

For communications professionals in southern Africa

# **SOUTHERN AFRICAN** **WIRELESS**

**C O M M U N I C A T I O N S**

JANUARY/FEBRUARY 2020

Volume 24 Number 5

- Looking at the pros and cons of tower outsourcing
- Helping hospitals bring quality care to their patients
- Where is Africa positioned in the great race to 5G?



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**Simon Fletcher, Real Wireless CTO,**  
**offers advice to government and regulators**

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# SES and Gilat restore connectivity

The combined efforts of Gilat Telecom and SES meant high-performance internet connectivity was restored in the Democratic Republic of Congo (DRC) within just four days after the West Africa Cable System (WACS) undersea cable cut in early February.

Recent cable outages affected much of sub-Saharan Africa, causing internet outages and slow speeds. The swift restoration to bring the service back to Gilat Telecom's DRC customers was achieved by leveraging high-throughput, low-latency O3b Medium Earth Orbit (MEO) satellite capabilities.

"High-throughput, low-latency satellite solutions and applications enabled by SES have proved their reliability and performance, drastically changing the connectivity landscape in the DRC over the past years," said Dan Zajicek, chief executive officer (CEO) of Gilat Telecom. "It has now been the fifth consecutive year that we are delivering highly reliable seamless services thanks to MEO, reaching underserved and unserved locations where fibre cannot be deployed or has been compromised. This has been



Recent cable cuts affected much of sub-Saharan Africa, causing internet outages and slow speeds

revolutionary for the MNOs we serve, who are now able to deploy services that require low latency."

An O3b MEO system customer of SES since 2014, the first in Africa, Gilat Telecom recently expanded its partnership with SES to provide more bandwidth

to rural areas and extend services beyond Kinshasa and Lubumbashi, reaching unserved or underserved Kisangani, Mbuji-Mayi and Bunia, to customers such as Orange DRC.

Under the new agreement, Gilat Telecom is using multiple Gbps of bandwidth on the O3b system and is

now also adding services via SES's Geostationary Earth Orbit (GEO) satellites. The expanded capabilities enabled by SES's multi-orbit fleet will allow Gilat Telecom to deploy 4G/LTE networks and support cloud computing services, even in the remotest areas of the DRC.

## Zamtel introduces biometric facial identification

Zambia Telecommunications (Zamtel), the state-run operator, has stepped up its security measures by using facial biometrics of all mobile phone customers in a bid to prevent fraud.

The firm's head of corporate affairs and government relations Reuben Kamanga said that with growing reports of online fraud, having SIM details verified was a sure step towards curbing such cases.

He added that Zamtel is re-

verifying customer details at all its outlets or activation point in accordance with ZICTA regulations to prevent mobile fraud.

In addition, customers that fail to comply with the ZITA directive will have their mobile numbers switched off by the end of March.

Furthermore, those customers whose SIM card details are inaccurate or incompletely registered will have their details

verified or risk being deactivated.

"The deadline is March 31st and it will be enforced at midnight. This is therefore to confirm that the deadline stands and all unregistered, unverified and invalidated SIM cards will be switched off. In other words, the holders of those cards will not be able to receive or make calls," Kamanga said.

He said customers can contact Zamtel Care Centre or activation points

to know the status of their number.

"While mobile phone telecommunication is one of the most commonly used method of communication among citizens and has greatly revolutionized the way businesses are run, negative elements have also taken advantage of the same means of communication to plan, coordinate, finance and execute their criminal activities with ease," he said.

## Fire downs Malawi's Lilongwe MTL Transmission Centre

Investigators are trying to find out what started a fire at Malawi Telecommunications Transmission Centre, one that burnt down part of the communications hub.

The development has left telephone, TV and radio stations that use the centre inaccessible to

the public and damaged one of the buildings housing communication equipment, plus the equipment itself.

According to MTL's chief commercial officer, Gladson Kuyeri, the fire was possibly caused by an electric fault and that the company's primary concern is to restore services.

"Our primary concern now is to restore services, among them internet and voice services," he said. "Companies like Telecom Networks Malawi, Malawi Digital Broadcasting Network Limited and other radio stations that use Lilongwe as their transmission

centre, are not functioning."

Eye-witnesses on the scene during the early stage of the inferno expressed disappointment at the fire brigade's failure to put out the fire. They said that more damage occurred because the brigade's machine could not pump water efficiently.

# MeerKAT telescope receives R800m boost for 20 new dishes

South Africa and Germany will invest R400m each for the expansion of the MeerKAT radio telescope in the Karoo.

Led by the Department of Science and Technology and operated by the South African Radio Astronomy Observatory (SARAO), MeerKAT is a precursor to the larger international Square Kilometre Array (SKA).

It is currently made up of 64 dishes, each 13.5m in diameter. However, the new R800m cash injection will result in an additional 20 dishes, which will increase the telescope's computing requirements 10-fold.

In a statement, SARAO said the investment in the MeerKAT extension is split roughly into two equal contributions of R400m by South Africa and Germany. The South African funding will be provided from SARAO's existing budget.

"The extended MeerKAT will increase the raw sensitivity by roughly 50%, meaning the extended MeerKAT would have the ability to detect even fainter astronomical sources, and also to carry out surveys of the sky faster," said SARAO chief scientist Fernando Camilo says. "In addition, with the 20



Led by the Department of Science and Technology and operated by the South African Radio Astronomy Observatory (SARAO), MeerKAT is a precursor to the larger international Square Kilometre Array (SKA)

new dishes placed on distances of up to 17 kilometres from each other, the extended MeerKAT will be able to make sharper and higher-definition images of the sky. Therefore,

much like MeerKAT has opened 'new parameter space' compared to previous telescopes, leading to major new discoveries, the extended MeerKAT will be able to do things

that MeerKAT alone can't."

The extension of the project is expected to start in the middle of next year and be completed towards the end of 2022.

## AT resumes services

Angola Telecom said internet services had been fully restored, after the breakdown recorded in the Submarine Cable SAT-3 in the route between Libreville (Gabon) and Cacuaco (Luanda – Angola).

According to a press release from the company, internet and international voice services, which run on the SAT – 3 / WASC submarine cable, are standardized, with the conclusion of the repair work on the section between Gabon and Angola.

This undertaking was carried out by the international consortium in which Angola Telecom is a part, which links Iberia with South Africa, with connections to several west African countries.

## PCCW Global to extend PEACE cable network to southern Africa

PCCW Global and PEACE Cable International Network have partnered to extend the Pakistan East Africa Connecting Europe (PEACE) submarine cable system to southern Africa.

The PEACE South extension will boost bandwidth and have an important impact on connectivity from its current African landing point in Mombasa, Kenya, all the way to South Africa. This will open new Southern African Development Community (SADC) and east African markets to cable partners.

PEACE South will also provide alternative routes for existing systems, connecting southern Africa to Europe and Asia with newer, faster high-bandwidth technology and assisting the

region to improve internet usage and reduce the cost of connectivity.

"Since the construction of Peace East and Peace Med are both expected to be completed on time, on budget and within the originally specified plan of work," said Frederick Chui, chief commercial officer of PCCW Global. "The planned extension through Peace South is a natural expansion for Asian investment in Africa, enhancing cooperation and shared economic benefits in the exchange of goods, technology and ideas."

The southern Africa extension follows the overall success of the cable development project and the smooth implementation of operations, from survey activities and

the issuing of the relevant country permits through to manufacturing and factory acceptance.

When completed, the high-speed PEACE cable system will offer very low latency routes from China to both Europe and Africa, interconnecting three of the world's most populous continents.

The news follows the announcements in September 2019 that PEACE, together with Liquid Telecom and Africa Data Centre, signed a landing party agreement (LPA) for a landing point in Kenya. It respectively signed a deal with PCCW Global and Orange to deploy the new PEACE Med subsea cable at a landing station in Marseille, southern France.

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# MTN Group chooses TEOCO to standardise network planning tools

MTN Group, Africa's largest mobile operator, has chosen TEOCO, a provider of analytics, assurance and optimisation solutions, to standardise its radio and microwave network planning tools.

The former will deploy the latter's planning tools ASSET Radio and ASSET Backhaul across subsidiary networks across 18 different countries. This includes the ability to standardise the reporting of its population coverage across Africa, to determine the number of subscribers that can access the operator's services.

MTN, like other large operators

in the continent, faces operational challenges in collecting consistent and accurate data from diverse countries ranging from South Africa and Nigeria to Yemen and Afghanistan.

"Having the correct tools in place to monitor and analyse operators' networks and subscriber base is paramount," said Atul Jain, Founder and CEO of TEOCO. "Without it, you are blind to issues that are affecting the network and blind to the outcomes of customer behaviour. By consistently analysing data, through standardised tools

like ASSET, MTN Group can make important network decisions and track the impact across entire continents. This provides significant economies of scale and delivers a differentiated customer and mobile network experience."

TEOCO said the use of ASSET Radio and ASSET Backhaul will enable a much better view of the reality in each country, which will also help focus capex investments where they are most needed. This will also allow MTN to see the impact of its dual-data strategy (which involves delivering

high-capacity 4G in cities and broad 3G coverage in rural areas) to drive data adoption across urban and rural areas in all its markets.



**Atul Jain of TEOCO says "having the correct tools in place to monitor and analyse operators' networks and subscriber base is paramount"**

## Nokia and Angola Cables trial USA-Africa 'first'

Nokia and Angola Cables are trialling the first direct optical connection between the USA and Africa with Nokia's Photonic Service Engine 3 (PSE-3) chipset.

The new services leverage the interconnection of two existing subsea cable systems – SACS (South Atlantic Cable System) and MONET. SACS, which is owned and managed by Angola Cables, operates between Fortaleza, Brazil and Luanda, Angola, is connected to AngoNAP Datacenter. The consortium-owned MONET connects Brazil and the US.

Combining SACS and MONET subsea systems in this joint trial allows, for the first time, 300Gbps of traffic between Miami and Luanda. The test also adds more capacity to an already low-latency network.

Subsea wavelengths were deployed with Nokia's 1830 Photonic Service Interconnect (PSI) data centre interconnect (DCI) platform utilising the PSE-3. The 1830 PSI provisioned optical wavelengths at 300Gbps using probabilistic constellation shaping (PCS) to optimally shape the signals to the specific characteristics of the 12,635 km cable, achieving operation near the theoretical limits of the system.

## TCRA removes SIM card offenders

At least 656,091 mobile phone users in Tanzania were forcefully ejected from the communication web by Tanzania Communications Regulatory Authority (TCRA) last month.

The well over half a million subscribers had their SIM cards switched off after they failed to

register their SIM cards biometrically by the January 20 deadline, an official said the following day.

James Kilaba, the director general of TCRA, said the locking out of biometrically unregistered phone users' SIM cards will be done in phases.

"We are switching off SIM cards

which haven't been biometrically registered in phases due to technicalities," Kilaba told state-run Tanzania Broadcasting Corporation. "You cannot just switch off 10 million subscribers at once."

Kilaba said the other 318,950 phone users faced a similar risk after they had failed to register their SIM cards biometrically.

In December 2019, Tanzanian president John Magufuli extended the deadline for biometric registration of phone users' SIM cards for 20 more days beyond the earlier deadline of December 31 set by the TCRA.

The country's move is informed by the need to get rid of dishonest telephone line users, controlling cybercrime and protecting Tanzanians against those abusing the telecom sector.



**Over half a million subscribers had their SIM cards switched off**

## Vodacom Tanzania will compensate customers affected by outages

Vodacom Tanzania said it would compensate its data customers who were affected by the internet service outage in late February, while those who bought bundles will be reimbursed accordingly.

The operator's internet services were restored at 20:20Hrs on Sunday, February 23 after it encountered problems in earlier hours, causing

major frustrations among its data consumers across the country.

"As promised, following yesterday's internet service restoration, we have started compensating our customers for the inconvenience experienced," said Vodacom's corporate affairs director Rosalynn Mworia. "We would like to thank our customers for their patience and inform them that the

compensation is generous, fair and transparent and will cover all those who were affected."

For the past six years the number of people going online has doubled in Tanzania, from 9 million in 2013 to over 23 million people in 2019, Tanzania Communications Regulatory Authority (TCRA) quarterly report-2019 shows.

# Tree-wise men introduce Wi-Fi via rural locations

A team led by a Zimbabwean AI expert and chief executive officer (CEO) of a UK-based start-up has published an open-source technology known as 'Trees of Knowledge', to improve access to education through smartphones in the continent.

William Sachiti of Academy of Robotics has created a free-to-develop technology, which enables a tree or rural landmark to broadcast a Wi-Fi connection providing access to a pre-loaded package of educational content.

The Wi-Fi connection and content comes from a micro-computer moulded into the landmark to protect it from theft or damage. Anyone within a 100 metre radius can then access the content on any mobile device free of charge.

In addition, users can charge their phone by plugging it into the accompanying solar-powered battery charging station. There is no need for the phone to be connected to a carrier or any network provider, removing the issue of expensive data charges.

"One of the challenges in providing education through smartphones is that, while many people have access to a basic smartphone of some description, in many areas 3G coverage is still patchy," said Sachiti. "The data costs are high for most people and in rural areas keeping the phones charged is a problem when there is limited or no electricity. Trees of Knowledge aims to address all these challenges."

Many children are taught under the shade of a large tree, so Sachiti said 'Trees of Knowledge'



**The Wi-Fi connection and content comes from a micro-computer moulded into the landmark. Anyone within a 100 metre radius can then access the content on any mobile device free of charge** PHOTO: ACADEMY OF ROBOTICS

seemed a natural technical extension of this existing system.

Micro-computers will run on the power equivalent of a small rechargeable battery and can run for years without maintenance. The technology uses a basic computer like Raspberry Pi which has been used in refugee camps in Lebanon by UNICEF as part of its Raspberry Pi for Learning initiative.

UNESCO's new report *Education Progress* highlights that a problem particularly acute in sub-Saharan Africa, where the population of primary-school aged children has doubled since 1990, with one in five of primary-school age kids not able to attend school.

However, this region is also

witnessing rapid growth in smartphone adoption. Already, more than 23% of people in sub-Saharan Africa have access to a smartphone – a number which the GSMA said should rise to 39% in the next five years.

"With the growth of the developer community in Africa, I believe we have the opportunity to simply release the technology and let local communities build it themselves," added Sachiti.

The pre-loaded educational content is likely to be video-based and free to access by anyone at any time. While the system can work with existing educational content packages, Sachiti wants content that also comes from local educators.

## MTN accused of paying bribes to Taliban and al-Qaeda

The continent's largest mobile operator, MTN, said it is reviewing allegations that it paid protection money to militant Islamist groups in Afghanistan.

Allegations made in a legal complaint filed in a US federal court in late December claim the South African telecom giant violated US anti-terrorism laws. It was filed on behalf of families of US citizens killed in attacks in Afghanistan.

The complaint, made under the Anti-Terrorism Act, alleges MTN paid bribes to al-Qaeda and the Taliban to avoid having to invest in expensive security for its transmission towers.

These alleged payments are claimed to have helped finance a Taliban-led insurgency that led to the attacks in Afghanistan between 2009 and 2017.

It has also been alleged that the money helped to provide "material support to known terrorist organisations," thus violating the anti-terrorism legislation.

MTN said it still held the view that it conducts its business in a "responsible and compliant manner in all its territories".

