Issue 2 2021
Édition 2 2021

Communications Africa Afrique

www.communicationsafrica.com

KEEPING CUSTOMERS HAPPY

Why business support systems matter

Broadcasting: Localisation for an OTT world

Satellites
Extending the reach of education

Security
Hackers vs homeworkers

Mobile banking
More services – fewer queues

FEATURES: ● Africa gets more digital services ● Tanzanians get more payment options ● VoLTE gets more traction

REGULAR REPORTS: ● Agenda ● Solutions

You connect, you grow and together we evolve

Enter an interactive ecosystem based on a global communications network in constant evolution, whose governance ensures the creation of value for customers, suppliers and partners, every day. With its IP&Data, Cloud & Data Center, Corporate, Mobile and Voice Platforms, Sparkle actively takes part in the development of worldwide communications, providing the best global connectivity solutions to Enterprises, Content and Service Providers, OTTs, ISPs, Carriers and Mobile Operators before they know they need them. Because we're always looking ahead.

Sparkle. The world's communication platform.

IP&DATA
CLOUD & DATA CENTER
CORPORATE
MOBILE
VOICE

SPARKLE

TISPARKLE.COM

CONTENTS

FEATURES

A note from the Editor

THE SEARCH IN telecoms is always on for better or more exciting ways to serve your customers. For example, in this issue we look at the role of satellite broadcasting in keeping people entertained and educated, the role of mobile banking in extending financial services to more Africans and the role of VoLTE in improving voice quality and availability.

The future certainly looks bright: Akinwale Goodluck of the GSMA points out that the benefits of access to digital services have been more evident than ever recently and, as we hear from Digital Council Africa, even fixed services are making inroads into a traditionally mobile-led region.

But underpinning most, if not all, telecommunications offerings are business support systems - especially in Africa where many end users are cost-conscious, low-ARPU consumers. Technical advances and new innovations may impress but the bottom line, as ever, is keeping customers happy.

Editor: Vaughan O'Grady - vaughan.ogrady@alaincharles.com

Assitant Editor: Deblina Roy - deblina.roy@alaincharles.com

Editorial and Design team: Mariam Ahmad, Prashanth AP, Fyna Ashwath, Miriam Brtkova, Praveen CP, Manojkumar K, Nonalynka Nongrum, Unique Pattnaik, Abhishek Paul, Rahul Puthenveedu, Deblina Roy, Vinita Tiwari and Louise Waters

Production: Srinidhi Chikkars, Dinesh Dhayalan, Swati Gupta and Eugenia Nelly Mendes
Email: production@alaincharles.com

Publisher: Nick Fordham

Magazine Sales Manager: Edward Somgal - Tel: +91 88841 93373
Email: edward.somgal@alaincharles.com

Country	Representative	Telephone	Fax	Email
India	Tanmay Mishra	+91 98800 75908		tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	+234 8034349299		bola.olowo@alaincharles.com
UAE	Murshid Mustafa	+971 4 448 9260	+971 4 448 9261	murshid.mustafa@alaincharles.com
USA	Michael Tomashefsky	+1 203 226 2882	+1 203 226 7447	michael.tomashefsky@alaincharles.com

Communications Africa Afrique

Head Office:
Alain Charles Publishing Ltd
University House
11-13 Lower Grosvenor Place
London SW1W 0EX, United Kingdom
Telephone: +44 20 7834 7676
Fax: +44 20 7973 0076

Middle East Regional Office:
Alain Charles Middle East FZ-LLC
Office L2-112, Loft Office 2,
Entrance B, PO Box 502207
Dubai Media City, UAE
Telephone: +971 4 448 9260
Fax: +971 4 448 9261

Subscriptions: circulation@alaincharles.com
Chairman: Derek Fordham
Printed by: Buxton Press **Printed in:** April 2021
Communications Africa/Afrique is a bi-monthly magazine
ISSN: 0962 3841

Alain Charles Publishing
Serving the world of business

Almost a fifth of South Africa's online users allow apps access to microphones

ALMOST A FIFTH (18%) of online users in South Africa always give apps and services permission to access their microphone or webcam, according to a global study of 15,000 people conducted by Kaspersky.

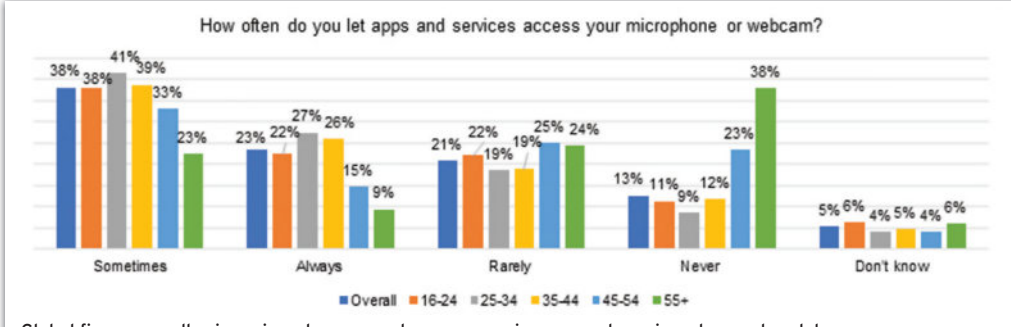
However, overall awareness of webcam security is promisingly high, with just over six-in-10 (63%) worried that someone could be watching them through their webcam without them knowing, and 65% concerned that this could be done via malicious software.

This points to the likelihood of more people proactively protecting their technology in the future as they adapt to remote working and the role of collaborative applications.

Over the past year, the reliance on videoconferencing has led to a colossal growth in apps such as Microsoft Teams, which as of June 2020 grew by 894%, compared with its base usage in February 2020. It has also brought about a near worldwide shortage of webcams with many leading suppliers seeing vastly increased demand.

Understandably, with these technologies and apps helping people to navigate the events of the past year across work, social and entertainment needs, people have expressed a willingness to allow app access to their microphone and camera. These tools have served as an enricher and facilitator of everyone's sudden digital transitions. Globally this has led to 27% of people aged 25-34 always permitting access, according to Kaspersky research. This is less common among older age demographics, however, with 38% respondents aged 55 years and older revealing they never give apps and services such access.

Photo: Kaspersky



Global figures on allowing microphone or webcam access in apps and services, by age breakdown.

Inmarsat launches ASP programme for IoT adoption via satellite

INMARSAT HAS LAUNCHED its Application and Solution Provider (ASP) Programme, an ecosystem for providers of software, hardware and solutions, as well as original equipment manufacturers (OEMs) in commercial land markets.

The development of the ecosystem will ensure that companies operating in areas without reliable connectivity, or with mission-critical connectivity needs, are able to access a broad choice of Internet of Things (IoT) solutions to enhance the efficiency, safety and sustainability of their businesses.

The ASP Programme plans to bring more partners in over the coming months.

Veriff releases Face Match product to reverify people easily online

VERIFF HAS RELEASED Face Match, an AI feature for facial biometric technology, which authenticates or re-verifies a person online.

The digital identity industry is forecasted to be worth US$12.8bn by 2024, up from US$6mn in 2019, and Veriff is committed to offering a reliable and seamless service to its customers around the world to meet this growing demand. With its video-first approach to identity verification of more than 9,000 government-issued IDs from more than 190 countries in 36 different languages, Veriff is able to stop more fraud than any other industry player.

"With Face Match, Veriff utilises the person's images to re-verify their identity based on the original session images and data as a reference point, which improves the user experience immensely," said Janer Gorohhov, Veriff co-founder and CPO.

Some of the major features of the Face Match verification technology include:

- The video features detect liveness through images captured in the SDK
- Veriff compares the new face to the reference document-front image in the system already
- Assisted Image Capture is built into the end-user flow
- Real-time response time is used to confirm the identification of a person
- It comes at a reduced cost compared to a full IDV session

Sample use cases of the benefits of Face Match include

- **Resetting credentials –** users can reset their account settings once they've gone through the flow once so that two-factor-authentication with face ID makes future logins seamless and easy
- **High-risk customers –** additional steps are in place to verify identity with Face Match for actions like a new bank account being added, a large withdrawal request, or a suspicious login from a different region
- **Employee remote verification –** an employee's identity will be verified a second time before they are able to access high-risk or sensitive company data. The employee will need a new access code to ensure they are verified multiple times to eliminate any theft concerns.

TDB and dltledgers accelerate trade finance in Africa via blockchain

THE EASTERN AND Southern African Trade and Development Bank (TDB) and dltledgers have announced a three-year agreement, through which TDB aims to scale up the volume of trade finance transacted via blockchain in Africa using dltledgers' platform.

TDB and dltledgers have been collaborating since 2019 on pioneering the use of distributed ledger technology to execute end-to-end trade finance on the continent. That first year, US$22mn in white cane sugar was imported from India by Ethiopia, with Singapore-based Agrocorp as the seller and trading company, and all trade finance activities concluded via blockchain.

When Covid-19 hit, TDB accelerated the use of this technology to conclude an additional US$150mn in intra-African trade finance transactions, this time consisting of fertilisers imported from Morocco's OCP by Ethiopia.

Admassu Tadesse, TDB group managing director and TDB CEO, said, "As part of our response to the pandemic, we have been providing liquidity to our clients to curtail cross-border trade and supply chains disruptions, and, ultimately, to help our member states continue working towards their development objectives. With transport logistics slowing down, blockchain has been instrumental in making this happen."

Michael Awori, TDB deputy CEO and chief operating officer, stated, "We look forward to working with more financial institutions in our region as well as traders and suppliers, both globally and in Africa, who stand to significantly benefit from the digitisation of their trade finance activities."

Farooq Siddiqi, CEO of dltledgers, added, "Benefits include facilitation of trade finance, improved visibility of the underlying flows, and better client experience. It is a pleasure to work with such a forward-thinking organisation and we are excited to help TDB scale its digital capabilities in 2021 and beyond."

GSA confirms 5G availability milestone

THE GLOBAL MOBILE SUPPLIERS ASSOCIATION (GSA) HAS REPORTED that the number of announced 5G devices now stands at 628, an increase of 21% over the last three months.

The new '5G Devices – March 2021 – Executive Summary' report revealed that of the 628 announced 5G devices, the total number of commercially available 5G devices now stands at 404, which is an increase of 33.3% over the last three months and represents 64.3% of all announced 5G devices.

