The central bank introduced the measures to cut the usage of banknotes, which some authorities feared might help spread the virus.

Talking satellite

Martin Jarrold, chief of international programme development, GVF

COVID-19: A new challenge for global HAD

In my previous column for this publication, written on 13 March, I began with this sentence: "As I write this column more than 120 of the world's nations are experiencing the spread of the Coronavirus. To state the obvious, this public health emergency is impacting on all facets of life as well, of course, as very sadly causing so many deaths." So much has changed since I wrote these words.

COVID-19 – the disease resulting from the zoonotic, interspecies, jump of the novel coronavirus (SARS-CoV-2) from an animal species to human, and declared pandemic by the UN World Health Organization (WHO) on 12 March – has affected the entire world to a degree that, in significant measure, and on the broadest scale, is unlikely to be reversed. (Indeed, it may be argued that there are some changes that we may not really want reversed. However, this discussion is for another time, in another place.) From its almost certain origin in a Wuhan wet market, and then impacting most of the world's most advanced and wealthy nations, the epidemiology of COVID-19 is illustrating that the worst of the consequences of the disease spread are now happening for the poorer countries of the less-developed world.

Such developments, since mid-March, have put into better perspective certain of my remarks of the time; remarks concerning the impact of the pandemic on the satellite industry's international events schedule – a combination of postponements and cancellations – which pale in the context of the 460,000 deaths worldwide (as of 20 June 2020). There is, however, something of an irony that this catastrophic global public health crisis – necessitating the activation of humanitarian assistance and disaster response (HADR) resources and capabilities – has now also disrupted a major international event in the field of HADR, not as postponement or cancellation, but in transitioning into the virtual. This event is known as Pacific Endeavor and its 2020 iteration will now happen in cyberspace. So, what is Pacific Endeavor?

Since 2012 GVF has collaborated with the United States Department of Defense IndoPacific Command (INDOPACOM, formerly Pacific Command, PACOM) Multinational Communications Interoperability Program (MCIP) in HADR – for the annual Pacific Endeavor event. In an approximately triennial cycle, the focus of Pacific Endeavor alternates between, "Wireless Endeavor", "Cyber Endeavor", and "Satcom Endeavor". This year was to feature a Satcom Endeavor programme, the content being organised by GVF, and led by GVF's Lead on HADR, Riaz Lamak (riaz.lamak@gvf.org).

In the context of the entirely natural preoccupation with the current pandemic – and of collectively looking forward to a global mass vaccination programme when the efforts of the world's virologists and pharmacologists succeed in combatting the coronavirus – it is important not to lose sight of other disasters, those arising from the forces of nature, and those resulting from human action, sometimes mistakes, sometimes malign.

Of course, natural disasters take many forms: earthquakes, tsunamis, cyclones/hurricanes/typhoons, volcanic eruptions, floods, droughts, and famine. Parts of Africa, the Middle East and south Asia have recently been facing a "plague" of locusts consuming its way westwards. Super-Cyclone Amphan has wreaked havoc in Bangladesh and north-eastern India. The Pacific Ocean islands were hit by Typhoon Harold. It is usually these, and also human-made disasters such as war (too numerous to list, and which are both immediately disastrous and consequently disastrous in the form of displaced and refugee populations), which usually grab the headlines as requiring the kinds of solutions for immediate response logistics operations and longer-term recovery programmes that only satellite can provide. In the context of pandemic the recurrence of these other disasters exacerbates both the instance and effects of the coronavirus, as infection takes hold in lower-income countries, affecting communities with weak health systems, affected by conflict, comprising displaced peoples, or spreading through permanent, high-population density, slums.

With reference to the entire sweep of disaster situations, and beyond the specifics of just Pacific Endeavor, GVF's pedigree in the sphere of HADR extends to working with the United Nations. GVF is the only globally-based representative body for the satellite industry that is – along with a number of its member companies – signatory to the UN Crisis Connectivity Charter, and is the only private sector representative entity in the World Food Program administered Emergency Telecommunications Cluster (ETC). As I prepare this column, I note that the ETC Annual Report 2019 has recently been published, featuring Cluster response operations for emergencies in Africa: Central African Republic, Libya, Mozambique, and Nigeria; and South Asia: Bangladesh. (Plus, The Bahamas and in the Pacific.) The Report can be read by clicking on the following link: *https://www.etcluster.org/document/etc-annual-report-2019.*

Pacific Endeavor 2020 in cyberspace will be different, a move away from the usual person-to-person and hands-on experience. Since 2012 we have variously conducted presentation sessions, and hands-on practical training workshops to certify J6 military officials – of the approximately 25 participating nations – in the installation and maintenance of satellite terminals to ensure that during crisis or disaster GVF-certified first responders are on the ground.

Communications capacity building for these militaries and their civilian partners – advancing reliable and interoperable communications and cyber operations – will still be the goal. However, whereas the non-pandemic norm provides GVF member companies and others with the opportunity to showcase new solution innovations, equipment and systems, and share case studies, and best practices (as well as GVF providing hands-on practical training) on a face-to-face basis, cyberspace will instead provide the platform for GVF-managed remote technical sessions with mentored online training modules with voice calling support. Of course, Pacific Endeavor's cyberspace participants will contribute to the programme from their own respective time zones, from the Maldives in the Indian Ocean at 73 degrees East longitude to Hawaii in the Pacific Ocean at approximately 158 degrees West longitude – that's almost nine time zones spanning the International Date Line. This will be a new endeavour for all involved.

'Morocco's prices among lowest in the world', says minister

Telecom prices in Morocco are among the lowest in the world and cannot be reduced, according to the country's minister of industry.

Moulay Hafid Elalamy made the announcement before the Productive Sectors Commission at the country's House of Representatives. The meeting took place to study five requests by parliamentary groups concerning the department's strategy.

"Pushing telecom companies to reduce their prices will either make them go bankrupt or prevent them from making more investments," he said. "We want more investment in this field, we would like to have 5G internet and more."

Elalamy also highlighted how telecom companies are contributing to the remote learning campaign in Morocco. His ministry was the one to intervene to ensure free access for students using the online services.

Morocco's Ministry of Education announced in late May that the TelmidTICE remote learning platform does not require internet subscription to access and that students can also download their lessons as well as digital resources on the platform.
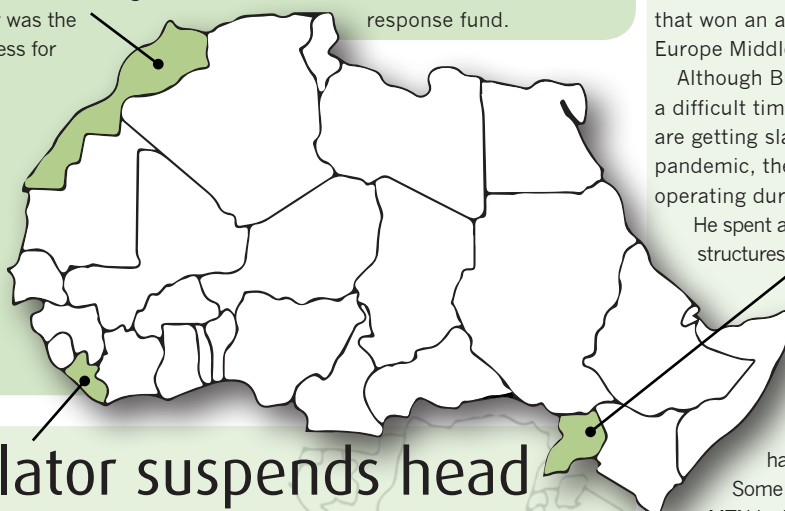
The Minister of Education, Said Amzazi, said that the

Morocco's minister of industry Moulay Hafid Elalamy believes telecom prices in Morocco are among the lowest in the world

initiative aims to promote equal opportunities among Moroccan students and facilitate their access to educational content.

In April, Morocco's main operator Maroc Telecom (IAM) announced that they had donated US$146.96m to Morocco's Covid-19 response fund.

MTN Uganda hires new CFO

MTN Uganda has made Andrew Bugembe its new chief financial officer (CFO). He replaced Mike Blackburn who retired earier this year having served in the role since 2011. In his new position, Bugembe is part of the telecom's leadership team, made up of 16 members (four of whom are female).

Bugembe has more than 21 years of telecom experience having worked in at least five countries in various capacities - holding executive and senior management roles in finance departments, including holding the CFO position at MTN Liberia and MTN Congo Brazzaville.

Some of the key highlights of his career at MTN include concluding a $300m syndicated medium-term facility, in a project finance deal that won an award for the best telecoms deal in Europe Middle East and Africa (EMEA) in 2012.

Although Bugembe is taking over office at a difficult time when many company revenues are getting slashed by the global Covid-19 pandemic, the accountant has experience of operating during turbulent times.

He spent a lot of time resizing the cost structures for a couple of MTN operating companies (OPCOs) to align with changing macro-economic trends especially during the Ebola crisis in West Africa and the drop in oil prices while in central Africa.

An MTN thoroughbred, Bugembe has served in five different countries. Some of the key highlights of his career at MTN include concluding a US$300m syndicated medium term facility, in a project finance deal that won an award for the best telecoms deal in Europe Middle East and Africa (EMEA) in 2012.

The operator said Bugembe's key roles will be to drive the company profitability mandate, to ensure effective and efficient capital allocation and to support service revenue growth through data analytics with focus on non-voice revenues.

In addition, he will also support key transformation initiatives, build internal capacity, support digitization with focus on FinTech in addition to continuous cost optimisation and improving working capital management among others.

Liberia regulator suspends head

Liberia Telecommunication Authority (LTA) boss Ivan Brown has been suspended following accusations of wrongdoing.

The decision was announced on June 5 by president George Weah and Edwina Zarka was immediately appointed to act as managing director in the meantime.

Brown's suspension comes at a time when the telecoms regulator is engaged in an intense battle with mobile phone operator Orange over the payment of the surcharge imposed on voice calls and data.

In November 2019, LTA introduced a minimum price of US$0.0156 per minute for voice calls

and 0.00218 per megabyte for data services. The regulator has also set a surcharge of US$0.008 on voice calls and US$0.0065 per megabyte for data.

Orange opposed this surcharge before the court, claiming that such a decision does not fall within the regulator's remit. The French operated cited a law passed by the legislature and published on 29 August 2017, despite the regulator's authority to issue regulations in the exercise of its power. Orange Liberia said it was the prerogative of the (LRA).

On June 1, 2020, the plenary chamber of the Supreme Court suspended the levying of the tax by the LTA until further notice.

UAE-based Yahsat names Andrew Cole new CFO

Al Yah Satellite Communications Company (Yahsat), the UAE-based global satellite operator, has appointed Andrew Cole as chief financial officer (CFO). He will assume the position July 1.

Cole joins Yahsat soon after the company made four Emirati executive appointments to lead its government, commercial, operational and technical business units.

The new CFO has 25 years of cross-sector experience in senior finance, operational and advisory roles. He succeeds Balakrishnan Dorais-amy, who will be retiring, having served Yahsat for almost 12 years. Balakrishnan will continue to be part of the company as strategic advisor.

Masood M. Sharif Mahmood, chief executive officer of Yahsat, said, "I am most happy to

welcome Andrew into our midst as the new CFO of Yahsat. As we continue to intensify our expansion program across the globe, Andrew's wealth of experience, especially in the satellite sector, will be highly beneficial to us. He has an excellent record at all finance and operational leadership levels, and I am sure he will bring great value to Yahsat."

'Telecom policies favouring foreign companies' – deputy minister

Policies and regulatory practices in the telecommunication sector of the Ghanaian economy have consistently, over the years, favoured foreign multinationals against locals, according to a former deputy minister of communications.

Ato Sarpong noted in article that the former Ghana Telecom, which was sold to Vodafone by the Kufuor administration, with incumbent authorisation for mobile services, launched its mobile service branded Onetouch in late 2000. He added that Glo was the last GSM service to be launched in Ghana.

"Today, Ghana boasts of a thriving mobile industry with over 41 million mobile telephony subscriptions and penetration in excess of 138%," Sarpong wrote. "Fixed telephony subscriptions have been at almost same level for over a decade at less than 300,000 lines. Mobile data continues to dominate in the data space with over 28 million subscriptions to mobile

data service on the second and third generation platforms and a further 1.4 million on the fourth generation platform. Sadly, the fourth generation broadband wireless space, originally awarded to indigenous operators like Surfline and Blu Telecom, is now dominated by global multinationals bringing to the fore policies and regulatory practices that have consistently, over the years, favoured foreign multinationals."