The company has over 240 million subscribers, making it the eighth largest operator in the world.

In 2015, the firm was fined more than \$5bn (£3.8bn) by the Nigerian authorities for failing to cut off unregistered sim cards - a figure that was reduced to \$1.7bn after a long legal dispute and the intervention of South Africa's then president Jacob Zuma.

In February 2019, a former South African ambassador to Iran was arrested in the administrative capital, Pretoria, on charges that he took a bribe to help MTN win a US\$31.6bn (£24bn) license to operate in Iran.

Other companies named in the filing include UK multinational security services company G4S Holdings International and its subsidiaries and four American corporations, which stand accused of funding the Taliban Haqqani Network, Pakistan Taliban and their allies.

## Econet targets Ethiopian licence

Econet Global is ready to acquire a telecommunications licence in Ethiopia, which is opening up the industry to foreign investment for the first time.

The Johannesburg-headquartered company, owned by Zimbabwean billionaire Strive Masiyiwa, has been on high alert since the Horn of Africa nation announced plans to sell as much as 49% of the state-owned monopoly, Ethiopian Telecommunications, and issue two new spectrum licenses.

Carriers including Orange SA, MTN Group and Vodacom Group have already expressed interest in the nation of more than 100 million people, which has a relatively low level of data penetration and internet access.

Econet has operations in Africa in Zimbabwe, Lesotho and Burundi, and investments in Europe and South America. Masiyiwa's Liquid Telecoms, Africa's biggest fibre company, has

assets across the continent.

The Ethiopian government of prime minister Abiy Ahmed had scheduled the liberalisation of the industry for early 2020, but delayed the process because of elections to be held in August. It was also designed to give bidders for the new licences more time to prepare.

Ethiopia has yet to provide guidance on the exercise, including any limits on foreign ownership.

## Tanzania, Uganda SIM policies questioned

Tanzania and neighbouring Uganda have in place some of the harshest SIM card monitoring policies in the world, according to a new report.

Research conducted by UK-based pro-consumer website Comparitech said based on a point scoring metric of 0 – 21 (policy portfolios are evaluated from strongest to weakest –the lower the score, the stronger the portfolio), Tanzania scored 19, while Uganda scored 15.

To make things worse, Uganda scored the same as North Korea, a country known for trampling on the privacy of its citizens.

The report highlighted Burundi, Kenya and Rwanda among those African countries with relatively good SIM card monitoring policies. Kenya scored 12 points, Rwanda scored 11 points and Burundi scored nine points.

Elsewhere, the Democratic Republic of Congo (DRC) and Ethiopia each scored eight points.

Tanzania and Uganda have adopted biometric SIM card registration and the relevance of this is reflected in parts of the report.

"A SIM card is more than a phone," read an excerpt from the report. "It allows authorities to track people's locations and movements and all of their online activities-websites visited, search queries, purchases, and more can be traced back to their devices."

It also said that creating a database of citizens and their mobile numbers restricts private communication, increases the potential of them being tracked and monitored, enable governments to build in-depth profiles of their citizens and risks private data falling into wrong hands.

The reason Tanzania had a poorer rating than Uganda, the report said, was because individuals are allowed up to eight SIM cards from different service providers. This is exacerbated by the fact the country's law enforcement does not have invasive interception tools, although it can access data without a warrant.

Uganda started a mandatory SIM card registration in 2012, mainly to fight crime.

# Vodacom dragged into Lesotho murder mystery

South Africa's Vodacom Group has clashed with authorities in neighbouring Lesotho and could lose its operating licence, amid allegations the government has launched a campaign to discredit the firm.

Local media said the operator has since been fined R8.2m and has 90 days to explain why it should keep its licence in the landlocked kingdom.

There are allegations that Vodacom has fallen out of favour with prime minister Thomas Thabane's government after sharing his call records in a murder investigation.

The leader and his wife, Maesaiah, are suspected of murder, with allegations that the first couple had a hand in the 2017 murder of the prime minister's then estranged wife, Lipolelo Thabane.

She had been living apart from



her husband since 2012 and was killed two days before Thabane was sworn in as prime minister.

As part of the investigation, law enforcement agencies used mobile phone records to investigate the suspects, which Vodacom provided.

Media in Lesotho are reporting that police used Thabane's call records to link him to the murder of his estranged wife.

**There are allegations that Vodacom has fallen out of favour with prime minister Thomas Thabane's (right) government after sharing his call records in a murder investigation**

According to reports, Thabane's device was used to call a person at the scene of the crime "at the time of the assassination". The police then asked the prime minister to explain whom he was talking to and what they were discussing.

Thabane's third wife has since been formally charged with murdering Lipolelo and she is out on bail.

Citing sources, the report says it is for this reason that Thabane's government has involved the Lesotho Communications Authority (LCA).

No further information was made public as *Southern African Wireless Communications* went to press.

## Pre-commercial TV white space projects begin in South Africa

Indigo Broadband has partnered with the Independent Communications Authority of South Africa (ICASA) and the Council for Scientific and Industrial Research (CSIR) on pre-commercial TV white space (TVWS) projects.

It was appointed as the authorised sub-Saharan distributor of TVWS network systems developed by Carlson Wireless.

The CSIR has developed a tool that identifies and makes use of TVWS channels for broadband services without generating interference with adjacent primary licensed services.

This co-existence between TVWS networks and TV broadcasting networks is facilitated by a CSIR-developed technology called the white spaces spectrum database.

African nations have been criticised by advocates of TVWS frequencies for underutilising the technology that can improve internet access on the continent. In the past, Google, Microsoft, the CSIR and the Wireless Access Providers Association have led successful TV white spaces trials. Indigo said networks that operate in the TVWS allow cost-effective

connectivity for communities not serviced by current market offerings, either because they are not available, or not affordable.

The suite of products include the Carlson Wireless Gen3 and Gen3 Mini RuralConnect. Indigo said the long-range capabilities under difficult terrain makes the TVWS systems from Carlson ideally suited to rural or underserved areas. It added that other radio technologies have limited or no range in a near-line-of-sight application, making their deployment cost-prohibitive in many applications.

## Rwanda's 'Icyerekezo' to begin operations

The Rwandan satellite, dubbed "Icyerekezo", will start operating in April 2020. Patrick Kariningufu, OneWeb vice-president for the Middle East and Africa made the announcement February 6, on the eve of the launch of the second batch of satellites from the Baikunur Cosmodrome in Kazakhstan.

"Rwanda will be connected with the rest of the world next year around April," he said.

The satellite got the name "Icyerekezo" from students at St Pierre Nkombo School in the district of Rusizi Island, western province.

Kariningufu said those students

will be among the beneficiaries, probably in April. "They will have free internet access for 10 years," he added. "After 10 years, prices will be negotiated by OneWeb and the Rwandan government based on the quality of the Internet and competition in the global Internet market by then."

# Building broadband in Namibia



Namibia's Ministry of Information and Communication Technology (MICT) launched its National Broadband Policy together with what it called an Implementation Action Plan. The country's Minister of Information and Communication Technology, Stanley Simaata, officially launched both initiatives, which were first outlined in October 2019. The National Broadband Policy and the Implementation Action Plan have the shared aim of achieving reliable and affordable broadband access infrastructure services for all.

# Seychelles set for 2021



Seychelles Cable System Company said its US\$20-million undersea cable project will go live in July 2021, when the Pakistan East Africa Cable Express (PEACE) connects the group of islands, via Kenya, with the international community. The 12,000-kilometre project will link the group of islands, via Kenya, with the international community and is expected to provide faster and more reliable internet connectivity.

# Orange's new sat system



French mobile operator Orange has announced the adoption of the O3b mPOWER, the next generation medium earth orbit (MEO) satellite communication system from the satellite telecom service provider SES. Through this solution, which will provide several terabits of speed to stimulate digital transformation and the adoption of the cloud, which will be operational in 2022, the company intends to significantly increase its capacities to support the growing demand for bandwidth generated by continuous increase in its clientele.



## Talking satellite

Martin Jarrold, chief of international programme development, GVF



## CABSAT 2020: The Satellite Industry's Summit Agenda

GVF has been a Supporting Association of the Dubai World Trade Centre's CABSAT exhibition for several years. 2020 brings the 25th event with a Content Distribution section representing the satellite industry ecosystem. Embedded in the exhibition, the GVF SatExpo Summit, 31 March to 2 April, will feature keynote addresses, themed interactive sessions, and special focus sessions.

Keynote Addresses open the programme. Perspectives from the UAE Telecommunications Regulatory Authority (TRA) and the International Telecommunication Union (ITU) Radio Communication Bureau Space Services Department will include exploration of the outcomes of the ITU World Radiocommunication Conference 2019 (WRC-19) – held last November in Egypt – and agenda items for WRC-23. WRC meetings review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and of geostationary satellite (GEO) and non-geostationary satellite orbits (NGSO).

Space Segment Disruptive Evolution is the theme for the first moderator-led panel session. David Meltzer, Secretary General, GVF, will steer a dialogue on rapid changes in in-orbit technology. The latest GEO high throughput satellites (HTS) are close to achieving near-terabit capacity, existing medium Earth orbit (MEO) constellations are evolving into more powerful systems, and the first of the low Earth orbit (LEO) mega-constellations are launching. Other issues for discussion are the phenomenon of small satellites and generational disruption: miniaturisation and low-cost manufacture, link budgets, latency and constellation functionality, and new customer markets and applications.

Stéphane Chenard, Senior Consultant, Euroconsult, will moderate Ground Segment Disruptive Evolution. As with space segment, infrastructure on the ground is undergoing a game-changing shift. Amongst other trends, teleports are evolving, and antennas/terminals are expected soon to feature cost-effective form-factor and performance departures from the traditional parabolic paradigm. Points of discussion will include teleport operations virtualisation, and the Cloud; the ecosystem of new antenna/terminal technologies; and, meeting the demands of wider markets.

New to the industry lexicon is the term NewSpace. Much has been written about this, sometimes referencing other terminology: Space Industrialisation, Space 2.0, the "New Space Race". Session moderator Virgil Labrador, Editor in Chief, Satellite Markets & Research, will frame a dialogue for Space Industrialisation and Emergent NewSpace, beginning from the premise that space is no longer the sole preserve of agencies and big commercial players. Smaller private companies are propelling the sector vigorously forward. The industry is undergoing an entrepreneur-driven industrialisation process going beyond the potential offered by the 'smallsat' segment. Discussion will question "What are the limits to NewSpace?", with reference to: Artificial Intelligence (AI)/machine learning; the Industrial Internet of Things (IIoT); orbital connectivity drivers to space industrialisation; new applications; and, competition for customers.

Increasing use of satellite in the maritime sector continues. As the session Verticals: Maritime will examine, it is a vibrant market as ship-owners transition to next generation connectivity. The merchant, passenger and leisure segments are all yielding revenue growth and a re-bounding oil pricing accelerates the off-shore segment. Dialogue here will cover: HTS oceanic coverage and capacity trends; capacity and terminal pricing trends and demand forecasts; value-added services and operations outsourcing; and, drivers of new generation satellite system purchases.

GVF has a long-standing engagement with the Humanitarian Assistance & Disaster Response sector, being an industry signatory to the UN Crisis Connectivity Charter. Riaz Lamak, Lead, Capacity Building & HADR, GVF, will moderate. Satellite has a well-recognised critical role in reporting on disaster assistance and appeals for funding but is also mission-critical in organising and delivering humanitarian aid and resources into the field. The topics to be engaged here are: satellite industry engagement with HADR – international agencies, governments/militaries, and NGOs; the first 48-hours – supporting logistics, providing coordination of relief efforts; recovery and rebuilding; satellite communications when terrestrial networks fail; from 'satphone' to broadband – requirements in the field; and, from satcoms to EO – expanding applications for HADR.

The final two sessions of the Summit deal with extensive subjects, essentially entire conference subjects in themselves: The Satellite Integral Factor: Cloud; 5G and Robust Connections: Cyber; Interference;

Orbital Debris.

Satellite is becoming as integral to the Cloud as it is acknowledged as being integral to roll-out of the next generation mobile standard – 5G. Recognition of the opportunities in partnering with the Cloud is only now working through. Leveraging reduction of CAPEX, reduced OPEX, rapid scalability, ease of development and ubiquitous accessibility is bringing evolutionary change to the satellite value chain, encompassing data volumes and analytics products arising out of satellite communications network operations and generated by NewSpace EO and IoT.

Satellite users depend on reliable and robust connectivity characteristic of today's platforms, but there are potential vulnerabilities. Three of these will be explored in Dubai.

Cyber Security is a not specific to satellite but concerns the entire IP-enabled global ICT infrastructure. The European Space Agency (ESA) is calling for proposed solutions to determine viability of satellite-based services in support of cyber security and to assess technical feasibility and commercial viability for vertical sector users of satellite. Potential solutions will be enabled by space to mitigate security risks and enhance cyber resistance and the resilience of existing infrastructures, services and operations, contributing to enhanced end-to-end security. So, a key question is, "Is the satellite sector doing enough in the cyber security environment?"

Interference is a vulnerability the satellite industry successfully addresses through technology advance and human capacity-building, (i.e., GVF training), and this topic will question what still needs to be done and will be addressed through the terminal type approvals work of the GVF Mutual Recognition Arrangement Working Group (MRA-WG) and GVF collaboration with ESA and the ITU.

Orbital Debris is a prominent issue. The discussion here will encompass: sustainable space utilisation supporting development on Earth; tools to support collaborative space situational awareness and surveillance; risk models, regulatory regimes, and international coordination and guidance for space actors; space-based applications and the NewSpace age of innovative LEO business; scale and operation of the mega-constellations – orbital debris prevention and operator responsibility; and, maintaining a space sustainability-based future.

# EXPERT AND INDEPENDENT ADVICE FOR GOVERNMENTS AND REGULATORS

Simon Fletcher, Real Wireless CTO



As the connectivity demands of business, industry and individuals ramps up, so must government and regulatory policy evolve. Spectrum demand, end user expectations and the transition to 5G are all presenting a new set of challenges; most of which weren't even considered a few years ago. Real Wireless provides informed, independent, up-to-date expert knowledge to enable regulators and governments not only make decisions but to do so quickly, fairly and effectively.

Today's regulatory challenges require a clear understanding of the changing wireless landscape and the ability to make quick decisions. We offer both.

Questions and challenges facing regulators include how to manage spectrum in a way that balances the often conflicting pressures from various sectors that want to use it – from mobile to satellite and fixed wireless to broadcasting; how do you ensure that there is a competitive landscape that can benefit all end users? Taking into account likely system deployment costs, and balancing a specific region's needs with international spectrum deployment plans is a complex equation.

Regulators – local, regional, national and international – are all required to answer these questions and more. How, and even if, to create the national frameworks for network and spectrum sharing? How to deliver a national digital strategy at a municipal level. How to balance the spectrum needs of the wireless industry and policy issues associated with the development and growth of private networks deployments?