By the end of February 2021, GSA had identified 21 announced form factors; 119 vendors who had announced available or forthcoming 5G devices; 306 phones, of which at least 274 are commercially available; 122 FWA CPE devices, of which 47 are commercially available; 80 modules; 34 industrial/enterprise routers/gateways/modems; 29 hotspots; 15 laptops; eight tablets; and 34 other devices.

ADL reveals how to succeed in a 5G world

CONSULTANCY ARTHUR D LITTLE (ADL) has released a report entitled 'Time to accelerate growth' that, based on a global survey of more than 100 C-level executives, identifies key strategies to unlock the value of network assets, diversify product offerings, and succeed in a 5G world. The report outlines three main areas that telcos should concentrate on going forward:

Maximising 5G's potential: To further enhance customer experience for B2C, telcos and media companies need to form alliances and use 5G as a means to create new and compelling products for consumers. To provide solutions to B2B customers beyond connectivity, mobile private networks (MPNs) and network slicing offer key opportunities for 5G monetisation. To capture wholesale infrastructure business opportunities, telcos should also consider structural separation into ComCos and NetCos.

Moving beyond core services: Telcos have attempted to diversify their offerings for decades, often without any significant ROI. Looking at various 'beyond core' options, the report identifies how to diversify successfully and recommends four main priorities – target a market which offers both sizable growth and revenues; build a multi-model approach that combines both internal and external resources; work with a 'start-up' mindset and in private equity mode; and adopt a phased and agile approach for roll-out that sequentially prioritises key concepts.

Reconfiguring telco assets: Maximising 5G's potential in the core businesses of B2C and B2B, kick-starting new wholesale infrastructure businesses, and moving beyond core imply an appropriate reconfiguration of underlying assets and ownership structure. While asset reconfiguration is not new, there is a growing tranche of opportunities that telcos should consider – for example, the towerco model promises further options for monetisation. Asset reconfiguration can drive value creation by lifting financing constraints, increasing asset utilisation, de-risking investment, strengthening the wholesale value proposition, increasing management focus on distinct core businesses, and preempting unfavorable regulatory decisions.

Karim Taga, managing partner in ADL's Telecommunications, Information Technology, Media & Electronics Practice, commented, "The 'scissor effect' of a widening gap between revenue and investment means that the pressure on telcos' cash flow has never been so intense. Executives must deliver growth while juggling both increasing capex and investors' unwillingness to cut back dividends."

"However, the telecoms industry still has a very bright future ahead if it is willing to embrace the opportunities that exist and move beyond its traditional comfort zone. We hope that this latest edition of our flagship report provides both inspiration and guidance for executives currently strategising ways to move their company forward."

The report is available for download here: www.adlittle.com/TimeToAccelerateGrowth

Raxio to expand footprint with data centres in DRC

THE RAXIO GROUP (Raxio), a career-neutral data centre operator, has announced that it is establishing and investing in 'Raxio Kinshasa', the first in a series of privately owned, carrier-neutral data centres in the DRC.

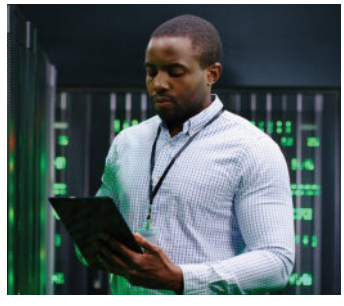


Photo: Adobe Stock

The Raxio Kinshasa data centre will be commissioned in Q2 2022.

Set to be commissioned in Q2 2022, Raxio Kinshasa will offer its customers an optimised environment for their IT equipment in a state-of-the-art facility built consistent with 'metro-edge' principles. It will be fully equipped with industry best in technology, security, caging, AC/DC power compatibility and redundancy in a 99.9% uptime environment. Customers will be able to cross-connect with local and international carriers and other customers in specially designed meet-me rooms. Customers will benefit from a 'shared infrastructure' model, and substantially reduce their operational and capital costs while improving application performance and flexibility.

Through the establishment of the Kinshasa centre, Raxio is supporting the 'National Digital Plan – Horizon 2025,' a programme laid out by the DRC government to digitally transform the country through the establishment and modernisation of infrastructure.

Robert Mullins, president of Raxio Group said, "We are delighted to do our part and to announce our decision to be moving forward with the DRC's first Tier III carrier-neutral data centre. Our platform of data centres will provide a critical and missing part of the country's digital infrastructure, needed to support the country's digital growth with affordable, high-quality, co-location environments."

Major new deals in MEA region push STL's order book to record high

STERLITE TECHNOLOGIES LTD (STL), an industry-leading integrator of digital networks, has announced major new deals and extensions to current engagements with leading telcos in the Middle East and Africa region (MEA). The deals take STL's order book to a record high and exhibit the company's focus on building future-ready digital networks in the region.

Since mid-2020, Tier 1 MEA telcos have been investing heavily in building digital networks. STL has been expanding its presence in the region with their fully 5G-ready Opticonn and Software Solutions. STL's unique end-to-end solutions enable customers to build 5G hyperscale networks at a fast pace with lower long-term total cost of ownership (TCO). These multi-year, multi-million dollar deals range from optical connectivity solutions to network solutions.

One large-scale deal is with a leading telco in the UAE to advance its 5G, 4G and FTTx network infrastructure through STL's Opticonn Solutions, including onshore logistics and warehousing. Another multi-million dollar digital transformation partnership has been formed with the leading telecommunications group in North Africa. This telco will deploy STL's digital billing solutions to seven million subscribers across the region. With these deals across the MEA region, STL has built an order book of more than US$100mn in the region.

Speaking on the deals, Sandeep Girotra, global sales head of STL, commented, "STL is building solutions to empower its customers in the MEA region for optical connectivity and network software, enabling FTTH and 5G deployments. We are proud to be a part of the progress of the Middle East and Africa."

"With our deep technology expertise and growing talent base, we will continue to deliver on the full potential of digital networks, providing enhanced experiences to consumers and businesses alike," Girotra added.

"Liquid has been at the forefront of providing intelligent technologies and resilient connectivity to its customers for a long time. I look forward to joining Liquid South Africa's dynamic leadership team and leading its local finance department, and contributing to the organisation's future success as it progresses to the next phase of its strategy."

Photo: Liquid Intelligent Technologies

- Sandile Ntsele
chief financial officer
Liquid Intelligent Technologies

"African startups are reaching new heights in terms of broad global appeal. With our portfolio servicing close to half a million clients in over 180 countries across the globe, and with the majority of our investments having successfully moved their intellectual property or operations into sizeable markets such as the US and UK, as well as achieving multiple international exits, HAVAÍC's portfolio companies are well on track to fulfilling their international potential."

Ian Lessem
managing partner at HAVAÍC

"While we see immediate improvements in skills and innovation through these programmes, the real win is establishing a framework for lasting change. This will equip communities in Africa to anticipate and plan for the challenges posed by climate change, urbanisation and economic development. The continent is transforming rapidly, and those engineering its future need the skills to think on their feet."

Photo: Royal Academy of Engineering

YEWANDE AKINOLA
Steering committee member of GCRF Africa Catalyst Programme, Royal Academy of Engineering, on the initiative's progress

"Ethiopia has a young, dynamic and trainable workforce, as well as supportive policies to enable the launch of a project such as the Orange Digital Center. We therefore welcomed this initiative with great enthusiasm and have been supporting it since day one. Young Ethiopians will have the opportunity to develop world-class technological skills here. Young people, innovation and technology are key to shaping the future of Ethiopia."

Photo: Ethiopian Investment Commission

H.E. LELISE
NEME Commissioner of the Ethiopian Investment Commission

"Our unique business model justifies a unique name for our flagship platform, and this rebrand marks our territory in a rapidly evolving market as we expand our reach and services. We have added security, redundancy,

and resiliency features to neXat with ESA backing, upped our tally of currently connected teleports to 22, with even more expected in the coming months offering Ku-, Ka-, and C-band globally, and expanded our global IP network architecture."

Thierry Eltges,
CEO at SatADSL

"Your network is your business lifeline - it is a core service that is fundamental to business success. It matters; and it is why we provide an array of solutions including Internet, cloud hosting, voice and satellite solutions, structured cabling, and Wi-Fi, as well as expert service support. We ensure the network is efficient so that our customers are effectively supported in doing their business."

Photo: Paratus botswana

Shawn Bruwer,
managing director, Paratus Botswana

"As part of our response to the pandemic, we have been providing liquidity to our clients to curtail cross-border trade and supply chains disruptions, and ultimately, to help our member states continue working towards their development objectives. With transport logistics slowing down, blockchain has been instrumental in making this happen."

Admassu Tadesse,
TDB group managing director and TDB CEO

"Our peering policy places us (AS 60171) at multiple and major internet exchanges in Europe, North America and firmly in Africa. Today, we have added the Asteroid IX in Mombasa to our already growing peering community across the continent. As part of our extensive resilient and robust African network coverage, we at AFR-IX Telecom, have the capability to provide a global ICT offer, focusing on our very local and regional customer's requirements. Asteroid IXP reinforces the company's strong network of peerings, IXP connections that are guaranteed to meet the needs of each customer."

Louis Carver,
chief commercial officer, AFR-IX telecom

"In January 2021, MDXi recorded 100% availability of supply from the national grid through the Eko Electric Distribution Company (EKEDC). This excellent availability record meant the company did not have to run any of our four heavy-duty generating sets, thereby saving a huge amount of carbon emissions, and contributing our own quota to the environment. The availability means stability of all facility equipment and more peace of mind for our customers aside from the added benefit of reducing carbon footprint."

Gbenga Adegbiji,
MDXi chief operating officer

"As we expand our portfolio and capabilities, our focus in EMEA will be to increase awareness and revenue for Xerox's existing and new technologies including software, financing and innovations such as 3-D metals and industrial Internet of Things. I look forward to leading the team to deliver strong results for Xerox clients and partners."

Jacques-Edouard Gueden,
executive vice-president and president of Europe, Middle East and Africa (EMEA) Operations, Xerox Holdings Corporation

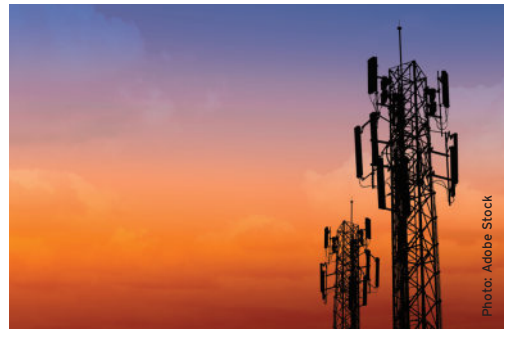
AFR-IX telecom expands its peering network with Asteroid Mombasa IXP to improve connectivity in the East Africa

AFR-IX TELECOM, a global internet service provider operating in more than 50 countries in Africa that delivers data and internet services for businesses, international carriers and telecom operators, is expanding its peer-to-peer network with an agreement with Asteroid Internet Exchange Point (IXP).

