

For communications professionals in southern Africa

SOUTHERN AFRICAN WIRELESS COMMUNICATIONS

JUNE/JULY/AUGUST 2020

Volume 25 Number 1

- 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

***'Preparing for the new
age of industry in the 4IR'***

– Deon Geyser, head of southern
Africa sub-region, Nokia



NOKIA

ALWAYS CONNECTED COMMUNICATIONS

with the Smart Wireless Network

**Why choose Rajant
Kinetic Mesh® to
transform virtually any
asset into network
infrastructure?**

**It's ubiquitous,
connecting people to
people, people to things
and things to things—
mobile, fixed, or both**



**It's resilient
and self-optimizes**
as assets are added or
moved, creating a fully
redundant network



**It's smart and
delivers intelligence**
in real-time with low
latency, high-bandwidth
performance



RAJANT

IF IT'S MOVING, IT'S RAJANT.

Learn how Rajant Kinetic Mesh® can bring IoT to life.
Request a **free demo** at rajant.com/sawc-demo



JUNE/JULY/
AUGUST 2020
Volume 25
Number 1

Nokia creates the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our CSP customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate.

Nokia solutions enable the digital transformation of CSP's networks to address capacity needs, reduce complexity and leverage network intelligence to create and deliver new services. The company also has a strong track-record in helping enterprises, cities, and nations harness major technology shifts to benefit from ubiquitous connectivity, analytics, cloud and the Industrial IoT.

Visit www.nokia.com and follow us on Twitter @nokia

NOKIA



5

NEWS

- ♦ Telecom26 helps testing programmes
- ♦ TNM launches the first KaiOS-enabled phone
- ♦ Telkom enters financial services space
- ♦ Madagascar: Telma's 5G network suspended
- ♦ TN targets remote connectivity
- ♦ Econet curbs MoMo transactions
- ♦ Millimetre wave firm restructures
- ♦ UFO turns out to be internet balloon
- ♦ City threatens action against Paratus



14

WIRELESS BUSINESS

Angola Telecom ditches Angorascom for Africell partnership

18

FEATURE

Should you consider Low Earth Orbit networks above geosynchronous satcoms?



26

WIRELESS SOLUTIONS

A look at Hytera's smart, new PoC radio with integrated DMR

28

WIRELESS USERS

Talia and KNP partner up to connect the underserved in Cameroon



30

INDUSTRY VIEW

How satellite-based cloud services offer opportunities that rural economies can rely on

32

WORLD NEWS

- ♦ Huawei and UnionPay team up
- ♦ Thuraya modernises network using Ericsson
- ♦ Belgium grants temporary 5G licences
- ♦ Singapore chooses Nokia over Huawei
- ♦ Canada's Telus picks Samsung for 5G
- ♦ Bouygues adds users and boosts reach
- ♦ Claro Brasil launches 5G
- ♦ China Telecom makes push for US licence
- ♦ Afghan and Uzbek state operators expand 4G



SUBSCRIPTIONS:

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

EDITORIAL:

Editor: **Robert Shepherd**
Designer: **Sean McNamara**
Sub editor: **Gerry Moynihan**
Contributors: **Lucky La Riccia,**
Gavan Murphy, Kyle Whitehill, Caroline
De Vos, Biju Nair, Martin Jarrold

ADVERTISEMENT SALES:

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

Production & circulation: **Suzanne Thomas**
suzannet@kadiumpublishing.com
Tel: +44 (0) 1932 481728

Editorial enquiries:

roberts@kadiumpublishing.com
Tel: +44 (0) 1932 481729

Publishing director: Kathy Moynihan

kathym@kadiumpublishing.com
+44 (0) 1932 481730



Russian Satellite
Communications Company



SATELLITES FOR DIGITAL ECONOMY



rsccl.ru

Telecom26 helps TB, HIV, Ebola and Covid-19 testing programmes

Telecom26 is helping long-term customer, SystemOne, with its initiative to enable real-time test result communication, timely containment and treatment actions for infectious disease programs in Mozambique, Zimbabwe and Ghana.

The testing programmes are implemented in conjunction with the Ministry of Health of each country and build on the existing work of SystemOne across Africa addressing numerous diseases including TB, HIV, Ebola and now Covid-19.

SystemOne's Aspect software enables connected diagnostic data in real time, which helps countries respond more effectively to infectious disease outbreaks by identifying positive cases more quickly, reducing loss-to-follow-up, and enabling a comprehensive picture of disease spread across a region.

Aspect is compatible with multiple diagnostic devices, including GeneXpert and Abbott m2000, both widely used for multiple diseases, including Covid-19 testing.

Multiple-IMSI profiles are preloaded on each SIM, allowing for simple reconfiguration if the primary network has a poor service or not.

For the past two years, Telecom26 has supplied its global SIM cards to SystemOne's operations across

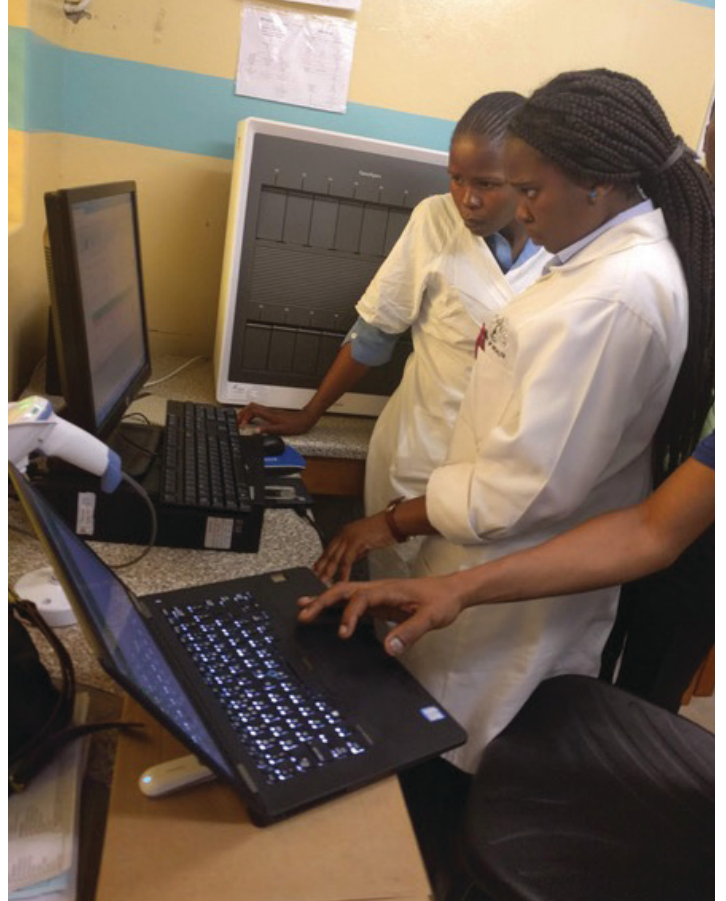
both Africa and Asia. The contract has been extended to provide connectivity to the new projects in Mozambique, Zimbabwe and Ghana.

In addition, SystemOne is trialling Telecom26's multi-SIM routers in Mozambique and Zimbabwe. These allow diagnostic devices from SystemOne to access connectivity and switch automatically between multiple cellular networks and any WiFi or LANs so that they always use the best performing connected network.

"We need a reliable connectivity supplier so that we can concentrate all our efforts on enabling timely disease identification and treatment. Wherever we are in the world, Telecom26 provides the best connectivity service, enabling our software to operate on multiple devices and networks with a single SIM under a single contract," said Brad Cunningham, chief operating officer at SystemOne.

Mike Ashdown, CEO of Telecom26 added: "Our new multi-SIM router dynamically enables connectivity to the best performing network giving our customers access to the most reliable and cost-effective networks available - cellular, WiFi or satellite."

Telecom26 SIMs are compatible with 1100 cellular networks from more than 620 mobile operators in more than 220 countries.



The software enables connected diagnostic data in real time, which helps countries respond more effectively to infectious disease outbreaks by identifying positive cases more quickly, reducing loss-to-follow-up, and enabling a comprehensive picture of disease spread across a region

TNM launches the first KaiOS-enabled phone in Malawi

Integrated mobile network and ICT services provider TNM has partnered with KaiOS Technologies to launch "the most affordable" 4G KaiOS-enabled smart feature phone in Malawi.

Priced at MK 24,999, the TNM Smart 4G will come with a value of MK28,000 worth of bonuses comprising 500 MBs, 150 SMSs and free Caller Tune every month for six months. This offer, apparently, makes it the most affordable 4G device in the history of mobile internet in Malawi.

The phone will offer customers access to essential and popular apps such as WhatsApp, Google Assistant, Google Maps, YouTube, Facebook, and many other applica-

tions unique to KaiOS.

TNM chief executive officer (CEO) Michiel Buitelaar said this device has been designed to suit the communication needs of first-time users and people in rural areas.

"These devices will help people to entertain and educate themselves or have broadband internet," he added.

The CEO said the 4G phone would help disseminate timely and accurate information on Covid-19 at a time when cases are escalating and the United Nations has warned of disastrous effects on the least developed countries, which include Malawi.

To address low digital literacy issues, Buitelaar said the KaiOS phone comes with an easy-to-use

interface, an in-house app called Life which features training and lessons related to digital literacy and other educational content. It also provides access to Google Assistant that allows first-time internet users to use voice to easily navigate and connect with the digital world.

Sebastien Codeville, CEO of KaiOS Technologies, added: "As the first company to make KaiOS smart feature phones available in Malawi, the launch cements TNM's reputation as a pioneer in offering new services that help improve the lives of the country's people and increases economic prosperity. We will work with TNM to ensure that our devices carry content that is relevant and

useful to the people of Malawi".

New Information Minister Gospel Kazako commended TNM for its unflinching efforts towards Malawi's economic development through investments in mobile internet technology and ICT.

"TNM takes a long view," he said. "They have invested significantly in a 4G mobile internet network that has transformed the TNM network into one of the most reliable Internet service providers in Malawi."

KaiOS Technologies was founded in 2016 and launched in 2017, with a focus on feature phones. Its flagship product, KaiOS, sees more than 135 million devices shipped in over 150 countries.

SA operator Telkom enters financial services space

South African operator Telkom is launching a new mobile funeral insurance offer in collaboration with the insurer Guardrisk.

This investment is in line with the strategic reorientation adopted by Telkom to diversify its revenues to cope with the rapid fall in the fixed-line seg-

ment, which now represents only 20% of its revenues against 56% in 2013.

"In recent years, Telkom has made a strategic shift to digital distribution, which puts it in an ideal position to distribute insurance products using its considerable digital structure and intellectual property," said Sib-

iso Ngwenya, managing director of Telkom Financial Services.

In addition to funeral insurance, Telkom also plans to launch a digital wallet service soon, allowing customers to purchase products and pay for services via its Yep! app and other online transaction platforms.

Telkom's strategy comes amid the coronavirus context that has increased demand tenfold. In July 2019, Vodacom Group announced its ambition to create, in partnership with the digital payment provider Alipay, an app for online shopping, bill payment, and remittance.

Madagascar: Telma's 5G network suspended

Madagascar's Communication Technology Regulatory Authority (ARTEC) blocked the 5G network open to the general public by operator Telma.