Regulators can't take years deciding; the slower the decision-making process the more delay will impact the time to market of technologies and the development of infrastructure that could boost economic growth. Understanding how to drive the development of robust and economically sustainable connectivity requires the ability to take into account a number of factors from radio propagation, in-building penetration,

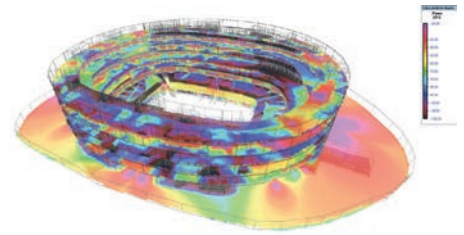
to reuse of spectrum and much more – a vast range of issues, requiring both technical knowledge and a global perspective.

Which is what Real Wireless can bring to government and regulatory bodies of all sizes as they work through the immediate wireless needs of their cities, countries or regions and the connectivity needs of the very near future. Our experts offer genuine insights into all technology options involved and all associated concerns – from infrastructure costs to deployment costs, from device availability to spectrum management, from international spectrum harmonisation to international regulatory mechanisms. We have a strong understanding – technical and, of course, regulatory – of spectrum policy and the socio-economic implications of national and regional communications programmes, and have advised regulators and governments worldwide.

Decisions have to be made – and Real Wireless can assist in making those decisions. We can offer the global perspective of experts that have contributed to international radio conferences and chaired high-level committees as well as experts who have planned, costed and rolled out real networks from the early days of cellular to 4G and the dawn of 5G. We know how mechanisms work – both technological and regulatory – and we know how to get results.

At all levels of government there is a continuing need to understand what social and economic benefits wireless technologies such as Wi-Fi and LTE can offer, together with another requirement – to develop an awareness of how and at what cost these benefits can be realised. With 5G on the horizon, and legacy technologies maturing and coming to end of life at different times in different markets these needs are sure to grow.

Wireless strategy is not just a concern for consumers or industry. It matters more than ever to government. Grasping the concepts and implications of capacity management,



future license terms, network slicing, the value of spectrum, effective competition and new digital business models is essential to understanding the many new ways in which wireless can help government to address social and economic needs.

Is free Wi-Fi across key public areas of a major city viable? What are the policy implications of extending 4G coverage? How can spectrum allocation meet the essential needs of a nation or region's emergency and public safety users? How critical a role will local councils play in developing and delivering the densification of digital infrastructure? How should 'smart cities' happen? How will major mergers between operators affect future infrastructure and spectrum requirements?

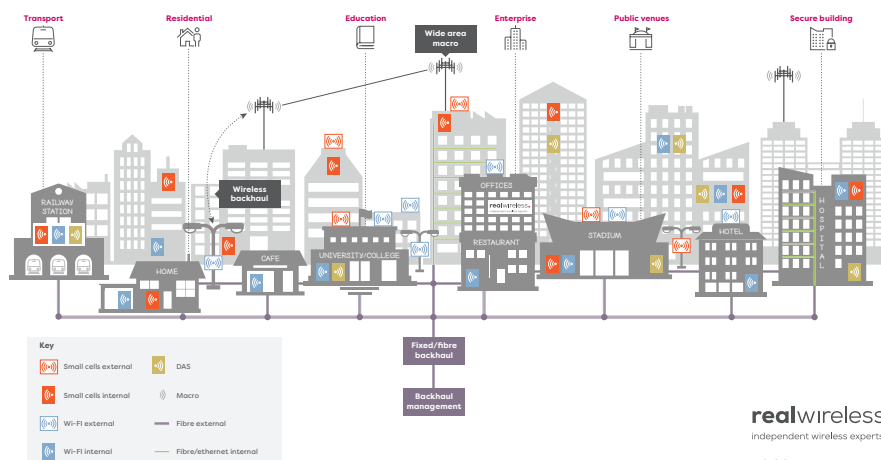
These are questions we have researched; that we continue to research and have been instrumental in answering on behalf of authorities at local, regional, national and international level.

The list of those authorities is a long one, taking in regional UK councils, the UK Spectrum Policy Forum, the Scottish Government, Ofcom, the National Infrastructure Commission, the Austrian Regulator and the European Union among others.

And there will be many more questions as 5G offers both the potential for vastly improved public services and the challenge of making them work. We will continue to act as a key advisor to government and regulators on all these issues.

We will also question – and occasionally disagree with – policymakers. We are proud of our status as an independent, expert voice at a time of conflicting demands on government strategy and resources and believe such expertise has never been more necessary than it is today.

The processes and bespoke tools that Real Wireless has developed aid us in helping regulators, mobile operators, neutral hosts, road & rail operators, local authorities and landowners to understand better what the deployment options are to deliver mobile voice and data services to consumers – whether on a national, regional or local level. If you think you could benefit from our support, get in touch.



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# On the move: critical communications for the transport sector

Global transport infrastructure spending is set to reach a ten year cumulative total of US\$10 trillion by 2025. Paul Ward, international sales director of Etelm, explains why this represents an opportunity for transport providers to review their critical communication requirements

**T**he pace of change in the transport sector is dramatic. PwC has calculated that global transport infrastructure investment is projected to increase at an average annual rate of about 5% worldwide from 2014 to 2025.

The type of infrastructure being developed may vary across global regions, but this general trend of investment remains constant. In Africa there has been a significant investment in major rail projects. This includes the Mombasa-Nairobi railway, for example, which was unveiled in the summer of 2017 and is Kenya's largest infrastructural project since independence in 1963. The 80% Chinese-financed 472km railway will run from the country's biggest port, Mombasa, to its capital, Nairobi. In South East Asia, where overall investment levels are particularly high, there has been a similar focus on rail projects, but this has also been matched by a focus on smart highways and autonomous vehicles, including recent news that self-driving taxis are set to be piloted in Hunan, China.

Whatever the transport mode, however, robust and reliable communication networks are critical to the success of operations, across both the public and the private sector. And as the pressure to operate as efficiently as possible mounts, so too does the ability of those networks to intelligently and dynamically reroute vehicles at the click of a button. This means transmitting data at the same time as voice – not a new requirement in itself, but thanks to the growing role of video and high-bandwidth applications, the sheer volume of data that organisations need to be able to process and analyse has gone stratospheric. Whether we're talking about CCTV on board trains, live mobile departure and arrival information for passengers, or behind-the-scenes applications for crews to access, the data that transport communication networks need to handle is rich, dynamic and broad.

How, then, can the transport sector best deal with these pressures and demands?

## Understanding critical communications requirements in transport

There are two major trends in the sector which underpin the needs of critical communications networks. First, the data used to drive dynamic decision-making – such as rerouting vehicles or

assigning particular drivers to particular tasks – has become far broader and richer, and analysable in real-time. From GPS trackers to sensors which measure passengers, loads and vehicles themselves, from connected thermometers to demand-responsive services, transport providers are dealing with an extraordinary range of information, which they need to analyse and harness on the move.

Second, transport providers are under greater pressure than ever before to offer cost-effective and highly efficient services. In many parts of the world, providing sufficient public transport to meet the needs of a dispersed and aging population is a major challenge. Meanwhile, climate change and the need to operate as responsibly as possible in terms of environmental impact is at the forefront of public consciousness.

In practice, this means that transport operators need to be highly responsive to changing, on-the-go demands, and highly intelligent in terms of route planning, vehicle and driver allocation.

## Building next-generation communications networks

In the past, TETRA (Terrestrial Trunked Radio) has provided an effective and efficient foundation for critical communications networks. Thai state-owned operator CAT Telecom, for example, recognized the vital role that PMR can play by announcing plans last year to deploy a nationwide TETRA network covering more than 200,000 users including government departments, emergency services and other vital industries, including transport operators. In Africa TETRA also remains a common critical communications standard, particular in the transport sector.

The reason for this is simple – TETRA still carries plenty of powerful advantages. Specifically designed for use by the emergency services, military and government agencies, its resilience and reliability is therefore ideal for mission-critical contexts, where downtime is not an option. It is also better placed than many emerging technologies when it comes to handling communications over long distances. However, as that demand for higher bandwidth and data-rich applications increases, TETRA needs supporting.

This is where LTE networks, which offer greater

capabilities when it comes to video and other data-heavy use cases, come in. LTE networks enable transport operators to integrate data with their voice communications and therefore integrate smart transport technologies seamlessly into a single communications network. Here, a hybrid approach can offer the best of both worlds.

Given the current levels of transport infrastructure investment in major global regions – Asia Pacific and Africa together are projected to have made a cumulative transport infrastructure investment of over \$8 trillion by 2025, according to the figures from PwC – transport operators also have the potential to seize this opportunity to leapfrog communication technology developments by jumping straight to Mission Critical LTE Broadband services. A hybrid communications approach enables the latest communications technology to be rolled out as part of any wider transport infrastructure project, while also ensuring more established technologies can be used for highly critical, highly secure or long-distance communications.

What might this look like in practice? A rail operator might use a TETRA network for its core voice communications, ensuring, for example, that drivers can communicate consistently with stations and centralised staff. An LTE broadband overlay could offer high bandwidth data communications for real time passenger information apps – keeping users updated on journey progress – and security and surveillance systems.

As the demand for mission critical LTE services increases, and as the standards mature, the availability of LTE frequencies, and even 5G connectivity, for private users is likely to increase too, heralding the viability of hybrid critical communication networks.

In Africa, adoption of mobile cellular technology is in full swing and with these technological advances, comes the growing reality of private mobile broadband access – access that can be readily utilised in mission transport critical applications.

The transport sector has mobility at its core and its approach to mission critical communications must move at the same pace in order to deliver both reliability and technical innovation. ■

# Airtel and Western Union team up

Airtel Africa and Western Union have joined forces to give the former's customers access to international remittance services through their mobile phones across the territories where both companies currently operate.

In a statement released by Airtel Africa, the telecommunications group said that this new partnership would help the corporation "... take an active part in the international money transfer business..."

Airtel has also collaborated with World Remit to provide money transfer services to Burkina Faso, Democratic Republic of Congo (DRC) and Uganda.

It currently operates Airtel Money, a mobile

commerce services such as allowing customers to use their mobile number as an electronic wallet. The service works in partnership with the Central Bank of Nigeria.

The partnership will allow global senders use Western Union's digital services or the walk-in Agent network in 75 countries to access the service.

"This partnership gives our customers the convenience of directly receiving and sending remittances on their Airtel Mobile Money Wallets," Raghunath Mangava, the chief executive officer (CEO) of Airtel Africa said.

In Africa, senders can route any money transfer received from across the world into their wallets.

# Airtel Tanzania gains subscribers, expands coverage

Airtel Tanzania, a unit of India's Bharti Airtel, plans to more than double the number of its 4G network sites following the recent issuing of a permit, according to local reports.

It will pay more than US\$12m in June this year to the Tanzanian government for a high-speed internet (4G) licence, the company said. Airtel Tanzania has also been authorised by the Tanzania Communications Regulatory Authority to use 10MHz in the 700MHz band for eight months.

The firm has also been allocated additional frequency spectrum – 2×10MHz of spectrum in the 1800MHz band – at an annual fee of \$600,000. This latest award brings Airtel's total allocation to 2×22.5MHz in the 1800MHz band.

Airtel rolled out its 4G network in the country last November under an eight-month provisional licence subject to completion of the payment, after which it plans to expand to 25 other towns.

These growth plans follow good news for the company, which overtook Tigo Tanzania as the second largest telecoms operator in terms of voice subscriptions in the third quarter of 2019. At that time, it had 11.9 million voice subscribers compared to Tigo Tanzania's 11.6 million. Vodacom remains in first place with 14.8 million subscribers, with Halotel Tanzania, Zantel, TTCL and Smile further behind.

# MTN Zambia launches new 3G and 4G Android smartphones

MTN Zambia has introduced a new 3G and 4G Android smartphone, dubbed 'Dandy' and 'Rio'.

The operator, which has priced the devices at K599 and K299 respectively, issued a statement which says the smartphones were aimed at "bridging the digital divide and deepen digital inclusion."

"The Dandy and Rio smartphones we are introducing today will provide our customers an easy and convenient way to use Facebook, Instagram, WhatsApp, stream YouTube videos, send emails and access to all applications available on the android Play Store," said MTN Zambia chief executive officer Bart Hofker.

He said the devices will add value to the business environment and "improve the quality of life for all Zambians".

Hofker added: Apart from providing our customers with a superior customer experience at an amazingly low price, the Dandy and Rio smartphones are tools that we are using to bridge the digital divide in our society by deepening digital inclusion.

Zambia Information and Communications Technology Authority (ZICTA) director general

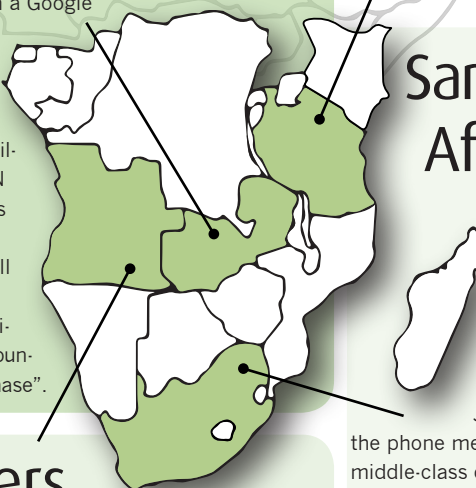
Patrick Mutimushi said: "The 2018 National ICT Survey revealed that although penetration and usage of digital products has increased, a large portion of the population are not taking full advantage of the benefits of digital products.

This is why as a regulator of the ICT sector in Zambia, we are pleased to see such strides being made by industry leaders like MTN Zambia."

The operator said the devices operate on a Android OS and can support all Android applications, and come with a Google

assistant pre-installed said MTN Zambia.

They are available in all MTN Service Centres and Connect stores and "will come with a 500MB complimentary data bundle upon purchase".



# Samsung targets Africa's middle classes

Samsung has unveiled the new Galaxy Note10 Lite, a device aimed at the continent's mid-tier sector.

Unveiled at a media event in

Johannesburg, the manufacturer said

the phone meets the requirements of the upper-middle-class customers following a backlash over the pricing of the Note 10 and Note 10 Plus.

"The Note 10 Lite is a top premium model in which all the facilities (including the all-new intelligent S Pen) was incorporated and at a premium level, we thought the retail price at that time was Ksh119,000 (about US\$1,190) for this device when we launched it in October last year," said Charles Kimari, the head of internet and mobile for Samsung east Africa. "But again, we received a lot of feedback from the market... can there be a Note that is affordable with premium features?"

Samsung said users can purchase the device at a rate that is 40-50% cheaper than other models in the same range.

# Angola Telecom customers face debts of Kz299m in Huambo

Angola Telecom customers in Huambo province have racked up debt amounting to Kz299m, including individuals and public and private institutions. According to regional director Adriano Jose Muteka Muholo, the operator is negotiating with customers in order to recover the amounts dating back to 2003. He added that most of the private companies that have contracted the debt no longer exist. However, the Ministry of Finance must consider they defaulted, as it is the body

responsible for declaring taxpayers bankrupt.

In October, the Angolan government appointed a new board of directors to lead Angola Telecom for privatisation, led by chair, Adilson dos Santos.

The business is expected to be privatised in 2021, under the terms of the Privatisation Programme. It was the first large public company to be included in the government's privatisation plans, which include transferring 45% of its share capital to private investors.

## Bharti Airtel unit Network i2i targets US\$250m PERPS

Bharti Airtel's Mauritius-based unit Network i2i will raise US\$250 million through 25-year subordinated perpetual security bonds (PERPS), the company said. The securities, which have been priced on a par at a coupon and yield of 5.650%, will form a single series.