Sarpong further noted that former president John Dramani Mahama introduced several reforms in the telecommunication sector of the Ghanaian economy when he was the Minister of Communications under the Rawlings administration. These reforms, he said, propelled Ghana's telecom industry to glory days which Ghanaians are enjoying currently.

Nigeria's 9mobile names CEO

Alan Sinfield has been appointed as the new chief executive officer of 9mobile, one of Nigeria's major telecom companies. Sinfield succeeds Stephane Beuvelet, who has held the position in an acting capacity since November 2018 when the new board took over the company's management. "The Nigerian telecoms industry is characterised by strong competition, but it is also an industry that is important to people everywhere," said Sinfield. "Nigeria is rich in diversity and boasts of energetic, resilient, friendly and hardworking people. I am delighted to join the 9mobile family and I look forward to using my experience and unique value propositions to lead

the company in the next exciting phase of its journey. The goal is to build on the existing strong foundation of the company to create value that will transform the Nigerian telecoms sector." Nasir Bayero, 9mobile chairman, said Sinfield's experience will play a critical role in improving the company's position in the telecommunications industry.

"Alan's wealth of experience of building high performance and high-growth organisations will play a pivotal role in strengthening 9mobile's market position in the highly competitive telecommunications industry," Bayero said.

Leigh Smith, MD, WTL dies

The following is a statement from World Telecom Labs following the death of MD, Leigh Smith.

"We are sad to report the passing of Leigh Smith, MD of World Telecoms Labs, who died in Lagos in May.

Leigh was known throughout the industry for his generous and kind nature supporting numerous charities in Nigeria - as well as his work helping to develop the country's telecoms infrastructure.
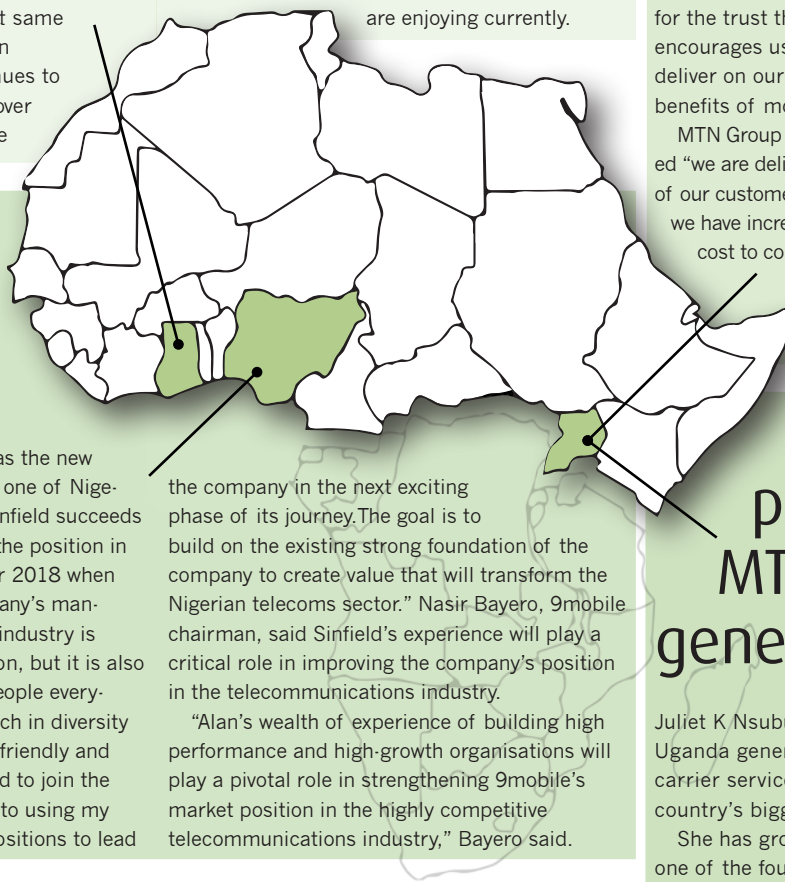
He built World Telecom Labs into a multi-

award-winning vendor of VoIP and rural telephony systems which are deployed across Africa.

He had been unwell for some time and his death has been greeted with dismay by friends, colleagues, partners and customers.

World Telecom Labs was Leigh's passion and he made clear that he wanted the company to continue on its mission to Connect the Unconnected.

Leigh loved the people and places of Nigeria so ending his days in Lagos was very fitting."

MTN is 'most admired brand in Uganda' – survey

MTN has been recognised as the Most Admired Telecom Brand in Uganda by Brands Africa in the 2020 Africa's Best Brands Survey.

The announcement comes hot on the heels of the group's overall impressive performance across the African continent. MTN Group recently announced it has reached a significant milestone by recording 100 million active data users on its networks across Africa and the Middle East.

"This award is an endorsement of our efforts towards keeping every Ugandan connected," says Joseph Bogera, MTN Uganda's general manager of sales and distribution. "I would like to thank all our customers and communities for the trust that they have shown in us. It encourages us to work harder every day to deliver on our belief that everyone deserves the benefits of modern connected life."

MTN Group president and CEO, Rob Shuter added "we are delighted to have connected 100 million of our customers to the power of the Internet as we have increased data coverage and reduced the cost to communicate across our markets."

The Brands Africa survey is conducted across 27 countries on the continent.

Nsubuga promoted to MTN Uganda general manager

Juliet K Nsubuga has been promoted to MTN Uganda general manager for wholesale and carrier services, 16 years after joining the country's biggest operator.

She has grown through the ranks to become one of the four women that make up the top line leadership at MTN Uganda.

As general manager wholesale and carrier services, Nsubuga manages telecom to telecom partnerships that enable MTN customers to have a great service experience when out of the country through roaming and locally when they call to other networks; as well as managing infrastructure services to other telecom providers.

Nsubuga's previous roles at MTN Uganda include senior manager sales operations, senior manager business sales and manager government sales. She was part of the team that initiated and delivered the successful electronic airtime distribution platform.

5G and enterprise, a match made for growth

As 5G continues to gain traction on the continent, Lucky La Riccia, head of digital services at Ericsson Middle East & Africa, explains why the next generation technology and business are perfect bedfellows

Digital technologies are transforming industries worldwide. With 5G being deployed across the region, service providers increasingly recognize the new business opportunities that digital transformation of the enterprise market will bring. However, to successfully address these opportunities and accelerate longer-term growth, they need to extend their focus from traditional revenue streams to center on digitalizing targeted industries.

While leading service providers in the region are already taking steps to look beyond connectivity and focusing on a few specific industries, they should also expand their strategic ambition beyond mobile broadband in each targeted industry.

According to Ericsson report titled "Capturing business opportunities beyond mobile broadband", almost half of the total projected value of industry digitalization will be enabled by 5G in 2030.

Service providers' revenues from existing business, mainly driven by connectivity, are expected to remain stagnant. It is a must to look into new opportunities to capture a larger share of the potential global ICT revenue enabled by 5G, a figure up to USD 700 billion in 2030 (across 10 industries).

Critical capabilities and closing the readiness gap

For most service providers, business, operational and technical capabilities are highly critical in capturing business opportunities beyond mobile broadband. As the current gap to reach the desired state is wide, service providers must begin ramping up the most critical capabilities, particularly on the business and operational fronts, to ensure successful execution. The top five capabilities pinpointed as most critical are:

1. Effective B2B and B2B2X go-to-market: To engage with enterprise customers beyond legacy business, an effective go-to-market model is crucial. This involves efficient and scalable processes for engaging with customers and partners, and for distributing insights and learnings across the organization. Moreover, it concerns making sure sales teams are properly equipped to understand and address enterprise customers' business challenges.

2. Leadership and culture: Leadership involves ensuring the enterprise segment receives the right level of attention from both top and middle management, and that the strategic priorities are clear. The culture should support and strengthen the strategic ambition and priorities beyond legacy business, for example through encouraging co-creation and a customer-oriented and innovative mindset.

3. Industry knowledge of targeted verticals: This capability refers to having the optimal processes and resources in place to ensure an organizational understanding of industry trends, as well as customers' business challenges, strategic priorities and digitalization needs. This is key to efficiently design, develop and sell relevant solutions to customers.

4. Skills: Developing and selling new solutions in new ways requires a different set of workforce competencies. Therefore, organizations must ensure sales teams are ready to serve enterprises beyond legacy business by being able to build a deeper understanding of their business needs and strategically engaging with other decision makers. Moreover, the workforce must adapt to automation and software-based operations. If these competencies are not acquired through partners, service providers must ensure appropriate processes and tools to upskill, cross-skill, recruit and retain sought-after competencies.

5. Service orchestration, assurance and automation: This capability refers to automating the design, creation and delivery of end-to-end network services, while guaranteeing quality and optimizing data analysis and decision-making. This is important, as networks are becoming more real-time oriented, driven by customers' preferences for innovation and speed, and the need to meet or exceed those expectations with increased agility and lower cost structures. Orchestration answers the call for more dynamic management of information and technology in converged ICT networks, and supports services and resources throughout their life cycle – from planning to fulfillment and closed-loop assurance. This is a fundamental step in further developing the capability. Ultimately, it should support end-to-end automation from RAN to core, and fully autonomous service orchestration in both internal and external customer IT environments.

At the same time, service providers around the world are not the same, and their digital strategy must be adapted to suit their unique circumstances. Furthermore, the development of execution capabilities should reflect the strategic ambition.

Service providers are in a strong position to capture emerging digitalization opportunities based on their strong customer relationships, extensive network coverage and deep knowledge of digitalization connectivity requirements. Notably, they can offer end-to-end data and network security, which is a key prerequisite in enterprises' digital transformation.

Only by addressing these key capability gaps, service providers can truly gain the ability to engage, sell and deliver solutions to enterprise segments and truly capture this revenue growth. ■

FEATURE: SATELLITE

Is LEO taking off?

Low Earth Orbit networks are grabbing the headlines, thanks to firms like SpaceX. Should you consider them above geosynchronous satcoms? Jon Howell and Smita Sarkar explain

Cellular networks might appear ubiquitous these days but they have their limitations. No matter how good the coverage statistics are, they never cover 100 percent of the land, and very little of the sea. So if you need genuinely global communications then you need to look at satellite solutions.

There are many vendors who offer satellite connectivity and even plenty of firms with satellites in orbit, but before you worry about that, you have a choice to make – GEO or LEO.

What are GEO and LEO?

GEO is short for Geosynchronous Equatorial Orbit. GEO satellites orbit along a path parallel to Earth's rotation at a height of around 35,000km (22,000 miles) above the Earth's surface. Also known as geostationary satellites, they stay located above the same physical point on the Earth at all times, thereby providing coverage to an area surrounding that location. Typically used for weather forecasting, satellite radio, television, data connectivity in remote locations.

LEO stands for Low Earth Orbit. LEO satellites revolve around the earth at an altitude between 160 to 2,000 km (99 to 1,200 miles). Unlike GEO they don't necessarily stay above the same point on the surface of the Earth, for example an Iridium satellite flies at approximately 17,000 mph and completes an orbit every 100 minutes. The orbits also don't have to be around the equator, again for example Iridium has six rotational planes that are all longitudinal and pass over both poles of the planet (see PIC 1). Typically used for communications or imaging applications.

Interest has piqued in LEO constellations recently, where a network of low-Earth orbit

satellites provide a cross-linked network around the whole globe, but the history of both technologies goes back many decades. In fact it was Telstar 1, launched into a low orbit on 10 July 1962, that was the first satellite to transmit live television images between Europe and North America. Whereas the first geostationary communications satellite didn't launch until 19 August 1964, the Syncom 3 was used to telecast the 1964 Summer Olympics from Tokyo over to the United States.

Location location location

"Fundamentally, GEO has the advantage of being a highly cost efficient and the most robust way of providing communications links from space," says Kyle Whitehill, CEO, Avanti Communications.

He goes on to point out that the GEO communications market has successfully grown on the basis of its unique capability to cover a huge region of the earth, one third, from a single location. This coverage only takes a single launch and a single satellite with a lifespan of more than 15 years.