AFR-IX thus reinforces its pan-African network, which currently has four IXPs or internet exchange points in Africa: NAPAfrica (South Africa), IXPN (Nigeria), DjIX (Djibouti) and the recent addition of Asteroid IXP, located in Mombasa (Kenya). The activation of this last IXP in Kenya is strategic for the company, as it facilitates peering Kenyan ISPs as well as international networks, thus reinforcing connectivity in the Eastern sub-region of the continent in a location, Mombasa, which is set to become a major gateway for submarine fibre optic cables and is already emerging as one of the main hubs for internet traffic in East Africa.

As Louis Carver, chief commercial officer (CCO) at AFR-IX telecom, pointed out, Asteroid IXP reinforces the company's strong network of peerings, IXP connections that are a guarantee to meet the needs of each customer.

"Our peering policy places us (AS 60171) at multiple and major internet exchanges in Europe, North America and firmly in Africa. Today, we have added the Asteroid IX in Mombasa to our already growing peering community across the continent," said Carver. "As part of our extensive resilient and robust African network coverage, we at AFR-IX Telecom, have the capability to provide a global ICT offer, focusing on our very local and regional customers' requirements."



The company strengthens its Pan-African network.

Asteroid Mombasa IXP presents itself as a valuable partner for East Africa. In just one year of operation, it has connected more than 15 networks of all sizes and origins: Kenyan ISPs, content providers and networks operating in Mauritius and Rwanda. It cannot be overlooked that, thanks to IXP connections, end users experience reduced traffic costs and improved routing routes resulting in better network performance.

Upstream's Zero-D boosts data upselling

MORE THAN 314 million mobile users in eight countries enjoyed over 3.4 petabytes of free mobile data during 2020 via Upstream's Zero-D portal. Mobile operators like Vivo in Brazil and Vodacom in South Africa, having deployed Zero-D, offered 41 million hours of browsing or 6.9 million hours of video streaming to their users during a year when connectivity was crucial for people to stay informed and entertained.

Upstream's ad-funded free mobile internet portal, Zero-D, was deployed by 10 mobile operators across eight emerging markets, including Brazil, South Africa, Indonesia, Ghana and Kenya in 2020. In 2021, Upstream expects its connectivity portal to reach over 400 million users, as it has already launched in Nigeria and is now planning to partner with the largest mobile operator in the country.

Abuja extends SIM card registration deadline

The aim is to stop fraudsters from using unregistered SIMs as rising insecurity plagues Nigeria.

OVER THE COURSE of the past few months, Nigeria has announced a number of extensions of its timeline for telecom providers to update SIM registrations after various meeting with the chief executives of mobile phone companies.

According to the Nigerian telecom regulator, the new deadline to add valid National Identification Numbers (NIN) to every SIM card registered in the country is, as we went to press, 6 May 2021. It has said SIM cards without a NIN attached will be blocked.

Following the extension, MTN Africa, one of the leading telecoms firms, stated that it could complete SIM card registrations within six months.

The goal of the SIM card registration rules is to prevent fraudsters from using unregistered SIMs as rising insecurity plagues the West African country.

Solar-powered computers accelerate digital literacy in Madagascar

ACELERON, THE UK developer of circular economy lithium-ion batteries, and Jirogasy, the Malagasy solar start-up, have unveiled a new partnership to deliver solar-powered computers to 10,000 children a year across schools in Madagascar and East Africa. The computers will go to schools that do not have access to reliable power, helping to reduce the gulf in digital literacy that lack of energy access is creating.

The International Finance Corporation (IFC) estimates that 230 million jobs across Africa will require some level of digital literacy by 2030, translating to 650 million training opportunities and a US$130bn market. And yet across sub-Saharan Africa, only 35% of schools have access to electricity, 89% of learners do not have access to household computers and 82% lack internet access. Globally, 230 million children attend primary schools without electricity, compromising educations and development outcomes.

The Jirodesk 2, designed and produced in Madagascar, will support and enrich learning, as well as equip younger generations with the vital digital skills to build the continent's digital economic future.

Yann Kasay, CEO of Jirogasy and the French Africa Foundation's Young Leader of the Year 2019, said, "Every part of this project is championing economic growth in East Africa. The computers are built here in Madagascar, supporting the development of local digital and engineering jobs. The batteries are enabling the growth of a skilled green jobs economy in Kenya. Together, they are delivering key educational resources to Malagasy schoolchildren, boosting digital literacy and offering a route for largely non-electrified communities to connect to new economic opportunities."

The batteries that power the Jirodesk 2 are built in Kenya from repurposed waste solar lanterns and lithium-ion battery cells. UK-based Aceleron works with local technicians in Nairobi to develop and build the high-quality, second-life batteries, creating a local workforce of battery manufacturers and engineers, and empowering people with skilled jobs.

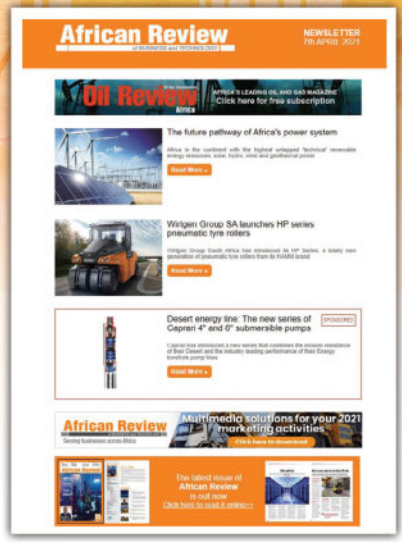
African Review

of BUSINESS and TECHNOLOGY

Serving business leaders across Africa

African Review has been the dominant publication for the continent's construction and mining industries for over 58 years and is circulated by qualified subscription including buyers and specifiers in government departments, equipment importers, construction and mining companies across Africa.

59 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964



Sign up for the **FREE** fortnightly e-newsletter on
africanreview.com

Alain Charles Publishing
Serving the world of business

MENA	Tel: +971 4 448 9260
ASIA	Tel: +91 98800 75908
USA	Tel: +1 203 226 2882
EUROPE	Tel: +44 20 7834 7676

e-mail: post@alaincharles.com
web: www.alaincharles.com
www.africanreview.com

GIZ and Orange launch Orange Digital Centre in Ethiopia

GIZ, ORANGE, THE Ministry of Innovation and Technology, the Ethiopian Investment Commission and the Industrial Parks Development Corporation have launched the Addis Ababa Orange Digital Centre, an ecosystem entirely dedicated to digital skills and innovation.

This is the third Orange Digital Centre in Africa and the Middle East. It is the first centre in East Africa that will operate as a strategic network, allowing experiences and expertise to be shared between countries and offering a simple and inclusive approach to strengthen the employability of young people, to encourage innovative entrepreneurship and to promote the local digital ecosystem.

The Orange Digital Centres aim to bring together several strategic programmes under the same roof: a coding school, a 'FabLab Solidaire', a startup accelerator 'Orange Fab' and Orange Ventures Africa, the Group's investment fund. All of the programmes provided are free of charge, open to all and include digital training for young people, 90% of which are practical training, start-up acceleration, guidance for project bearers and investment.

Together with the Ethiopian partners, the GIZ and Orange hope to achieve their shared vision of greater youth employability –- including more women and girls in ICT jobs –- while supporting the country's sustainable growth and digital transformation.

Photo: Adobe Stock

GIZ and Orange hope to achieve a shared vision of greater youth employability.

"With the support of GIZ, Orange supports East Africa's digital ecosystem by providing young Ethiopians with all its technological know-how to create more job opportunities. This programme will be complemented by two ODC Clubs that will be deployed swiftly in different regions to reach out to even more young people," said Alioune Ndiaye, CEO of Orange Middle East & Africa.

"We are working hard in order to create world-class ICT industries in Ethiopia. We believe that the skills that will be developed here will be very precious to support the IPDC's goal of making ICT park as a central hub to Africa, a place of technological knowledge transfer, an opportunity for IT base job creations and a base for the country's progress towards becoming a middle-income economy," said H.E. Sandokan Debebe, CEO at Industrial Parks Development Corporation.

Vodacom and Mondia launch maternal health service in DRC

VODACOM DRC, AND private mobile technology company Mondia, have announced the launch of the Mum & Baby maternal health service across the Democratic Republic of the Congo (DRC).

"The Mum & Baby service leverages Mondia's extensive networks and expertise in content production and curation, and we expect it to continue to deliver positive social impact wherever it is rolled out," said Dr Amadeo Rahmann, Mondia's Group CEO.

"According to the World Health Organisation, each year around 300,000 African babies die on the day of their birth, most often as a result of inadequate educational maternal and neonatal care." Dr Rahmann concluded.

Telecom Egypt plans launch of new subsea system

TELECOM EGYPT, ONE OF the largest subsea cable operators in the region, has announced plans to launch Hybrid African Ring Path (HARP) by 2023, a new subsea system that will outline the African continent, forming the shape of a harp.

It will connect coastal and landlocked African countries to Europe through the company's widespread terrestrial and subsea infrastructure. Through HARP, Telecom Egypt will offer a wide range of capacity solutions, up to dark fibre, based on a layer two and layer three architecture that can connect multiple points on the system to one another.

The system will connect Africa's East and West bounds to Europe, from South Africa to Italy and France along the continent's east coast, and to Portugal along its west coast. Terrestrial routes will connect the landing points within South Africa, Europe and Egypt, forming a complete ring around the continent. The HARP system will leverage its diverse and resilient subsea segments to branch out to multiple potential landing points.

"This new system will provide seamless connectivity services to the African continent by integrating Telecom Egypt's current and planned projects to offer end-to-end connectivity solutions. HARP will enable Telecom Egypt's plans to establish open points of presence in various new locations in Africa and Europe to serve its enterprise and wholesale customers. It will also support the digital transformation efforts exerted throughout African nations, and expand the company's international footprint," commented Adel Hamed, TE's managing director and chief executive officer.