In addition, the proposed PERPS will be used to refinance debt, invest in subsidiaries and for general corporate purposes. Bharti Airtel will stand guarantee to the debt offering.

Furthermore, the parent company has guar-

anteed 150% of principal initially and 115% of principal, interest payable during the reset period and any outstanding arrears of interest within 15 business days of each reset date. The tenure of the bond is extendable by another 25 years.

Indian giant Airtel is one of the largest mobile operators in the world in terms of subscriber base and has a commercial presence in 18 countries and the Channel Islands. It is the third largest operator in its native India and the second largest in the world with over 410 million subscribers.

## Operator MTC completes phase one of modernisation project

Namibian mobile operator MTC announced on the completion of phase one of its network modernisation project called 081Every1 and the launch of phase two.

Launched in August 2017, the multi-million dollar project, the implementation of which has been entrusted to 17 local companies, aims to improve Namibians' access to quality telecom services. It plans to build a total of 524 telecom sites across the country to bring 3G in rural areas and 4G in urban areas.

Tim Ekandjo, director of institutional affairs and spokesperson for MTC, said a total of 132 sites have been deployed, beyond the original target of 111 sites.

"Of the 132 sites, 122 are in service and transporting traffic, 10 others are already fully built and just waiting to be supplied with electricity, and three sites operate on MTC generators," Ekandjo said. "We are satisfied with the progress we have made so far and are confident that all sites will be

commissioned by the end of March 2020."

The second phase concerns the construction of a total of 102 sites by the end of September this year. Of the 102 sites involved, 87 will be built in rural areas while 15 will be in urban areas.

Referring to the acts of vandalism toward TCM equipment, in particular the theft of batteries, Ekandjo called on the people to take more responsibility by denouncing those who carried out the illegal acts.

He also underlined

that the accomplice silence harms the investments of the telecoms company and also their own access to the telecoms.

## IHS tower debt impacts outlook for MTN asset sales

MTN said its plan to reduce borrowings through asset sales may be negatively impacted by debt at its IHS telecoms tower business.

The South African firm said in late January that it is seeking to raise US\$4bn by selling assets including stakes in IHS and in its Nigerian unit. MTN has already raised about US\$950m by selling non-strategic businesses since March 2019. The towers business is by far the largest asset that MTN is trying to sell, says Mark Ansley, a fund manager at Argon Asset Management in Cape Town. As of last June, MTN valued its 29% stake in IHS at US\$1.6bn.

IHS in 2018 scrapped plans for an IPO in the

US, citing uncertainty over elections in its main market of Nigeria. However, the uncertainty of elections existed when the decision to try for an IPO was made. Reports have suggested that the company, whose investors include Goldman Sachs and France's Wendel, may try to revive its IPO plan in 2020.

Reports have also suggested that most investors believe that the towers business is a valuable one.

Formerly M-Cell, MTN Group, the eighth largest mobile network operator in the world, operates in over 20 countries with one-third of company revenue coming from Nigeria, where it holds about 35% market share.

## Telecel Zimbabwe staff 'down tools' in network protest

Staff at Zimbabwe's mobile network operator Telecel Zimbabwe 'downed tools' early February in protest over network inefficiency and poor resourcing within the beleaguered mobile telecommunications service provider.

David Mhambare, secretary-general at the Communications and Allied Workers Union of Zimbabwe, said the strike was triggered by a massive shortage of raw materials. He also said workers at the country's third largest operator are the lowest paid within the telecom sector.

"We're only demanding (for) resources to do our work every day," Mhambare said. "The company's key software has not been updated since January this year and no receipts have been issued."

He also said most transactions are being carried out on a manual basis, while technicians do not have any fuel to carry out their business.

According to Mhambare, Telecel only provides 15% network coverage in certain areas, including Masvingo, Beitbridge, Chinhoyi and Nkayi.

"Most Telecel offices are not even relying on their own networks to conduct business as they have to use other service providers like Econet and NetOne," he added.

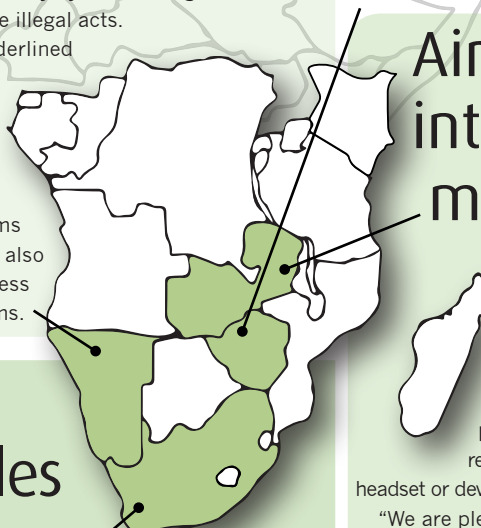
## Airtel Zambia introduces mobile TV app

Airtel Zambia has launched Airtel TV, which offers 30 digital channels to its subscribers.

The new app will be accessible at no extra charge to existing pre-paid and post-paid customers with a registered SIM card and a data-enabled headset or device, the company said in a statement.

"We are pleased to bring to you a one-stop platform which brings to you over 30 live channels and over 800 videos-on-demand with the number expected to increase in the course of the year as we add more entertainment channels to cater for all our customers' preferences," said Airtel marketing director Hussam Baday.

Airtel's head of corporate communications Yuyo Kambikambi said, "the launch of Airtel TV rides on the back of the launch of our 4G network. We were the first operator to have a 100% 4G network in Zambia. So our customers with 4G capable devices as well as SIM cards will not only experience seamless streaming service on Airtel TV but also overall internet usage."



# Mozambique's TmCel needs US\$200m for 2020 expansion plan

Mozambique's public telecom company Tmcel, the firm that was created from the merger of Telecomunicações de Moçambique (TdM) and Mozambique Cellular (Mcel), said it needs US\$200m to invest in several transformative projects in 2020.

This was announced by Ana Coanai, president of the state asset management institute IGEPE, in an interview with daily newspaper Notícias.

Although Coanai did not give details of the projects that the company intends to develop, she did confirm that the funding would be available via bank credits.

Last year, the operational activity of the company that embarked on 4G, focused on network improvement, mainly in areas that experience little or no coverage in the southern African nation.

According to the Mozambican government, the

country's coverage rate for telecom services is close to 85%, comparing favourably to nearly 65% in 2014. The fixed market segment is monopolised by TmCel, but the mobile segment is a battle ground between Vodacom, Movitel, and TmCel.

In 2019, the company's operational activity focused on improving the network, mainly in the southern region of the country.

The Mozambican State has in its portfolio, through IGEPE, 12 public enterprises, of which only ports and railway company CFM and oil and gas company ENH appear to be profitable. IGEPE is also involved in the management of 43 companies, and in 20 of them the State has a controlling stake.

Mozambique became the first African country to offer broadband wireless services using WiMax (Worldwide Interoperability for Microwave Access).

# Excaf Telecom gets fine reduced

The Court of Appeal in Senegal has reduced the sum that Excaf Telecom was ordered to pay Côte Ouest Audiovisuel, a distributor of audiovisual rights in Africa, for having used the latter's images without consent.

Instead of the FCFA600m that Excaf had to pay after the first decision, the company must now fork out FCFA20m in damages.

This decision was taken after Excaf presented mitigating circumstances that weighed in its favour.

In November 2019, the Dakar Court of Appeal reversed the decision requiring Excaf to pay FCFA650m to broadcasters Canal + and Sport TV Portugal. In the end, these two channels were ordered to pay FCFA10m to Excaf for an "abusive and vexatious procedure".

# Angola's Isabel dos Santos sees Unitel stake frozen

An Angolan court has placed a freeze on assets held by Isabel dos Santos, Africa's richest woman, including stake in wireless operator Unitel SA.

The court order said the asset freezes applied to Isabel dos Santos, her husband, Sindika Dokolo, and Mario Filipe Moreira Leite da Silva, chairman of Banco Fomento Angola (BFA). Angola's attorney general sought the order, saying the three had engaged in transactions with state-owned companies that led to Angola's government incurring losses of \$1.14bn, according to the reports.

A 25% stake owner of Unitel through her company Vidatel, dos Santos said in an emailed statement that the judgement contains statements that are completely untrue and that she will use all available instruments of Angolan and international law to fight the order.

Dos Santos, the daughter of Jose Eduardo dos Santos who served as Angola's president from 1979 to 2017, wrote on Twitter a "message of tranquillity and confidence to my teams," without referring directly to the court action. "The road is long, the truth will prevail," she said.

In October 2019, dos Santos said she did nothing wrong when she was chairwoman of state-owned oil company Sonangol and called a probe into the transfer of millions of dollars from the Luanda-based firm "political vengeance."

Meanwhile, Sonangol has become a majority shareholder in Unitel, a move that could threaten dos Santos' position as head of the telecom firm. Sonangol, which previously held 25% of Unitel, said it had acquired another 25% from Portuguese telecoms company PT Ventures in late January.

# Botswana telecoms to hit US\$519m

Botswana's telecom services will grow from US\$407 million in 2018 to US\$519 million by 2023 at a compound annual global rate (CAGR) of 5% over the period, due to growth in mobile data and fixed broadband segments. That's according to the latest report by data and analytics

company GlobalData, which said that mobile data was the largest revenue-contributing segment in 2018 and was expected to expand at a CAGR of 12.3% from 2018-2023, supported by the expansion of mobile broadband networks and wider adoption of 4G services across the country.

# Internet costs harming progress

The number of internet users in Zambia increased by 595,000 (16%) between January 2019 and January 2020, while the number of mobile connections increased by 861,000 in the same period, according to the Digital 2020 Global Overview, published by We Are Social and Hootsuite.

Zambia Information and Communications Technology Authority (ZICTA) statistics shows that the number of mobile internet users stands at 9,140,666, representing 52.59% penetration rate.

In addition, mobile subscription is pegged at 17,220,607, out of a population of 17.9 million, representing a 99.08% penetration rate.

Commenting on the report, Zambia's minister of Communications and Transport Mutotwe Kafwaya said the number of internet remains very low when compared to the number of phone subscriptions, while the cost to access the internet was still high and beyond the reach of many Zambians.

"What the government has done is to come up with a new policy framework that provides a conducive environment for more players to invest in Zambia, so that there is competition to drive down the cost of both voice and data services so that many people can have access to the internet as well," said Kafwaya.

As of January this year, a mere 400 million

Africans are connected to the internet, according to figures supplied by the Digital 2020 Global Overview.

The report further claims that 870 million people still do not have access to the internet and that this highlights the continent's dominant age demographic, as over half the population is below the age of 20.

While the research does not outline the reason or reasons why this factor contributes to Africa's low internet, another called report Youth, Deprivation and the Internet in Africa, referenced a number of factors impacting the internet. Among those are high unemployment levels and affordability.

Although access to the internet is still patchy across the African continent as a whole, the last decade has seen great strides in improving telecommunications in the region.

Nigeria in particular is one of Africa's largest telecom markets and it benefits from being the second largest economy on the continent behind South Africa.

Today, over 100 million Nigerians (almost half the population) are now connected to the internet, with 250,000 new subscribers logging on in the last quarter of 2019, according to data from the Nigerian Communications Commission (NCC).



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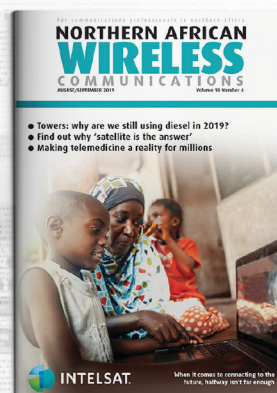
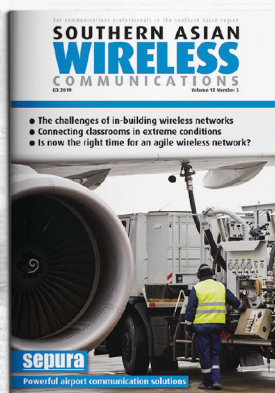
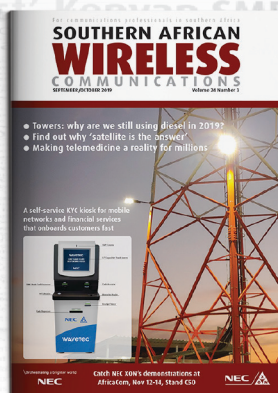
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## Kenwood's NX-1000 'all-rounder'

Kenwood says its new NX-1000 series of professional two-way radios – for everyday use – is “packing” the latest digital protocol, NXDN or DMR. This One-“K”-Fits-All solution, the firm claims, is “certain to enhance business efficiency by providing the best match for individual radio requirements”.

One added advantage, Kenwood says, is mixed-mode operation to ensure seamless integration with legacy radios and existing systems while smoothing the onward migration path to digital.

Kenwood radios can be found in many of today's racing cars and the company says that while drawing on these strengths, the NX-1000 series has been conceived as a single, affordable platform that offers the latest digital protocols plus the ability to satisfy the widest range of user requirements. Customers can pick either the NXDN or DMR digital CAI; FM analogue only models are also available.

There's the choice of basic and standard keypad models are available, with the option of a high-contrast backlit LCD for more intuitive operation. RF output is 5W (VHF & UHF). Kenwood reckons operating ease is further enhanced with a 7-color LED indicator that provides useful information at a glance, such as battery level and 'selective call' alert. [www.kenwoodsa.com](http://www.kenwoodsa.com)



## Ampleon releases new 12V LDMOS power amplifiers

A new line of 12V laterally diffused metal oxide semiconductor (LDMOS) transistors from Ampleon is aimed at commercial, public safety and defence mobile radio applications.

The 12V LDMOS portfolio will cover ceramic and plastic packages with a minimum longevity commitment of 15 years and the first two products on the market are the BLP9LA25S and the BLP5LA55S. Both devices are designed for 12V nominal mobile operation over the entire VHF and

UHF frequency bands from 2 to 941 MHz and deliver 25W and 55W respectively. Ampleon claims they combine ease-of-use and extreme ruggedness without sacrificing performance as they enable over 18 dB gain and over 65% efficiency over the full operating frequency range.

This results in fewer stages, improved stability, simplified cooling and thus smaller systems. Ampleon reckons the linearity makes the solutions ideal for TETRA

applications, while their ability to handle extreme mismatch levels over 65:1 voltage standing wave ratio (VSWR) enables highly robust handheld radios that withstand harshest environments possible. In addition, these broadband 12V devices are housed in compact over-molded plastic (OMP) TO270 packages, ensuring smallest footprint and minimising system costs. [www.ampleon.com](http://www.ampleon.com)



## EXFO introduces 'industry first' integrated test solution for DWDM networks

EXFO claims its Optical Wave Expert is the first device to integrate DWDM channel power validation and intelligent OTDR fault-locating capabilities on a single port. Designed to save multiple service operators (MSOs) time and money, the Optical Wave Expert equips field technicians to automatically measure, diagnose and troubleshoot optical fibre links.

“We're delighted to bring an innovation to market that reduces 'time-to-cash KPIs', streamlines operations and empowers cable operators' field operations to get it done right the first time,” says Stéphane Chabot, EXFO's vice president of test and measurement. Even field technicians with no DWDM network



experience become instant experts in diagnostics and troubleshooting. The Optical Wave Expert, which is easy-to-use, compact and portable, fills an existing gap in the market by eliminating the need for multiple instruments and seamlessly isolating problems for quick resolution.”