It's not all plain sailing though. "Due to the fixed nature of GEO satellites, signal blockages between a user and satellite can easily occur," says Iridium, which owns and operates a LEO network. "Since LEO satellites are always moving, the chances of a long or persistent signal blockage are greatly reduced."

There's also the subject of latency. The times it takes for a signal to transmit up to a satellite and bounce back down to Earth will rely on how far away the satellite is. A higher orbit will necessitate a longer round trip, a larger latency.

Globalstar has a LEO constellation of 48

Gavan Murphy, director, marketing EMEA, Globalstar

"Our LEO constellation and L-and S-band are perfect for IoT applications"

satellites and sees low Earth orbit as the ideal location for their purposes. "Assuming similar ground processing delays, LEO satellites such as Globalstar's demonstrate about 10 times less propagation time, in other words, less latency," says Gavan Murphy, Director of Marketing EMEA, Globalstar.

Whitehill doesn't see this as a problem. "To date, the round trip time of a GEO signal of half a second has clearly not been an inhibitor to the development of the GEO market," he says. "The requirement for low latency satellite connectivity is limited and niche given that in most cases demand for low latency is concentrated in areas where there is or will be fibre and cellular wireless networks."

However, Murphy believes that there's more to be gained than just a reduced latency. He believes that service reliability is improved by using low earth orbit. "It's simple physics," he says". "With LEO, because the satellites are moving relative to the planet, there are fewer handoffs for calls or transmissions. When a LEO satellite picks up a signal, it 'hand
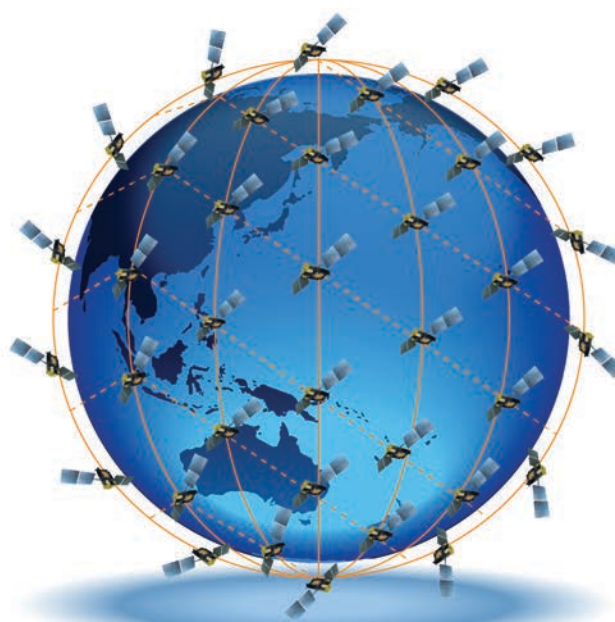
Iridium's 66 satellites orbit in six individual planes

delivers' it directly to a gateway."

The idea is that the fewer the handoffs, the better the reliably. "And while geostationary players argue about the effects of weather, smaller LEO satellites just get on with the job," finishes Murphy.

The cost equation

A key factor for any business is the cost. "A priority for Globalstar since our inception is the delivery of services that are competitively priced and consumer-friendly", says Globalstar's Murphy. However he acknowledges that in order to provide coverage it's necessary to have many more satellites than the comparable GEO setup.

"But the spacecraft are smaller and are less complex, with fewer components, so they are less expensive to build. They are also lighter, making them more economical to launch and to replace," he says. It's these factors that he

believes help keep operational costs for the LEO fleets lower than for GEO. Consequently, service prices for end users can be lower.

Both technologies use the 'bent pipe' principal, where a signal from Earth is transmitted to the satellite only to be amplified and sent back on a different frequency. This avoids the satellite having to decode and re-encode the signal, leading to simpler systems required in orbit. The consequence of this is that most of the 'intellgence' can reside on the ground which helps reduce costs.

Murphy thinks that LEO has another cost benefit. "LEO requires less switching, therefore requires less on-the-ground investment, but provides the high reliability and flexibility to add bandwidth as needed. The system benefits from easily upgradable ground infrastructure," he says.

This could be a vital factor for LEO because the satellites could well be its downfall. "It

Kyle Whitehill, CEO, Avanti Communications

"The business heritage for GEO satcoms is over 40 years in the making"

wasn't until the 1980s that engineers began to challenge the effectiveness of GEO satellites," says Iridium. "That's when the idea for a LEO satellite constellation first occurred. A small group of engineers at Motorola began re-searching and designing a LEO satellite system
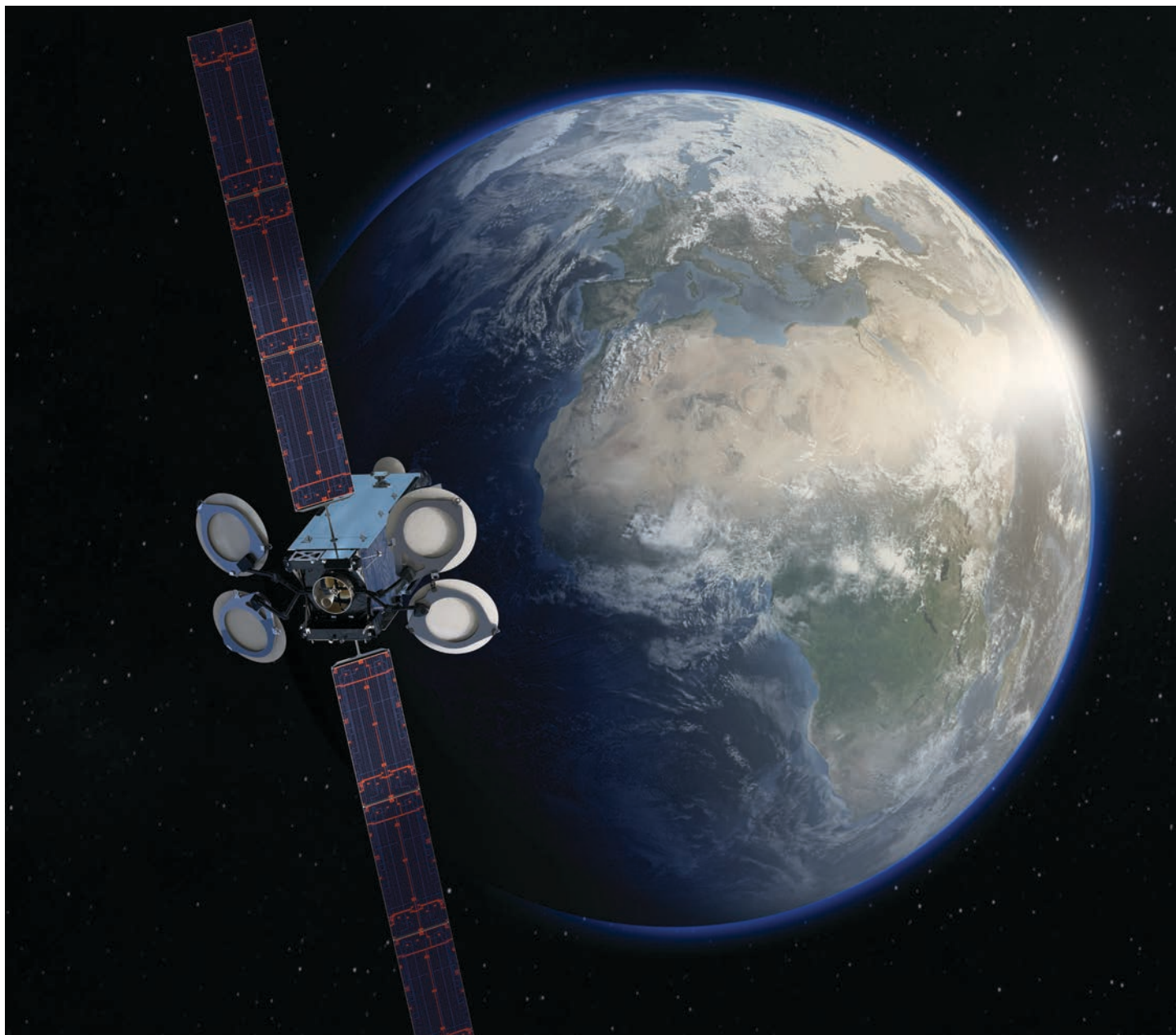
Spacecom's Amos-17 geostationary satellite has C-band spot beams covering a large proportion of Africa, some Ka-band steerable beams centered on Nigeria and South Africa, and Ku-band beams covering Western Africa and Southern Africa

that allowed the satellites to communicate with each other through cross-links."

This cross-linked architecture can provide the additional advantage that communications can be "grounded" near their desired destinations, but it requires many satellites to make this work. Iridium, for example, has a network of 66. This is something that Whitehill sees as a big problem.

"The expected lifespan of a LEO satellite is 5 years and although launch costs have reduced and multiple satellites can be launched together it is difficult to comprehend how the business case for LEO is sustainable," he warns. "Other factors include the complexity and therefore cost of operations of LEO constellations in some cases 1000s of satellites compared to the operation of singular GEO units."

He additionally thinks that the cost of tracking and switching modems is still very high and unlikely to reach mass market production for many years.

The technology battle?

Neither camp is resting on its laurels though. For example, Whitehill points to the advent of phase array antennas which have reduced the terminal size for GEO to now being portable.

Another big problem for geostationary satellites is the time taken to get them from the drawing board and into the air. "One downside of GEO's which is progressively being addressed by advances in technology and production techniques, is the time from design to launch which can typically be 5 years," he says. He believes this will give GEO the edge over LEO which he says suffers from the cost of continuously having to build and launch the short lived LEO spacecraft which are highly susceptible to failure and collision, despite how much cheaper those satellites are to build and launch.

Iridium, however, doesn't see this as being a battle. Geostationary satellites often offer C-, Ka-, and Ku-bands (for example, see PIC 2 & PIC3). "C-, Ka-, and Ku-band systems are used for satellite TV and VSAT networks," says Iridium. "LEO networks, like ours, are traditionally L-band systems, which operate in the lower part of the radio spectrum, around the same frequencies as mobile phones." The benefit of this is that L-band is renowned for its ability to send and receive transmissions even in adverse weather conditions because lower frequencies are less susceptible to interference from atmospheric and weather conditions.

The topology of a cross-connected web of satellites with a much lower latency also offers improved voice calling, claims Iridium. "Regardless of where a user is, anywhere on Earth, from the North Pole to South Pole, our LEO constellation ensures dependable communications with a quality user experience." This is particularly true for users at high latitudes who might not be able to get GEO coverage at all.

Murphy, much like Whitehill for GEO, believes that progress is being made to make small consumer devices available for LEO too. He

also thinks that LEO doesn't have to fight GEO because it has niches that it is ideal for. "For example, our LEO constellation and L-and S-band are perfect for IoT applications," he says.

So perhaps it's not an 'either/or' situation. Maybe it's down to your use case and whether can you make the numbers add up.

The business case

"The business heritage for GEO satcoms is over 40 years in the making and, as in any business sector, it has adapted with the changing demands and evolving technology," says Whitehill. "It has proven to be highly successful for sectors such as broadcasting, defence, mobility, and backhaul to remote regions."

He says that Avanti Communications intends to make further investments in GEO. "We will adapt our service capabilities and adopt the latest and best technology development based upon a solid GEO strategy. We are actively investigating the latest in software defined satellites, digital on-board processing and smallsat technology." The company's focus is on the Defence, Industry, and Carrier sectors and high value customers that require the reliability and flexibility of GEO systems and are "prepared to pay for it".

However, there has been a recent buzz about LEO networks. Three big-name entrepreneurs are all involved in trying to launch networks: Elon Musk (SpaceX's Starlink which has almost 300 satellites operational), Sir Richard Branson (OneWeb with 74 out of 648 satellites launched), and Jeff Bezos (Amazon's Project Kuiper still at the R&D phase).

Globalstar's Murphy certainly sees LEO as a sensible business choice. "The services and capabilities our network provides are designed for low power, small, low-cost devices for mass-market, with low airtime charges," he says. "GEO satellites tend to use high Mbps. With their large payloads, the economics, scope and scale of the GEO operations and user base are of a different order."

So much like with the technology, it isn't so much of a battle, more a case of choosing the right tool for the job.