It has sealed all equipment related to the technology, which Telma disputes. The telecoms company is accused of having overstepped the scope of the experiment granted to it.

On July 1, 2020, Telma announced the commercial launch of its 5G services, in partnership with Swedish telecom equipment manufacturer Ericsson. The company indicated that it was making Madagascar "the first African country to benefit from the new generation of mobile connectivity". However, ARTEC underlined that Telma was not granted an authorisation to market 5G services, but rather a temporary one to experiment with the technology for a month.

ARTEC said in a press release that "the use of 5G services is still in an experimental phase in Madagascar as in many member countries of the International Telecommunication Union".

In addition, the experimentation allowed in Telma was to be done indoors only. However, the operator finally extended it to the outdoors and to several sites without the prior approval of the telecoms regulator.

Telma believes that the information is "totally incorrect and reserves the right to take ARTEC to court for this irresponsible communication".

TN targets remote connectivity

Telecom Namibia (TN) has upgraded its very small aperture terminal (VSAT) hub to ensure faster and reliable IP-based connectivity for users in remote areas.

Pilot installations of TN's modern VSAT hub, called Satlink, have had satisfactory results, the company said.

The operator recently migrated the Gobabeb Namib Research Institute to the upgraded VSAT platform and the mission of Gobabeb is to be a catalyst for gathering, understanding and sharing knowledge about arid environments, especially the hyperarid Namib Desert.

"We have started engaging our customers and will soon commence with the roll-out," said Justus Shalihu, Telecom Namibia VSAT project manager.

VSAT is a customised integrated voice/fax, data and video satellite communication solution available everywhere, even in the most remote areas in Namibia. TN's upgraded VSAT is based on the latest high-capacity, high-throughput and low-latency satellite



VSAT is a customised integrated voice/fax, data and video satellite communication solution available everywhere, even in the most remote areas in Namibia

technology and supports delivery of both narrowband and broadband connectivity anywhere in the country.

The company said farmers, banks, schools, NGOs and mining companies would be likely beneficiaries of VSAT service in remote areas.

TN's Satlink service comes with unlimited data volume downloads and high-speed internet access at a

flat rate as well as transmission of integrated, voice, fax and internet on one network. Residential and business customers can choose from a variety of packages on offer and a fixed contract period of 36 months.

TN also said it will absorb all once-off device and installation/service replacement cost for its existing customers.

Durban residents fight against 5G towers being built on their property

Community leaders in Berea, a ridge above the city of Durban, have railed against a proposed government law that would allow network service providers to build 5G towers and other electronic communication devices on any private and public land.

The draft proposal, which was gazetted by Stella Ndabeni-Abarams, minister of communications

and digital technologies, is part of the government's expansion into the 5G network.

Heather Roos, chairperson of Umbilo Community Policing Forum, said the policy would represent an infringement on people's rights. "This is taking away people's rights to privacy on their property," she said. "This is so unfair. What about health risks as this has

been a huge issue in the past with cell towers etc. It seems that as citizens in South Africa, we do not have any rights anymore."

The World Health Organisation (WHO), which established the International Electromagnetic Fields (EMF) Project in 1996 looking at potential health risks from cell phone towers, found no health risks associated with 5G.

Spacecom teams up with Gilat for satellite service development

Spacecom, operator of the AMOS satellites fleet, has partnered with Gilat Telecom to develop a faster, more reliable and more cost-effective satellite service for organisations of all sizes across Africa.

The service uses Spacecom's AMOS-17 fully digital and advanced High Throughput Satellite (HTS), on both C and Ku band and Gilat Telecom's unique SD-WAN MAX technology. It is available immediately and can be used for home and office connectivity including video conferences, e-health applications, e-learning, e-education amongst other things.

The biggest benefits from this cooperation for African MNOs and ISPs include CAPEX savings, in that Spacecom's AMOS-17's HTS fully digital payload enables Cross-Connection between all beam and all bands enabling the use of the existing equipment that can be also set-up remotely by the end customers (on existing or new terminals). In addition, there is higher throughput at reduced operational costs: using Gilat



The service uses Spacecom's AMOS-17 fully digital and advanced High Throughput Satellite (HTS), on both C and Ku band and Gilat Telecom's unique SD-WAN MAX technology

Telecom's intelligent routing, capacity can be expanded by up to 20% (the equivalent of 6 Mbit/s can be achieved from a 5 Mbit/s downlink).

Furthermore, when it comes to smart traffic management, Gilat Telecom's SD-WAN enables service providers and MNOs to centrally control the route that both satellite and fibre traffic takes to and from the customer. It enables different applications – voice, streaming, caching (Facebook, Netflix,

Microsoft cloud services etc.) – to be identified with automatic prioritisation, according to the customer's needs and demands.

"This partnership enables us to boost the services offered to customers along with fast returns on investments to these growing markets," said Ofer Asif, SVP BizDev and marketing at Spacecom. "We are sure this fruitful cooperation will lead us to many great business opportunities in

Africa, and invite all to gain great value from this unique collaboration and join us today."

Amir Cohen, VP of marketing and business development at Gilat Telecom added: "We are an innovative company always focused on how we can improve the service we provide to our customers. Our partnership with Spacecom demonstrates how we work across the ecosystem to drive down costs and improve capacity."

Public urged to help stop cell tower battery theft after Gauteng syndicate arrested

MTN welcomed the arrest of two men allegedly caught stealing back-up batteries at one of its towers in Durban and called on the public to play its part in ending the scourge of battery theft that leaves thousands of people with no connection.

Jacqui O'Sullivan, executive for corporate affairs at MTN South Africa said despite a fall in the number of cell tower battery theft incidences towards the end of 2019, increased incidences of theft and damage early in 2020 shows the battle is far from over.

Over 200 network infrastructure vandalism were reported in May alone and this is adding additional strain on networks. Gauteng remains the hotspot province for these syndicate, particularly Soweto, Mamelodi and Vosloorus.

"The installation of high-tech

security measures and more on-the-ground security initiated last year seemingly decreased theft and vandalism incidents, but the current trends indicate that syndicates are only getting more brazen in trying to regain the ground they lost," O'Sullivan said.

Criminal syndicates are finding ways to navigate security measures and this has made things more difficult for the industry and the public, working hand-in-hand with law enforcement and security companies.

O'Sullivan said all national cellular networks remain under increasing pressure to improve recoveries and reduce theft as the knock-on effects will become more severe if left unchecked.

She added that greater community involvement and awareness can make an immense difference.

"A broader initiative needs to be

driven by communities, the private sector, police and prosecutors. We have therefore adopted a 360-degree plan that permeates across our business and have noticed that when combined with greater community awareness and involvement, an immediate dent is made in criminal activities. Members of the public need to blow the whistle on criminals that steal essential infrastructure," O'Sullivan said.



Jacqui O'Sullivan from MTN South Africa said "A broader initiative needs to be driven by communities, the private sector, police and prosecutors"

Econet curbs MoMo transactions

Econet Wireless has imposed restrictions that limit the size and range of transactions on its mobile money platform to comply with an order from the Reserve Bank of Zimbabwe.

The latter wants to curb foreign-exchange trading in the black market, which it blames for weakening the local currency. The government has accused Econet's mobile-money unit, EcoCash, which accounts for 98% of commerce in the country, of facilitating such dealings. It has denied the allegations.

EcoCash has limited daily transactions to Z\$5,000 (US\$60) for individuals, restricted its wallet service to one per customer and abolished agent lines, which previously could process large transactions, the company said in a statement.

Millimetre wave firm restructures

Cambridge Broadband Networks Group (CBNG) has spun off its African millimetre wave fixed wireless access business after going into administration.

Cambridge Broadband Networks Ltd (CBNL) was established in 2000 when 10 engineers from Cambridge University in the UK secured private equity funding for its millimetre wave (mmWave) communications technology.

The firm raised over £99m for its point to multipoint platform called VectaStar which has been deployed in over 50 countries for mobile

backhaul, small cell backhaul, enterprise access and ISP networks at 26GHz and 10.5GHz mmWave bands. Customers include seven of the world's top ten mobile operators.

However, the company collapsed into administration in February 2020 owing £14m to creditors. It has now restructured as Cambridge Broadband Networks Group (CBNG) and Cambridge Broadband Networks Limited Africa.

CBNG retains the IP and manufacturing capability of CBNL as well as all the engineering, design and support know-how of the existing

VectaStar product range, and will operate directly in the North and South America, Europe, the Middle East and North Africa and APAC regions. It is also looking for new value added reseller (VAR) partners.

The company said it has 'reset' existing manufacturing and supplier relationships, and started developing a new mmWave, fixed wireless point-to-multipoint platform.

Cambridge Broadband Networks Limited Africa, now a separate company, will provide VectaStar products and services directly to customers in the African region from its offices in South

Africa, Kenya, Nigeria and Ghana.

"We are thrilled to unveil our re-brand as we build upon our world-renowned reputation for setting the bar in network resilience and support in the licensed FWA space. Our new structure enables us to continue to offer the reliable, superior FWA solutions we are known for while breaking into new markets," said Nigel Hall, chief executive officer at CBNG, who joined CBNL in 2019 as the chief restructuring officer. "With the rollout of 5G, the emphasis is very much on ubiquitous, high-speed coverage and FWA provides a vehicle for delivering this."

Ukheshe launches TPP payment service in SA

Ukheshe Technologies, the payments platform specialist, has launched its third-party processing services (TPP) in South Africa through an extended partnership with Mastercard and Nedbank.

This latest announcement by the fintech specialist gives everyday businesses access to prepaid and virtual cards, which were typically only available to large enterprises.

Clayton Hayward, chief executive officer at Ukheshe said that through the innovative payment solutions, businesses in South Africa can now issue virtual prepaid cards to employees or customers. Recipients now have improved financial freedom where they have the option to earn rewards, incentives and have a secure card that can work anywhere in South Africa, while building brand association.

"From providing a path to financial inclusion to the underserved to acting as a safer, more convenient payment option while travelling, or enabling people to shop online, prepaid payments have a broad appeal and room for growth in South Africa," Hayward added. "For businesses, this offers a more secure and trackable way to pay for things. It will also help to eliminate fraud while also making arduous administration tasks much easier to manage and reconcile."

UFO turns out to be internet balloon

An unidentified flying object (UFO) parachuted into dense Congo jungle to the confusion of local authorities, until a subsidiary of Google parent company Alphabet identified the device as an internet balloon.

Images shared on social media showed people inspecting a large silver-coloured contraption fitted

with solar panels and wires, which had landed in the tropical forest of Bas-Uele province in the northern Democratic Republic of Congo (DRC), trailing a large deflated balloon.

Locals told security after the object fell to earth around 1pm local time on Monday 24 August, Bas-Uele Governor Valentin Senga told Reuters after vis-

iting the site around 10 km (6 miles) south of the provincial capital Buta.

"I'm not able to say exactly what kind of device I observed," he said. "What intrigues us is that neither the intelligence services nor the local aviation authorities claim to have any information on the overflight of Congolese air space by this aircraft."

City threatens action against Paratus

The City of Windhoek has threatened to send in its security forces on Paratus Telecom if it does not stop installing its cables around the Namibian capital.