The integration of channel

checker and OTDR capabilities on a single port means less unnecessary manipulation of the optical fibre and improved field efficiency. Instead of the 'trial and error' process that previously relied on separate, less proficient devices which increased the chance of disabling nodes, EXFO's Optical Wave Expert ensures faster meantime-to-repair and accelerates service turn-up and time to revenue.

EXFO says technicians can now perform real-time channel power readings through an intuitive GUI environment and benefit from tuneable OTDR capabilities. What's more, bar graph and table views are available on a wide touchscreen display for instant visibility. [www.exfo.com](http://www.exfo.com)

## Siklu unveils EtherHaul 2-foot dual-band antenna

Siklu, a specialist in fixed 5G millimetre wave technology for gigabit wireless access, smart city and security networks has released its new EtherHaul 2-foot (61 cm) dual-band antenna (EH-ANT-2ft-DL5). The company says it's designed to work seamlessly with Siklu's ExtendMM feature on the EtherHaul 8010FX, 2500FX and other Siklu E-Band models.

ExtendMM is a Siklu product suite consisting of the new du-

al-band antenna, software for monitoring and provisioning, a built-in switch in the EtherHaul radios, plus purpose-built accessories. They are all integrated with Siklu SmartHaul Apps – such as LBC for link planning and WiNDE for network design.

The Israeli firm says this system of hardware and software easily and seamlessly combines a high-capacity EtherHaul link with an inexpensive, unlicensed, low capacity and lower frequency link, such as 5, 11, 18

or 23GHz. The net result, Siklu claims, is that “customers can have confidence in engineering and extending their EtherHaul links to distances never considered before”.

When the new dual-band antenna is combined with ExtendMM, installation is simplified, as there is now a single cable run to the rooftop or tower, as opposed to two cables for two antennas. Siklu claims this approach is said to save both time and labour costs during installation, as well as

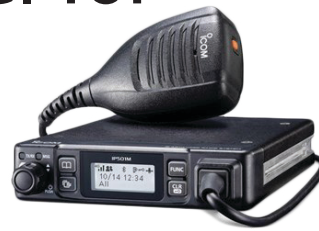
recurring payments for hosting fees.

“As the leader in fixed 5G mmWave systems, our customers look to us for innovative solutions, and extending the range covered with our E-Band systems is a request we have heard many times,” says Ronen Ben-Hamou, Siklu's CEO. “Siklu continues to deliver the broadest portfolio of mmWave hardware and software solutions in the market with new and exciting 5th generation EtherHaul products on the horizon.” [www.siklu.com](http://www.siklu.com)

# Icom introduces LTE/POC mobile radio terminal for commercial vehicles

Icom's new IP501M, an LTE/PTT over Cellular (PoC) mobile radio, completes its range of LTE radio products. The company says that as the IP501M uses public mobile networks, it offers users nationwide coverage. The IP501M has the same Man Machine Interface (MMI), operating menu and key layout as Icom's IP501H/IP503H hand portables. It also supports full duplex operation,

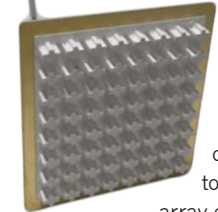
allowing users to talk and receive at the same time during individual calls and group calls. As the device uses public mobile networks, it doesn't require a radio licence. What's more, with the optional HM-230HB command microphone connected, users have a display and 10-keypad control handheld-like interface. Furthermore, the IP501M can also be connected via Bluetooth to wireless headsets for



hands-free operation.

"Our LTE radio system is perfect for any transport company providing [an] incredibly simple, secure full duplex solution at a reasonable cost with nationwide coverage," says Ian Lockyer, marketing manager at Icom UK. [www.icomuk.co.uk](http://www.icomuk.co.uk)

## Antenna Company claims industry first



Antenna Company claims it has developed the industry's first 5G dielectric resonator phased antenna array designed specifically for 5G mm-wave applications.

The 64-antenna Dielectric Resonator Antenna (DRA) combines patented SuperShape and DRA technology to achieve wide-band operation over the 24-30 GHz frequency bands.

Antenna Company says the mm-wave DRA array demonstrates reduced scanning losses, lower sidelobe levels and greater maximum scan angle compared to a conventional patch array using the same configuration and inter-element separation.

What's more the firm says the improvements in scanning performance enable better coverage over the usable frequency band.

The design, so the company says, achieves over 40 dBm of peak

EIRP, which is suitable for use in customer-premise-equipment (CPE) products. The design is scalable to support 37-40 GHz frequency bands for global band support across the mm-wave spectrum.

The production version of the design, featuring 64 dual-polarization antenna elements, 5G NR radio transceiver, RF front-end, and support for beam-steering and beam-forming is planned to be released in 2H-2020. [www.antennacompany.com](http://www.antennacompany.com)

## Zyxel provides multi-gig experience with new WiFi 6, 10G PON and managed WiFi products

Zyxel Communications expanded its WiFi 6 (11ax) portfolio with a brand-new managed WiFi platform, MPro Mesh and a 10G PON platform. The company said the products are designed to help service providers to unlock the full potential of their networks and deliver multi-gigabit connectivity to their customers.

Its expanded Wi-Fi 6 portfolio offers the choice of DSL, ethernet, active fibre, PON and extender models that can fit a variety of deployment scenarios.

Zyxel's MPro Mesh solution combines the abilities of its

managed Wi-Fi solution with the industry standard, EasyMesh to deliver corner-to-corner, "high-performance" Wi-Fi with even greater mesh hardware compatibility.

"As more devices are falling into the hands of end-users, bandwidth demands are in turn increasing at an exponential rate, meaning service providers' networks must keep pace with their customers' demands," said Allen Lin, vice president at Zyxel broadband EMEA business unit.

"Our newest range of solutions have specifically been designed with this in mind; from ultra-fast, whole-home



WiFi coverage to delivering gigabit connectivity to the home or enabling seamless connectivity on the move, we are ensuring service providers can deliver a multi-gigabit experience to their customers – wherever they are."

The products made their debuts at the Broadband World Forum 2019 in Amsterdam. [www.zyxel.com](http://www.zyxel.com)

### Look out for...

#### Quectel makes 5G data call over mmWave module

China's Quectel Wireless Solutions completed a data call over its 5G mmWave module, in full compliance with 3GPP Release 15 5G NR standards.

The call on September 25 was made over a Quectel RM510Q-GL 5G module based on Keysight's 5G testing device in a lab. It paves the way for the upcoming 5G mmWave field tests and commercial deployment of 5G internet of things (IoT) projects.

Tailored for IoT/eMBB (enhanced mobile broadband) applications, Quectel RM510Q-GL features the Snapdragon X55 5G modem and supports mmWave and sub-6 GHz frequencies in both 5G standalone (SA) and non-standalone (NSA) operations.

The M.2 module covers almost all the mainstream carriers worldwide. Designed backward compatible with LTE-A and 3G networks, RM510Q-GL integrates multi-constellation GNSS receiver, eSIM, as well as high-speed interfaces such as USB 3.1 and PCIe 3.0. This makes it suitable for globally-deployed mobile devices including Always Connected PCs (ACPC), industrial PDAs, mobile gateways amongst others.

Taipei-based AsusTek Computer is planning to use RM510Q-GL for its next-generation 5G mmWave laptops, according to Quectel. Leveraging its 5G modules and local technical support, Quectel says it will accelerate the time-to-market for AsusTek to enhance its competitiveness in the 5G era.

Quectel, which is headquartered in Shanghai, also showcased commercial 5G modules at the Qualcomm 5G Summit in Barcelona and Mobile World Congress Los Angeles in October.



**RM510Q-GL features the Snapdragon X55 5G modem and supports mmWave and sub-6 GHz frequencies in both 5G standalone (SA) and non-standalone (NSA) operations**

Whether it's V2V, V2X, C-ITS, tolling, parking, V2I or specialized vehicles, wireless coverage must reach seamlessly into hard-to-cover crossroads and expanses of motorway - C-ITS system designers need a complete palate of options to construct a network offering continuous, balanced coverage. Mobile Mark's antennas can help make that possible.



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# Third parties, towers and theft

Outsourcing to tower companies is a growing trend in developing nations. Robert Shepherd looks at the pros and cons associated with it

**T**he outsourcing of tower management by operators in Western countries to third party tower companies (towercos) became something of a trend in the last decade, or even before that.

Of course, every industry embraces outsourcing in one way or another. However, most companies do it because they are either unable to or just not good enough at carrying out the job themselves.

The telecom industry would appear to be slightly different to say car manufacturers, because operators are not looking to get their parts made more cheaply. They are asking a third party to do

exactly what they do – deliver connectivity.

However, the trend has not slowed down, but it continues to gather pace. No longer the preserve of a select group of wealthier nations, Africa has since

been inspired by the efforts of players in the US, Europe and Asia and followed suit.

So, if an operator is equipped and has the wherewithal to do it themselves, why do they bother outsourcing?

Samantha Naidoo, SAP industry value advisor

**Caroline Gabriel,**  
principal analyst, wireless  
Analysis Mason



**“There is greater predictability of cost, based on regular contract fees rather than unpredictable bills for maintaining your own towers”**

for services and telco industries for EMEA south says that historically African telecom companies have seen benefits outsourcing to tower companies. “For example, Aviat Networks in South Africa; Eaton Towers, Helios Towers and IHS Holding in Africa etc,” she says. “Globally, this trend has extended to some large telcos such as Bharti Airtel, Vodafone, France Telecom – Orange, Etisalat Nigeria etc.” Naidoo adds that telco tower outsourcing started around 2013 initially in Europe, then Africa before expanding globally.

“This was due to the intense competition amongst telco companies with an even stronger drive to reduce costs,” she continues. “Opportunities arose to convert capex to opex through infrastructure outsourcing and through shared towers amongst operators.”

French giant Orange is one of the largest operators in Africa and so who better to ask about the rationale behind it and the real benefit from a provider’s point of view?

“Most of the sites across the Orange footprint are operated by Orange and its subcontractor (e.g Ericsson) or by the partner operator in case of a shared site,” says Yves Bellego, director of network strategy at Orange. “There are various contracts and partnerships possible. Using a tower company is a way to facilitate the hosting of several operators on a single pylon. Keeping ownership of towers ensures more flexibility to evolve the site, as to introduce 5G for example.”

Orange is a bigger operator than most. If you look at the footprint the Paris-based firm has, you’ll see it operates in close to 20 countries across Europe, Africa and the Middle East. It’s fair to say, it’s in a better position than most when it comes to explaining the set up.

“We have various types of configurations, depending on countries,” adds Bellego. “As such, we operate our own radio sites in France for example, but in most of the other European countries, we outsource the operation of radio sites. In Africa, we also have cases where radio operation is done in-house and others where it is outsourced.”

Bellego is coy when asked who Orange shares its towers with other than saying the operator’s strategy is to share with its local competitors. “They have the same needs as us in terms of savings, and are also willing to deploy the network innovations,” he adds.

Caroline Gabriel, principal analyst, wireless at Analysis Mason, also points to the financial benefits. “There is greater predictability of cost, based on regular contract fees rather than unpredictable bills for maintaining your own towers,” she says. “There is lower upfront



**Outsourcing can also offer access to remote areas in Africa where skilled resources are scarce**

investment when opening up a new site or expanding a network into a rural or remote area where the ROI is uncertain as well as the ability to reduce staff and other operational costs.”

In addition, Gabriel highlights greater efficiencies through shared infrastructure, such as sharing a location with another operator rather than competing for it, as well as the fact it can reduce time to deploy a network by outsourcing legal work, site contract negotiation etc. to a company with scale and established processes in these areas.

In theory it sounds like a positive step to take, but surely there must be disadvantages?

“Loss of control e.g. of quality of maintenance of tower (there are SLAs but they can be hard to enforce in some regions),” says Gabriel. “You also lose the ability to keep a particularly good site exclusive. Also, where there is limited towerco competition, price negotiations may be tough for the MNO once it has surrendered its towers.”

Naidoo says outsourcing also offers access to remote areas in Africa where skilled resources are scarce. “[There is also] access to latest technology and innovation that promise on demand access to connectivity, guaranteed service level agreements and set service management processes all for a fixed managed services fee versus paying a fixed amount to setup a tower which can range from US\$200,000 per tower plus on-going operational costs,” she adds. “In addition, country permits, IFRS16 Real Estate and Lease Management policies, etc. can delay the process causing unnecessary costs. The risk would be that of

operator information security and adherence to compliance regulations such as GDPR, POPI, etc.”

Daryl Schoolar, practice leader next generation infrastructure at independent analyst and consultancy firm Ovum, is of the belief that not only can it help the operator’s overall costs as the expense for base stations site can be shared, but if the operator had previously owned its towers and then sold to a third-party, sales of that asset will only provide it with more capital to spend on network equipment or any other areas the operator deems fit.

“However, the downside is the operator loses control over site location and construction,” he warns. “Also, if the operator had an advantage over a competitor based on-site location, going to a shared tower arrangement means the operator could lose this advantage.”

With that in mind, are operators better off owning a tower and then sharing it with another company/rival? That way they know the tower company has to up its game as it’s providing for more than one operator.

“There is no one right answer for this,” he adds. “It is based on an operator-by-operator situation.”

Gabriel says that it depends on how far the operator wants to offload the cost and hassle of maintaining the tower. “If it believes ownership is still valuable for other reasons, sharing of course reduces its overall costs,” she says. “But in many ways it seems that sharing with a rival is the worst of both worlds – keeping the cost and responsibility but losing exclusive rights to a good location.”

Naidoo says some firms are saving up to 30% in operational expenses by outsourcing towers (which can be leased to multiple companies at once). “This includes a standard fee that can be charged to competitors for sharing space on the towers thereby subsidising part of the cost of maintenance,” she says. “That said, the onus would still lie with the operator to provide



**Samantha Naidoo,**  
SAP industry value advisor,  
services and telco industries,  
EMEA south

**“Globally, this trend has extended to some large telcos such as Bharti Airtel, Vodafone, France Telecom – Orange, Etisalat Nigeria etc.”**

the skillset, geographic reach and technology capability to support this versus outsourcing this to an external company.”

Bellego adds that the “commonality between all the countries we operate in” (it’s a group-wide strategy) is to share radio sites with its local competitors. “Globally, at a group level, we share more than 53% of our radio sites,” he continues. “Roughly, half is passive sharing (a common pylon hosting radio from Orange and from a competitor) and half is active sharing where we share not only the pylon but also the radio equipment.”

Still, it’s a major step moving from your own towers and base stations so one would imagine maintaining a high quality is paramount otherwise it defeats the object.

“Most operators in Africa have outsourced passive infra – towers, roofs etc – but not active base stations,” says Gabriel. “That is often prevented by regulators and even when it is allowed, it removes a great deal of control of network quality, timing of network upgrades and other key decisions from the MNO.”

Naidoo adds that over the years, the cost of maintaining these towers have forced operators to pursue other cost efficiency initiatives. “In terms of economics and quality, the SLAs guaranteed by these outsourced companies allow the operators to focus on their core capability of delivering premium connectivity to customers without compromising on cost and quality,” she adds and says that 2019 has seen increased pressure from regulators for improved quality with penalties to operators for poor customer service. “The benefits of consolidating tower companies promises an opex reduction as well as extended access to remote areas where connectivity is already an issue,” she adds. “This in turn will make competition from other telco entrants difficult.”