Making your mind up

"Being able to offer businesses, organisations, and consumers reliable, ubiquitous satellite communications equipment that is economical, and airtime that is competitively priced, is a core priority for Globalstar. But it is particularly important for the fast-developing countries in Africa," says Murphy.

Whereas Whitehill says, "we provide wholesale MHz and Mbps on fixed HTS networks across the EMEA region and we provide highly agile and secure steerable beams to relocate high performance and high throughput where and when the customer needs it. This is a different market requirement to that of the LEO market." However, he

does concede that if Avanti Communications encounters specific demands from its customers then it would partner with a LEO constellation operator.

His final mantra for choosing a solution, "at the end of the day, the deciding factors are simple to summarise as cost, cost & cost!" But he offers one final warning, "whereas the key USPs of a LEO system are low latency and smaller terminals, the demand has yet to be proven both on paper and in service and as low latency is only achievable with a sizeable constellation of several hundreds of LEO satellites, the business case is questionably risky."

This is particularly poignant as OneWeb filed for bankruptcy in March 2020, blaming the Covid-19 crisis as the reason it failed to secure any new investment but subsequently was bought by a consortium of Bharti Global and the UK Government. It's looking like Whitehill's warnings about the business stability of LEO networks might have some foundation, but then it has always been a case of finding a reliable partner to provide you with the services you require.

If you absolutely need low latency then a LEO network is undoubtedly the best option, but if not then perhaps you're better off finding a provider than can offer you both solutions and a degree of protection against individual networks going bankrupt. ∎
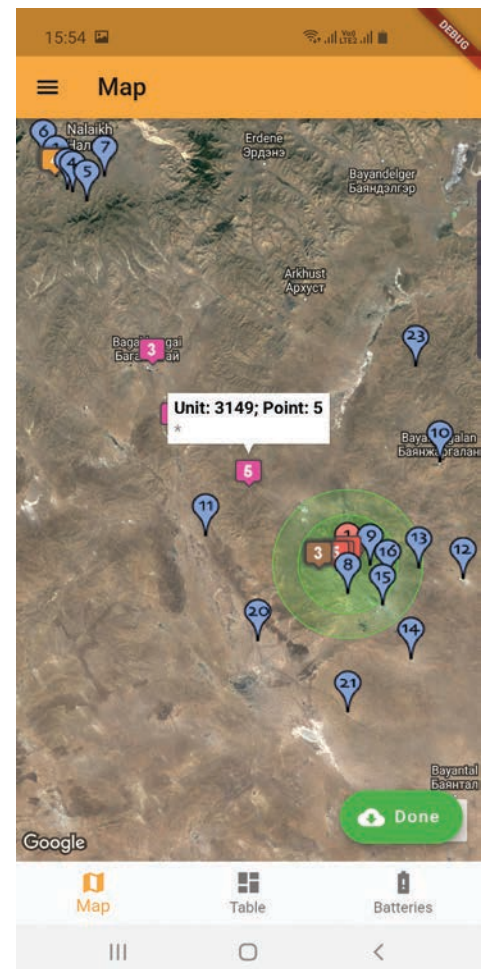
Globalstar allowing the tracking of horses for farmers in Central Asia

Banking on satellite

Caroline De Vos, chief operations officer and co-founder at SatADSL, explains how satellite-based cloud services offer opportunities that rural economies can rely on

Research has shown a direct link between the expansion of rural banking and the reduction in poverty, as well as the positive affect on economic growth in both agricultural and nonagricultural sectors.

Yet barriers face banks, microfinance organizations and rural communities as they attempt to establish these essential economic tools such as rural ATMs and access to mobile banking. A major issue stalling the rollout of ATMs is the availability of affordable, reliable and secured data communications to ensure this crucial financial inclusion.

Satellite – a deliverer of low-cost, easily deployable and readily available connectivity – could be a vital enabler of the communication needed in rural areas with otherwise limited or no terrestrial connectivity infrastructure, such as some regions in sub-Saharan Africa.

Financial empowerment

Investment in banking, microfinance and money transferring services has been identified by global financial institutions such as the IMF, the World Bank, and others of having a stimulating effect on rural communities. Jim Yong Kim, former World Bank Group president, said that "having access to financial services is a critical step towards reducing both poverty and inequality, and new data on mobile phone ownership and internet access show unprecedented opportunities to use technology to achieve universal financial inclusion."

Access to basic banking services like savings accounts, credit, and bill paying are key enablers for people pursuing education, living healthier,

Caroline De Vos, chief operations officer & co-founder, SatADSL

INDUSTRY VIEW: SATELLITE BANKING
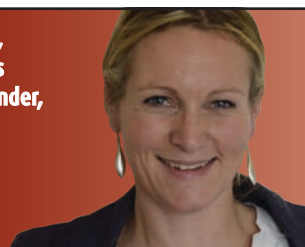
financing homes and starting businesses. Banking services are especially important in developing regions with large agricultural economies. For example, credit and secure savings accounts help farmers prepare for the changing season and ride out bad weather and soft markets.

Access to banking amenities that might be considered basic elsewhere – such as ATMs and online banking – can radically empower citizens and businesses via financial inclusion, allowing local economies to thrive and granting individuals added financial freedom. The main goal of financial inclusion is to improve the range, quality and availability of financial services and products to the unserved, under-served and financially excluded.

Focused on meeting the financial needs of the most vulnerable citizens in society, financial inclusion is recognised across the globe as a critical component to economic development and advancement. For this reason, many governments and banks in Africa have set goals that aim to increase access to financial services. Nigeria, for example, has set a goal of further reducing the exclusion rate by 20% in 2020.

For countries and regions with either a lack of or restricted access to banking services, the situation is symptomatic of the digital divide. This means same challenges faced in the effort towards connecting the unconnected – some 300 million in Africa – to internet access are faced in the effort towards connecting rural banking services, yet with the added complexity of the rural banking's specific requirements, such as sensitive nature of financial services and the criticality of day-to-day reliable connectivity.

Overcoming barriers

Access to banking services is an important issue in Africa. However, finding an optimal tradeoff between bringing financial services as close as possible to the end users in remote locations on the one hand and keeping implementation and operational costs under control, on the other hand, is a difficult challenge.

One of the most obvious gaps in developing banking services for rural Africa is poor infrastructure, impeding effective outreach to customers. A major issue affecting the rollout of ATMs, for example, is the availability of affordable, reliable and secured data communications outside large cities and in particular in remote areas, where the connectivity is limited or non-existent.

Satellite communications are playing an increasingly important role in extending banking services to developing areas of Asia, the Middle East, and North Africa, and overcoming these challenges. For example, individuals and small businesses are increasingly using cellular phones to make payments and access bank accounts, with satellite providers providing much of the cellular backhaul traffic.

According to the Global Findex Database 2017, there has been a significant increase in the use of mobile phones and the internet to conduct

Satellite communications are playing an increasingly important role in extending banking services to developing areas of Asia, the Middle East, and North Africa

financial transactions. Yet, globally, over a billion adults remain unbanked. And although Africa is the world's fastest growing mobile phone market, many residents still lack access to the Internet required to connect them to vital financial services.

With the availability of high-throughput beams in various satellite bands to provide backhauling options, mobile operators will be able to give customers fibre-like experience using satellites, boosting market expansion and increasing data use per customer.

You don't need to break the bank to make a bank

The benefits of utilizing satellite-powered connectivity, especially in the context of rural banking, are manifold. With satellites positioned around the world capable of beaming data to users via a base station, the possibility of delivering high speed internet to rural areas and remote start-ups alike is now a reality. Satellites are making possible the spread of banking in Africa and banks are opening more and more branches outside of urban areas and using VSAT platforms to connect the banks and their ATMs to central processing centers.

Satellite, which has played a proven role in bringing affordable and easy-to-deploy connectivity solutions to hard-to-reach, rural and underserved communities and locations worldwide, is a smart choice for those delivering rural banking. The advances in this technology, coupled with innovative cloud-based platforms, have the potential to offer unparalleled connectivity services.

Satellite internet delivers a high-quality connection to more places than nearly any other type of service. Satellite is also resilient compared to other connectivity means. Because satellite internet has less equipment on the ground compared to terrestrial internet providers, the network is less likely to take damage during extreme weather and other emergencies. Also, when compared to mobile hotspots and other connectivity options for people who live in rural areas, satellite internet often delivers a better price mark-up per gigabit of data – especially given the high CAPEX of other means such as fibre, which would incur high costs of connecting rural areas with physical cables.

Satellite-powered banking in action

In a display of the potential of satellite's role in improving financial inclusion in sub-Saharan Africa, SatADSL designed a cost-effective ATM solution to enable financial institutions to rollout their networks in urban, suburban or rural areas in the region. The solution enables the secured execution on a real time basis of every transaction from a large and scattered network of ATM. Ecobank, the largest bank in Africa, was one customer that chose to pilot SatADSL's solution and to rollout its ATMs that are too isolated.

Testing for the project involved secured communications to be carried out from an ATM terminal located in a gas station in Accra to the headquarters in Accra, then further on to the bank headquarters in Paris and finally to the clearing server located in Cairo in Egypt. The global transmission route was the following: Accra to Luxemburg over the ASTRA 4A satellite link, then from Luxemburg to Accra via optical fibre, then from Accra to Paris over a C-band NSS10 satellite link and finally from Paris to Cairo also over a C-band NSS10 satellite link.

To ensure the highest level of security, transactions are performed securely through an IPSec VPN. Other VPN options or secured networks are also possible. SatADSL service for ATM has proved to seamlessly cope with end-to-end VPN set up including, in this case, several satellite hops.

Also, SatADSL offered the prioritization of ATM transactions. A predefined amount of bandwidth can be marked as high priority, which guarantees that these transactions will always go through whatever congestion the network experiences at any given moment, regardless of the number of terminals, and therefore the costs – which are related to the use of the satellite – are particularly low.

Satellite holds the power

Satellite has the power to radically improve the access of sub-Saharan Africa's rural communities to banking services, driving financial inclusion and independence. This in turn has the ability, as described by think tanks and analysts, to make significant economic changes. ∎
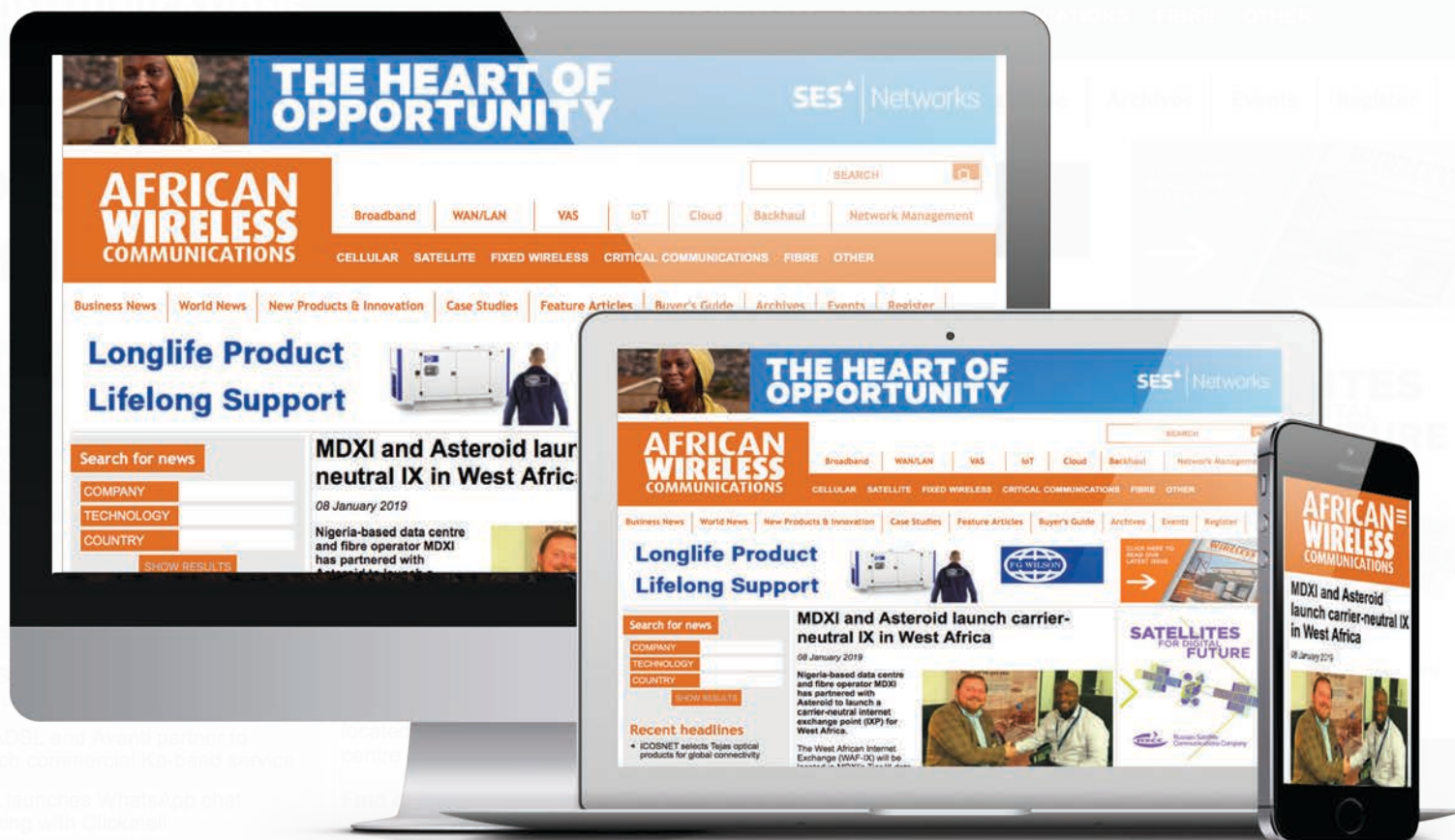
Advantech's new line of WAAS satellite converters

Advantech Wireless Technologies boasts its new class of wide area augmentation system (WAAS) satellite frequency converters is designed to provide accurate GPS timing and position for critical applications, such as air traffic control and aircraft precision landing. These products are compatible with the European Geostationary Navigation Overlay System (EGNOS).