The two have been arguing for months as both continue to implement their plans to penetrate a telecommunications industry currently dominated by MTC and TN Mobile.

Suspended City of Windhoek information technology manager Reckliff Kandjiriomuini recently wrote to Paratus accusing it of deliberately ignoring municipal laws by continuously digging trenches on municipal land.

"The City management has picked up that your company has continuously acted in ignorance," he said.

The letter was written to Paratus chief executive officer Barney Harmse on 2 July 2020, accusing the company of "unauthorised excavation, trenching and/or putting up structures on public streets and sidewalks without the council's permission and/or not complying with the council's conditions".



Paratus is also under fire for allegedly trying to block the municipality's plans to provide free internet to residents

"You are thus hereby once again instructed to stop with all your trenching and duct installations in public space," Kandjiriomuini wrote. "In the meantime, the City will deploy law enforcement to its fullest to ensure that you comply with this instruction," Kandjiriomuini said. "The pressure on Paratus comes after the High Court ordered the municipality to refrain

from "unlawfully confiscating, seizing, taking or removing the Paratus equipment being utilised for the installation of infrastructure".

Paratus is also under fire for allegedly trying to block the municipality's plans to provide free internet to residents.

The company has yet to comment publicly, and has not responded to questions sent to it two weeks ago.

Preparing for the new age of industry in the Fourth Industrial Revolution (4IR)

Imagine a continent that has been marred by a pandemic that no-one anticipated and now needs to rebuild its economies from the ground up. What basic building-blocks would be required to re-energise economies, kick-start growth, and refocus industries to pick up the pieces?

Productivity is the cornerstone of any business, particularly in the current working environment. Without the right infrastructure, organisations will struggle to fulfil their commitments to clients and will put themselves at risk of not delivering. The need for digital transformation and improved productivity must therefore be prioritised to allow organisations to adapt to this new style of working, which, in turn, requires robust, and reliable connectivity.

Successful digital transformation relies on three imperatives – connect everything; compute, where you need to; apply insights and execute with precision.

Connect, compute, and apply insights to execute with precision

All organisations have some form of assets in their inventory. These cut across the physical, digital, and human assets required to produce their products and services and are often broadly distributed across different territories. Companies must know the state of all relevant assets all the time to inform decision-making and to orchestrate or control

the allocation or behaviour of those assets, regardless of location. This is even more true today as countries promote remote

working to allow for social distancing considering the current pandemic.

Connecting everything from the workforce to devices, machines, and tools to supply chain elements and even products, requires a network with the ability to sense, analyse, optimise, and control what matters, to unlock business value and drive efficiency.

The cloud has brought enterprises new levels of agility and efficiency. It has given them the ability to dynamically scale and adapt compute and application workloads in their own data centres or the public cloud, providing increased resource efficiency.

That said, enterprise productivity applications and centralised hybrid clouds, might not meet the stringent requirements of tomorrow. A shift towards a more automated future will require high performance, ultra-low latency, and uninterrupted computing power and connectivity, which in turn requires proximity.

To make compute available wherever it is needed, fuels the need for edge clouds. These edge clouds push applications closer to distributed assets and users, even making the capability available on-premise in local clouds where required. This gives the enterprise the ability to analyse information about the state of their assets and operations efficiently but requires a network that seamlessly and reliably connects users and applications to the relevant cloud while adapting quickly to changes in workload placement. This underlying network must provide its own level of resource elasticity and uninterrupted availability to support the needs of the cloud.

As the number of sensors and connected systems within the organisation grows, so does the amount of data. Advanced analytics systems are required to make sense and operationalise that data to drive human decisions and machine actions.

This enables the organisation to collect and draw on a

variety of real-time state-driven information along with contextual and historical data.

Companies must have the ability to understand the state across complex operational systems if they want to automate physical industries effectively to drive productivity. By gathering and processing state information from the multitude of devices, sensors, and machines within the enterprise they will be able to shift from big data to big insights and close the loop on automation with predictive approaches that are fully automated, driving efficiency even further. This, in turn, will lead to timely and actionable insights to guide human decision-making. Again, this requires a network with the capacity to provide richer human-machine interfaces leveraging augmented and virtual reality, precise control over autonomous systems, and more efficient digital operations.

The network at the core in 4IR

The network must be at the core of true digital transformation. As smart devices and systems increase, and business applications evolve there is a dramatic need for more bandwidth to deliver richer data about the state of systems and the operating environment. This will demand new bandwidth and latency requirements that vastly expand on the capabilities required of today's mission-critical network infrastructures.

Dedicated, high-performance network connectivity will become a key requirement, regardless of the access medium. Networks must also become dynamic and programmable, allowing them to automatically adjust to optimise resource utilisation and meet application needs. These networks must be resilient, ensuring availability at all costs, yet also be scalable enough to adapt to expansion requirements of bandwidth, processing, and other required capabilities. Finally, these networks must be secure, ensuring that it consists of a smart network fabric that assists in minimising certain threats and strictly aligning changes with enterprise policy.



The future of connectedness in 4IR

The future of connectedness requires a robust network that takes all these elements into consideration and incorporates them in a meaningful way taking the realities and unique considerations of different industries into account. It must also have the flexibility to adapt to accommodate them to drive increased productivity and enhance customer experiences. Nokia's Future X for industries, a connected systems approach based on Bell Labs Future X architecture, can leverage the power of digital value platforms, distributed clouds, pervasive dedicated high-performance networks, and ingrained security to bridge the gap between people and machines and the business applications they drive and rely on. Nokia has a proven history of providing Future X architecture, not only for communications service providers (CSPs), but for enterprise customers as well. To date we have more than 180 global enterprise customers across several different industries using our solutions. ■



Deon Geyser head of southern Africa sub-region, Nokia

Cassava and Liquid join forces to launch new Wi-Fi finder

Cassava Fintech International (CFI) and Liquid Telecom Group (LTG) have joined forces to develop a service aimed at accelerating digital and financial inclusion in Africa.

Through the newly launched Sasai WiFi Finder, the partners plan to establish an expansive network of data access points across the continent and build 'Africa's Missing Network' by partnering with broadband providers, internet service providers and local community hubs.

The service, which is set to be rolled out across thousands of hotspots across Africa, can be accessed through an intuitive and easy-to-use in-application feature on the Sasai super application, where users can identify hotspots where they can access affordable data.

"We designed this service to be as easy-to-use as possible. A smartphone user will get free connectivity on-the-go through accessing the Sasai WiFi Finder network to download the Sasai application and gain access to a wide range of in-application services," said Sasai chief operating officer Tapera Mushoriwa.

Once users have registered and opened the Sasai application, an automatic notification pop-up alert will show available Sasai WiFi Finder hotspots nearby.

"They also receive additional services, such as distinct indoor and outdoor WiFi hotspot markers, directions to WiFi hotspots, session use, range and signal strength details, making it easier than ever before for African users to access the internet," Mushoriwa added.

The Sasai WiFi Finder will allow greater connectivity in a variety of locations, including retail, health-care, education, government and small business trade facilities, as well as access to social, entertainment and on-demand services offered on the Sasai super application, including Sasai Moments.

Blue Label takes 10% hit

South Africa's Blue Label Telecoms reported a 10% drop in revenue for the year ended May 2020, to R21.1bn.

Gross profit declined by 2% from R2.17bn to R2.12bn, partially limited due to an increase in margins from 9.21% to 10.05%, the group said.

Earnings before interest, taxes, depreciation, and amortisation declined by R111m, to R1.21bn.

As the carrying value of Blue Label's investment in Cell C was fully impaired for the year ended May 2019, the financial results of the latter had no impact on Blue Label's earnings for the current year, it said.

In addition, Blue Label said that the lockdown regulations and the downturn in economic activity have not impacted negatively on airtime, data and electricity sales volumes.

"The products and services that Blue Label provides fulfil essential needs of the consumer, even more so during the lockdown period due to home confinement," it said.

The group's retail business, starter pack distribution, gaming vouchers and ticketing were negatively impacted during the initial lockdown period. Starter pack distribution and gaming



The group's retail business, starter pack distribution, gaming vouchers and ticketing were negatively impacted during the initial lockdown period

voucher trading volumes are now back to pre-Covid-19 levels.

The lockdown, however, had a significant negative impact on the retail operations of WiConnect, a provider of mobile and electronic accessories. Blue Label said that given the uncertainty of the duration of the pandemic, it decided to suspend operations of the WiConnect retail stores.

This resulted in a negative impact of R318 million on the group's basic earnings for the year ended May 2020.

Challenging economic conditions, an unfavourable trading environment, margin compression as a re-

sult of reduced incentives from the mobile networks and an increase in product costs, exacerbated by Covid-19, necessitated an impairment of goodwill in Blue Label Connect of R156.5m, a partial goodwill impairment in GloCell Distribution of R57m and a fair value downward adjustment of the GloCell loan, net of taxation, of R47.8m.

Blue Label Telecom's management said it remains upbeat about Cell C's prospects and is of the opinion that Cell C will continue as a going concern for the foreseeable future.

Tanzania: new Vodacom product to enhance telecom services

Vodacom Tanzania has introduced 'build your own bundle service' that gives customers the freedom and convenience to create their bundle mix at own cost and preference.

The company's director for

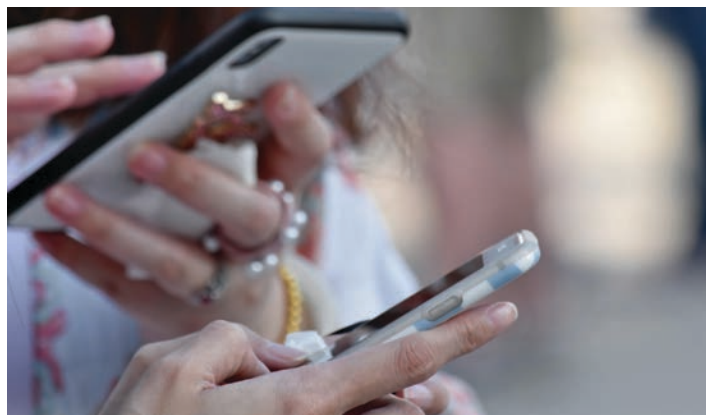
consumer business unit, Linda Riwa said the firm is once again bringing cost efficient innovative product into the market to enhance usage of communication services and contribute to economic growth.

"Realising that customer needs are different yet all customers want more value for what they pay for, we decided to create this service giving them the freedom to get exactly what they want and at a cost, they are willing to pay," she said.

The company provides a wide range of communication services to consumers and enterprises namely voice, data and messaging, video, cloud and hosting, mobile solutions and financial services to over 14.1 million customers.

The use of mobile money services, in particular M-Pesa has provided both individuals and businesses with an effective and reliable method to save and invest money, as well as access to a range of other financial services, including digital payments.

Mobile money has also helped provide small to medium enterprises in Tanzania with an opportunity to grow.



The company provides a wide range of communication services to consumers and enterprises namely voice, data and messaging, video, cloud and hosting, mobile solutions and financial services

Africa's smartphone market 'resilient to impact of Covid-19'

Africa's overall mobile phone market saw shipments decline just 6% quarter on quarter (QoQ) in Q2 2020, according to the latest set of figures released by technology research and consulting services firm, International Data Corporation (IDC).