Clearly the trend is growing because it tends to be working. However, what are the chances of it reversing and tower management coming back in house?

“The question is more around efficiencies created,” says Naidoo. “Whether it’s outsourced or in-house, how do you guarantee the quality of service provided for your end customer?”

The latest trend with base station monitoring by drones as well as predictive maintenance through solutions such as SAP Asset Intelligence Networks require an additional upfront and ongoing investment in these Intelligent technologies,” she adds. “Are telcos able to invest in developing the right skillset and tools necessary to sustain the on demand economy?”

Bellego adds that the need to benefit from economies of scale, to be cost effective while mastering quality of service and deployment of new services (such as mobile IoT and 5G) will remain the same. “Whether it is in-house or not, having a greater amount of managed networks will matter even more than today,” he says.

Schoolar says: “I see no sign of this trend reversing” while Gabriel believes there will be more outsourcing of towers especially as African operators expand their 4G coverage and capacity. “It is especially valuable to have a towerco which

**Daryl Schoolar,**  
practice leader,  
next generation  
infrastructure,  
Ovum



**“If there are fewer third-party tower companies there might be less innovation in how and where to deploy sites as there is less competition to drive innovation”**

supports power systems in areas of unreliable or absent grid power,” he adds. “More generally, operators are increasingly differentiating more on their core network (scalability, range of services supported) and the quality of their RAN signal more than their passive sites. So, outsourcing makes sense at a time when margins are falling – more data to deliver, falling ARPUs etc. Those trends will only intensify in Africa and elsewhere. Markets which are opening up to more competition, like Ethiopia, are often starting to consider licensing towercos as part of that process as it may improve the business case for new entrant MNOs, if they don’t have to invest in sites or rent from competitors.”

Gabriel says she expects there to be “more active RAN sharing too”, where regulators will allow it, to reduce costs and to help meet government targets e.g. for coverage of rural areas which are not highly profitable.

We’ve heard the pros and the cons from an operator and analysts (sadly no towerco was willing to comment), but if this is a growing trend and competition amongst towercos increases, what will happen if consolidation occurs?

“Having limited usage of towerco services, we have no view on this question,” says Bellego.

However, Schoolar says it can lead to eventually higher site rentals and possibly fewer site solutions. “By this, I mean, if there are fewer third-party tower companies there might be less innovation in how and where to deploy sites as there is less competition to drive innovation,” he adds.

Gabriel says it benefits operators “when they can just deal with one towerco” to cover many sites across a whole country or several countries. “However, it weakens their negotiating position (although MNOs are consolidating too),” she continues. “Many MNOs are looking to work with one large towerco but also add other smaller providers to the mix – e.g. cities and governments who own sites – so that they are not over-reliant on one partner.”

So, weighing up the pros, cons and of course, the costs, is it worth it? Schoolar certainly thinks it is: “As these arrangements appear to be increasing, not decreasing, the general answer appears to be yes.” ■

## ***The problems caused by theft***

***Theft of power sources is a major problem in Africa. Here is what some have said on the subject:***

“The problem with both solar and wind power is how to store the energy. Batteries are still expensive and subject to theft the same way as diesel. As long as the cost of batteries remains high, they will be the target of theft.

A hybrid solution helps with power issues when there is no sun or wind, but it doesn’t solve the theft problem. And, the operator needs to have fuel cost savings of the hybrid system outweigh cost of diesel, generator, and solar equipment costs.”

***Daryl Schoolar, practice leader at Ovum***

“That too is part of mobile operators’ opex, including fences with barbed wires, human guards and patrols.”

***Stéphane Téral, director, IHS Markit***

“I don’t know if theft of diesel generators is increasing because it has always been there. There is enhanced security now with CCTV, which of course is an investment. As business models evolve they have to continue to address this issue.”

***Alessandro Ravagnolo, principal, Analysys Mason***

“HIMOINSA generators are fitted with anti-theft devices. We also offer remote monitoring that can disable a unit automatically if the unit is moved beyond specific parameters.”

***HIMOINSA***

“This is one of the biggest headache of the telecom players and many solutions to prevent and avoid fuel and battery theft are being tested now and some already approved and deployed on site. The interest towards the use of Lithium batteries @48V is also fed by this issue, as the thieves cannot use them to power their 12V home appliances.”

***Giuseppe Taranto, telecom business leader, Ausonia***

“Fuel, battery and asset theft is a huge problem in Africa. By blending fuels, eliminating batteries (or severely reducing the need for batteries on site) helps reduce the theft risk. Furthermore, our microturbine genset does not have any reusable parts that can be put into a regular diesel generator too.”

***Stuart Kelly VP market development Bladon Micro Turbine***



# Helping hospitals bring quality care to their patients

Netcare's new connectivity network enables the delivery of next-generation services to hospitals across Kenya

**W**hen Netcare embarked on its journey to develop the next generation of hospitals, Internet Solutions was approached as the group's partner of choice to help make this vision a reality.

Its security solution to Netcare connected its private connectivity network to the public Wi-Fi network, enabling Netcare to offer wireless services to its employees across the country, and to connect wirelessly enabled equipment in the hospitals.

As one of the leading players in the South African healthcare industry, Netcare operates an extensive network of private and semi-private

hospitals across the country. Quality care and professional excellence are two of its core values, which is why the company had been making large investments in providing next-generation services – including investments in technology.

## Secure wireless infrastructure needed to support the next-generation vision

To help realise its vision for advanced healthcare services powered by innovative technology solutions, Netcare needed a

wireless infrastructure that could be owned and controlled centrally, which at the time meant securely connecting two separate networks in each hospital – the hospital's local area network (LAN) and the Wi-Fi hotspot.

The infrastructure also needed to have high levels of security to protect extremely sensitive personal information, and it had to be easy for administrators and medical professionals to use.

Without a budget for this particular technology project, Netcare had to look at ways to use its existing infrastructure and investments in order to meet business demands.

### New architecture uses existing infrastructure to deliver extensive connectivity

By using some of Netcare's existing infrastructure, Internet Solutions developed a firewall and Wi-Fi hotspot architecture that could deliver connectivity to all Netcare employees who were authorised to access the service.

A Fortinet firewall was installed at each hospital location to securely link the two networks, so employees could log in from anywhere using a single sign-on, whether they were at their desks or on the move in the building.

Internet Solutions proposed a fully managed service, providing full support for all firewalls, which would be managed centrally.

### A better experience for staff, patients and visitors

By being able to connect to applications from anywhere in the hospital, Netcare staff are able to deliver a more efficient service to their patients. In addition, visitors to the hospital now have access to public AlwaysOn Wi-Fi services, all as part of the same solution.

### Architecture that supports further technology investments

Netcare is also in the perfect position to continue investing in next-generation solutions that will improve the quality of care it can offer patients. The Internet Solutions architecture enables Netcare to take advantage of innovative cloud technologies without requiring additional fibre infrastructure.

### Netcare's new connectivity network enables the delivery of next-generation services to hospitals across the country

Better information sharing is a key way to improve productivity and efficiencies and Wi-Fi can be used to stream data from connected medical equipment direct to mobile devices or to work stations. This enables healthcare workers to access real-time patient information from any location, removing the need for physical patient files and improving the accuracy and level of information available about a patient's wellbeing.

Using Wi-Fi to push and receive data from at home technology or on-site critical machines, ultimately enables healthcare organisations to improve

**"Simplicity, reliability and next-generation. These are the things the solution has enabled for us." – Netcare**



**Better information sharing is a key way to improve productivity and efficiencies and Wi-Fi can be used to stream data from connected medical equipment direct to mobile devices or to work stations**

the information sharing between man and machine – streamlining hospital processes and alleviating staff workloads, while improving patient care.

By connecting equipment over Wi-Fi, its location can also be monitored while asset tags on non-connected equipment, such as wheelchairs and beds, can extend this

capability even further. Leveraging Wi-Fi to track expensive assets helps healthcare organisations to reduce equipment losses and their associated costs, plus ensure that the correct equipment is in the correct location.

"Simplicity, reliability and next-generation. These are the things the solution has enabled for us." ■

### Making remote healthcare a reality

Medical equipment and indeed patient services continue to evolve and we are becoming better connected in the in the process. Key to this is the implementation of a flexible networking solution which can handle the expanding connected applications within healthcare.

These advances are important in every county in the world, but none more than the that need it most.

Indeed, Wi-Fi in healthcare has become a "must have", with the Wi-Fi Alliance predicting in 2016 that the market for Wi-Fi healthcare services grew to US\$1.34bn. The availability of the 802.11ac Wi-Fi standard has driven much of this growth, as it provided the reliability and bandwidth required to connect critical healthcare applications across hospitals, care homes, doctor surgeries and mobile clinics.

In Lamu County, a remote area of east Kenya stretching across mainland and over 65 islands, residents face extremely limited access to healthcare.

That's not helped by the fact many medical professionals prefer to ply their trade in major cities such as Nairobi or Mombasa. It means there is a lack of specialists with just two doctors to every 10,000 patients.

At Lamu County Hospital many staff haven't even received basic life-support training and

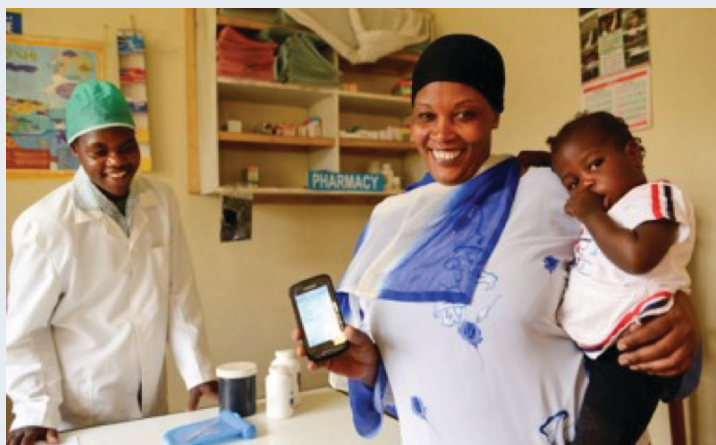
are unable to give their patients the level of care they want to provide.

This is forcing residents to travel great distances to reach medical facilities with 86% of patients spending more on transport than on healthcare.

However, there has been a key technological development in recent times. Now, Lamu's residents will have access to care-at-a-distance through the telemedicine project initiated by Huawei, Safaricom and local partners, which allows local healthcare workers and patients to remotely consult with specialists in towns and cities. For Lamu residents such as Zainab who had to travel long distances at enormous cost just to receive a diagnosis and ongoing treatment for her hypertension, this new remote consultation is life-changing.

Given the scarcity of licensed doctors and specialists in Lamu, telemedicine will transform medical care for low-income families in the region who incur vast travel expenses to reach professional care. In fact, telemedicine is set to reduce travel time by up to 12 hours and travel costs by US\$20 per patient; and 50% more patients will attend referrals each year, leading to significantly better patient outcomes.

Most importantly, Lamu patients now have access to earlier, cheaper and better diagnosis and treatment as well as better follow-up care through remote specialized consultations, medical education, and monitoring. ■



**Now, Lamu's residents will have access to care-at-a-distance through the telemedicine project initiated by Huawei, Safaricom and local partners, which allows local healthcare workers and patients to remotely consult with specialists in towns and cities**

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**MDXI and Asteroid launch carrier-neutral IX in West Africa**

08 January 2019

Nigeria-based data centre and fibre operator MDXI has partnered with Asteroid to launch a carrier-neutral Internet exchange point (IXP) for West Africa.

**Kenyan regulator reports positive outlook for ICT**

Increased by 8.5 per cent to KES252.3bn (USD2.47bn) in the twelve months to June 2018, according to the country's Communications Authority (CA).

In its ICT sector statistics, mobile is still the dominant revenue source.

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# Hands off! CSPs must automate to realise revenues in 2020

Stephen Krajewski, VP, marketing, Sigma Systems

Statista predicts that more than 30 billion connected things will be in use worldwide by 2025. Communications service providers (CSPs) need to be ready to provide a full range of services that support customers' growing demand for connectivity in order to capitalize on this multibillion-dollar market. However, Sigma Systems' recent Create-Sell-Deliver Outlook survey found there is still work to be done.

Sigma Systems questioned 150 fixed, mobile, satellite and cable/TV operators around the world, across both the enterprise and consumer segments. It gauged sentiment among senior executives and decision-makers on key themes including the creation of new products and services, business models and monetizing new innovations, revealing significant trends for CSPs in Asia and globally.

## The automation imperative for sales

Increasing automation in sales can deliver real results for CSPs – but it comes with challenges. CSPs have legacy infrastructure which supports their existing products and services, but which is often inflexible and makes automation a difficult proposition.

Our survey respondents believed that increasing accuracy and automation in the configure, price and quote (CPQ) process would directly increase annual sales. For those in Asia, it was estimated that increased automation would improve sales by 3%. To put that into financial terms, it equates to a combined USD7.8bn revenue boost for tier-1 and tier-2 operators in the region. At a global level, respondents also predicted an average impact on revenue of three percent, which equates to just over USD 18 billion for tier-1 and tier-2 operators worldwide.

As 5G becomes a reality, CSPs are experiencing a significant change: products are becoming increasingly complex across both consumer and enterprise markets. On a global basis, Sigma found that 62% of CSPs believe this is having a major impact on their CPQ capabilities. Increased automation is not just a way to address this challenge; it will be essential for service providers to respond to sales opportunities quickly and efficiently. To put it bluntly, there is a real likelihood of missed revenue in the absence of automation.

There are also high expectations for Artificial Intelligence (AI) as a sales tool, with 76% of global respondents believing that AI can be applied to

improve the sales process and conversion rates. Automating processes with increasing levels of AI and machine learning can enable a highly responsive and effective experience for customers. This expectation of AI-enabled benefits goes hand-in-hand with automation, in that both are underpinned by digitalized processes and the availability of accurate data.

The downside here is that 74% of enterprise-focused respondents noted a reliance on manual activities and/or paper-based processes in sales, while 65% called out reliance on non-digital channels. This creates a real roadblock for automation and the adoption of AI, and is something that must be addressed as product complexity increases.

## Reducing manual intervention in fulfillment

With automation and AI seen as playing a major role in transforming the sales process, there is also a belief that automation is key to improving efficiency and cutting costs in the fulfillment process now. The dominant trend is that automation can improve the bottom line, with 83% of respondents across Asian CSPs agreeing that automating service fulfillment directly increases business profitability. Despite this recognition of the benefits, Sigma Systems' survey found that, globally, a staggering 75% of fulfillment tasks that could be automated today are not.

For all the talk of new products and services enabled by 5G, the Internet of Things (IoT) and virtualised networks, the idea that CSPs still rely on manual intervention in fulfillment seems out of place. Not so. The survey highlighted that manual intervention was a growing trend. More than two-thirds of the respondents fulfilling orders for business customers and consumers reported that manual intervention had increased slightly or significantly over the last two years.

On average, 15% of a fulfillment team's time is devoted to fixing order errors.