HARP's planned routes will cross the Sinai Peninsula in Egypt, with multiple ring protection topologies, and will extend to include premium routes on both banks of the Suez Canal. Sharm Elsheikh, located at the southern tip of Sinai, will serve as a new landing point and will be connected to coastal cities on the Gulf of Suez, forming a hybrid terrestrial and subsea fibre connectivity solution between landing points in Egypt.

Telecom Egypt is the first total telecom operator in Egypt providing all telecom services to its customers including fixed and mobile voice and data services.

Spacecom and Zinox partner for e-learning in Nigeria

SPACECOM, A SATELLITE service provider and the owner and operator of the AMOS satellite fleet, and its local partner Intertel, together with Zinox, a Nigerian internet and e-learning service provider, have signed a multi-year contract to enable internet connectivity and e-learning solutions for schools in Nigeria.

Spacecom's AMOS-17 digital, a fully digital and advanced High Throughput Satellite (HTS) and C-band HTS capabilities that made this deal possible, will enable satellite efficiencies covering all of Nigeria with a single beam, as compared to using multiple smaller beams. These advanced technologies enable significant economic benefits and flexibilities, including lower capital expenses (CAPEX) as well as cost-effective ongoing operating expenses (OPEX), while providing an excellent coverage of communities.

"The partnership with Zinox entails important and inspiring opportunities to the most remote places in Nigeria. Connecting the unconnected, from semi-urban to the most rural areas in Africa, is a major pillar in Spacecom's plans going forward. We look forward to continuing the cooperation with Zinox as part of this mission we wish to achieve in Nigeria and we have more plans ahead," said Guy Avrahami, VP sales Nigeria at Spacecom.

"Zinox's IP connectivity to its customers over AMOS-17 allows delivery of premium, but cost-effective, solutions that seamlessly bridge digital divides," commented Abdlrazaq Shittu, group managing director/CEO at Intertel Nigeria Limited.

"Using our network and learning equipment together with excellent satellite-based communication services via Spacecom, kids all over Nigeria will have access to quality education. With this agreement, Zinox has entered a niche club of premium ISPs in Nigeria, where only two ISPs currently operate, thus setting the pace for others to follow.

Helios Towers to buy Airtel Africa towers for US$119mn

HELIOS TOWERS PLC has signed agreements with Airtel Africa Group to buy 1,424 towers in Madagascar and Malawi for US$119mn. Additionally, the telco company has entered into MoU arrangements for the potential acquisition of its passive infrastructure assets in Chad and Gabon, all subject to required regulatory approvals.

The transactions comprise four separate agreements:

- Two separate agreements, one for each market, for the acquisition of Airtel Africa's passive infrastructure companies in Madagascar and Malawi for US$108mn. These acquisitions are both anticipated to close in or around Q4 2021.
- In Chad and Gabon, the group has entered into MoU arrangements and is expected to complete the acquisition of Airtel Africa's passive infrastructure assets in those countries in Q1 2022.

Liquid Intelligent Technologies appoints new CFO in South Africa

LIQUID INTELLIGENT TECHNOLOGIES (LIT), a pan-African technology group, has announced the appointment of Sandile Ntsele as chief financial officer (CFO) for its South Africa operations.

Ntsele has extensive experience working in senior finance roles, most recently as the CFO for MTN, South Africa. He will be instrumental in overseeing Liquid South Africa's corporate and financial strategy as the organisation repositions itself and optimises its network and technological capabilities to deliver on its corporate vision of enabling a digitally connected future that leaves no African behind.

Photo: LIT

Sandile Ntsele, Liquid Intelligent Technologies' new CFO.

Deon Geyser, CEO of Liquid South Africa, said, "We are delighted to welcome Ntsele to Liquid. His in-depth understanding of the industry we operate in and experience in leading organisational transformation will be a great asset to the executive team at Liquid SA. I believe that he will help us improve and optimise our operations and enable future sustainable growth, driving profitability and enhancing value for our shareholders."

Ntsele has worked as a chartered accountant in South Africa and is a member of the South Africa Institute of Chartered Accountants (SAICA), having completed his chartered accountancy training at Deloitte and Touche. In a career spanning over 20 years, he has worked in both African and Middle East markets, and he brings this rich experience to Liquid.

On joining Liquid Intelligent Technologies, Ntsele said, "Liquid has been at the forefront of providing intelligent technologies and resilient connectivity to its customers for a long time. I look forward to joining Liquid South Africa's dynamic leadership team and leading its local finance department, and contributing to the organisation's future success as it progresses to the next phase of its strategy."

Smart Africa partners with Intel Corporation for AI capacity building

SMART AFRICA, UNDER its capacity building arm, the Smart Africa Digital Academy (SADA) has partnered with Intel Corporation to hold a capacity-building workshop on artificial intelligence that will empower African public sector decision makers on emerging technologies.

The aim is to drive informed policymaking, foster the growth of the digital economy and promote national competitiveness.

The workshop is part of the 'Digital Readiness for Leaders' programme spearheaded by Intel, which targets policymakers responsible for designing, developing and deploying emerging technology-based solutions. The session was held from 15-19 March 2021, and engaged in technology considerations for security in AI and the importance of data.

"This partnership is premised on the understanding that digital growth should be underpinned by strong and informed decision making. Capacity building for decision makers is a critical element through which we build towards a single digital market for Africa," said Lacina Koné, Smart Africa's CEO and director-general.

Artificial intelligence is deemed crucial to digital and economic transformation. AI could increase global GDP by US$15.7trn by 2030, creating the need for policymakers to understand its benefits and risks to promote responsible AI that leads to sustainable economic growth.


Photo: Adobe Stock

Artificial intelligence is central to economic transformation.

This capacity-building session comes at an opportune moment when Africa is experiencing significant technology adoption amid growing interest by tech giants in the African market.

"There is a need for enabling policies that will unlock investments into Africa's tech sector and facilitate skills development mainly for Africa's growing young population. Educating and empowering government leaders on emerging technologies to drive informed policymaking and expand digital readiness for all is of utmost importance," said Sven Beckmann, Intel's emerging markets director for government and education.

This is a part of a series of capacity-building initiatives that will be carried out by SADA throughout the year with the ultimate aim to accelerate digital transformation on the continent.

The Mobile World Congress in context

This year's Mobile World Congress is still set to go ahead, although if it does, it will be with a lot of health protection measures in place. Deblina Roy looks at the context of the show's return and some of this year's themes.

Could the success of the recent Shanghai event be replicated in Barcelona?

Photo: MWC Shanghai

THE YEAR 2020 started unexceptionally, at least in telecommunications terms. Then came the pandemic. All industries have been affected by Covid-19, mostly for the worse. And certainly, as consumers and businesses reined in their spending, retailers closed and movement was restricted, telecoms was also affected.

However, many of the pre-Covid markets and issues Africa needs to address have not changed. They still include the need for affordable satellite communications, the rise of OTT TV, fraud, remote connectivity, mobile commerce, 5G and power supply.

That said, mobile commerce take-up is undoubtedly accelerating. Many major organisations – from Mastercard and Visa to NSIA and Ecobank – have embraced the opportunities of mobile or cashless banking to allow them to reach a larger potential market, especially as, since the arrival of Covid-19, the attractions of cashless banking to both governments and consumers have been greatly enhanced and many companies and end users are supporting this strategy.

As for 5G, as Covid-19 has pushed network resilience to its limit in the face of unexpectedly strong demand, the value of communications to African society – and global society – has never seemed greater. Of course, for many observers 2020 was expected to be the year of 5G but faced with social and financial uncertainty, the spotlight has also fallen on legacy technologies to deliver life's 'new normal.'

However, it is certainly true that telco infrastructure is evolving, and various partnerships between cloud providers and network leaders could be seen as a sign that network providers are proactively looking to shift to a hybrid model to meet changing demands.

The 2021 event is also set to invite visitors to an adapted state-of-the-art exhibition facility, allowing exhibitors to showcase products and services to key industry leaders.

All these topics would normally be addressed at the Mobile World Congress (MWC) in Barcelona. But last year that was not possible. Now it is back – or so the organisers hope – to give attendees – from Africa and everywhere else – opportunities to connect with the most influential names in the mobile industry.

To be held from 28 June to 1 July 2021 in Barcelona, Spain, this event will deliver cutting-edge updates on many areas through themes including: 5G Deployment and 6G Planning; Open RAN; Enterprise and Private Networks; Building to the Edge; Connectivity for Good; Telco Cloud and many more.

Attendees will also be looking forward to what is, at the moment, an impressive line-up of speakers. Connected Impact is the overall key theme for this year's event, showcasing how the entire mobile ecosystem can transform our lives, and this will no doubt include contributions

Events/Événements 2021

APRIL/AVRIL			
26-28	Japan IT Week	Tokyo, Japan	www.japan-it-spring.jp/en-gb.html
MAY/MAI			
24-26	CABSAT	Dubai, UAE	www.cabsat.com
30 May - 1 June	COMEX	Muscat, Oman	www.comex.om/2020
JUNE/JUIN			
15-16	Telecoms World Middle East 2021	Virtual	www.terrapinn.com/conference/telecoms-world-middle-east/index.stm
15-18	CSTB.TELECOM&MEDIA	Moscow, Russia	www.en.cstb.ru
28 June- 1 July	MWC Barcelona	Barcelona, Spain	www.mwcbarcelona.com
JULY/JUILLET			
13-15	Infosecurity Europe	London, UK	www.infosecurityeurope.com
14-16	CommunicAsia	Singapore	www.connectechasia.com/communic-asia
16-17	CLOUD EXPO EUROPE	Virtual	www.cloudexpoeurope.com
AUGUST/AOUT			
13-14	Seamless Southern Africa	Virtual	www.terrapinn.com/exhibition/seamless-africa

from many keynote speakers, who so far include Julie Sweet, CEO, Accenture; Arvind Krishna, CEO, IBM; Nik Storonsky, founder and CEO, Revolut; Sarah Wilkinson, CEO, NHS Digital; Xu Ziyang, executive director and president, ZTE; Cristiano Amon, president and CEO-elect, Qualcomm Incorporated; Mathew Oommen, CEO, Reliance Jio; Ana Maiques, CEO and founder, Neuroelectrics; Shuky Sheffer, CEO, Amdocs; Pekka Lundmark, president and CEO, Nokia; Anne Boden, founder and CEO, Starling Bank; Yang Jie, chairman, China Mobile, and many others.

The 2021 event is also set to invite visitors to an adapted state-of-the-art exhibition facility, allowing exhibitors to showcase products and services to key industry leaders. In the past, the event has attracted more than 59% of the most senior decision-makers, so it is no wonder that more than one million meetings took place at the last show in 2019.