Its newly-released Global Quarterly Mobile Phone Tracker found that Africa's smartphone market remained flat in Q2 2020, experiencing just 0.1% growth QoQ, while the region's feature phone shipments declined 10.6%. IDC said the impact of the Covid-19 pandemic on smartphone shipments has been felt differently across the region.

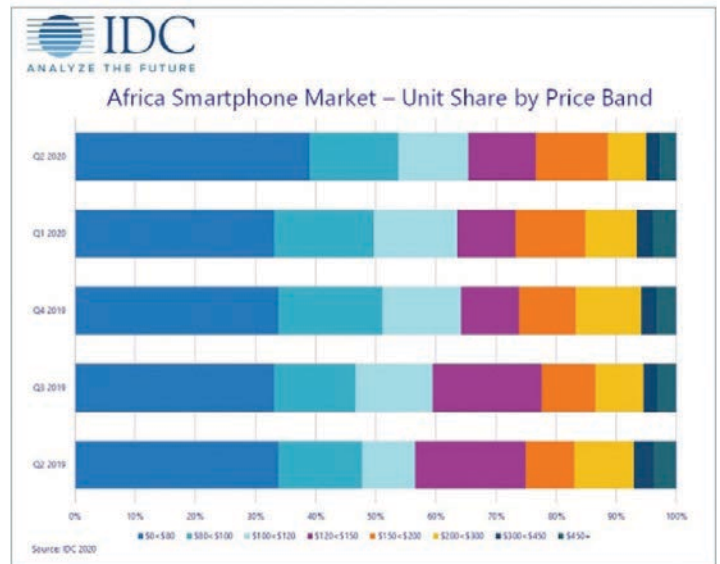
Shipments to South Africa and Nigeria declined 16.8% and 6.8%, respectively, QoQ in Q2 2020, while Egypt recorded a 2.2% increase. Both South Africa and Nigeria adopted strict lockdown measures in April and May, which included the closure of non-essential businesses. In contrast, Egypt adopted a more flexible approach and allowed limited hours of business operations during the second quarter, the company added.

The average selling price (ASP) for smartphones declined 9.8% QoQ in Q2 2020, partially due to the market conditions created by the pandemic and partially due to a continuation in the declining trend of prices. The US\$0<US\$80 price band has gained notable share of the smartphone market since the start of the pandemic, growing 18.2% QoQ.

"Despite a striking increase in online sales, the channel still only accounted for 3.2% of the total mobile phones shipped across Africa in Q2 2020," says Ramazan Yavuz, a senior research manager at IDC. "Development of the online channel remains fragmented across the region and the infrastructure needs more investment to reach a more promising stance. While the top countries and urban centres benefited from online sales, the diffusion to a larger audience requires time."

Elsewhere, 4G/LTE-enabled devices saw their share of smartphone shipments increase to 81.1% in Q2 2020, spurred by the declining ASP of these devices.

"The absorption of 5G-enabled



smartphones in the market remained below 1% as the cost of 5G devices is prohibitively high and beyond the reach of most consumers," said George Mbuthia, a research analyst at IDC said. "Also, the telecom infrastructure required to underpin 5G adoption is still undeveloped, with most countries still only conducting limited 5G trials."

IDC said it expected Africa's smartphone market to grow 4.2% QoQ in unit terms in Q3 2020 and by 4.4% year on year in 2021 as markets start to recover from the negative effects of the global pandemic. With the reopening of markets, the retail channel is also expected to recover, although not to the levels it enjoyed before the pandemic.

Seacom chief strategy officer Ramdhani quits

Seacom chief strategy officer Suveer Ramdhani, who has played an integral role in the company since its launch in 2009, has quit his post.

He initially was responsible for the firm's product development before he assumed his current role as chief strategy officer in 2014. In this role he

has been responsible for overseeing Seacom's strategy, market development, and mergers and acquisition.

This includes the recent acquisition of FibreCo, which has enabled the company to operate a network that links all major South African cities to Seacom's submarine cables.

"He recently concluded the acquisition of FibreCo Telecommunications, which has positioned Seacom to operate a network that runs along South Africa's highest-traffic transmission routes and links all major South African cities to Seacom's submarine cable assets,"

the company said in a statement.

"Suveer has been a cornerstone of our business, driving growth strategies for new products and services, new markets and transformative acquisitions," said Brian Herlihy, chairperson of Seacom's investment and strategy subcommittee.

Cellular looting in SA by 'WASPS'

Investigations have uncovered widespread theft of airtime by unscrupulous wireless application service providers (WASPs), enabled by network operators like Vodacom, MTN and Cell C in South Africa.

According to My Broadband, these WASPs sign cell phone users up to subscription services without their permission, and siphon off small amounts of airtime each day

from each person.

They fraudulently subscribe South Africans to content subscription services without their knowledge or consent. Furthermore, through these fraudulent subscriptions, they steal millions in airtime from mobile subscribers every day.

Although the exact scale of this fraud has never officially been

reported, conservative estimates by industry players suggest it amounts to billions of rands.

Mobile operators can block WASP billing by default, but despite a decade of fraud and billions in airtime stolen, they refuse to implement this solution.

The problem goes even deeper. In some of the cases where airtime was stolen, the mobile operators

themselves acted as the WASP.

That means the airtime was stolen from Vodacom and MTN subscribers through fraudulent subscriptions to content services offered by Vodacom and MTN themselves. A rogue WASP can fraudulently subscribe 60,000 mobile users to their services and bill them R5 each per day, adding up to R110m per year.

Madagascar tops Africa's net speeds

Madagascar has the fastest internet in Africa, according to new research, with its improved average speed of 32.07Mbps placing it 33rd globally and ahead of developed countries like the UK and Australia.

The improvement is due to the underwater Eastern Africa Submarine Cable System that supplies the island's urban centres with fibre broadband speeds, according to Cable.co.uk.

Madagascar also had Africa's fastest internet in 2018, when it took the title from east African nation, Kenya.

Fellow Indian Island nation the Seychelles, with a population of 98,347 people at mid-year, according to UN data, came third with an internet speed of 26.76Mbps. As one of the most sought after tourists' destinations in Africa, the country has invested massively in internet connectivity.

Most resorts, hotels, and guesthouses in Seychelles have free WiFi. Internet cafés are also available on the three main islands of Mahé, Praslin, and La Digue to give internet access to locals.

Surprisingly, after improving from third to second in 2019, South Africa fell down the ranks to fifth in 2020 after services in other African countries were developed. It has an average download speed of 23.17Mbps - and the time it takes to download a typical 5GB high-definition movie is one hour and 21 minutes.

Nearby Mauritius has made significant improvements over the past year, doubling the average broadband speeds available in the country.

In 2018, the country responsible for Africa's current ninth-fastest internet speeds was only ranked 139th globally with speeds of 2.39Mbps.

Mauritius is now much improved in the world ranking thanks to infrastructure improvements providing increased speeds of around 19.24Mbps.

Cape Verde in second place, along with Ghana, Gabon, Liberia, Togo and Senegal made up the top 10.

Countries like Uganda, Rwanda, Namibia, Tunisia, Morocco and Kenya, all of which appeared in the 2019 ranking, were knocked off in the 2020 ranking.

HAPSMobile and Rwanda's Ministry of ICT and Innovation Sign MoU

Rwanda's Ministry of ICT and Innovation and HAPSMobile, a subsidiary of SoftBank Corp., have signed a memorandum of understanding which both parties will conduct a joint research project (JRP) that studies the use of high altitude platform stations (HAPS) to provide mobile internet connectivity in Rwanda.

As part of the JRP, the parties plan to conduct demonstration flights using HAPSMobile's solar powered unmanned aircraft system (UAS) in Rwanda to provide 4G/5G Internet connectivity. The results of the JRP will be used to guide discussions between HAPSMobile and MINICT on potential commercial services in Rwanda and other African countries.

"Our mission at HAPSMobile is to bridge the digital divide and revolutionize mobile networks by leveraging HAPS," said Junichi Miyakawa, representative director & CTO of SoftBank Corp., and also president and chief executive officer of HAPSMobile. "So, we are very pleased and encouraged that we can work with the Rwandan government, a leading technological power in Africa, to study how our HAPS solution can be used to reach remote communities and enable better access to information. We look forward to working with the Ministry of ICT and Innovation on



As part of the JRP, the parties plan to conduct demonstration flights using HAPSMobile's solar powered unmanned aircraft system (UAS) in Rwanda to provide 4G/5G Internet connectivity

this research project so we can study potential commercial applications in Rwanda, and beyond."

Paula Ingabire, minister of ICT and innovation of the Republic of Rwanda, added: "We enthusiastically welcome HAPSMobile, a SoftBank Corp. subsidiary, to do business in Rwanda. This joint R&D

project is well aligned with our government's vision of becoming a Proof of Concept Nation and we commit to supporting it towards fruition. This project will contribute to Rwanda's utmost goal to bridge the digital divide and increase digital inclusion, not only in Rwanda but also across our region."

Paratus invests in satellite tech for enhanced internet access

Paratus South Africa, part of pan-African telecom service provider, Paratus Africa, is investing in the country's satellite market to offer quality connections to the region and the rest of Africa.

Satellite technology provides internet service providers (ISPs) and businesses flexible, universal, reliable and cost-effective technology to address a wide range of communication needs.

Over the past year, Paratus South

Africa has invested in hub acquisitions to improve the quality of their connection and service offering to ISPs who lease VSAT capacity or multinational organisations that require reliable, secure and end-to-end control. VSAT forms an integral part of the communications solution as it enables both internet service providers and businesses to enjoy an easily accessible, secure and cost-effective connection anywhere in South Africa and Africa.

"To amplify our support for growth in Africa, we have upgraded our DVB-S2 hub to the DVB-S2x hub, allowing us to sustain exceptional performance and improve end-user expectations," said Paratus South Africa MD, Kallie Carlsen.

The firm has also invested in additional capacity to expand communications needs in Africa via powerful satellite – the AMOS-17, through a partnership with Spacecom.

South Africa mobile fraud



Extensive data collection and analysis by the Paris-based anti-fraud firm Evina has determined that one out of every three mobile subscription attempts in South Africa is fraudulent. South African cellular users are very often subscribed to mobile services without their consent, the company says. After Kenya, it is the African country most affected by fraud that daily fleeces millions from the mobile accounts of cellular users around the globe. "As Africa's most advanced economy, it is particularly tragic that South African mobile users are falling victim to subscription frauds that are well managed in many other countries," said David Lotfi, CEO of Evina.

Liquid hires new GCB0



Liquid Telecom has made Clayton Naidoo its group chief business officer (GCB0). He will be responsible for driving growth, innovation and strategy in the enterprise market across the Group's holdings. Naidoo will join the team in this role on October 1, 2020. Group chief operating officer Ahmad Mokheles said the company "is thrilled that Clayton will be joining Liquid Telecom as we progress in our journey to solidify our position as a leading digital services provider across Africa".

TCRA decides to fine Raha



Tanzanian ISP Raha has been hit with a TZS11.8bn fine as the Tanzania Communications Regulatory Authority (TCRA) accused the Liquid Telecom subsidiary of using spectrum in the 1452MHz-1482MHz band without a valid licence since March. Local newspaper The Citizen reported TCRA director James Kilaba as claiming that despite using spectrum, Raha had failed to "provide internet services and submit financial statements".