Manual intervention leads to slow, missed or inaccurate orders – and these factors have a real impact on the business. In the future, it could be expected that manual intervention will decline, but the consensus is that 14% of fulfillment tasks will always be manual. Almost half of respondents from Asian markets said they suffer too many order fulfillment is-

sues requiring manual intervention on a daily basis.

There are a number of factors impeding the adoption of automation, including system capabilities, the rate of change of new product offerings, lack of time and lack of understanding. As products become more complex and CSPs look to capitalize on new businesses opportunities, these factors will only get worse. Manual processes aren't scalable or efficient enough for today's communications marketplace.

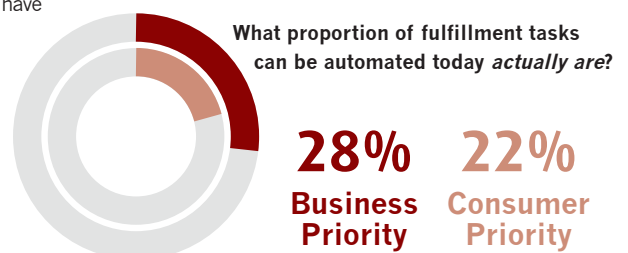
So, the good news is this: there are automation opportunities everywhere. As for the bad? Digital natives and OTT players have started out with automated systems, leapfrogging legacy technology – meaning that CSPs are now playing catch-up. As time goes on, things will not become simpler or easier for those who wait.

## Conclusion

As we move into 2020, digitalisation and the emergence of game-changing technologies such as IoT, 5G and AI are creating new opportunities. In order to capitalize on this, CSPs must be able to respond with greater agility. New services need to be brought to market faster, additions to existing services made more quickly, and there must be dramatic reduction in errors and delays during the sales-and-delivery processes. Realistically, the only way to make this happen is through automation.

Respondents for the second edition of the Create-Sell-Deliver Outlook clearly see the benefits of automation in improving their sales and fulfillment efficiency, with the potential to increase both revenue and profitability. But automation levels remain limited and manual intervention is on the increase. Without the right enabling platforms, there is a danger that CSPs could miss out on many new opportunities due to their inability to offer compelling services quickly and profitably.

The message is clear: CSPs worldwide must act now, as there will be significant advantages for those who do – and significant disadvantages for those who do not. ■





# The race to 5G

Africa has an exciting, burgeoning telecoms industry, undergoing rapid growth and with huge potential for scale. But as the western world takes the 5G lead, where does Africa stand in the race to deploy the next G? President & CEO of Hyla Mobile, Biju Nair, shares his thoughts

**W**hile we are seeing 5G subscribers across the US and in South Korea, many countries are just starting to upgrade their networks to 5G – including those in Africa. When it comes to the 5G landscape in Africa, it is worth considering and comparing developments in sub-Saharan Africa and North Africa. Countries like Egypt, Morocco and their neighbours are moving a little further along than the other African countries. Part of the reason is the strong presence of some of the European operators out there, such as Vodafone and Orange.

But with so many Africans still not connected to 2G, 3G or 4G networks, why is so much money being invested in 5G?

**Biju Nair,**  
president & CEO,  
Hyla Mobile



**“The biggest problem is how to get the low ARPU subscribers off the 2G network — especially when the wage for an individual could be just a couple of dollars a day”**

## What is driving the push to 5G?

The main driver for 5G in regions like Africa, and globally, is that no one wants to be left behind in the race for the next G. In every continent, we are seeing a group operator take the lead, choosing one or two countries that will create a next generation road map.

There is also an opportunity for emerging countries to leapfrog technologies. In India for example, wireless became the best method of communication, so it leapfrogged Wi-Fi.

And now, we are seeing newer G's leapfrog 2G and 3G. I saw this in Sri Lanka firsthand. One group operator was in the process of deploying

3G technology. But when a new Chief Product Officer came on board, 3G rollout was stopped. The reason? Why invest in older 3G technology, when there is newer, and better technology available – so they embarked on deploying 4G and LTE.

Whether it is for identity management, banking or mobile money, “digital inclusion” is extremely important, especially in parts of Africa. But for this to happen, you need a high bandwidth, high capacity network. Which makes investing in 4G or 5G extremely important.

Additionally, with every incremental G, the cost per unit – whether that is cost per call, message or megabyte—is going to be driven further down. That means newer networks are more affordable for operators to manage. It also means they can offer certain services for free, while charging for others.

## Making money from 5G

That being said, the million-dollar question is how will operators recoup their investment in 5G – especially in regions like Africa, where the average daily wage in some countries is a few dollars?

The answer lies in digital services, as well as the way operators can offer services to cater to different income levels.

For example, an operator may want to create different tiers of packages. It may offer a family plan with higher data available to a middle-class family, and position this as a mid or top tier plan. It may then want to offer a lower tier plan with a limited number of minutes, messages, and data allowance available per month to lower income households. Then, once subscribers are hooked, the operator can then transition them to a higher tier package with more data availability.

When it comes to monetizing 5G, digital services are important – not just in Africa but globally. There are ways for telecom companies to offer digital services, whether that is through their own



**There are ways for telecom companies to offer digital services, whether that is through their own processes or through partnerships. These services can include the essentials such as healthcare or finance, or pure media and entertainment services**

processes or through partnerships. These services can include the essentials such as healthcare or finance, or pure media and entertainment services.

Ultimately, it's about getting people onto networks and offering the correct plan and amount of data to suit.

## Making the upgrade

Of course, there are concerns when it comes to upgrading African subscribers to 5G. The biggest problem is how to get the low ARPU subscribers off the 2G network – especially when the wage for an individual could be just a couple of dollars a day. If, on a 2G network, a subscriber is paying US\$1 per month for their text and voice services, how do you convince that person to pay even US\$2 a month for some incremental services

when they say text and voice is enough for them?

There's also a concern with devices. It doesn't make sense to bring subscribers onto a 4G network without a 4G-enabled LTE smartphone – upgrading to 4G with a feature phone is pointless. But with the cheapest smartphone around US\$50, how do you convince somebody to buy a device that's going to be compatible or appropriate for a 4G or 5G network? Most likely, the operator will need to subsidize it.

## Learning from Asia

It's no secret that Asia is way ahead of Africa in this space, and there are four reasons for this: South Korea, Japan, China and India. Asia is blessed with having countries which are either the largest economies in the world, or the fastest growing. These countries are taking the lead and ensuring that the right level of technology and R&D investment is being made.

I'd say India has undergone the biggest change over the last five years. And with a continued focus on economic growth, a lot of attention is being paid to infrastructure development.

As a result, we have seen large corporations like Reliance maximize the opportunity that insufficient mobile telecommunications infrastructure has brought. Reliance launched Jio with a huge vision – it wanted to build the first 4G LTE network and make voice and text a commodity. Jio also developed a range of digital services which it made available through the mobile phone, such as the ability to watch cricket. This completely changed the landscape in India, and today, India is the largest mobile data consumer in the world.

At the same time, it has the lowest tariffs in the world – it's about 26 US cents for a GB of data.

Africa can certainly learn from the Asian market – by following in its footsteps and being poised to take advantage of the opportunity that 5G networks will bring. ■



**Whether it is for identity management, banking or mobile money, “digital inclusion” is extremely important, especially in parts of Africa. But for this to happen, you need a high bandwidth, high capacity network. Which makes investing in 4G or 5G extremely important**

## Dare1 lands in Djibouti



Djibouti Telecom, Somalia's Somtel and Telkom

Kenya, along with cable manufacturer SubCom, said the Djibouti Africa Regional Express 1 (DARE1) submarine cable system has landed in La Siesta Beach, Djibouti and marine installation is underway.

This follows the announcement in early December 2019 that all manufacturing aspects for the DARE1 system had been completed.

In addition to the installation of the trunk, the installation of the two branch legs to the system's four landing stations has also commenced. The landing stations, located in Djibouti (Djibouti's capital city), Bosaso (Somalia), Mogadishu (Somalia) and Mombasa (Kenya), will help enhance connectivity in the east African region and will also help enable more efficient communications, say the partners.

The two installation vessels are progressing on schedule and marine operations are scheduled to be complete in March 2020.

## SoftBank joins alliance for flying telecom bases



Japanese mobile phone carrier SoftBank Corp has

joined 11 other firms to launch an alliance to create airborne telecommunication base stations for worldwide connectivity.

The companies involved are Loon LLC (a unit of Google LLC parent Alphabet.), AeroVironment Inc., Airbus Defence and Space, Bharti Airtel Ltd, China Telecom Corp, Deutsche Telekom AG, Telefonaktiebolaget LM Ericsson, Intelsat US LLC, and Nokia Corp, Telefonica S.A. and SoftBank's unit HAPSMobile.

This alliance will build on a tie-up between HAPSMobile and Loon announced in April 2019 to advance so-called high altitude platform station, or HAPS, business and launch a commercial service using unmanned aircraft flying in the stratosphere in 2023.

SoftBank said such a connectivity platform is a "promising solution for expanding mobile coverage to areas where connectivity is lacking



**This alliance will build on a tie-up between HAPSMobile and Loon to advance so-called high altitude platform station, or HAPS, business and launch a commercial service using unmanned aircraft flying in the stratosphere in 2023**

– such as mountainous terrain, remote islands, marine regions and developing countries".

In addition, the system is expected to support growing demand to connect various devices and sensors using internet of things technology in sectors such

as manufacturing and farming.

The members of the alliance, hailing from Asia, Europe and the US, will cooperate on promoting and building industry-wide standards and interoperability guidelines, while liaising with regulatory authorities in relevant countries.

## Sterlite Technologies sees profits tumble



Indian telecom services business Sterlite Technologies saw profit plunge 38% in December quarter (Q3FY20) to Rs91 crore, due to lower operational income.

The company had registered a net profit of Rs146 crore during the same quarter last fiscal. Consolidated revenue declined 9.9% at Rs1,203 crore during the quarter as against Rs1,335 crore in the corresponding quarter of 2018-19. The company's exceptional items stood at Rs51 crore in the third quarter of 2019-20.

Ebitda (earnings before interest, taxes, depreciation, and amortization) margin declined from 22.8% to 20.5% during the quarter. The management attributed fall in margin to volume and realisation decline in optical fibre. Furthermore, global telco capex had paused because of 4G to 5G transition as seen in similar transitions in the past.

"During the quarter, the company

made an application under Sabka Vishwas (Legacy Dispute Resolution) Scheme, 2019 (SVLDRS) for settlement of disputed excise matter of Rs188 crore demanded by CESTAT in 2005-06, which

the company was contesting in Supreme Court, and also some other litigations which were pending as of June 30, 2019", Sterlite Technologies said in notes to accounts.

Based on the provisions of

SVLDRS, the management has determined the duty payable in respect of all matters offered for settlement under the scheme and accordingly, made an additional provision Rs50.71 crore in the current quarter, the company said.

STL Group CEO Anand Agarwal said the market environment in 2019 witnessed uncertainty and sluggish growth on account of the economic downturn.


"Within this business environment globally, we increased our order book over the last quarter and have shown a 21% revenue growth (9-months year to date) as compared to last year. The company's transformation from an optical fibre company to an end-to-end data networks integrator has significantly increased its overall addressable market," Agarwal said.

The filing said the company continues to grow its healthy order book of Rs8,535 crore with a strong growth outlook.



**Consolidated revenue declined 9.9% at Rs1,203 crore during the quarter as against Rs1,335 crore in the corresponding quarter of 2018-19**

# Turkish-German joint operation targets telecom scammers

 Turkish and German police have launched joint operations against telecom scammers illegally siphoning money from elderly people in Germany.

The group of 76 defrauders includes Turkish, German, Albanian, Polish and Brazilian nationals, according to an unnamed source, said to be from the judiciary.

Scammers allegedly carried out their unlawful activities through a call centre set up in Turkey.

Prosecutors in Istanbul issued arrest warrants for 36 people, including five Germans, for obtaining €3m from 20 people.

The suspected head of the group, who is identified by his initials F.O., established a company in Germany


and brought the cash to Turkey by land and air, according to the Federal Criminal Police Office, the federal investigative agency of Germany.

Turkey's financial crimes police launched search operations against 36 suspects in Istanbul, Antalya and

Mugla, while police in Germany started the manhunt for 40 suspects: 21 Germans, 15 Turkish, two Brazilians and one Polish and an Albanian.

It is understood that a number of suspects were rounded up while the search for the others continues.

## Poland's Plus chooses Ericsson for 5G gear

 Polish mobile operator Plus has picked Ericsson to supply equipment for its 5G Radio Access Network.

The first wave of deployment will cover a minimum of 85 sites across five Polish cities: Gdansk, Lodz, Poznan, Szczecin and Wroclaw.

This network will be delivered via the 2.6GHz TDD band and will use equipment from Ericsson's Radio System and 5G Core portfolios, such as the Swedish firm's 5G Evolved Packet Core.

Plus said it expects to begin offering commercial services within the next few weeks, and will begin further rollouts following Poland's 5G spectrum auctions.

Formerly Plus GSM, Plus is the brand name of Poland's mobile phone network operator, Polkomtel.



The first wave of deployment will cover 85 sites across five Polish cities: Gdansk (pictured), Lodz, Poznan, Szczecin and Wroclaw

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## SMS Teleport selected for Eutelsat satellite



Satellite Mediaport Services (SMS Teleport)

has been selected by Eutelsat to provide back-up teleport-based broadcast satellite services for its Eutelsat 8 West B satellite, the companies have announced.

SMS Teleport is providing the satellite operator with 24/7/365 redundant teleport services from its teleport in the market town of Rugby, UK.

It is connected via a diverse fibre linkup to Eutelsat's Paris-Rambouillet teleport, which provides the principal uplink to the satellite.

"Our solution for Eutelsat combines numerous elements of our extensive teleport capabilities, to offer Eutelsat the best possible services," Zvi Golod, SMS Teleport's CEO said. "SMS Teleport is proud to be a contributing factor in Eutelsat's ongoing success, we look forward to working on further projects together."

Eutelsat 8 West B currently broadcasts to over 52 million homes in the Middle East and North Africa.

## MWC cancelled due to coronavirus outbreak



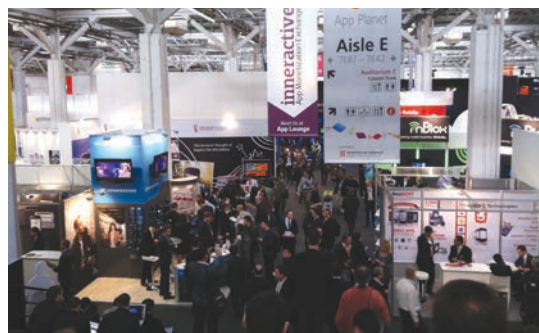
The world's largest mobile phone showcase, Mobile World Congress (MWC), was cancelled over coronavirus concerns.

The GSM Association (GSMA), which organises it, said it had become "impossible" for the annual event to go ahead as planned in Barcelona.

BT, Facebook, LG, Nokia, Sony and Vodafone were among the high-profile exhibitors to have pulled out of MWC, citing coronavirus fears.

However, Spain's health minister, Salvador Illa, urged people to remain calm said they should "trust in the Spanish health system" and "take decisions based on scientific evidence".

MWC was due to be held in Barcelona on February 24-27 and more than 100,000 people usually attend the annual event, about 6,000 of whom travel from China, where the first notified cases of coronavirus are reported to have originated from.