Of course, coronavirus led to the cancellation of 2020's physical events as many key companies pulled out of the show. In a statement, GSMA stated that the organisers came to the conclusion that the show was "impossible" to hold after the events of early 2020. As GSMA CEO John Hoffman said at the time, "The GSMA has cancelled MWC Barcelona 2020 because the global concern regarding the coronavirus outbreak, travel concern and other circumstances, make it impossible for the GSMA to hold the event."

And as we write, this year's event is by no means guaranteed, although MWC Barcelona is adopting Covid-specific measures to protect exhibitors and attendees. The safety measures that are being put in place include:

- Social distancing: the organisers are controlling crowd density, stand capacity and traffic flow
- Personal hygiene: a protective mask is needed, and hand sanitiser will be available throughout the show
- Event hygiene: all information points and registration will be touchless. The venue will be disinfected regularly, including stands, product samples and audio-visual equipment.
- Training: staff will be trained in health and safety guidelines and rules for the venue.

There is a precedent for this approach. With similar restrictions, the recent MWC Shanghai 2021 event in late February attracted around 25,000 attendees from 114 countries and territories, while 175,000 people viewed presentations, keynotes and other programme components.

As Asia's leading exhibition and conference for the mobile ecosystem, MWC Shanghai attracted leaders across mobile and adjacent industries. With 350 speakers and senior-level executives making up around 58% of the conference crowd, including 576 CEOs, the event spanned 50,000 sq m across the Shanghai New International Expo Centre and Kerry Hotel Pudong.

With similar restrictions, the recent MWC Shanghai 2021 event in late February attracted around 25,000 attendees from 114 countries and territories.

John Hoffman was much more upbeat on this occasion. As he said, "MWC Shanghai 2021 was a resounding success, safely held with enhanced Covid precautions, and despite extensive domestic and international travel and capacity restrictions triggered by the global pandemic."

The next platform for the mobile communications industry after MWC Barcelona is MWC Africa in Kigali, which runs from 28-30 September 2021. MWC Africa will bring together the leading names from business and technology to become the continent's most connected and influential event. This premier event is part of the GSMA's flagship series of MWC events, which includes editions in Barcelona, Shanghai and Los Angeles.

GSMA director general Mats Granryd said, "Around the world, access to mobile internet is helping close the digital divide. Its transformative power is nowhere more obvious than in Africa. That is why I'm excited about welcoming the world to Kigali next year to shine a light on African mobile and tech innovation."

But first it is time for the world to visit Barcelona, where no doubt growth in the developing world will be a relevant theme as investment opportunities continue to attract business to the African communications market. ✆

The right product offering – right from the start

How can African operators make the most of business support systems and revenue assurance? As Salman Tariq of Optiva, a provider of revenue management software, tells Vaughan O'Grady, monetisation and BSS platforms can play a pivotal role in helping operators to differentiate their services – and will be even more effective as networks evolve.

WHAT CHALLENGES DO business support services (BSS) solve and why are they relevant to Africa? First of all, as Salman Tariq, VP Sales Middle East and Africa, Optiva, a provider of mission-critical, cloud-native revenue management software for the telecommunications industry, pointed out, sub-Saharan Africa is large, diverse and one of the highest-growth regions for telecom services.

He added, "Having said that, most markets in this region are still in the developing phase, and their needs vary from the more mature and saturated markets. 5G enterprise opportunities are exciting as a future prospect, but most developing markets in this region are still looking to solve some fundamental problems."

One thing is clear that is GDP per capita on the continent is low. This, in turn means that telecom service providers in this region operate on very thin margins. A significant segment of the consumer market is highly cost-conscious, has low ARPU, does its telco purchasing daily, sometimes even hourly and is an immediate churn risk if their experience is negative.

Thus, said Tariq, "Customer trust, cost transparency, price plan competitiveness and bill shock prevention are key issues that drive customer buying behaviours. With limited disposable income, consumer trust and revenue predictability are intimately connected for these markets."

With extremely tight operating margins, the room for error is almost zero, and operators have to get it right first time.

Photo of Safaricom's M-Pesa service in Nairobi, Kenya: Vodafone Group

Mobile money could be a good fit for monetisation platforms.

Monetisation and BSS platforms play a pivotal role in solving these challenges but, as Tariq explains, they must be able to offer what this market needs. "They need to have the capability to demystify the complex products and promotions hierarchy into a comprehensible personalised value, alert customers before they are expected to run out, recommend the best top-up option to continue uninterrupted – and do it while understanding the behaviour and preferences of each individual."

There is an issue that makes this a more challenging task: smartphones enabled by 3G and 4G technologies. These continue to use a lot of background data, which most consumers do not easily comprehend. This puts the onus on their telco provider to ensure end-to-end transparency. "If there is a perceived notion that my provider is 'taking' my money, this segment will not only stop purchasing, but this could also cause significant reputational damage," said Tariq.

He continued, "At Optiva, we ensure that while we continue to invest in product innovation for the future, we also address the critical business problems of developing markets. Our platforms are enabled with advanced accounting algorithms, flexible modelling for customer notifications and alerts to enable service providers to win the trust and wallets of their customers."

As you might guess, reliability and accuracy are key factors for monetisation systems. It is not unusual for operators in Africa to experience a storm of complaints at their call centres due to a few unaccounted bytes of data. As Tariq pointed out, "Imagine servicing that problem with a call to a CSR agent that costs multiple times more — not to mention the reputational damage such situations can cause!" With extremely tight operating margins, the room for error is almost zero, and operators have to get it right first time.

Tariq explained that advanced BSS systems can help operators tackle that issue in multiple ways. They can help drive more revenue predictability and capitalise on the short upsell windows by detecting and acting on them. They can also provide strong self-service capabilities that enhance customer satisfaction and stickiness and reduce the costs of managing customers.

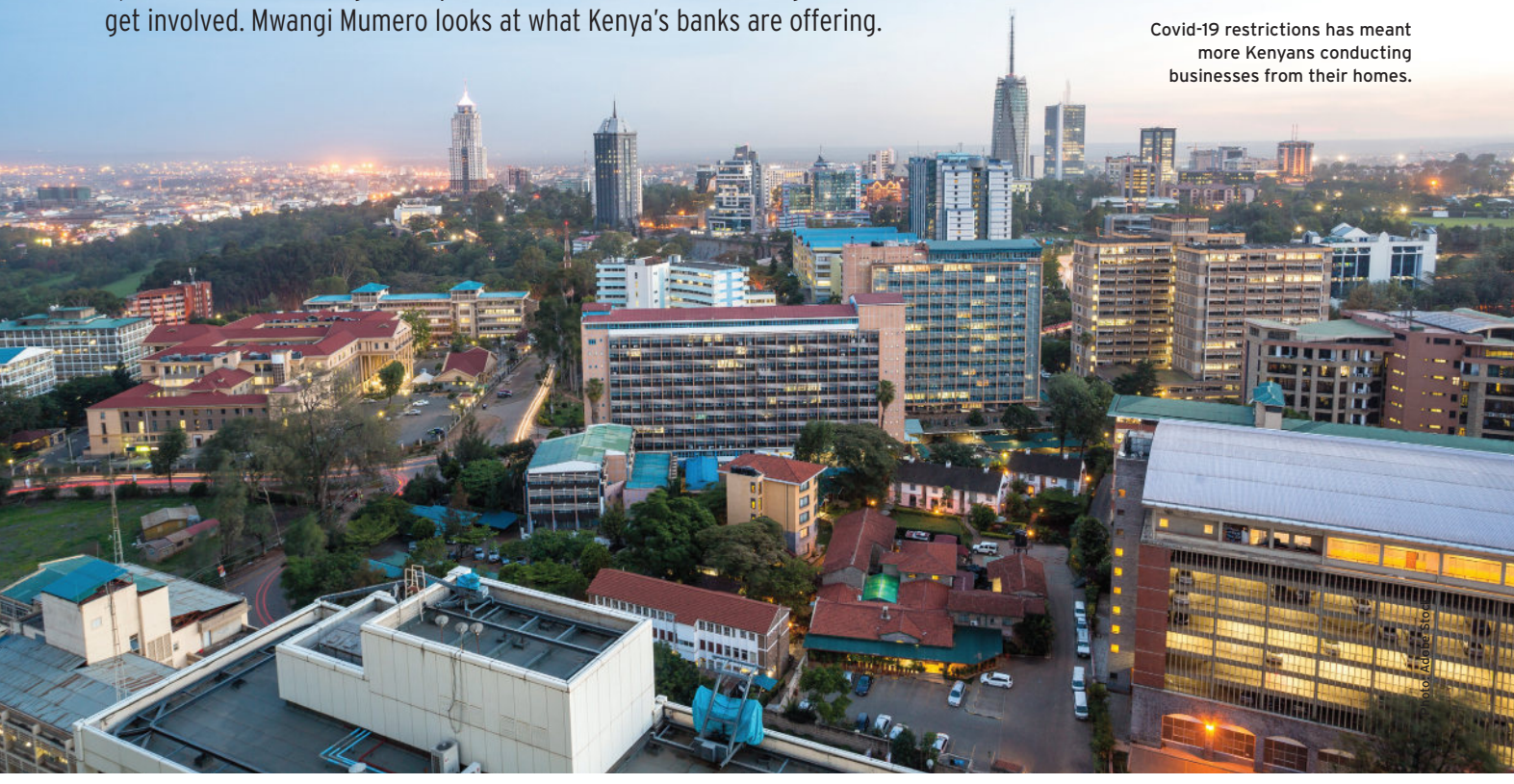
"Additionally," he said, "to keep the revenue per transaction aligned to the costs, BSS systems are expected to pre-empt user behaviour. This is achieved by using advanced machine learning techniques and having the ability to vary transaction load dynamically based on the revenue expectation from the product."

Such innovative techniques are likely to become even more relevant in the future with 5G, where mass IoT use cases are expected to add massive transaction load on the platforms – but not necessarily proportional revenue increases.

Continued on page 16

The evolution of mobile payment

The phenomenal growth of mobile money services offered by Kenyan operators has encouraged Kenyan banks and other financial organisations to get involved. Mwangi Mumero looks at what Kenya's banks are offering.



Covid-19 restrictions has meant more Kenyans conducting businesses from their homes.

Photo: Adobe Stock

"Mobile banking apps allow me to withdraw cash from my bank accounts, buy phone credit, send money and receive money, among other uses – all while taking breakfast," observed Paul Wanjala, who has rented 10 acres of land at Isara, Kajiado County, close to the Tanzanian border, in sight of Mount Kilimanjaro.