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.

Gilles de Dieuleveult joins DAMM

DAMM, the provider of critical radio and broadband communication across Africa, has hired Gilles de Dieuleveult as its new solutions manager. He joins from manager at aerospace, space and defence specialist Thales, where he was the business development manager.

"I'm extremely happy to be part of the DAMM team," he said in a statement. "There's a great energy in the company as a whole, and it's extremely gratifying to work in a company where you're not just a number but a truly valued member of the team."

Dieuleveult will use his many years of experience in the industry to support sales activities in Europe and MENA and guide customers to choose the right radio communication solution.

DAMM chief executive officer Jens Thstrup added: "With his solid understanding of the market and his deep technical knowledge he'll be a great value-add to partners and end customers alike, who will benefit from his ability to analyse their communication needs and advise them on the best solution, big or small."



Dieuleveult will use his many years of experience in the industry to support sales activities in Europe and MENA

Angola Telecom ditches Angorascom for Africell partnership

Angola's state-owned fixed provider Angola Telecom (AT) is scrapping its mobile partnership with Angorascom Telecomunicações, according to reports.

In November 2019, Angorascom received presidential permission for a 'sub-concession' that allowed it to deliver mobile services using AT's Unified Licence. The partnership was aimed at injecting competition into Angola's mobile market – breaking the duopoly of Unitel and Movitel – with the partners aiming to launch mobile services by February 2021.

However, news agency Lusa reported that AT chairman Adilson dos Santos said that Angola Telecom "will no longer follow up on the authorisation request for the sub-concession of the mobile service", citing "legal and technical" failures and broader changes to Angola's economy.

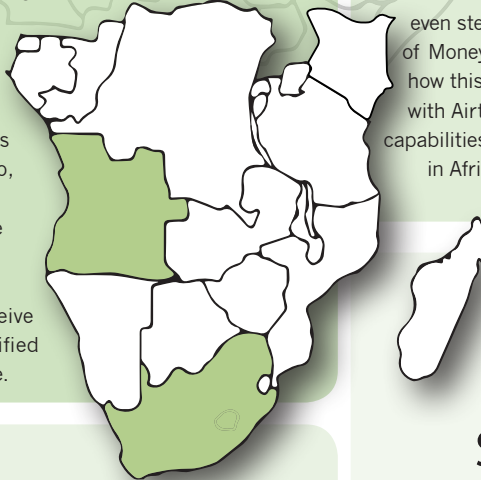
Angorascom is a startup with the backing of Egypt's Orascom Investment Holding.

In the same press conference dos Santos announced a new partnership and said that AT would now share infrastructure with Africell,

which was recently confirmed as Angola's fourth recipient of a Unified Global Licence. AT noted that the partnership would avoid the construction of any redundant duplicate tower and fibre assets.

"We are very committed to being an infrastructure sharing company and if it depends on Angola Telecom, Africell will not take long to enter the market, because our infrastructure will be available from a commercial point of view", said dos Santos.

Angola's Ministerio das Telecomunicações e Tecnologias de Informacao, MTTI recently confirmed the government's selection of Africell to receive the fourth Unified Global licence.



MTN names new CEO

MTN Group has named current group CFO of MTN Group, Ralph Mupita, as the new group president and CEO with effect from 1 September 2020.

Mupita has served as the MTN Group CFO since April 2017 and has played a key role in the development and execution of the group's strategy, capital allocation processes, financial performance as well as in the resolution of a number of complex regulatory matters.

"After a rigorous and extensive search process, we are pleased to have appointed someone of Ralph's calibre, experience and ability to fill the

group president and CEO position," said MTN Group chairman Mcebisi Jonas. "Ralph's experience as the group CFO, strong knowledge of our businesses and markets, as well as successful background in financial services, M&A and emerging markets, place him in an excellent position to lead the growth and sustainability of the business going forward."

The current group president and CEO, Rob Shuter, will step down from his executive responsibilities on 31 August 2020 and will thereafter support Ralph as required until the end of his fixed-term contract in early 2021.

Airtel teams up with MoneyGram

Airtel Africa has forged a new partnership with MoneyGram International to enable 19 million customers to receive transfers directly into their mobile wallets.

It is the second partnership announcement this month for the telco, following earlier confirmation that Airtel Africa would partner with Standard Chartered to develop "co-developed, innovative" new financial products for key markets.

Under the latest partnership, Airtel Money customers who receive funds can use them to pay for utility bills, goods and services, transfer to other individuals, or convert to cash at any of Airtel Africa's branches, kiosks and agents.

"We are delighted to work with MoneyGram to provide millions of customers with fast, secure and convenient options to receive and send money as well as access their funds from a vast distribution of exclusive kiosks, agents and branches at their convenience," said Raghunath Mandava, chief executive officer of Airtel Africa. "This is a significant step forward in our ambition to transform lives through greater financial inclusion and empowerment across the continent. Maximizing access to global remittances is a key part of this – even more so given the disruption and economic hardship faced by many because of the Covid-19 pandemic."

"This partnership with Airtel will enable millions of consumers instant access to our global platform to receive money from over 200 countries and territories without having to even step outside," added John Gely, head of MoneyGram Africa. "We're excited about how this customer-centric partnership with Airtel will expand our mobile wallet capabilities, build upon our strong momentum in Africa, and further accelerate our digital growth across the globe."

Billionaire dos Santos steps down

Angolan billionaire Isabel dos Santos will leave her job in the administration of telecom operator Unitel amid ongoing tensions between board members.

"After 20 years dedicated to the creation, development and success of Unitel, I chose to leave the position of member of the company's board of directors," dos Santos, who holds a 25% stake in Unitel, said in a statement cited by Portuguese media. Dos Santos' decision to leave her position at Unitel, which dominates Angola's telecoms market, is related to a "climate of permanent conflict" among the company's board of directors, she said in the same statement.

Cell C to cut more jobs

Cell C is reportedly set to shed 546 new jobs as the mobile operator is planning to close 128 stores across South Africa. This new wave of redundancies would be added to the 960-job reduction plan initiated since June 2020.

Cell C, which launched in June a workforce reduction plan targeting 960 employees including junior executives and semi-qualified staff, plans to separate again from 546 employees through the closure of 128 stores on the National territory. The target goal is still to reduce spending and stabilise finances.

In a statement, Cell C, which currently has 2,500 employees and 240 stores in South Africa, justifies its intention to lay off more by the changing retail environment. A change

accentuated by the impact of Covid-19 which has rapidly changed the purchasing habits of consumers. "Just as banks are moving away from physical branches, Cell C is embracing technology solutions that drive digital inclusion by leveraging collaborations and partnerships," the company explained.

At the start of August 2020, Cell C said it was still looking for solutions that could improve its liquidity, debt profile and long-term competitiveness as part of its recovery strategy. With 546 new jobs in the sights of the telecoms company, a total of 1,506 people could be unemployed by the end of 2020.

Cell C did not respond to calls from *Southern African Wireless Communications*.

Ciena names Hall as Africa head

Ciena has appointed Pete Hall as its new head of Middle East and Africa (MEA) region and subsea sales in Europe, Middle East and Africa (EMEA). He will lead the team that supports Ciena's customers in MEA as they adapt their infrastructure to changing network demands.

Hall joins Ciena with more than 20 years of sales, business development and international telecom experience. Previously, he was a key member of Orixcom's management team, where he drove telecoms, network and cloud sales, marketing and strategy. He established Orixcom's go-to-market strategy and the primary relationships that delivered a strong base of anchor customers, partners and hyperscalers, including Microsoft, AWS and Oracle.

"Over the last year, we've made a number of strategic decisions for our organization and go-to-market approach to best leverage our talent and build on our momentum," said Virginie Hollebecque, vice president and head of EMEA regional sales at Ciena. "Pete's two decades of leadership experience will play a key role in driving Ciena's success in the region and facilitating cross pollination between terrestrial and Subsea network dynamics."

Ciena currently serves more than 1,800 customers worldwide and operates in more than 17 countries in the EMEA region. Ciena serves a number of leading operators in the region, including Batelco, BT, Colt, Deutsche Telekom, Etisalat, Telefónica UK and Telia Carrier.

Telkom chief executive takes R1.3m pay cut this year

Telkom chief executive Sipho Maseko took home R1.3 million less during the year ended in March than the R23m he took home last year.

The company said in its annual report that Maseko's pay included a guaranteed salary of R8.3m, unvested shares of R2.4m, and R10.5m in vested shares. Telkom also said that he did not receive a short-term incentive during the year under review.

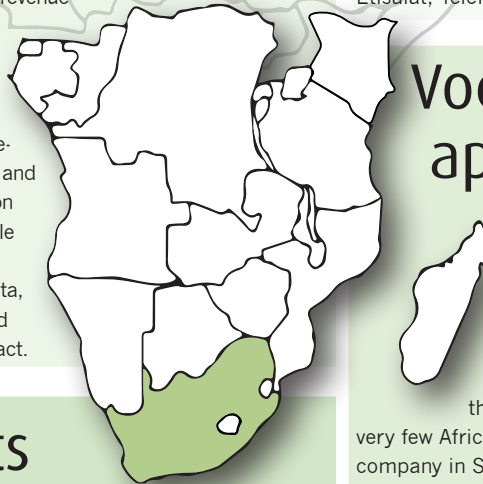
However, the group paid R76m to prescribed officers, including R26m to its chief investment officer, Deon Fredericks. Last year they received R63m.

MTN chief executive Rob Shuter took R58m while Vodacom's Shameel Joosub received R43.4m which amounted to R23.9m after tax.

Telkom, which operates BCX, Gyro, Telkom Consumer, Telkom Small and Medium Business and OpenServe recorded a 3 percent revenue growth to R43bn despite a 22.2% decline in fixed-voice revenue.

Mobile service revenue increased 54.4% with fibre-to-home connectivity improving to 48.2% from 38.4% a year earlier. Active mobile subscri-

ers grew 23% to 12m while mobile broadband numbers rose 28% to 8.2m. "Our challenge for the year was the impact of the fixed-voice revenue on group earnings before interest, taxation, depreciation and amortisation (Ebitda) as the decline intensified," said Maseko. "The growth in new revenue streams, which have lower margins, was not sufficient to offset the decline caused by high margin fixed-voice on group Ebitda." He added that as revenue mix evolved over time, the group expected fixed-voice revenue to decline and the contribution from the mobile business, with improved Ebitda, to increase and offset the impact.



Vodacom appoints CFO

Vodacom Group has named Raisibe Morathi as its new chief financial officer (CFO), effective 1 November 2020, when she will also be appointed to the board.

The operator said as one of the most experienced and one of very few African black female CFOs of a listed company in South Africa, Morathi's appointment "underscores Vodacom's commitment to driving diversity across the workplace."

Morathi has acquired 26 years of experience, including 20 years in executive roles at institutions such as Industrial Development Corporation, Sanlam and Nedbank.

She succeeds Till Streichert following his departure in June 2020 and the interim appointment of Sitho Mdlalose as group CFO.

Shameel Joosub, CEO of Vodacom Group, said: "I am delighted to welcome Raisibe to the Vodacom Group, where she will drive and continue to modernise our finance operations as we position ourselves as a leading pan-African technology company."