Furthermore, this new line of products will extend the range of Advantech Wireless Technologies' WAAS and EGNOS satellite frequency converters to cover higher C-Band, from 6.6 GHz and up to 7.075 GHz. They are projected to up convert and down convert L1 and L5 GPS signals to/from C-band GEO satellites, in order to provide higher precision landing and timing for aircrafts, and other critical applications. These frequency converters are, supposedly, designed to meet very stringent frequency stability requirements, exhibit very low phase noise and experience no parametric drifting over time.

"Without EGNOS and WAAS systems, precision aircraft landing at our airports is basically impossible," says Cristi Damian, VP business development. "This is a critical service carried out by GEO satellites to augment the GPS satellites' constellations."

Viavi extends O-RAN spec

Viavi Solutions says its TeraVM 5G virtualised testing solution now supports load testing of the Open Central Unit (O-CU) according to O-RAN specifications. This capability follows the March 2020 launch of the industry-first Test Suite for O-RAN Specifications, which is already being deployed by Tier-1 operators and network equipment manufacturers.

The TeraVM F1 Load Generator is compliant with the 3GPP F1 application protocol and capable of emulating hundreds of Gbps per hour, thousands of DUs and millions of devices for meaningful functional and load testing of the O-CU. Based on one of the first mobile network test platforms to harness the benefits of virtualization, Viavi says, the F1 Load Generator is a software-based test tool housed on x86 hardware. To increase flexibility and cover a wider set of customer use cases, additional optional elements of
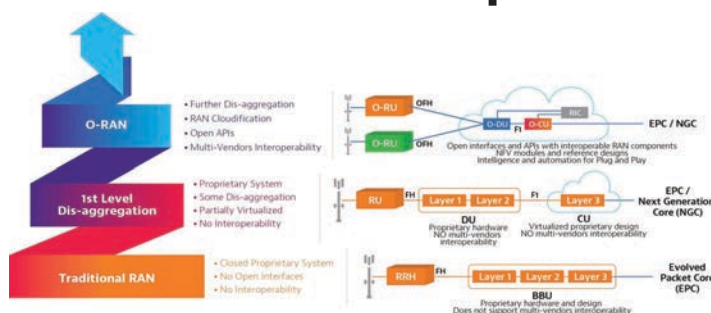
the test suite are available, including 5G standalone/non-standalone core emulator for use cases where a real core network is absent, or X2 core tester for 5G NSA test use cases.

TeraVM, Viavi says, also enables network equipment manufacturers and service providers to efficiently test mobile RAN and core elements, validating that the equipment works according to 3GPP standards, interoperates with other 5G elements, and performs optimally when fully

loaded with complex mobile traffic profiles. TeraVM is part of Viavi's Lab To Field network testing and assurance portfolio as well as its Test Suite for O-RAN Specifications.

"The industry roadmap to 5G open RAN has been accelerated, and manufacturers and service providers alike need standards-compliant testing capabilities now to ensure interoperability and performance," says Ian Langley, vice president and general manager, wireless business, Viavi.

GL's MAPS LTE conformance test suite

GL says its MAPS LTE conformance test suite has 50+ test cases, as per 3GPP TS 36.413 (LTE S1) and TS

36.423 (LTE X2) specifications. It includes inbuilt conformance scripts for eNodeB conformance in S1

interface, and multiple eNodeB's in X2 interface as per 3GPP standards.

Test cases include general evolved universal terrestrial radio access network (E-UTRAN); S1 Application Protocol (S1AP) and X2 Application Protocol (X2AP) messaging and call flow scenarios over LTE network. Logging, pass/fail results are reported. Test cases verify conformance of actions such as UE attach/detach, periodic updating, E-RAB setup, X2 setup, Handover procedure, UE context release, and error indication.
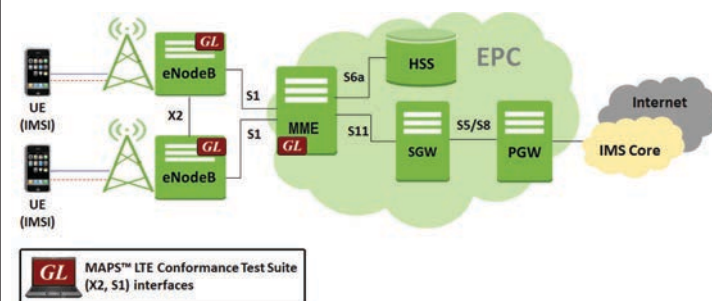
Hytera's smart, new PoC radio with integrated DMR

Hytera claims its "intelligent" PDC550 PoC (Push-to-Talk over Cellular) radio device combines broadband and narrowband communication in one device. This radio enables seamless communication via public and private broadband radio networks (3G/4G/Wi-Fi) as well as DMR networks.

It therefore offers a long range, diverse PMR functions and the use of customer-specific applications.

What's more, Hytera says its PDC550 is characterised by convenient and simple operation and its handy and robust design. In addition, the new PoC radio from Hytera has two powerful HD cameras on the front and back for image and video transmission. It's a rugged device, too. The IP68 protection and complies with MIL-STD 810G, "making it ideal" for harsh environments. With

its anti-slip coating on the side, the PDC550 rests comfortably and securely in your hand. The radio also weighs just 375 grams including the battery, antenna and belt clip, making the PDC550 a very lightweight in its class.

The 5-inch HD multi-touch screen is equipped with Gorilla glass, making it particularly resistant to falls, while the display remains legible even in strong light, Hytera says. The touch screen can be easily operated with gloves and even in adverse weather (e.g. rain).

Nokia commercialises next-generation 5G cloud RAN

Nokia says its next-generation 5G AirScale Cloud RAN solution based on vRAN2.0 will be commercially available this year with general availability expected in 2021, following a series of successful trials. The Finnish firm's first-generation 5G AirScale Cloud RAN based on vRAN1.0, which has a virtualised Central Unit (vCU), has been in commercial operation on a mmWave network in the US since early 2019. Its new vRAN2.0 solution introduces a virtualised

distributed unit (vDU) as well as a Fronthaul Gateway. The result is what Nokia describes as a fully-cloudified and disaggregated 5G base station that provides scalability, low latency, high performance and capacity, as well as several network architecture options, to meet ever-increasing market demands. Furthermore, the solution helps operators to generate revenue from new 5G services as well as to enable flexible end-to-end network slicing, meet IoT

requirements and bring the overall benefits of cloud computing to Radio Access Networks (RAN).

Ed Gubbins, principal analyst at GlobalData, says: "Cloud RAN has the potential to fundamentally transform mobile networks, making them more agile and dynamic and allowing operators to be more nimble in activating new services and revenue streams." He added that "Nokia has been more proactive and consistent in driving Cloud RAN technology than its peers".

Mobile Mark's antenna for mining in vehicle control and fleet tracking

Mining takes place in very difficult and remote environments and so Mobile Mark offers several private network infrastructure and vibration resistant vehicle antenna solutions that are ideal for such environments.

The antennas are available in many different styles including: rugged mobile, foam filled omni-directional, and GNSS multiband surface mount antennas. All of

these antennas are designed for mining applications for vehicle control and fleet management.

The rugged, amplified tactical mesh (TMA-24A-3.2CT) antenna model covers the 2400-2500 frequency band with a gain of 2 dBi and is designed for use in rugged and mobile wireless networking applications. TMA construction is highly durable and water resistant. Mobile Mark says the small footprint

and low profile design makes it an ideal solution for mounting on vehicles or in other space constrained applications. This antenna is notable for its overall size. Measuring at just 5.5" (14mm) in height with a diameter of 2.2" (112mm).

Huber+Suhner's 'smallest outdoor fibre optic connector for harsh environments'

Huber+Suhner's brings to market its smallest ever outdoor fibre optic connector – the Q-ODC-2 Mini – "to enable more cost-effective, flexible and higher capacity deployments of new wireless infrastructure in industrial and communication applications."

The company further boasts that this compact design and size-optimised connector reduces dimensions by 50% and weight by 40% when compared to its Q-ODC-2 outdoor connector. These smaller proportions allow wireless

infrastructure providers to access new locations and add more capacity to the network, reducing the cost per bit, the firm claims.

The Q-ODC-2 Mini also overcomes the challenge of high system sensitivity and increases reliability. This, the firm says, opens up new areas of application for fibre optics in a number of industries, such as wind energy, railway and shipbuilding.

The connector is waterproof, dust-proof and corrosion resistant and provides the maximum safety for outdoor installations. It features a robust push-pull coupling mechanism and an extension connector for cable chaining, making

the solution fast and easy to install.

"As our smallest outdoor fibre optic connector to date, the Q-ODC-2 Mini addresses critical challenges in the planning, building and operation of new wireless infrastructure deployments by providing an affordable solution that is simple to install and takes up the minimum amount of physical space," says Carsten Dieckmann, product manager at Huber+Suhner. "The product adds to our portfolio of fibre optic solutions that are suitable for complex applications with high data rates as network providers look to meet the demand for more capacity at a lower cost per bit."

Telefónica and Telesat complete LEO satellite test

Telesat and Telefónica International Wholesale Services completed live in-orbit testing across a wide range of applications on Telesat's Low Earth Orbit (LEO) Phase 1 satellite, according to both companies.

The aim of the partnership was to improve agility and operational efficiencies and both carried out a rigorous testing campaign to explore the feasibility of using LEO satellites for high-end services.

"As we plan, design and build our offerings to provide best-in-class connectivity for our customers, we are eager to explore how cutting-edge technologies like Telesat LEO can integrate with our global connectivity infrastructure," said Gustavo Arditti, satellite business unit director at TIWS.

Testing showed that Telesat LEO satellites could be used for wireless backhaul and is significantly better in performance over geostationary orbit (GEO) links.

This is without the use of compression or TCP acceleration techniques that are typically required in 650ms latency GEO environments.

"The ability to demonstrate fibre-like performance via satellite across a number of applications that perform poorly on GEO satellite backhaul is a testament to the capabilities of our Telesat LEO network," added Erwin Hudson, vice president of Telesat LEO. "With its high-throughput links, ultra-low latency, and disruptive economics, Telesat LEO offers an unparalleled value proposition to expand the reach of 4G and 5G networks."

The applications tested on Telesat LEO resulted experienced a round trip latency of 30-60ms without any packet loss.