An insurance executive, Wanjala works in downtown Nairobi, over 300km from his farm. "With a good trusted supervisor on the ground, one can do farming business from virtually everywhere – with mobile banking services," he noted.

Among other common financial transactions taking place via mobile platforms are payment of utility bills, payment of school fees, and borrowing mobile loans through various apps as well as transferring money to mobile wallets, such as M-Pesa or Airtel Money.

Not surprisingly, Kenyan banks and other financial organisations have now started rolling out mobile banking services, riding on the existing networks or even creating their own platforms.

Data from the Central Bank of Kenya (CBK) shows that total mobile money transactions in Kenya reached US$38.5bn in 2018, and the total number of mobile money accounts in Kenya reached 45.43 million.

With Covid-19 restrictions last year, mobile transactions increased as Kenyan remained at home and conducted businesses from their sitting rooms and bedrooms.

Banking queues have been getting shorter, while earnings from mobile banking services have continued to grow.

Mobile payments by Kenyans reached US$4.4bn in August 2020, from US$4.1bn in July and US$3.4bn in June, according to CBK.

While many of these transactions were from one mobile money service to another, a huge number emanated from banks as Kenyans either transferred funds from their accounts to mobile wallets or made direct payments to a merchant from their apps.

Banking queues have been getting shorter, while earnings from mobile banking services have continued to grow. According to Kenya Commercial Bank's managing director Joshua Oigara, this change has been mainly driven by mobile transactions.

The bank's mobile banking app offers a range of services that include payment of school fees and utility bills, transferring money to mobile wallets and borrowing of up to US$2,700.

Of the US$115mn in profits after tax in the 2019 half-year results, the bank registered, US$47mn came from non-branch transactions – a 131% growth.

As of June 2019, KCB's mobile transactions accounted for 78% of all transactions, followed by agency and internet banking at 14%. Bank tellers and ATMs tied at 4% of the total transactions.

"Investment in technology generated positive returns and further helped drive efficiency and deepen access to affordable financial services in all markets," observed Oigara.

Not to be left out, Equity Bank, Kenya's largest lender by customer base, has launched its own line, called Equitel, which is very similar to M-Pesa.

The bank also has an app known as Eazzy app on which transactions in 2019 grew by 28% to reach 146 million from 114 million the previous year. Equitel transactions meanwhile

grew by 5% – from 121 million to 126 million transactions. Overall, the bank's mobile transactions rose to 77.4% compared to 76.4% recorded the previous year.

Kenya's financial sector is well developed with 40 registered banks. There are numerous savings and credit organisations (Saccos) that deal with almost all sectors of the economy. Most have taken up mobile banking services, allowing their customers to transact business via both simple phones and more complex smartphones.

Many banks have also come up with innovations that allow remittances coming from abroad to flow through mobile banking.

In 2020, remittance inflows to Kenya jumped 11% to US$3.09bn, thanks both to mobile banking innovations and the Kenyan diaspora sending money to their families struggling from the effects of coronavirus pandemic.

Bank apps in Kenya include MCo-op Cash from Cooperative Bank, ABSA Banking from ABSA Bank Kenya, Mfukoni App from SBM Bank, Pesa Pap from Family Bank of Kenya, NIC NOW app from NIC Bank Kenya and the NatMobile app from National Bank of Kenya. All are available in Google Play stores.

Mobile banking software vendors in Kenya, include Musoni Systems, Citius, Teamweb Africa, Oracle, Compulynx, Temenos and Fintec-Group.

High mobile penetration (over 100%) is another driver of mobile banking services although growth is partly driven by ownership of multiple SIM cards as customers take advantage of differences in charges for mobile banking from network providers.

Many banks have come up with innovations that allow remittances coming from abroad to flow through mobile banking.

A 2019 survey by the CBK shows that there are now more smartphones in Kenya than ATM cards. And around one in two Kenyan youths own a smartphone and are able to access the internet. Availability of mobile banking solutions has also boosted financial inclusion. According to the 2019 FinAccess household survey from the Central Bank of Kenya (CBK), the Kenya Bureau of Statistics (KEBS) and FSD Kenya, 82.9% of the adult population has access to at least one financial product. Interestingly, 54% of Kenyans are using digital wallets to save.

A Kenyatta University study entitled: 'Mobile banking services and financial inclusion among commercial banks in Nairobi City County, Kenya' concludes that mobile banking has improved the level of access to financial services to persons without formal access to commercial banks.

At the same time, the study noted that the amount of money transferred through mobile phones has increased in commercial banks.

To boost the mobile banking business, the study advises bank customers to request the banks to link their account with mobile money payment services. The introduction of pay bill services ought to further reduce customer queues, increase the cash reserve ratios of the bank and increase cash deposit ratios.

Researchers also found out that flexibility in the amount of credit extended through mobile phones would attract more bank customers, as would flexibility in repayment of mobile phone-based loans.

However, system delays by mobile money transfer service providers, slow processing of transactions – especially during the weekend – high transaction costs, limits on the amount that can be transacted and fraud have been identified as major challenges.

A key recommendation of the study is that there should be regular maintenance of mobile money transfer systems by managing their systems' capacity and in turn, addressing the problem of transaction delays and improving customer service. It also suggests that mobile banking charges should be lowered to attract customers. ✆

Continued from page 14

BSS automation with cloud-native technologies is another key area that can help service providers become more agile and get the product offering right from the start. Tariq said, "Optiva supports a zero-touch operations model, where advanced tooling and automation allow operators to configure and roll out new services without risking current services. To a larger extent, this also eliminates human skill set intervention in an otherwise largely manual software change management process."

Worldwide trends suggest that some of the key drivers of investment in BSS platforms are 5G, cloudification and adoption of SaaS [software as a service]-based models. BSS investments are typically made for five-to-seven-year cycles, so these factors are relevant for most African markets as well. "However," said Tariq, "the predominant driver for BSS transformations in this region is the need to optimise TCOs, launch new services fast and reduce time to revenue, which is not possible with highly customised and complex monolithic legacy systems."

Which is why Optiva works closely with its customers to show them the TCO savings generated by transforming to cloud-native technologies, which in some cases, could be as high as 70%.

This is a significant motivating factor, but the risks associated with the failure of transformation programs are a potential barrier. How does Optiva manage this? "We take the approach of embracing agile Dev/Ops methods to break down overall business goals into smaller, usable and measurable drops and deliver them incrementally," Tariq explained. "This approach builds confidence in our customers as they embark on the cloud journey and ensures a faster ROI."

How about personalisation – something of a buzzword these days? How important is delivering a more advanced and personalised user experience as a differentiator for an operator in a competitive market?

Of course there is a very young population in most African markets, making demand expectation unpredictable, highly personalised and viral. The youth customer segment is likely to be easily influenced by, for example, a new advertisement or a friend's social media post. "Also," said Tariq, "most markets are extremely competitive, and customers are not shy to switch their service providers for minor differences in experience or costs."

This is where operators can seek the support of BSS platforms. "BSS platforms carry the most relevant contextual data for these customers, and they are key enablers to a highly personalised, real-time experience." And that includes upselling. "Optiva platforms have pre-integrated real-time upsell campaigning capabilities that enable personalisation across multiple channels and give operators the best chance of converting short-window opportunities to revenue."

That said, tariff innovation is still a core differentiation strategy for most markets. Most successful tariff plans aim to create a perception of 'more for less' by packaging 'freebies' to stimulate usage and attempt to capture specific niches. Community-based plans and allowance sharing are also relevant in these markets, where price sensitivity is a key factor for customer retention.

As Tariq pointed out, Optiva platforms enable a rich library of tariffs that can be configured and adapted by commercial and marketing teams using easy guided tools to create differentiated price plans.

He explained, "One of our customers has, for example, configured more than 30,000 tariff permutations on our platform and

used this as a differentiation and personalisation strategy. Communities and families are key in the fabric of African society. Optiva platforms allow our customers to create complex, abstract customer hierarchies and share common 'buckets' across larger communities to support shared plans in the region."

Another strategy an operator may wish to explore is to move away from static pricing to dynamic surge pricing — the ability to vary price plans dynamically in real time within BSS platforms based on demand patterns and incentivising early buyers. These strategies have worked well for certain industries, including airlines and hospitality. However, Tariq warned, "While it might look interesting, it does not come without the risk of cannibalising revenues of a segment that is willing to pay a higher price today."

Most telecom operators did not venture deep into this until recently, weighing the risks of revenue decline against the fixed opex model that most telcos operate today. "However," said Tariq, "with improved access to powerful cloud-based AI and ML tools, cloud-native BSS platforms can adapt faster. The persistent challenge of converting an unpredictable demand to predictable revenue might make it the right time to experiment," he adds.

Tariq's many references to the cloud in this interview underline an ongoing transition in telecoms. Why is the cloud important to Optiva?

Tariq explained, "With its ability to enable fast innovation, run automated operations, scale workloads on demand and provide access to powerful AI and ML tools, the cloud is the foundation of digital enablement in any enterprise. In telecoms, we see great momentum recently with hyperscalers and key network vendors announcing major partnerships to bring cloud capabilities on the network edge and the core. Across the region, connectivity and the fibre landscape are improving. While data centre presence is currently lacking, the big public cloud players have robust and low-latency private fibre networks that could be accessed through multiple points of presence across the region."

Photo: Adobe Stock

There is a very young population in most African markets, making demand expectation unpredictable, highly personalised and viral.

As for Optiva, "Our technology has already proven successful on the public and private cloud. We believe in cloud-agnostic BSS applications that give operators the flexibility to align the deployment approach with their broader cloud strategy, which, in the case of most telecom operators, is still in nascent stages. "

Cloud can be a game-changer for the African region where transaction volumes are not growing proportionally to revenue. Cloud provides the ability to scale to the exact need at the specific time of demand. For instance there are investments today in standby disaster recovery platforms that do not contribute to revenue generation but are necessary to mitigate site disaster risks. As Tariq explained, "Cloud can eliminate that need by enabling on-demand disaster recovery platforms that only scale when needed. Cloud enables the adoption of SaaS models that reduce barriers for telecom operators, especially the smaller start-up service providers with limited upfront capital, to start new services much faster."

Tariff innovation is still a core differentiation strategy for most markets.

Turning next to a very successful market in Africa, how can the Optiva BSS Platform – which monetises innovative services – be useful in the African mobile payment market?