**BT, Facebook, LG, Nokia, Sony and Vodafone were among the high-profile exhibitors to have pulled out of MWC, citing coronavirus fears**

## Inmarsat launches new services in Saudi



Inmarsat will bring its maritime, aviation and enterprise connectivity solutions to customers based in Saudi Arabia through new partner agreements. It has also secured new spectrum licenses to deliver both its narrow-band (L-band) and high-capacity broadband (Ka-band),

Global Xpress (GX), services in Saudi Arabia, enabling Saudi-based businesses to deploy these services for the first time. Fixed and mobile satellite telecommunications distributor Sada Al Ammah and Global Beam Telecom have been appointed as the company's first distribution partners in Saudi

Arabia and the region and they will work closely with Inmarsat's Maritime, Aviation and Enterprise businesses to roll-out services in the region. They will work with Inmarsat's Enterprise business to bring the benefits of its award-winning connectivity services to land-based users in the Middle East.

## Bladon sign US\$36m deal to supply Alkan CIT



Bladon Micro Turbine, the manufacturer of micro turbine gensets, has signed a three-year distribution partnership contract with Alkan CIT worth over US\$36m.

Under the terms of the deal, Bladon will provide its microturbine powered generators to Alkan for use at telecom tower sites across Africa and the Middle East. Alkan

currently covers 18 countries in the region and this partnership will provide Alkan customers with access to efficient and reliable telecom tower power.

"Having worked with key telecom operators all around the region and having rendered services for more than 30,000 telecom sites over that past two decades; I can confidently

say that our collaboration with Bladon will definitely enrich the market and help operators resolve key challenges that used to cause lots of pain," said Ahmed Galal, managing director, Alkan Communication Networks. "Alkan expertise and Bladon technologies are the perfect match to empower the telecom industry and we're

very happy to present Bladon advanced technologies and Micro Turbines to the market."

In addition to a total cost of ownership up to 30% lower than conventional diesel gensets, the Bladon MTG offers up to 8,000-hour service intervals, which translates to 90% fewer site visits than required for conventional diesel gensets.

## Paraguayan network to be completed by February



Paraguay's national fibre-optic network (Red Nacional de Fibras Opticas, or RNFO) is expected to be completed by February.

The RNFO initiative is aimed at unifying the fibre networks of state operator Copaco, utilities company Administración Nacional de Electricidad (ANDE) as well as the Ministries of Interior and

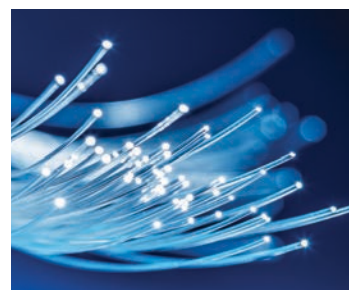
Finance. Copaco operates around 180,000km of fibre, while ANDE has around 120,000km. The ministries have approximately 200km and 74km of fibre respectively.

Paraguay's Ministerio de Tecnologías de la Información y Comunicación (MITIC) made this announcement despite the fact that just 14,000km of infrastructure had

been integrated at the end of 2019.

The convergence contract was awarded in February 2019 to domestic firm Celexx, which is believed to have a close working relationship with China's Huawei.

**Copaco operates around 180,000km of fibre, while ANDE has around 120,000km**



# Broadband growth predicted for Argentina



Argentina will see strong growth in the rollout of fixed broadband lines in the next four years, according to new research.

Data and analytics company GlobalData said fixed broadband lines in the South American nation will rise from 8.4 million recorded in 2019 to 9.9 million by the close of 2024, led by operator investment in fixed infrastructure.

The report says that growing demand for high-speed data services on fixed lines among residential and business customers, along with government initiatives to expand broadband services to rural and underserved areas, have led to the investment. It estimates that fixed broadband penetration will increase from an estimated 18.6% in 2019 to 21.0% by 2024.

Cable will represent 42.2% of total fixed broadband lines in 2019 and

will remain the leading broadband technology through to 2024. Fibre lines will grow at the fastest compound annual growth rate (CAGR) – 13.1% over 2019-2024 – mainly supported by rising demand for high-speed broadband connectivity and ongoing fibre network roll-outs by operators like Movistar Argentina.



**The report estimates that fixed broadband penetration will increase from an estimated 18.6% in 2019 to 21.0% by 2024**

State-owned satellite company ARSAT will also receive US\$154m from a universal service fund (USF) by 2020 to help complete the Federal Fibre Optic Network, which is a federal backbone network made up of 13 geographic regions, as well as provincial networks interconnected to the backbone.

## Spanish firm Sateliot partners with IEEC



Spanish 5G Internet of Things satellite specialist Sateliot has signed a deal with the Institute of Space Studies of Catalonia (IEEC) ahead of its inaugural nanosatellite launch.

The company said a team of experts from the institute will advise it on the correct functioning and

development of its first 'CubeSat' before it launches later in 2020, including detailed risk assessment of the mission's technical aspects.

Under the terms of the deal, IEEC will also support Sateliot's planned follow-up launch of a constellation of up to 100 nanosatellites designed to extend

the IoT reach of existing 5G terrestrial networks via operator wholesale deals.

Sateliot also similar agreements in place with the European Space Agency (ESA), UK firm Open Cosmos for the manufacture of the nanosatellites and Spain's Alen Space for the payload design.

## Comtech acquires Gilat Satellite Networks



Comtech Telecommunications has agreed to acquire Israel's Gilat Satellite Networks for approximately \$532.5m.

The former will pay US\$10.25 per ordinary share in cash for 70% of Gilat's stock and 30% in Comtech common stock.

"I am excited to have reached this agreement with Gilat and believe this combination is beneficial to the stakeholders of both companies," said Fred Kornberg, chairman and chief executive (CEO) of Comtech. "The acquisition better positions Comtech to take advantage of key marketplace trends, particularly the growing

demand for satellite connectivity and the enormous long-term opportunity set that is emerging in the secure wireless communications market."



**Founded in 1987, Gilat offers broadband satellite communication and networking services**

Dov Baharav, chairman of Gilat added: "I have long admired Comtech's commitment to technology leadership and I firmly believe that employees will have expanded opportunities for career development. No doubt, the future will be very bright for Comtech and Gilat and all of our stakeholders."

Founded in 1987, Gilat offers broadband satellite communication and networking services. The company's largest shareholder is Israel-based private equity firm FIMI Opportunity Funds, which holds a 34% stake, followed by Mivtach-Shamir Holdings with 9.7%.

## HYLA Mobile partners with Admin Plus



HYLA, the mobile device repurposing vendor, has partnered with South African insurance firm Admin Plus to deploy its latest machine learning technology, which allows the latter to see the state of the device remotely. Admin will be able to see things like cracks and water damage from afar to help it issue short-term policies quickly. This helps to significantly reduce its risk exposure to fraud.

## Cellnex buys out OMTEL



Spanish wireless infrastructure operator Cellnex has reached an agreement with Altice Europe and Belmont Infra Holdings, to acquire 100% of Portuguese telecom towers and sites operator Omtel for a fee of €800m. The acquisition also covers the rollout of 400 sites within the next four years. Cellnex said this build-to-suit (BTS) programme could be enhanced with up to 350 additional sites through 2027. Omtel currently operates 3,000 sites in Portugal, which represents around a quarter of the telecommunications towers in the country.

## Myanmar re-imposes shutdown



Myanmar has re-imposed an internet shutdown in two conflict-torn western states, after partially lifting the blackout five months ago, Norwegian mobile operator Telenor Group said. The firm added that the transport and communications ministry had ordered mobile internet traffic to be blocked again in five townships in the states of Rakhine and Chin for three months.

## Q&A

**Stephen Newton**  
**CEO**  
**biNU**



**Who has been your biggest inspiration?**

Professionally Larry Page, Sergey Brin, & Jay-Z

**What has been your career high to date?**

Taking part in two successful exits in less than a decade.

**What is your biggest regret to date?**

I wish I'd had more equity in DoubleClick before the Google sale!

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

Undoubtedly the affordable smart phone. This has enabled the lives of millions to be changed.

**What is the best business lesson you have learned?**

Sometimes you need to soften your gaze and find the similarities, businesses are not all that different.

**I often say that, in our business, we are not performing heart surgery, no one is dying**

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

Maybe content creation.

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

Media consumption in Africa is still dominated by TV/Radio. However, this is a forced reality. Across Africa, there are more phones, than TVs and Radios, but in most countries whether you pay a TV license or not, you have uninterrupted access to Free to Air TV and radio. You don't have the same privilege on the most ubiquitous device, if you don't have data, your portal to content becomes useless. Change this dynamic, make

data a non issue, and the mobile phone becomes the largest media outlet automatically.

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

The inability or unwillingness to stand unified.

**Which competitor you admire the most and why?**

We all have a part to play in the industry solving different problems: affordable devices, affordable "always on" access to data, relevant content (text, products/services), ubiquitous payment mechanisms, trusted delivery mechanisms and all of the technologies that weave this all together. I don't see rivals, I see players in the eco-system. So there are many I admire, WhatsApp, Facebook, WeChat. M-Pesa to name a few.

**What is the best thing about working in this industry?**

I often say that, in our business, we are not performing heart surgery, no one is dying. However, mobile

technology has helped improved the lives of millions by connecting them to the world, to life saving information, to jobs, to commerce. So although no one is dying, it is helping millions to live better lives.

**What do you want to do when you retire?**

Retire?

*biNU helps organisations to build and maintain #datafree websites and apps which are the data equivalent of 0800 calls. #datafree biNu is also being used by commercial publishers looking to extend their audience reach and engagement with mobile consumers. In August it announced a partnership between biNu and MTN to enable all websites and apps to be #datafree for South Africans. ■*

**When was your big career break?**

I was a founding team member of the Hitwise EMEA team and started as a business development manager. I was already a lawyer who decided to go a different direction and in many ways had to start back in what could be considered a junior position. I did well for a few years but then became disenchanted but knew that I didn't want to go back to law.

a company or brand is willing to pay for the cost of a telephone call from their clients or prospective clients. We do the same thing for websites and for applications. We partner with mobile network operators to Zero Rate (Reverse Bill is another term) a website or app. We then offer this service to companies enabling them to reach their clients and prospective clients

**I wish I'd had more equity in DoubleClick before the Google sale!**

I shared my frustration with the GM and was ready to leave Hitwise to do an MBA to add to my Juris Doctorate degree. The GM convinced me to take a few courses at the IoD of London and then take the role of GM myself. He reasoned that I could earn my "MBA" in practice by running a business. He took a chance on me which paid off as I grew the EMEA division to the most profitable division in the business

on any mobile network. The company or brand pays for the mobile customer's use of data on the company's website or application, often supporting this from their already existing marketing, communications and/or client acquisition budgets. The mobile consumer, is then free to engage with the company's/brand's website or application without fear of using or abusing their data allowance.

**Undoubtedly the affordable smart phone. This has enabled the lives of millions to be changed**

and the engine that created value for the sale of the business to Experian for over \$300m.

**What is the best thing about your job?**

It's very satisfying that we are solving an actual problem faced by hundreds of millions of people every single day: high data costs. The best way to think about biNu is to compare it to toll-free calls: most people are familiar with this concept where

**What is the hardest thing about your job?**

Getting the content/ media/ advertising market to see that there is an obvious need for a paradigm shift in the industry.

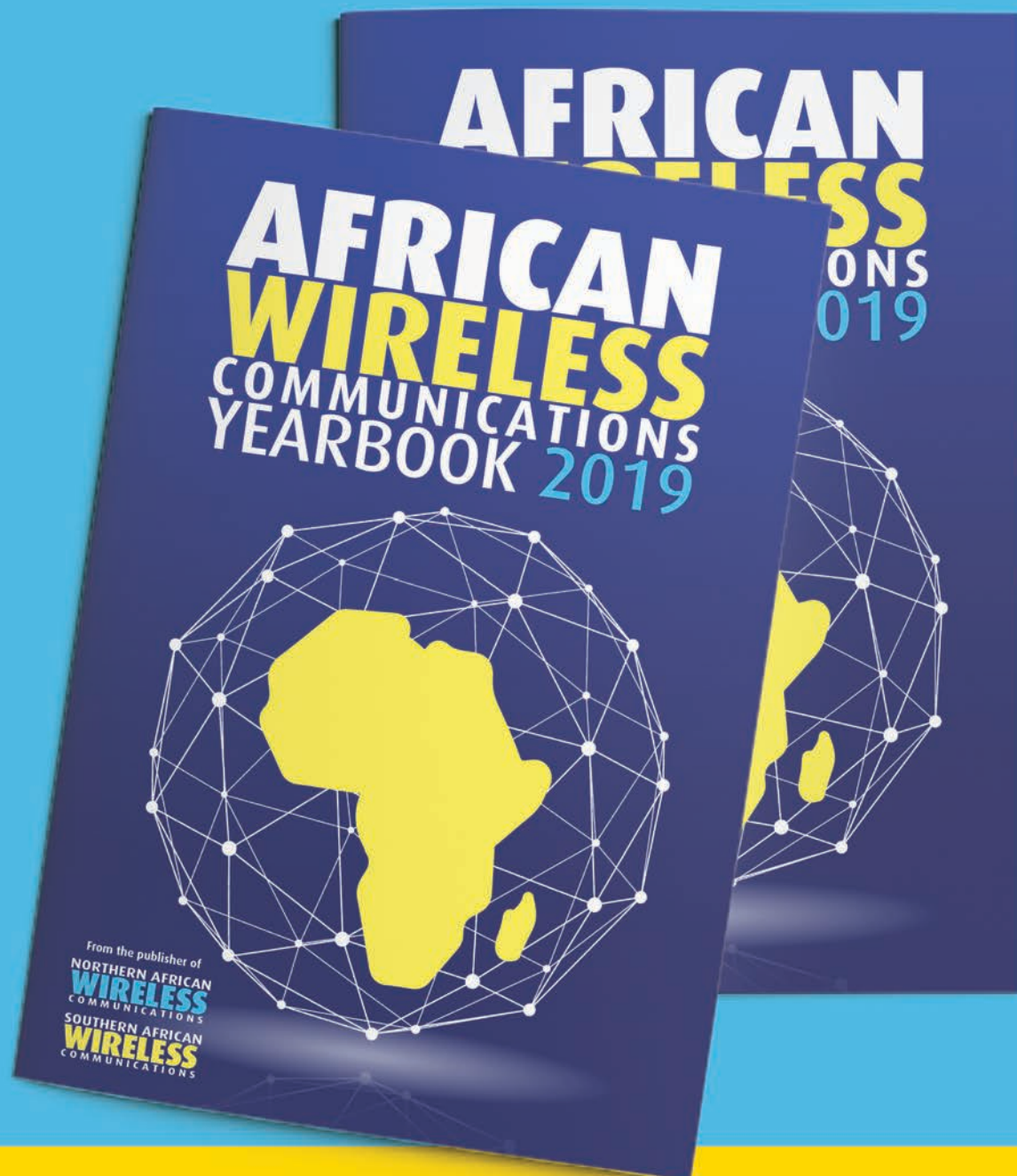
**What has been your career low to date?**

Playing axe man for a large corporate making hundreds of people redundant in a year.

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

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