Specific test scenarios included: High definition video streaming, without interruption; a video conference with team which showed a user experience matching terrestrial and cellular connections; a remote desktop connection; a VPN connection without any delay or outages; FTP encrypted file transfers of 2GB in both directions; and IPSec tunnel encryption with no reduction in the performance of the link.
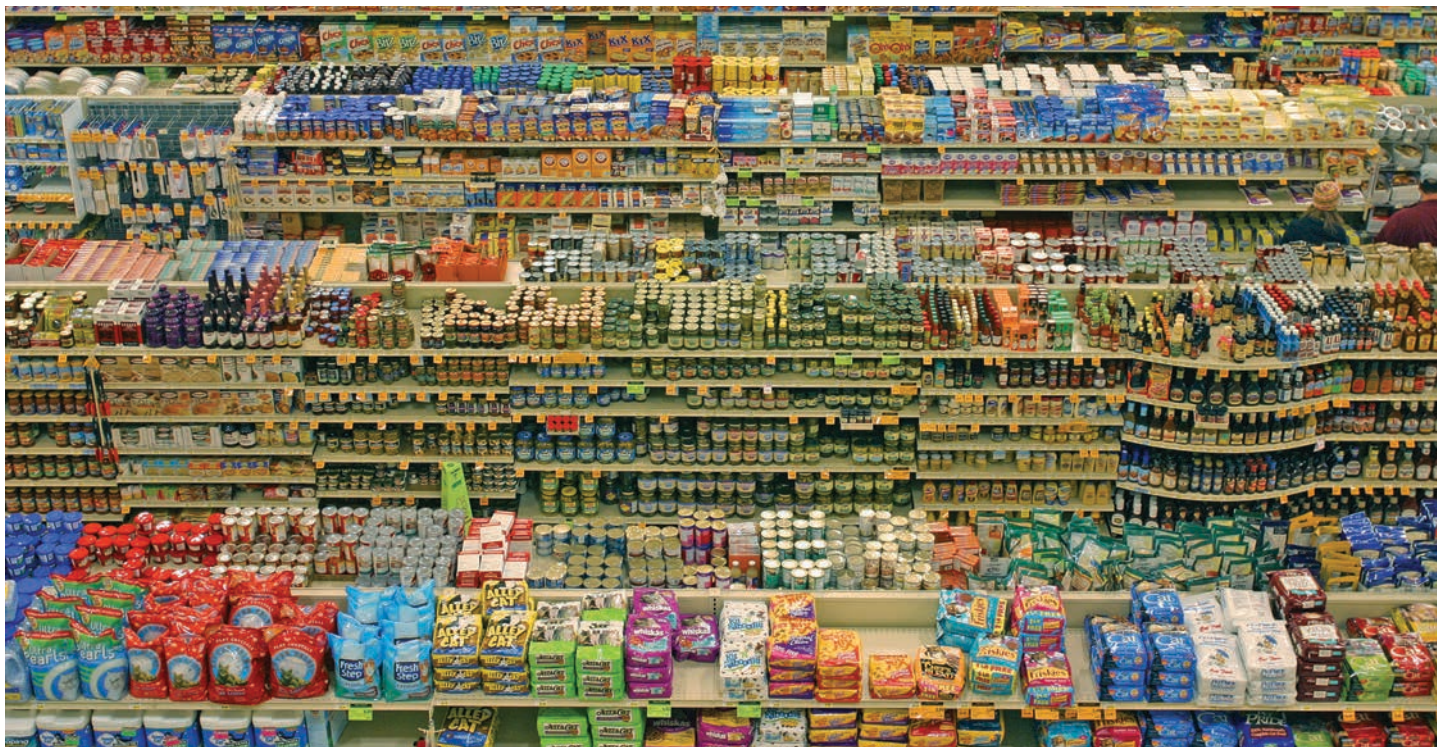
Enabling retail businesses across Cameroon to grow

Talia continues to help businesses in Africa. It partnered with local telecom and IT provider, KNP, to connect the underserved in Cameroon

In today's connected world, retail outlets and microbusinesses cannot afford to be offline. A fast and reliable broadband connection is essential for their continued success. Not only can the internet help retailers to keep in touch with suppliers and customers, but it can also provide them with necessary business tools like payments, marketing and security.

At low cost, and at scale, applications and services powered by the internet have accelerated economic growth and created jobs worldwide. However, in sub-Saharan Africa, geographical location is still a

significant obstacle to achieving universal digital access. Retailers based in rural areas struggle to access efficient and cost-effective networks.

Rrogress is slow, but governments are gradually adopting policies, and affordability is improving. One of the latest reports from the Alliance for Affordable Internet (A4AI) shows Cameroon as one of the few countries that have helped individual users and businesses boost internet access affordability with new national broadband plans.

Although the lack of infrastructure and funding is slowing the country's internet penetration creating a major obstacle for many

entrepreneurs and retailers, Talia together with KNP, a leading Cameroon telecommunication and IT provider, is hoping to change that.

KNP provides both residential and commercial customers access to fixed and mobile networks, together with television, connecting people to others across the world.

The partnership between Talia and KNP is helping connect the unserved market of Cameroon with high-speed internet by satellite at costs equivalent to terrestrial services.

Through the Quika platform, a low-cost Ka-band internet service powered by Talia, a chain

WIRELESS USERS: BUSINESS

of retail outlets is now able to improve their business and provide better customer service. A large proportion of their operations can now take place online, from working via cloud-based software to transmitting data between different stores and carrying out online transactions.

Quika satellite services are location independent; therefore, high bandwidth can be delivered directly to subscribers no matter where they are. The service does not require substantial infrastructure investment with the terminal price being less than $500. Customers are in control of how much they spent on a month to month basis and have the option to purchase additional data when they need more.

The Quika Ka-band terminals comprise an antenna, transceiver and modem. The single cable connection between the antenna and terminal means that self-installation is simplified for a more user-friendly utilisation.

In response to the technical challenges and the lack of infrastructure that the country is currently facing, Quika provides fast, affordable connectivity via an online portal to retailers and SME's across Cameroon which is not yet connected to the internet.

"Given the growing demand by government agencies, small businesses and NGO's for high-performance connectivity at affordable costs, Talia is helping us provide a sustainable high-speed data usage solution to remote African communities", says Achille Tchekounang, General Direct of KNP.

"Ka-band connectivity is a no-brainer for many parts of Africa as it complements the sparsely distributed terrestrial networks in the hinterlands while leveraging the submarine cables along the African coastline", says Ayes Amewudah, VP sales of Talia.

"In addition, Ka-band offers higher throughput speeds than any other bands at lower costs, using a much smaller dish. This enables us to offer higher-speed packages, allowing retailers and other small businesses to benefit from a stable broadband supply at the speed they choose at a very affordable price."

As a result, several retail outlets across Cameroon are now connected to the internet through Quika. By saving money on internet access, retailers can improve their businesses by investing in more advanced retail software, staff training and improve store security.

Launched in 2018, Quika's unique business model makes high-speed, low-latency broadband affordable and sustainable for remote African communities. Its mission is to close the gap between connected and unconnected areas, to resolve a significant cause of economic and social inequality. By doing so, Talia's platform aims to empower individuals through the educational, economic and social benefits that online connectivity brings.

"The combination of technical experience, human relationship and exceptional customer support make Talia a valuable partner for KNP in Africa, and plans are underway to expand Ka-band services to additional stores in Cameroon and Congo", says Achille. ∎

Mauritania's leading CSP increases revenue 10% with Nexign

Chinguitel is one of the largest communications service providers (CSP) in Mauritania, with an excellent reputation for providing subscribers with "top notch services". Its previous billing system was built solely for prepaid subscribers – and to serve postpaid subscribers, the CSP used an in-house solution. As the two systems were not integrated consistently, when new products and services were introduced, postpaid subscribers were not billed correctly.

"Our legacy system had limited functionality" says Radi Abdalla Ali Almamoun, chief technical officer at Chinguitel. "It was built for prepaid subscribers, so when people requested additional services they received them but weren't billed correctly which resulted in revenue loss."

To improve subscriber services, Chinguitel replaced its outdated, inflexible billing system with a modern, converged solution designed for the digital era. Chinguitel launched 27 new subscriber services within the first 12 months of implementing Nexign. Almamoun says one of the most lucrative new services is based on geographic location.

"We target locations where our market share is low and offer service that is extremely competitive," he says. "We gain new subscribers, and they gain best-in-class service."

Chinguitel's subscriber base is growing fast. It's expected to reach 1.5 million by the end of 2019.

"We have more leverage in the market than ever before because Nexign makes business operations more efficient," Mr. Almamoun said. "Since subscriber information is unified, our call centre resolves issues more efficiently. Before we deployed Nexign, subscribers' details were scattered in several locations, and calls were often sent to the technical team for resolution. Thanks to Nexign, calls to the technical team have decreased by 40%, allowing them to focus on core duties such as reporting and analysis, which also improves business efficiency."

"One of the key reasons for selecting Nexign was efficiency," Mr. Almamoun said. "The Nexign team implemented our new billing system and migrated our subscribers in record time — in just over seven months — while Nexign's competitors said they needed up to 18 months

Chinguitel replaced its outdated, inflexible billing system with a modern, converged solution designed for the digital era

to complete the project. Finishing faster let us improve subscriber services faster."

Shortly after Nexign completed the implementation, Mauritania's government announced an overhaul of the country's currency, which changed its value. Nexign integrated the changes into Chinguitel's billing system within three weeks.

"If Nexign hadn't acted that quickly and efficiently, the government could have fined us up to US$200,000," Almamoun says. "One of the things we appreciate most about Nexign is loyalty. They didn't abandon us after deploying their solution — they've been with us ever since. Nexign manages our billing system so we can focus on providing the very best subscriber services."

The very best subscriber services include digital services. Nexign is helping Chinguitel address the challenges of digitalisation, including digitising business processes to support growth, enabling analytic-based decisions to improve business agility, and creating more subscriber services to increase loyalty and diversify revenue streams.

"We have plans to capitalise on the Internet of Things (IoT) so we can provide subscribers with more personalised, relevant services," Almamoun says. "We're confident our digital transformation will be successful and efficient with Nexign."

Modern, converged solution boosts revenue by 10%: Nexign Converged BSS and Nexign Network Monetisation Suite make business operations more efficient, giving Chinguitel more leverage in the market to boost revenue.

Subscriber base is projected to increase by 50%: Nexign gives Chinguitel the flexibility to offer new, competitive services that will grow the subscriber base to 1.5 million by the end of 2019. Digital transformation will support long-term growth. ∎

New Wi-Fi solution gives Coca-Cola Egypt extra fizz

The Coca-Cola Company needs little or no introduction, but if you didn't know, it's a beverage retailer, manufacturer and marketer of non-alcoholic beverage concentrates and syrups. The company's flagship product is Coca-Cola, but it offers more than 500 brands in over 200 countries or territories and serves 1.6bn servings each day. The Coca-Cola Company is headquartered in Atlanta, Georgia. Its stock is listed on the New York Stock Exchange (NYSE).

As Egypt is one of the global markets Coca-Cola Bottling Company has huge investments

where their warehouses are distributed all over the country. The challenge was to cover the entire warehouses yards all over the country in order to provide reliable Wi-Fi connectivity for the staff for daily operation.

Owing to the size of the warehouses and the structure of the buildings, the existing wireless network provided very limited coverage. NextGen Communications, our partner in Egypt replaced the network using Altai Super Wi-Fi Solution to provide 100% outdoor coverage. The staff can now access the company system with their handheld devices anytime, anywhere. The daily operation of the staff has increased greatly by their ability to access the company system smoothly and efficiently. ∎

Huawei and UnionPay team up

Huawei Mobile Services has joined forces with China-based financial services business, UnionPay, to launch its new mobile payment service – Huawei Pay, in Thailand.

The tool provides a contactless and cashless payment service for Huawei device users, with Industrial and Commercial Bank of China (Thai) the first bank to support the payment service. In addition, the payment solution is one of the key services under the company's Wallet app that supports near field communication (NFC) payments in retail stores.

The company's Wallet app comes pre-installed in the newly-launched Huawei P40 series. For the existing smartphone models, the app can be downloaded from the company's official app marketplace. In Thailand, the local merchandises support Huawei Pay including Boots, Emporium, Jaymart, Major Cineplex, Mr. D.I.Y, Sushi Hiro, Swarovski, Tesco Lotus, The Face Shop and others.

Thuraya modernises network using Ericsson

UAE mobile satellite services operator Thuraya has hired Ericsson for a core network modernisation and upgrade to a 4G- and 5G-ready infrastructure.