Tariq agreed that mobile payment is an African success story, one that will continue to grow in the region to create more inclusive opportunities for a large market segment that does not have access to traditional banking.

Thus, "We are building our platforms based on open access principles to allow our customers to connect and integrate our monetisation platforms with external wallets, like M-Pesa. It will create opportunities for new convergent products and bundled offerings to ensure a seamless experience for end users."

Of course, one of the critical ingredients of digital transformation for telcos is the ability to offer more lifestyle-geared services. This would require monetisation systems to integrate with an ecosystem of payment and service partners. "Optiva enables an open API-based integration framework, allowing a single convergent system to create all offerings and make service fulfilment and service monetisation much easier."

Finally, as most observers of the telecommunications industry would agree, use cases are changing; digital brands, IoT and 5G services are just three example. Is this causing operator uncertainty over BSS investment?

Tariq agreed that there is uncertainty over 5G investments and the potential ROI with new enterprise use cases. "Predicting market outcomes with so many different variables and external factors has never been more challenging," he said.

He continued, "Having said this, we believe it is all the more reason why operators should invest in cloud-native BSS and platforms that allow them to embrace uncertainty with confidence. It is not sufficient for BSS systems to support the services and products we have on the roadmap today. They need to implement a future-ready foundation with the flexibility and extensibility to cover the potential use cases we will only know about in the future."

However, another element of this uncertainty is platform scalability, which Tariq compares to the early days of mobile data. Most service providers went wrong with their traffic predictions — underestimating the anticipated traffic and running into scalability bottlenecks.

The answer? "We enable operators to deploy architectures where they can scale freely, either using an unlimited scale on public cloud environments or deploying hybrid models that allow offload of traffic peaks from on-premises to public cloud data centres" ✆

Delivering content to a continent

Education and entertainment in Africa can both benefit from the reach of satellites – as operator Intelsat knows only too well. Christell Meyer, director of sales, Intelsat South Africa, told Communications Africa about two ongoing collaborations that can help to benefit both TV viewers and students.

SATELLITE OPERATOR INTELSAT and content aggregator AfricaXP recently worked together to extend the satellite footprint of AfricaXP's PremiumFree TV offering with the Intelsat 20 satellite. Intelsat also recently extended its partnership with Mindset Network NPC, an award-winning developer and distributor of educational materials in Africa.

Following these recent announcements, Christell Meyer, director of sales, Intelsat South Africa, discussed with Communications Africa satellite's role in both entertainment and education in Africa – from the point of view of a company that is helping to enable both.

Communications Africa: How has the African TV market developed since you first offered coverage?
Christell Meyer: Intelsat has been part of the communications fabric in Africa since 1965, and was the first operator to introduce satellite services, enabling critical communications infrastructure across the continent.

Viewership habits in Africa have really evolved since we started offering services. The world's second-largest and youngest population, the continent is currently home to the largest growing TV market, with consumers demanding a more personalised media experience across a variety of connected devices, as well as more localised content, international news and entertainment offerings.

"We believe that multichannel free to air TV delivered over satellite will play a key role in the future of the African TV market."

Photo: Christelle Meyer

Christelle Meyer, director of sales, Intelsat South Africa.

To meet this growing demand, we have had to adapt. When we started serving Africa, Intelsat's first satellite, known as Early Bird, could only support 240 voice circuits or one TV circuit. Today, Intelsat operates the largest satellite fleet over Africa, with seven prime orbital locations, and the largest video neighbourhoods serving over 200 broadcast customers. Through our prime orbital locations, we provide international and local coverage to communities throughout the entire African continent, reaching more than 40 million people via active pan-African and top international channels in 10 languages, and across a variety of genres.

Communications Africa: The Intelsat 20 is a GEO satellite and Ku-band is used for the African service offering. Why?
Christell Meyer: Intelsat 20, just like all Intelsat satellites, is located in geostationary orbit, as we believe that the broadcast and multicast capabilities of GEO satellites are the most efficient and secure way to deliver large amounts of content to multiple points. Since they are located at a greater height, GEO satellites cover a larger geographical area, enabling us to reach everywhere across the continent, even the most remote villages, while their fixed position means that satellites can permanently focus their capacity over the region of demand to deliver enhanced services.

Intelsat 20's strong, focalised Ku-band beams bring high-quality content to viewers in sub-Saharan Africa. While some of our satellites have multiple frequencies, Ku-band offers higher transmission power over smaller geographic areas and can be received with smaller ground equipment. For our customers in Africa, this means a flexible, yet cost-effective, solution to their needs.

Relying on Intelsat 20, AfricaXP's PremiumFree TV has extended its satellite footprint, adding 40 million dishes to its reach. The Ku-band geostationary satellite, located at 68.5°E, Intelsat 20 is the premier direct-to-home (DTH) video neighbourhood in Africa, reaching key markets in virtually all of sub-Saharan Africa.

Communications Africa: As it's free-to-air, what is the AfricaXP business model?
Christell Meyer: We've seen over the past few years the failure of several new pay TV initiatives, but we believe that multichannel free-to-air TV delivered over satellite will play a key role in the future of the African TV market. AfricaXP's PremiumFree is a great initiative that will stimulate the market by offering value to a segment that cannot afford to pay regularly for premium content. A strong free-to-air offering will drive the penetration of TV sets, which will in turn stimulate content development and grow viewing habits. In parallel, the

Continued on page 21

"An unprecedented opportunity to break into enterprise networks"

The ongoing shift to homeworking in many countries has been further boosted by the coronavirus pandemic. However, remote working can increase threats to network security. Perry Hutton, regional vice-president of cyber security solutions company Fortinet Africa, tells Ron Murphy what the risks are – and what can be done to manage them.

Photo: Adobe Stock

More companies than ever are enabling homeworking. But are they aware of the network security risks?

THE PANDEMIC HAS made remote working the norm for many people. It has also increased security risks.

As Perry Hutton, regional vice-president, Fortinet Africa, a leader in broad, integrated and automated cybersecurity solutions, said, "For attackers, the shift has presented an unprecedented opportunity to break into enterprise networks by targeting weakly protected home networks, consumer devices, VPN connections, and video communication and collaboration tools."

Malicious activity involving the use of Covid-19-related lures, for example, includes phishing and business email compromise schemes, nation-state-backed campaigns and ransomware attacks. Attackers have also focused considerable attention on the security of routers and all IoT devices at home.

The point, Hutton said, is that "attackers can exploit the subpar security in these systems to try and gain a foothold on enterprise networks or on devices that homeworkers might be using to connect to the enterprise network."

A relevant term here is increased attack surfaces. The attack surface can be defined as being the whole set of physical and digital micro-perimeters arising in the enterprise IT eco-system, combined with all attack vectors used to breach them.

Digital transformation offered opportunities for business expansion to enterprises, but it led to a rushed adoption of new application and access technologies (such as cloud services, mobile applications and IoT) which are also bringing hidden and unknown vulnerabilities.

Hutton explained, "An attack surface thus now includes new edges (such as WAN, data centre, cloud and end points) and various threat types: known, advanced and unknown. To be able to protect such attack surfaces, we need to adopt a strategy that makes it easy to cover the broader attack surface and manage security in a broad, integrated and automated fashion. This enables security-driven networking, zero trust access, dynamic cloud security, and AI-driven security operations."

Today's networks are becoming huge, very complex and very resource-consuming, meaning that artificial intelligence (AI) and machine learning (ML) play a greater role in network security. Hutton says that ML has become an essential method for analysing bulky data traffic behaviour and identifying patterns to determine anomalous activity. AI, meanwhile, is playing a vital role in automating the processes of identifying and neutralising these threats.

He continued, "With ML/AI, network security is rapidly shifting from being reactive to proactive, by offering better capabilities than humans in detecting sophisticated attacks in a faster way, accurately and more cost-effectively."

Automated detection of security breaches is one result of AI's involvement. Hutton explained, "One starts by collecting all the security telemetry, events and data from appliances and systems for correlation and analysis. This will become the data that is used to feed the AI system." Because it collects information across the industry's broadest portfolio, the more threat telemetry that can be used to find an active threat the better the results.

Continued on page 26

Should Africa adopt VoLTE?

As an end-to-end, cloud-native network software provider, Mavenir has had a strong involvement in the provision of voice over LTE. Brandon Larson, SVP and GM of Mavenir's Multimedia Business Unit, tells Phil Desmond why African operators should invest in VoLTE.

VOICE OVER LTE (VoLTE) is an evolution of voice services that is itself a result of the evolution of broadband cellular network technology. Brandon Larson, SVP and GM of cloud-native network software provider Mavenir's Multimedia Business Unit explained, "VoLTE is an IP technology that is compatible with 4G and 5G. Voice quality is being improved by advances from radio technology to improved codecs like EVS. Smartphones continue to evolve, and battery life is improving. Migrating to VoLTE enables operators to leverage technical advances across the broader ecosystem."

He added, "Refarming spectrum from 2G/3G to LTE, which is more spectrally efficient, is a driver for moving voice services to VoLTE."

Of course early VoLTE roll-outs had challenges in terms of LTE coverage, device availability, parity with existing 2G/3G voice services and regulatory requirements. "These challenges have been addressed and VoLTE is now a mature technology," Larson said.

In Africa, 152 operators in 55 countries have launched LTE. Some are even gearing up for 5G. So far, however, only 12 have introduced VoLTE. Larson pointed out, "With the introduction of 5G, VoLTE becomes even more important; it provides voice services for 5G networks which cannot fall back to 2G/3G voice." Hence, he stated, "Now is the time for African operators to invest in VoLTE."

But how will VoLTE fare in less developed regions when smartphones are not always affordable? That situation, Larson said, is changing. "Several operators have introduced innovative smartphone financing schemes to promote 4G take-up. GSMA estimates that smartphones accounted for 50% of all connections in sub-Saharan Africa in 2020 and expects smartphone penetration to hit 65% by 2026. Many vendors see a big opportunity for more affordable smartphones – and all this helps VoLTE."

Brandon Larson said, "Now is the time for African operators to invest in VoLTE."

As for whether VoLTE will oust conventional calling, "It is just a matter of time," said Larson. "The wider industry is migrating to 4G and 5G, and 'sunsetting' of legacy networks has started," he suggested.

Not only that, but vendor investment in legacy 2G/3G technologies, such as MSCs is declining, forcing operators to upgrade to VoLTE as systems reach end of life. He pointed out, "Analysis Mason forecasts that sub-Saharan Africa will witness the fastest growth in active VoLTE with a CAGR of 96% to 2025."