Seacom's Ramdhani quits

Subsea cable operator Seacom said its chief strategy officer, Suveer Ramdhani, has resigned from the post.

The company said Ramdhani has left the company to pursue other interests and the strategy and development functions have been absorbed by group CFO Richard Schumacher. Seacom added that the resignation will not impact on any deals in the pipeline and said the company will "continue to look for opportunities to expand our business in Africa both organically as well as through M&A activity."

Seacom released a statement in which it said Ramdhani has been with Seacom since its inception and was involved in its initial launch in 2009.

"During his tenure with Seacom, Mr Ramdhani initially oversaw Seacom's product development before assuming his current role as chief strategy officer, where he has been responsible for overseeing Seacom's strategy, market development and M&A activity for the past six years," it said. "He recently concluded the acquisition of FibreCo Telecommunications, which has positioned Seacom to operate a network that runs along South Africa's highest-traffic transmission routes and links all major South African cities to Seacom's submarine cable assets. He was also fundamental to Seacom's fundraising efforts over the years."



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. ■



Mobile Mark is a leading supplier of innovative, high performance antennas to wireless companies across the globe. We've been in the wireless industry for over 30 years and have our roots in the early Cellular trials. Today, we benefit from enhanced design capabilities and expanded production capacity – along with a greater understanding of new and emerging markets such as mining and exploration.

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

www.mobilemark.com | enquiries@mobilemarkeurope.co.uk | (+44) 1543 459 555





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

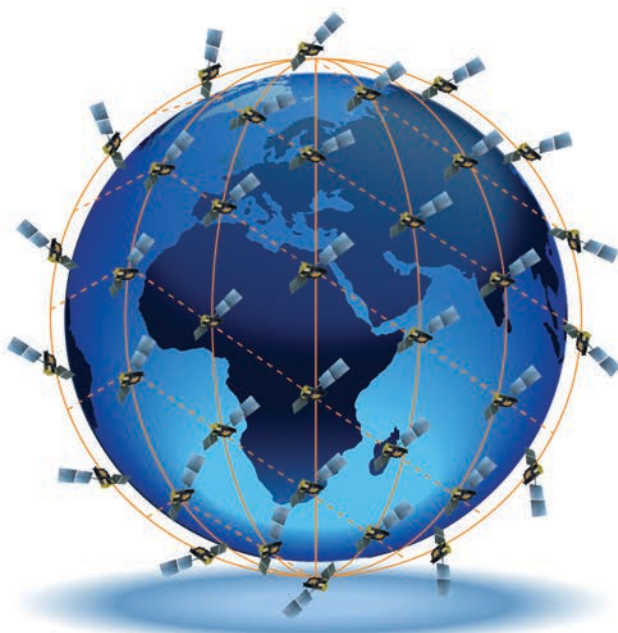


"Our LEO constellation and L-and S-band are perfect for IoT applications"

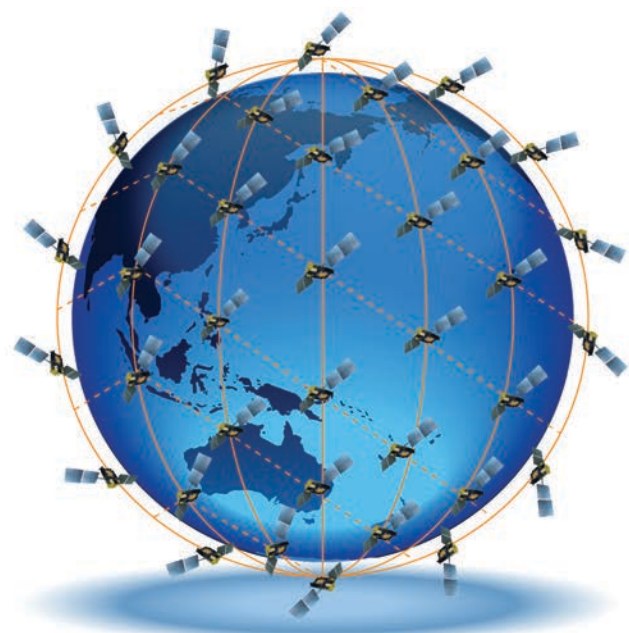
satellites and sees low Earth orbit as the ideal location for their purposes. "Assuming similar ground processing delays, LEO satellites such as Globalstar's demonstrate about 10 times less propagation time, in other words, less latency," says Gavan Murphy, Director of Marketing EMEA, Globalstar.

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 reliability. "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 'intelligence' can reside on the ground which helps reduce costs.

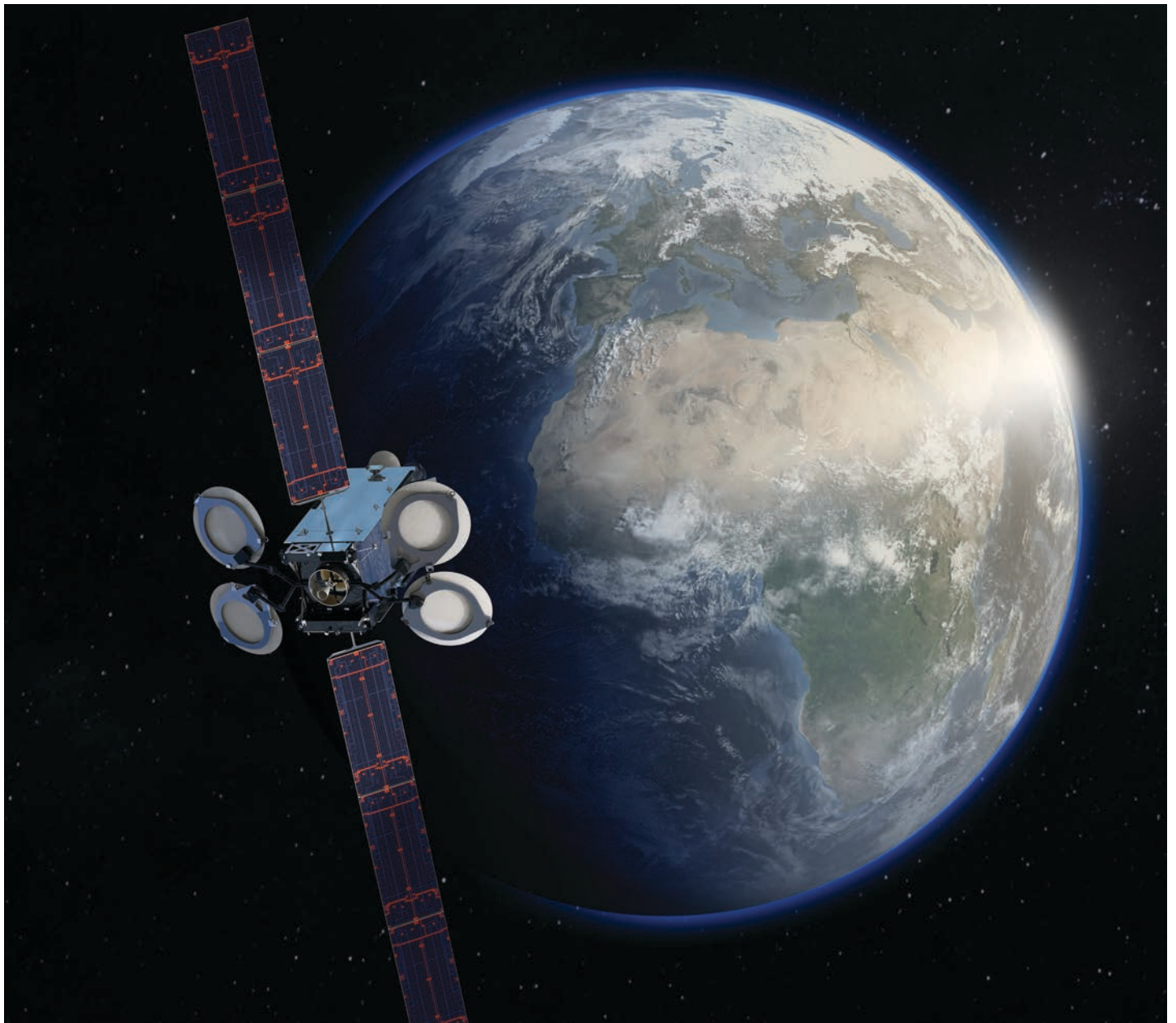
Murphy thinks that LEO has another cost benefit. "LEO requires less switching, therefore requires less on-the-ground investment, but provides the high reliability and flexibility to add bandwidth as needed. The system benefits from easily upgradable ground infrastructure," he says.

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

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 researching and designing a LEO satellite system 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



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

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 you can 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.

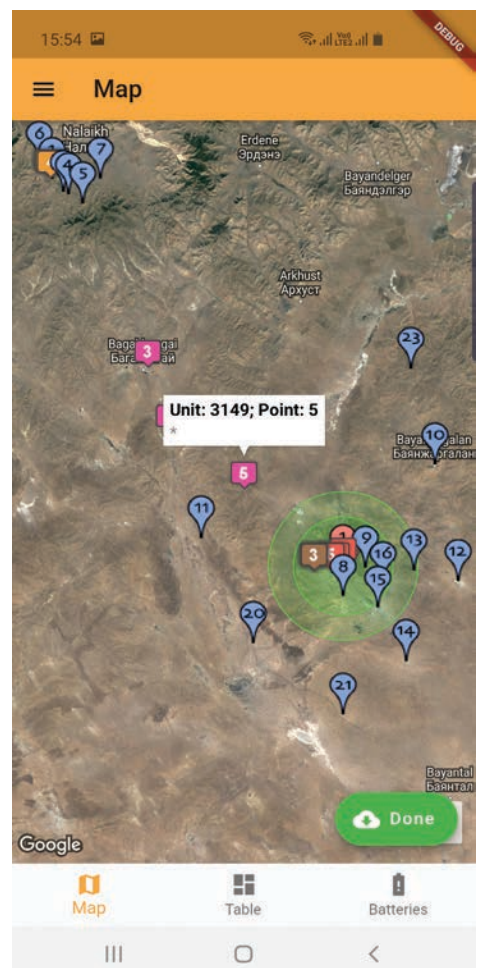
His final mantra for choosing a solution, “at the end of the day, the deciding factors are simple to summarise as cost, cost & cost!” But he offers one final warning, “whereas the key USPs of a LEO system are low latency and smaller terminals, the demand has yet to be proven both on paper and in service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



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

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

TWO SATELLITES, ONE HOTSPOT



Delivering high quality premium content with expanded capacity at 25.5°/26°E

Es'hailSat's high powered satellites provide the key infrastructure to media networks and broadcasters to distribute services such as linear TV, video on demand, high definition TV and 4k TV across the region.



Es'hailSat سهيل سات

Qatar Satellite Company الشركة القطرية للأقمار الصناعية

Space to deliver your vision

     www.eshailsat.qa



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 non agricultural 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.