The Swedish giant will modernise and optimise Thuraya's network to a virtualised core that supports existing and new features and services in the future.

Ericsson will also migrate the existing Thuraya users to the new platform and oversee its integration with existing systems. The operator's mobile-data users, especially those in remote locations or areas where traffic is dense, will benefit from higher availability and reliability.

As a result, Thuraya can provide consumers more flexible and easy-to-use communication services integrated with various terminals.

"By modernising Thuraya's core network, we are looking to build its resilience and enhance overall performance," Adnan Al Muhairi, deputy chief technical officer of Thuraya said. "This would also improve other key aspects like guaranteeing more flexible, reliable and effective services. Our strategy is to make optimum use of existing assets and invest in infrastructure upgrades so that the network is ready to accommodate Thuraya's Next Generation System. We have a longstanding partnership with Ericsson and acknowledge them as a leader in deploying new technologies to enable high-quality mobile broadband solutions."

By selecting Ericsson for the modernisation of its existing mobile-core, Thuraya extends its existing partnership, in which Ericsson has been the sole vendor for its circuit-switched core network.

Belgium grants temporary 5G licences

Belgian telecom regulator BIPT has offered temporary 5G licences to Proximus, Cegeka, Entropia, Telenet and Orange Belgium.

All received 40MHz of channel bandwidth each and the temporary 5G licences will remain valid until the 5G auction, delayed in Belgium due to a disagreement between regional governments over proceedings.

Proximus, 53.5% owned by the Belgian government, was the first mobile operator to launch 5G mobile network in the country, using spectrum in existing holdings.

The operator's chief executive officer (CEO) Guillaume Boutin said: "We are in close contact with all concerned municipalities, and with the Walloon region."

Boutin said the company is increasing efforts to demystify environmental and health aspects of 5G.

Singapore chooses Nokia, Ericsson over Huawei for 5G

Singapore's leading telecom providers selected Nordic firms Ericsson and Nokia to develop the city-state's main 5G network, joining a growing list of countries that have limited Huawei's role in building the next-generation wireless network.

Singapore Telecommunications, which is the country's largest telecom, chose to use equipment from Sweden's Ericsson after a "rigorous tender process," while the StarHub-M1 joint venture picked Finland's Nokia after Singapore gave the final green-light to telecoms for the city-state's 5G rollout. Huawei, meanwhile, will work with Australia's TPG Telecom, which is set to build a smaller network in Singapore.

The announcement comes after several countries including the UK and Canada reduced or eliminated Huawei's role in developing 5G

The announcement comes after several countries including the UK and Canada reduced or eliminated Huawei's role in developing 5G networks

networks amid pressure from the US to exclude the Chinese player on national security grounds.

However, Singapore's minister for communications and information S. Iswaran emphasised that Singapore Telecommunications didn't "exclude any vendor," in an interview with Bloomberg. "You have a diversity of vendors involved in different aspects of the world 5G system."

The US has long alleged that Huawei maintains a tight relationship with the Chinese government and that equipment from the company could be used to spy on other countries and companies. Huawei has repeatedly denied this.

Singapore is expected to roll out its 5G service early next year, with plans to cover the entire city-state by 2025 at the latest. 5G, the next generation of wireless networks that has been rolling out across the world, is live in a number of major US cities, as well as parts of China, South Korea and the UK, among other countries. The new technology is will make downloads and uploads ultrafast, but it is also poised to power everything from self-driving cars to advanced augmented reality experiences.

Canada's Telus picks Samsung for 5G network

Samsung Electronics will be supplying equipment to build the 5G wireless network for Telus, a telecom provider in Canada.

The move comes as the tech giant is dominating the network equipment sector at a time when telecom companies in different countries are shunning Huawei, the top supplier of network equipment, over security concerns.

"Samsung is rapidly expanding its customer pool, signing four new 5G contracts in the last seven months, including with operators in Canada, the United States and New Zealand," it said in a statement.

Back in March, Samsung announced it will supply 5G new radio solutions, including Massive MIMO radios, to Spark New Zealand, the largest telecom provider in the country.

Samsung also acquired TeleWorld Solutions, a U.S.-based network service provider, in January, 2020.

Darren Entwistle, president and CEO at Telus, said that Samsung's technological state was the main reason for awarding it the deal.

"We are pleased to select Samsung as a 5G vendor for our mobile services, leveraging the enhanced network capability, exceptional connectivity and state-of-the-art technology inherent in their 5G solutions," the CEO said.

"As a longstanding innovator in the 5G space, Samsung is looking forward to supporting Telus, and in playing a key role in expanding new 5G horizons in Canada with unparalleled 5G network solutions," said Cheun Kyung-whoon, president and head of networks business at South Korean giant, Samsung Electronics.

Samsung recently announced it will supply 5G new radio solutions, including Massive MIMO radios, to Spark New Zealand, the largest telecom provider in the country

Bouygues adds users and boosts reach

French operator Bouygues Telecom inked an agreement to acquire MVNO Euro-Information Telecom from banking group Credit Mutuel for at least €530m, as part of a broader deal to boost subscriber numbers and its distribution strategy.

The company said the basic acquisition fee would be paid once the deal closes, which it expects to happen this year subject to French Competition Authority approval. It also agreed to pay an additional €140m to €325m over a number of years, subject to achieving "certain business performance criteria".

Euro-Information Telecom currently serves 2 million subscribers. In addition to bringing those to the Bouygues Telecom stable, CEO Richard Viel said a related distribution agreement with Credit Mutuel would strengthen the operator's "commercial footprint" by enabling it to sell "through the local bank branches" of the company across France.

Bouygues Telecoms was the fourth-largest operator by connections in Q1 with more than 12 million, GSMA Intelligence data showed.

France currently has four mobile networks: Orange, SFR, Bouygues Telecom and Free.

Claro Brasil launches 5G

Claro Brasil has launched its 5G network using a combination of 700MHz, 1800MHz and 2.5GHz spectrum.

Using a dynamic spectrum sharing model, the operator is able to deliver 5G services concurrently via the same spectrum used for its LTE-A network.

This approach was successfully trialled in February this year at Claro's offices in Sao Paulo, with the operator using equipment from Ericsson and Qualcomm to carry out a 5G New Radio data test.

Claro Brasil did not reveal the extent of its 5G network coverage, but its president Jose Felix said its intent is to provide its customers with "a gradual and transparent migration to 5G".

China Telecom makes push for US licence

China Telecom has become the latest Chinese operator to push US regulator the Federal Communications Commission (FCC) not to shut its operations in the country, arguing its subsidiary does not pose a threat to national security, according to Reuters.

In a filing, China Telecom (Americas) argued its conduct does not demonstrate any reasonable basis for a lack of US government trust, insisting a move to revoke its licence is "based solely on foreign policy concerns in the absence of any evidence whatsoever of specific misconduct", the report said,

The business previously argued any move to terminate an interconnection licence in the country would be unlawful, after various government departments pressed the FCC to do so.

China Unicom (Americas) recently made a filing arguing the FCC had no valid grounds to revoke long-standing authorisations to provide domestic and international services in the US.

It said it was deemed qualified to do so nearly 20-years-ago, has a record of complying with FCC regulations, and stated it would be improper to initiate proceedings to revoke its licence simply because of its ownership structure.

Pacific Networks and subsidiary ComNet (USA) also defended their record of providing services in the US.

In April, the FCC demanded the three companies explain why it should not cancel clearances to operate in the US, requesting they prove they are not influenced or controlled by the Chinese government and do not pose a threat to national security.

This followed a call by US President Donald Trump to establish a special committee to review telecoms licences and applications, to pinpoint potential security threats.

In May 2019, the FCC unanimously voted to block a China Mobile interconnection licence application.

Lebanon to manage networks ahead of new tender

The Lebanese government will take back management of the country's two state-owned mobile phone networks after the latest contracts expire, with plans to prepare a new tender within three months.

Lebanon's two service providers, Alfa and Touch, have been run respectively by Egypt's OTMT since 2009 and Kuwait's Zain Group since 2004, with the contracts repeatedly renewed.

However, a tender for new contracts to manage the mobile and data operators will be ready within three months, Telecom Minister Talal Hawat tweeted after a recent cabinet session. The ministry will run the networks in the meantime.

Lebanon's government came into power in January and has struggled with a financial and economic crisis on a scale the country has never seen in its history.

Afghan and Uzbek state operators expand 4G

Major 4G updates are underway in neighbouring countries Afghanistan and Uzbekistan via their respective state-owned operators.

Afghan Telecom's mobile brand Salaam is now delivering 4G to 15 sites in Kabul, with plans to invest an additional US$20m into new internet services.

The operator's deputy chief Sharif Sharifi said that the deployment was currently limited to a few locations in the capital but confirmed this would change over time, stating: "We need some time to develop our system and

to improve our services," he added.

Sharifi also noted that the operator planned to deliver 4G coverage to all of Afghanistan's provinces and that it would come "slowly".

Salaam is the third of Afghanistan's five operators to launch commercial 4G. Afghan Wireless Communications Company (AWCC) pioneered the technology in the market in May 2017, with Etisalat following in February 2019. MTN Afghanistan and Roshan have confirmed that they will launch 4G but are not wedded to a date.

Uzbekistan's capital of Tashkent is

also receiving expanded LTE coverage via state-owned Uzbektelecom's mobile arm, Uzmobile. The operator noted that data speeds would improve considerably as it was boosting the bandwidth of the LTE frequency through which it delivers coverage in the city.

All 2G and 3G base stations in Tashkent were included in the upgrade, which will also see the operator expand the technology into other regions of the country. Uzmobile confirmed that the country's current Covid-19 quarantine was not impacting the scheduled expansion of its network.

Rajant and Velodyne Lidar join forces

Rajant Corporation and Velodyne Lidar will support DP World's new Autonomous Internal Terminal Vehicles (AITVs) with wireless connectivity and lidar sensor technology. A deal signed by DGWorld and DP World will equip DP World's Jebel Ali Port, the world's

ninth busiest seaport, with a fleet of DGWorld's AITVs, including integration into the existing operational processes and infrastructures. This deployment supports DP World's visionary strategy for future-proofed, seaport digitalization setting a new global standard for port operations,

supply chains, and trade. "We trialled other wireless technologies, including the latest 5G, before discovering Rajant," said Matthias Krause, General Manager at DGWorld. "They all had the same physical limitation, which is that wireless cannot go through large, metal container stacks."

Bolivia turns to satellites in Covid-19 battle

The Bolivian space agency (ABE) will provide satellite connectivity to 215 immobilised telehealth centres located in rural areas as part of the fight against the coronavirus pandemic.

Available free of charge to users in the areas in question, the service will continue as long as the

country's health emergency is in place, the government said.

ABE also said that it would give a 30% discount to clients of its satellite internet service (SUBE), initially during the months of March and April.

Bolivia had 5,187 confirmed cases and 215 recorded deaths at

the time *Northern African Wireless Communications* went to press.

The government has also suspended the national elections that were scheduled for May 3.

The new service will continue as long as the country's health emergency is in place, the government said

Digital payment boom boosts Philippine telecom carriers

A boom in mobile digital payments during the Covid-19 pandemic is reviving investor interest in the Philippines'' two telecom carriers.

Forced to stay at home since president Rodrigo Duterte ordered a lockdown in mid-March, millions of Filipinos are now using their smartphones to pay for items from bread to vegetables and

meat, increasingly shunning cash transactions. A number of employers are also paying salaries using phone apps.

While PLDT Inc and Globe Telecom Inc introduced their platforms as far back as 2000, their apps started tasting success only after handsets and wireless data became more affordable.

"The days of people of wanting to

hand cash over as their main means may be numbered," Globe president Ernest Cu said, citing concerns that the coronavirus can stay on bills for a long period of time.

The central bank said, only 9% of the population use credit cards. PLDT and Globe have about 160 million in combined wireless subscribers, exceeding the nation's population of 108.7 million.

This move towards use of wireless data for payments is among initiatives pursued by the carriers as widespread use of data and social media combined with price wars have dented revenues from calls and texts.

Building another source of revenue has also become more urgent as PLDT and Globe face the entry of a third major player.

Silent 5G auction begins in the Netherlands

The auction of 5G telecom frequencies kicked off in the Netherlands but no-one knows how long the auction will take and the number of bidders is being kept secret. The previous auction, for 4G frequencies in 2012, raised €3.8bn and this auction is expected to raise far less than that – but the reserve price totals €900m. KPN, T-Mobile and VodafoneZiggo are among the bidders but whether or not any foreign telecoms firms are taking part is not being revealed, auction master Martijn Meijers said. Three frequencies are being auctioned: 700, 1,400 and 2,100 MHz. Once the auction is completed – a process which may take several weeks or even months – telecom providers will be able to activate their 5G services – if ready for launching. Vodafone's 5G network, which it is currently promoting, is using a frequency allocated for 4G. The roll-out of 5G in the Netherlands has been hit by both concerns about the impact on public health and about the potential involvement of Chinese tech company Huawei.

Three frequencies are being auctioned: 700, 1,400 and 2,100 MHz

Telia Norway launches commercial 5G

Telia in Norway has switched on its 5G commercial network, offering subscribers high-speed services powered by Ericsson.

The 5G network has Lillestrøm and parts of Groruddalen in the greater Oslo region as the first areas to benefit from enhanced mobile broadband services. During the course of 2020 the 5G coverage will be expanded in Oslo, while the 5G network will also extended to Trodheim and Bergen.

"This is an important day in Telia's and our customers' history," Stein-Erik Vellan, CEO, Telia Norway. "In a time when we really see the importance of our digital infrastructure for keeping the wheels spinning, we are incredibly proud to be able to open our 5G network to customers with Lillestrøm as the first place out. Through the partnership with Ericsson we will enable new opportunities and we hope the Norwegian people will enjoy the new and pioneering mobile technology."

Jenny Lindqvist, head of Northern & Central Europe, Ericsson, added: "With 5G, technological boundaries are being moved forward to create the biggest innovation platform ever. New services for consumers and enterprises, as well as new use cases for digitalization of industries and society, are creating unique business opportunities across all sectors and positive change for everyone."

Lindqvist added that industries and society "will get the support for massive amounts of connected things", for tracking, fleet management, smart metering, and other applications. "But probably the highest impacting implementation is the support to connect industries to drive automation, making us more efficient, more sustainable and opening up a new world of innovation," she said.

Assad's cousin facing legal action

Syria's telecom authority said a deadline for a cellular company owned by the cousin of president Bashar Assad to pay back its debts to the state has ended.

An announcement came hours after Assad's cousin, Rami Makhlouf, released a new video in which the businessman said he was asked to step down from the leadership of Syriatel, the biggest telecom company in the country. However, the watchdog said legal measures will be taken against the company to recover the money.

The Syrian Telecommunications Regulatory Authority said in a statement carried by state news agency SANA that Syriatel had refused to pay fees to the state, therefore "Syriatel will be responsible for all the legal repercussions" for refusing to give back the dues.

Makhlouf had previously been told to pay the equivalent of US$180m purportedly owed to the government by his telecom companies.

Facebook buys stake in India's Jio

Facebook has pumped US$5.7bn in Jio Platforms, the digital services arm of India's largest private sector company, Reliance Industries. The deal gives the US tech giant a 9.99% stake and a chance to promote the usage of its apps in Jio's 388 million wireless subscribers. Both companies said the focus of their collaboration will be empowering India's small businesses in the digital economy.

TA suspends capex rise

Telecom Argentina has decided to suspend a US$100mn increase in its 2020 capex because of the uncertainties caused by the Covid-19 crisis. Company CEO Carlos Alberto Montini said the business has total capex of US$500mn earmarked for this year, which was already less than half that for 2019, when the telecom operator invested more than 70bn pesos (US$1.12bn). "In February and the beginning of March we were planning to increase our capex by US$100mn to US$600mn, and that was because the quarter was going better than we were expecting," Montini said in an earnings call with analysts and investors.

Cambodia in China plea

Cambodia's newly-appointed minister of posts and telecommunications Chea Vandeth urged Chinese telecom giants China Communication Construction Co (CCCC) and Huawei to further invest in the kingdom's 5G digital technology rollout. The appeal comes as the Ministry of Information is set to release the 700MHz frequency band to the telecom ministry in the coming years to help it develop the 5G network.

Q&A

Biju Nair
president & CEO
HYLA Mobile

What did you want to be when you were growing up?

I wanted to be a doctor, primarily because growing up in India it seemed a good way to make money and earn respect. Also, when I was at high school, I thought you can really make a difference in a profession like that.

What was your first job after leaving school?

I worked for a company called SAFCO Technology in the US as a soft-

sure the company is going in the right direction. When trying to do that, it is sometimes easy to take your eyes away from what is needed to ensure people have a successful growth plan – all while getting on with everyday business.

What has been your career low to date?

At one of my first start-ups, we were absolutely convinced we were building a product that could

> **"I wanted to be a doctor, primarily because growing up in India it seemed a good way to make money and earn respect"**

ware engineer, working on telecom test and measurement systems.

When was your big career break?

It was the opportunity to help build a start-up software business within SAFCO. It was a hardware company that was lacking superior software products.

What is the best thing about your job?

The team I work with and the customers I get to serve. The team is amazing, having turned around a company that five or six years ago was having survival problems. I rallied the team into going in a slightly different direction – that was risky – but had potential to redefine the business. The team responded well and when you go through a process like that together, it creates different bonds. The customers for obvious reasons – success. I learn from them, share ideas with them to make their business better.

What is the hardest thing about your job?

Ensuring that all the people in the company are well taken care of while continuing sustained growth. My first responsibility is to make

transform Wi-Fi routing. This was in around 2002 to 2003. The Wi-Fi routers we take for granted today were extremely expensive at the time – even corporations weren't putting up many Wi-Fi connections, just one per floor, causing issues for people that were far away.

However, Intel was developing a technology called Centrino, where it was embedding its Wi-Fi technology into laptops. Without Intel sharing licence for its products, we weren't going anywhere. It was pretty humbling for us to wind that down and pack that up – we learnt a lot of things from that.

What has been your career high to date?

Back in 2015, HYLA went through a difficult phase where we had lost our largest customer, the company was running out of money – an existential angst. That's when the board asked me to step up as CEO. Turning us around, diversifying the product base, getting new customers – that's been my highlight so far.

Who has been your biggest inspiration?

In my personal life, it has been my father. He was a self-made

man, a marketing guru and education was very important to him. I recall his older sister telling me stories about there being no electricity, and oil for the lamp was expensive. He'd turn the lamp off after dinner, then take his schoolbooks out to sit under the streetlight to study.

My father worked also for the World Health Organization and was part of the team working on eradication of smallpox by dispatching doctors and nurses to remote parts of India and other countries to vaccinate people.

Jeff Bezos is also a great inspiration – he's a stock seller, selling over the internet. But he's also been able to drive value for the company. While it seems he's just running an ecommerce website, he's actually built AWS which almost the whole internet is now running on.

Kindle has replaced the way people read. Amazon Prime has changed the way people shop, too.

What is your biggest regret?

In 2015, HYLA had to make many difficult decisions and we had to cut the company in half.

> **"If I ever went to another start up after HYLA, it would be in that sector"**

We had a business presence in Europe and we wound that operation down. Making some of those tough choices that were important for the business but not good for the rest of the company was tough. Looking back on it today, they were the right decisions because the company is roughly back to the same size as when we had to make them.

What is the best business lesson you have learned?

That's an easy one! Building a product should be something like air and water, easy to use and hard to live without. Build something people need for their survival, and if you can build

something that people like too, they will automatically consume it.

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

Healthcare, because I feel passionately about it. Especially here in the US, the biggest economy in the world with one of the most challenging healthcare situations. There are 10 million people left here without healthcare, and you hear stories about life savings being wiped away from one health problem. If I ever went to another start up after HYLA, it would be in that sector.

What do you want to do when you retire?

I've been to every continent in the world, but I've never actually done touristy things – it's always meetings, in and out, then home. I want to learn the culture! I definitely plan to write a book about my business and my life.

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

The smartphone. It's continuing to replace old cumbersome gadgets from our lives. Slowly, the newer generations of devices are

even overtaking simple healthcare tech, like blood pressure and heart rate monitors.

Which competitor do you most admire and why?

I respect every competitor we have because every company has its own strengths and weaknesses. I ruthlessly try and understand their weaknesses to try and get an advantage in that area. The moment you start to think a competitor is worthless, or weak, I make sure our team is continuously looking at where they are and what they are doing.

Everyone that thought HYLA was down and out at one point is now regretting it. ∎

Do you want to be involved with the 2020 edition of the African Wireless Communications Yearbook?

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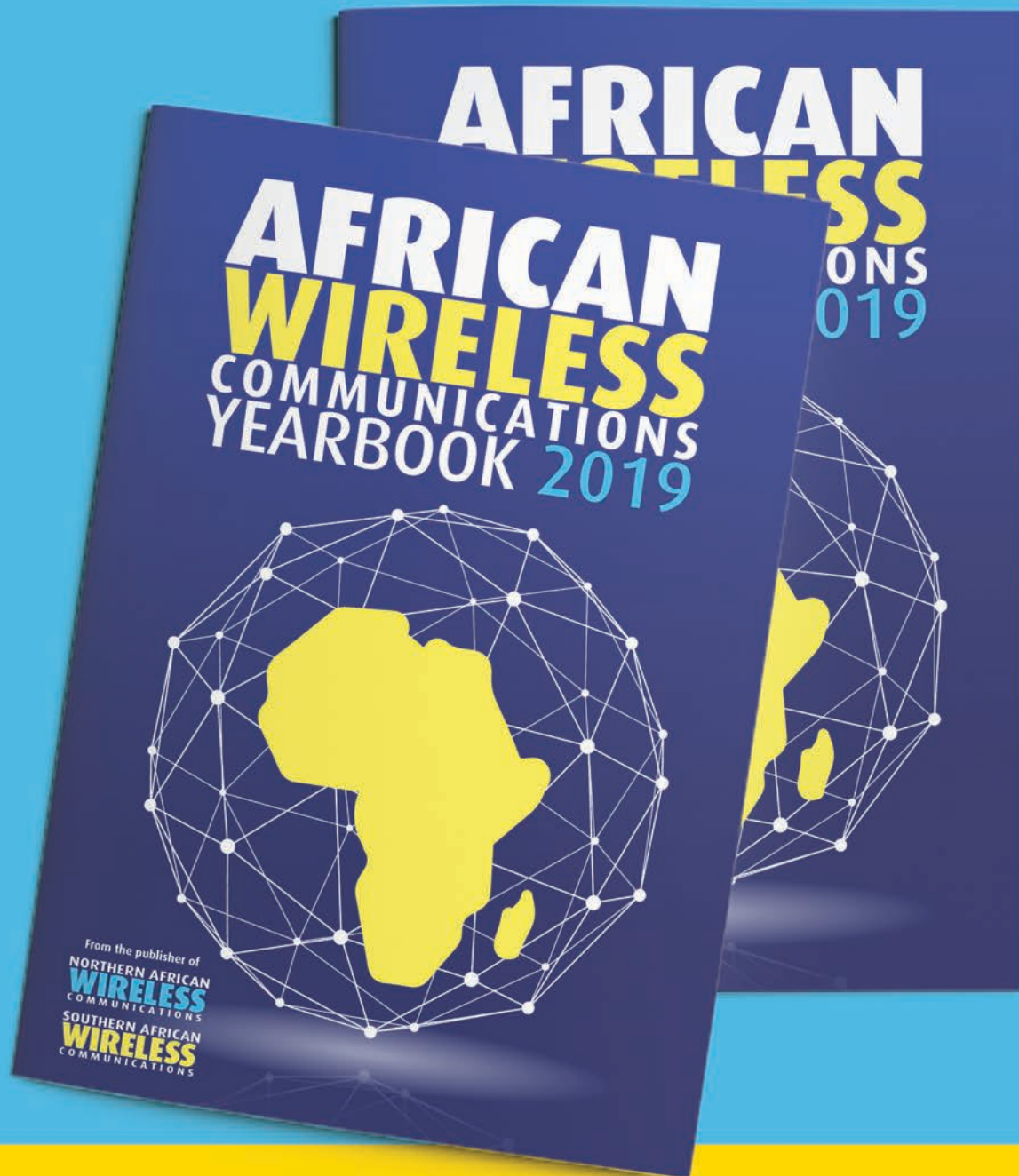
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