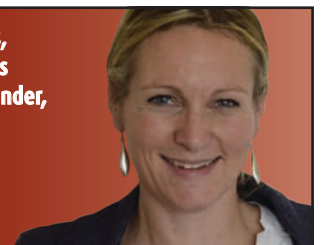
Financial empowerment

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



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

PHOTO: SATADSL.NET

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

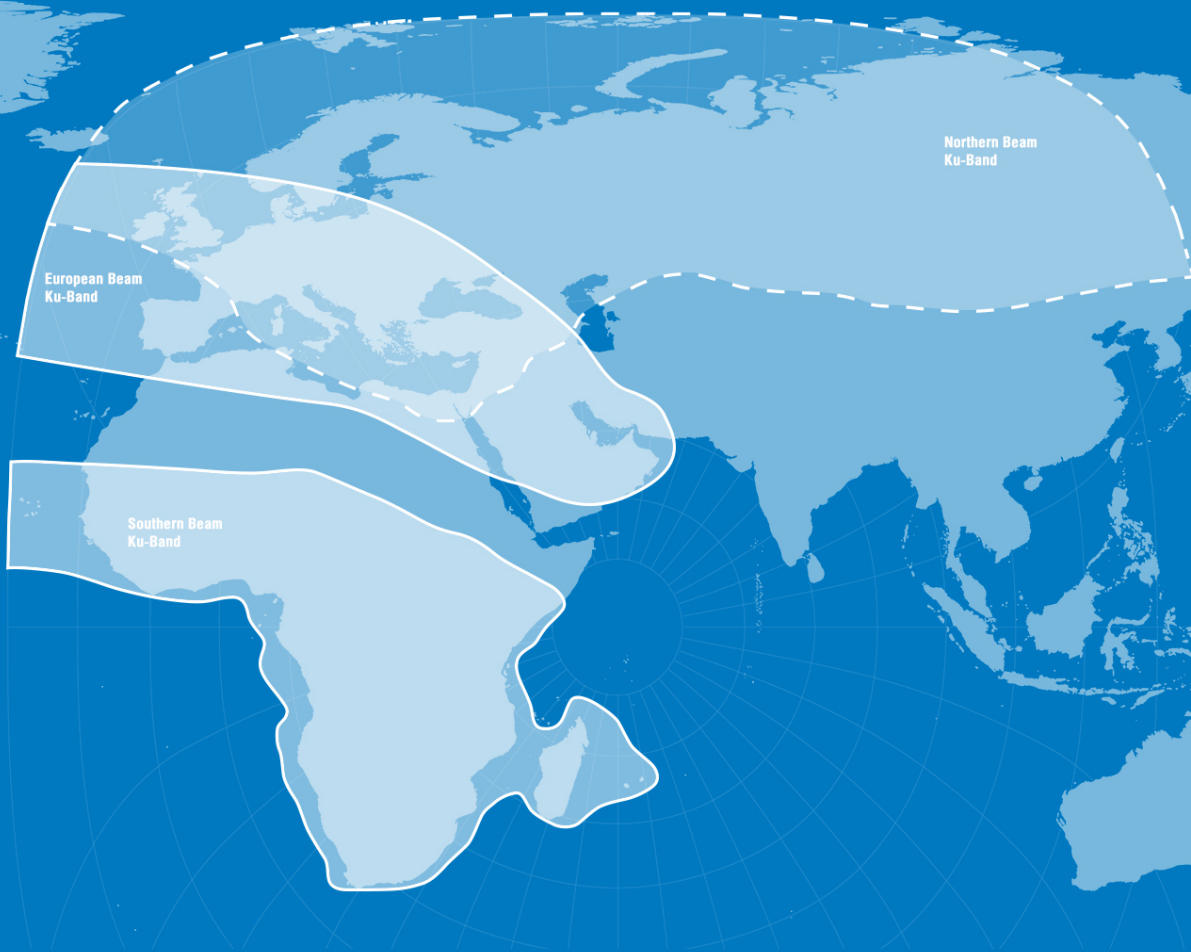
Satellite has the power to radically improve the access of sub-Saharan Africa's rural communities to banking services, driving financial inclusion and independence. This in turn has the ability, as described by think tanks and analysts, to make significant economic changes. ■

Satellite Capacity

55E HIGH QUALITY

Yamal-402 TRUNKING

AFRICA High Performance EUROPE
BACKHAUL SNG MOBILITY IOT
Ku BAND MIDDLE EAST DATA TRANSMISSION
EIRP 53dbW up to 300 Mbps



www.gazprom-spacesystems.ru

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).

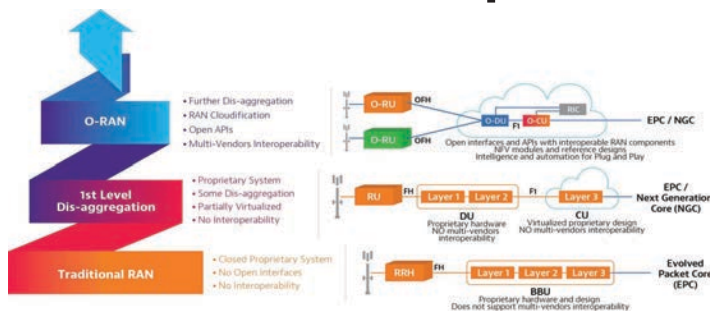
Furthermore, this new line of products will extend the range of Advantech Wireless Technologies' WAAS and EGNOS satellite frequency converters to cover higher C-Band, from 6.6 GHz and up to 7.075 GHz. They are projected to up convert and down convert L1 and L5 GPS signals to/from C-band GEO satellites, 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.

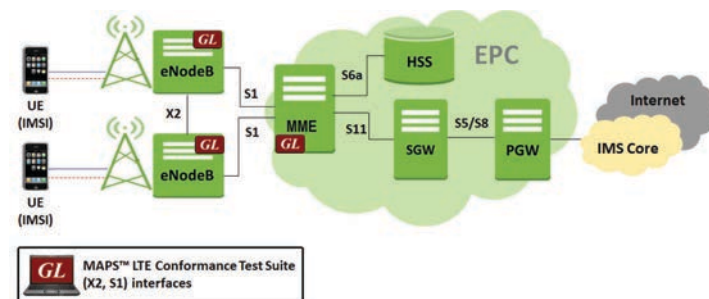
GL's MAPS LTE conformance test suite

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 omnidirectional, 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

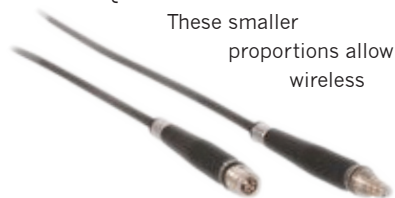
infrastructure providers to access new locations and add more capacity to the network, reducing the cost per bit, the firm claims.

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."



Look out for...

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 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.

Progress 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

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 director 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

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.

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".

3 Indonesia partners with Nokia

 Operator 3 Indonesia and Finnish gear-maker Nokia are working together to optimise and expand the former's LTE network coverage and capacity to meet customer demand via what is referred to as a new Zero Drive Test solution.

The operator is the first Nokia customer in the Asia Pacific and Japan region to adopt this solution, which is 100% automated.

It is powered by Nokia's AVA Cognitive Services which, Nokia said, allows mobile operators to transform their network, service and business operations through the application of AI and automation, helping them to predict and resolve network issues and improve the customer experience.

It also offers enhanced network measurement and assessment which, according to Nokia, is superior to conventional drive tests on the road, plus a much broader and more comprehensive view than conventional drive tests, which only provide a snapshot of network performance along the drive test route.

Telekom Malaysia's Q2 earnings sky-rocket

 Telekom Malaysia Bhd (TM) saw its net profit surge 140.63% year-on-year to RM274.75m in the second quarter (Q2) to June 30, 2020.

Group revenue, however, dropped to RM2.59bn from RM2.77bn this time last year due to its new internet service Streamyx's price adjustments and restricted economic activities during the Movement Control Order (MCO).

TM said the higher earnings were due to lower operating and net finance cost as it contended with the impact of the MCO to curb the spread of the Covid-19 pandemic.

This was reflective of the impact from the Streamyx price adjustments from September last year as well as lower volume and restricted economic activities during the MCO.

For the six-month period, TM's net profit rose to RM427.27 million from RM422.46 million a year earlier, although revenue was down at RM5.15 billion versus RM5.55 billion.

Newly-appointed chief executive officer Imri Mokhtar said TM had seen positive growth in its unifi subscribers as more Malaysian worked from home during the MCO.


Its unifi customer base had grown

4% to 1.55 million as of Q2, with total fixed broadband customer base rising to 2.23 million, Imri said at a press conference on its Q2 results.

TM has continued its convergence penetration leadership with fixed broadband growth at 53% for households.

"Our unifi subscribers recorded positive growth from more Malaysians working from home while TM Wholesale continues to see higher international and domestic revenue," Imri said. "In the meantime, we remain well positioned to lead in the Industrial Revolution 4.0 (IR4.0) towards enabling a more digital Malaysia."

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."

Cincinnati Bell to be acquired for US\$2.6bn

 Cincinnati Bell, parent company of Hawaiian Telcom, said it is being acquired by Brookfield Infrastructure for US\$10.50 a share, or about US\$2.6bn.

The buyer, based in Toronto,

owns and operates assets in the utilities, transport, energy and data infrastructure sectors in North and South America, Asia Pacific and Europe. It is listed on the New York and Toronto stock exchanges.

"The transaction strengthens our financial position," said Leigh Fox, president and chief executive officer of Cincinnati Bell. "Enabling accelerated investment in our strategic products that is not presently available to Cincinnati Bell as a standalone company."

Cincinnati Bell announced its acquisition of Hawaiian Telcom for \$650 million in July 2017 and closed the deal in July 2018, paying about 60% in cash and 40% in stock.

Thai giant urges factories to adopt 5G for robots and AI

 Thailand's biggest mobile operator has ringfenced up to US\$1.4bn to build 5G infrastructure in the country's crucial Eastern Economic Corridor, a signature government initiative expected to diversify and drive the kingdom's economy in the years ahead.

Advanced Info Service (AIS) believes that through the corridor it can bring the next-generation mobile standard to manufacturers, giving them a tool they can use to introduce cutting-edge robotics,

artificial intelligence and internet-connected devices to their factories.

"We are focusing on the industrial estates in the EEC area," AIS president Hui Weng Cheong said. "As we want to play a key role in [helping Thai industries forge ahead] by optimizing 5G technology."

AIS has inked deals with major industrial estate developers in the corridor to provide 5G infrastructure, which the firm said will help attract manufacturers once the coronavirus pandemic peters out. Developers Amata Corp.,

WHA and Saha Phatana Inter-Holding, who have hundreds of manufacturing tenants, have signed deals with AIS.

Jareeporn Jarukornsakul,



Jareeporn Jarukornsakul from WHA says "Thailand must move forward with high technology and digital infrastructure"

chairwoman and CEO of WHA, said her company joined hands with AIS so it could meet industrial clients' demands for supersonic telecom speeds. "Thailand must move forward with high technology and digital infrastructure," Jareeporn said. "That's why 5G networks are a solution that we need to tap into."

Under the agreements, AIS will build 5G towers and base stations in each industrial estate without requiring the developers to bear any investment burden.

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

Telecom Italia deal



Telecom Italia has approved the sale of a minority stake in its secondary network to US private equity group KKR for €1.8bn, after delaying the decision earlier this month at the government's request. KKR Infrastructure, which had entered talks with the telecoms company at the beginning of the year, will purchase a 37.5% stake in FiberCop, a new company owning Telecom Italia's so-called last-mile network, which runs from streets to homes. KKR will help upgrade the copper parts of the grid to fibre.

Tata gets KSA licence



Tata Communications, a digital ecosystem enabler, has secured a Type B telecom licence in the Kingdom of Saudi Arabia (KSA). The licence entitles it to provide ISP and related telecom services to enterprises in a defined capacity, along with local currency billing for end-customers in KSA. This will enable the company to make the shift from offering services as a foreign carrier in the Middle East to a local licensed service provider. Through this licence, Tata Communications will now become a carrier-neutral service provider to the OTTs, large enterprises and MNCs in the region.

Cape Verde to connect to EllaLink cable



Plans are underway to connect Cape Verde to the EllaLink submarine cable by the end of 2020. Led by telecom operator Cabo Verde Telecom, the west African island nation has begun construction on a technical station to house the new high-speed telecommunications infrastructure at Praia.

It is scheduled for completion in October this year. In Mid-August 2020, Cabo Verde Telecom also officially commenced the construction of the technical terminal to host the fibre optic infrastructure.

"Cape Verde will make a qualitative leap in telecommunications and Internet infrastructure," said Cape Verde's prime minister Ulisses Correia e Silva speaking at the ceremony for the official launch of the construction works. "We are making a strong bet to transform Cape Verde into a digital platform of quality services, a reference in Africa through a favourable ecosystem."

Cape Verde first expressed interest in the EllaLink submarine cable in 2018 when it announced plans to connect to the then new fibre optic cable through which Cape

Verde aims to strengthen internet connectivity in the country.

João Domingos Correia, chairman of the board of directors of Cabo Verde Telecom confirmed the cable's terminal will be installed in Cape Verde's industrial zone of Achada Grande Frente, in the city of Praia.

"It is expected to be completed at the end of October 2020 which means the connection to EllaLink can be made by the end of the year although there may be a date slip of one or two months at most," he said.

The EllaLink submarine cable system is made up of four pairs

of fibre designed to meet the increasing demand for internet traffic between Europe and Latin America.

Cape Verde's connection to the cable system is being financed through the US\$25-million sourced from the European Investment Bank (EIB).

Correia recently expressed concern over the threat posed by vandalism to stable telecommunications.

In July, a fire ravaged part of the operator's premises and according to the company, it broke out in one of the energy sections that supply CV Telecom's telephone centres and disabled voice, SMS and internet services.



The EllaLink submarine cable system is made up of four pairs of fibre designed to meet the increasing demand for internet traffic between Europe and Latin America

MTN's Iran plans



MTN Group said its exit from the Middle East will be more gradual than imminent, adding that it will withdraw from Iran over the next three to five years. Local media outlets had reported that MTN Iran-cell was set to suspend operations immediately, prompting the operator and its parent group to state that services would run "as usual" and that customers would continue "to receive the great service they have come to expect". The operator added that it would begin its withdrawal process in Afghanistan, Syria and Yemen

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 SAF- CO Technology in the US as a soft-

ware engineer, working on telecom test and measurement systems. 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 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”

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.

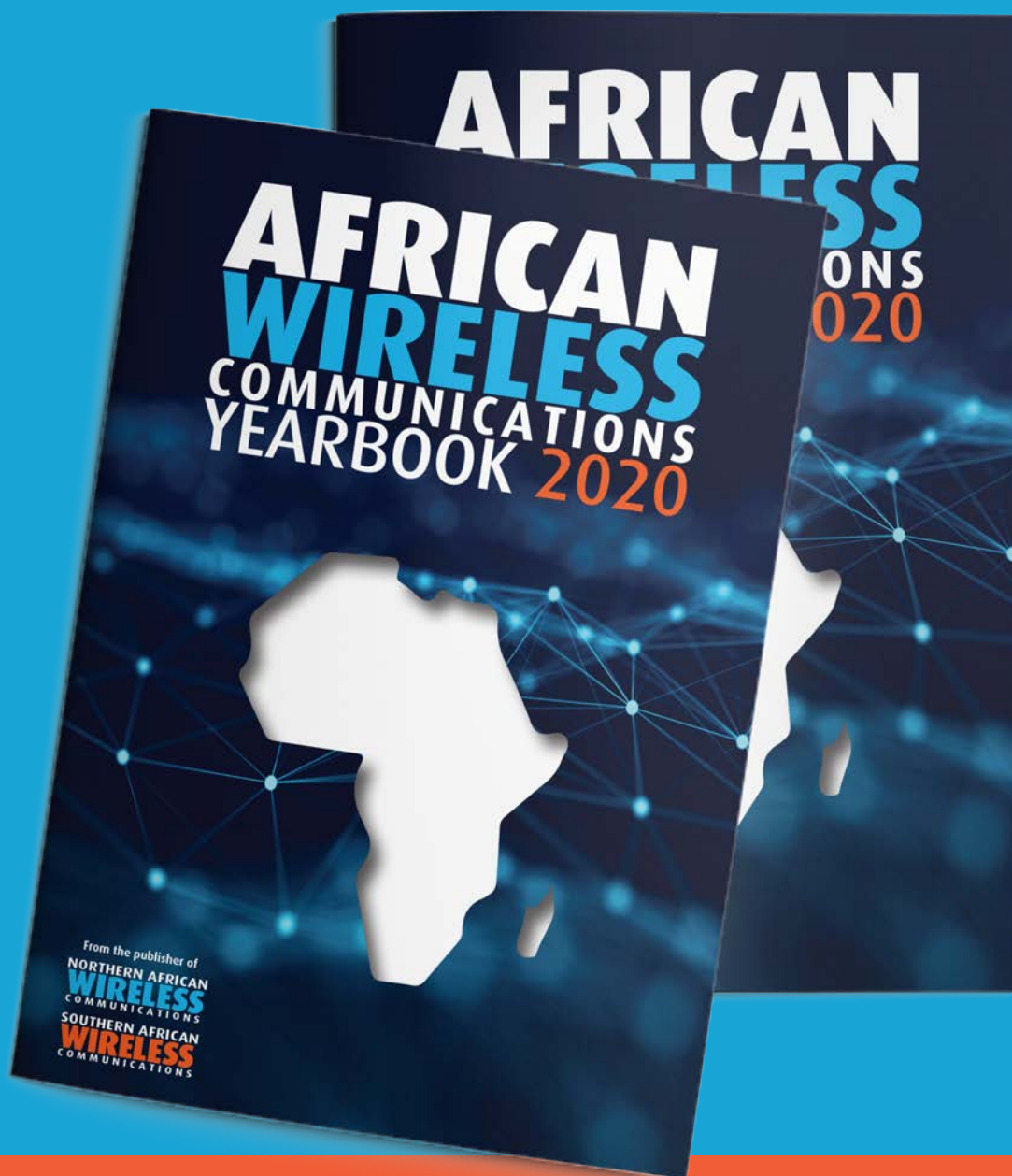
Which competitor do you most admire and why?

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 2021 edition of the African Wireless Communications Yearbook?

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

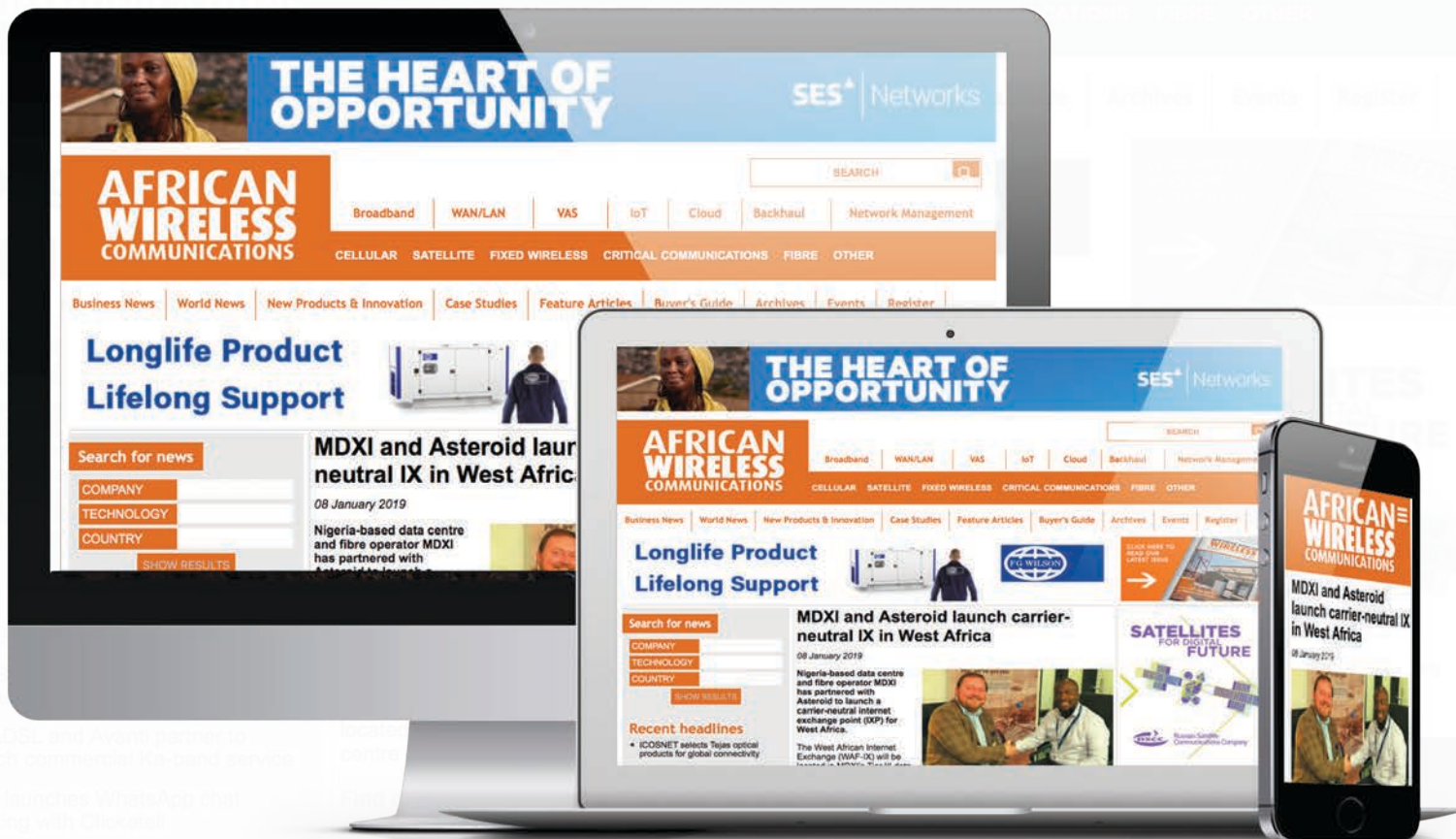


We have key sponsorship options within specific technology chapters and on primary positions.

For all advertising enquiries contact Kathy Moynihan – Kathym@kadiumpublishing.com

See the latest edition on www.africanwirelesscomms.com

AFRICAN WIRELESS COMMS.COM



for African wireless communications, as it happens

www.africanwirelesscomms.com