What happens to VoLTE when 5G rolls out? In fact, VoLTE and Voice over 5G New Radio (VoNR) are both IMS technologies: an investment in IMS today can be leveraged for future 5G voice deployments. Of course, the type of 5G is also important. "LTE is a prerequisite for 5G deployments as 5G standalone (5G SA) can only fall back to VoLTE," said Larson. "There is work being done in standards for 5G to 3G fallback, but it is likely to be a stop-gap solution and sub-optimal for the 5G era."

And IMS technologies will continue to evolve – whether the service being delivered is 4G (VoLTE) or 5G (VoNR). "One evolution relates to the cloud where IMS workloads can be deployed in container environments. The second trend will continue around services such as video, aligning voice to data channels and leveraging rich communications."

Brandon Larson is the senior vice president and general manager of Mavenir's Multimedia Business Unit. At Mavenir, he has led key projects, such as the world's first IMS VoLTE, VoWi-Fi and RCS 5.0 service launches. ✆

For more information visit https://mavenir.com

An evolving solution

MAVENIR DEPLOYED THE world's first commercial VoLTE service in 2012. "At that time," said Larson, "we were the only solution provider able to deliver VoLTE with full service parity. We also led in launching Wi-Fi calling with seamless mobility and video calling."

Other VoLTE-related innovations include enabling communications services to be accessed on any device for a Tier 1 North American carrier; the use of multiple phone numbers from a single device; and line sharing between groups of people. "We have also developed an operator-branded communications application, enabling the carrier to innovate and differentiate their services from other operators and OTT rivals," he stated.

He added, "Our VoLTE solution has already evolved to support 5G VoNR deployments and is being deployed in container environments alongside 5G packet core workloads."

Continued from page 18

increase in the number of viewers will attract advertisers.

The service, which was launched late 2018, instantly made waves in Ghana and Nigeria and it will be available, from the first of May, on more satellite dishes than any other multichannel bouquet in Sub-Saharan Africa, thanks to the reach and neighbourhood delivered by a transponder on the Intelsat 20 satellite.

"During the pandemic, a free, unencrypted channel was launched."

Photo: Adobe Stock

Satellites can play a major role in delivering education across Africa.

Communications Africa: I'd like to talk next about your work with educational materials developer and distributor Mindset. Before Covid, the Mindset partnership mainly focused on South Africa. What technical changes needed to be made to ramp up the service for the rest of sub-Saharan Africa?

Christell Meyer: Intelsat has partnered with Mindset since the non-profit was founded in 2002, providing free access to satellite capacity and technology that allows Mindset to rapidly and efficiently broadcast and IP multicast its educational content to over 1,600 schools and 1,025 healthcare facilities across just South Africa.

With the Covid pandemic, at a time when, according to UNESCO, nearly 300 million students throughout Africa have been impacted by school closures and other learning disruptions due to Covid-19, it seemed obvious that we should extend our partnership and help deliver Mindset's important educational resources to students and at-risk youth throughout Africa. Since Intelsat operates the largest satellite fleet over Africa, extending this service to the rest of Africa was not technically too complex.

"300 million students throughout Africa have been impacted by school closures and other learning disruptions due to Covid-19."

Communications Africa: How is content supplied for the service?

Christell Meyer: Intelsat provides satellite bandwidth that enables the delivery of quality educational resources to schools, homes, community centres, teacher centres and public health facilities throughout the African continent. Educational resources on topics such as science, mathematics, information technology and English are delivered via satellite as a linear television broadcast.

More specifically, during the pandemic a free, unencrypted channel was launched, allowing governments, departments of education, broadcasters and non-governmental organisations across sub-Saharan Africa within Intelsat's satellite coverage area to downlink and redistribute Mindset's Learn channel.

"Satellites' ubiquitous coverage means that there are no 'last-mile' issues, while the scalable and cost-effective space-based solutions can help countries meet connectivity challenges quickly."

Communications Africa: How can it be received?

Christell Meyer: A satellite dish pointed towards IS-17 or IS-20, a television set and a universal free to air set-top-box.

Communications Africa: What does satellite offer that cellular or microwave cannot?

Christell Meyer: Submarine cables running up and down Africa's coasts, combined with fibre-optic cables and cellular towers, have dramatically improved access to connectivity in the continent over the past ten years.

Yet, last-mile connectivity remains a challenge and, according to GSMA, as of the end of 2019, 670 million people were still not covered by mobile broadband (3G or higher).

Satellite is typically the only practical way to provide connectivity to areas underserved or unserved by terrestrial networks, where the economics do not make sense. Satellites' ubiquitous coverage means that there are no 'last-mile' issues, while the scalable and cost-effective space-based solutions can help countries meet connectivity challenges quickly.

Communications Africa: What are Intelsat's plans for the market in the coming years?

Christell Meyer: With the introduction of satellite services in 1965, Intelsat enabled critical communications across the continent. Today, with 23 traditional satellites and four Epic satellites covering Africa, Intelsat serves media organisations, telecom operators and service providers, helping them to deliver content across the whole continent.

Africa, with its burgeoning economies and rising youth population, is transforming quickly, with cross-generation entrepreneurs set to drive the continent into its next phase of development. Intelsat is committed to support the continent's digital transformation everywhere. For this, Intelsat is continuously working on advanced technology, innovative managed services and new business models to help close the case and bring connectivity, even to the most rural parts of Africa.

We are also counting on Africa's next generation of satellite engineers to help us develop new solutions and recently partnered with XinaBox to deliver space-focused STEM (science, technology, engineering and mathematics) learning tools to teenagers across the African continent. ✆

Extending the reach of fibre

It's true that African broadband markets are predominantly mobile. However, in recent years, fibre has made major advances and is continuing to extend its reach. Juanita Clark, CEO of Digital Council Africa, tells Vaughan O'Grady why.

As more Africans work from home FTTH providers have seen demand increase.

Photo: Adobe Stock

DESPITE THE DOMINANCE of wireless in much of Africa, at the moment there seems to be more optimism than ever that fibre to the home or premises could have a role in Africa's communications future. Why is this?

Juanita Clark is in a good position to answer questions about fibre connectivity in Africa. She is the CEO at Digital Council Africa, a not-for-profit organisation whose aim is to maximise the societal benefits of digital and data-driven technologies.

She is quick to remind us that fibre is not just an enabler of fixed communications. "Fibre is often seen only in the context of fibre-to-the-home (FTTH) and whether there is a business case for end-to-end-fibre networks," she said, "but fibre also forms a part of mobile communications network architecture as well. As more people in Africa come online, there is a greater need to deploy backhaul infrastructure to accommodate demand."

However, fibre deployment has undoubtedly benefited from the arrival of subsea cables. Of course, the early disrupters took great risks when they built submarine cables – as take-up was not guaranteed. As Clark said, "A decade or so ago, most fibre network operators worked on the premise of 'build it and they will come'."

Most of these operators have, of course, been incredibly successful and today we know that the arrival of submarine cables has played a significant role in providing the capacity for African consumers to connect to the rest of the world, at speeds, and prices, never seen before. As Clark stated, "The demand has been staggering and has resulted in many more cables being deployed, connecting Africa to every corner of the world. Without submarine cables the terrestrial fibre industry certainly would not be where it is today."

Despite this progress, however, greater development always requires an enabling regulatory landscape. Has the regulatory landscape improved in recent years?

"It has been very slow, but we are beginning to see significant change now," Clark suggested. In particular the Covid-19 pandemic underlined the need for fibre optic infrastructure. "For a long time," she said, "many governments – and investors – viewed the telco sector as an 'either/or' – either you provide mobile communications or you provide fibre communications, and many people believed Africa to be the mobile continent. Today we know that the two technologies cannot be separated and that they heavily rely on each other. It has taken a lot of education, but we are getting there."

There are still gaps of course: in particular, policies need to be developed that will enable the rapid deployment of infrastructure. As Clark pointed out, "There are still issues with obtaining rights of way (wayleaves), and there are too many diverse policies in place – or no policy at all. It slows down the pace at which companies can deploy."

There is also the issue of managing the costs associated with approvals and standardising so that companies can plan more effectively. Or, as Clark puts it, "Although we have come a long

way there is still much needed work to be done to remove cumbersome processes and costs so we can move faster."

Nevertheless, costs have come down significantly, due in part to economies of scale. But that is not the only driver of lower costs, said Clark, pointing out, "Fibre network operators have also learnt some lessons and have become significantly more efficient in adopting cost-effective deployment methodologies and adjusting their deployment strategies in general." Also, governments have sped up applications and approvals. This, she said, "has helped projects move forward and planning to become more stable. The maturity of the regulatory market has a definite impact on the total cost of ownership."

There are even alternative rollout methods. Many companies have certainly learnt that there is a place for other methodologies, such as aerial deployment. Clark explained, "Although we would like to see every metre of fibre deployed below ground, it simply does not support the business case in the more rural areas."

It seems it would not be entirely correct to say that the African end user market for fibre is mainly business-based. The FTTH market, for example, is showing substantial growth and demand continues to increase, especially since the pandemic. Clark added, "FTTH providers have seen demand increase by as much as 40% and this is expected to continue as work from home (WFH) becomes the norm for many people."

Photo: Digital Council Africa

A Liquid Telecom fibre installation project in South Sudan.

In fact, the Digital Council is even expecting fibre to start reaching more rural towns as people exit the major cities in cases where they do not have to report to an office. "This trend will have a major impact on urbanisation," Clark suggested, "and we are strongly encouraging business to adopt WFH strategies. The price of FTTH service continues to decline as the take rate increases, and currently, especially in South Africa, the price point compares very favourably in comparison with mobile data."

But there are still many challenges to be overcome to bring more broadband services to more Africans, many of them socio-economic. And policies are not uniform across the continent. "Unfortunately many governments still think that connectivity is the least of their problems," Clark explained. "Therefore, the fibre landscape varies widely in Africa, which makes it a challenge to isolate a single issue to be overcome. In more mature markets there are very different challenges to markets that have just had a cable land. Sharing of lessons across Africa is very important as is ongoing policy change to ensure that fibre is deployed at scale."

Summing up, she stated, "The greatest challenge is that every country is at its own stage and needs ongoing engagement and support."

And the Digital Council will no doubt be part of that engagement. Clark explained, "Digital disruption is challenging the status quo of traditional industries, generating a continuous flow of innovation and new technologies, affecting stakeholders and industry. The Digital Council Africa works to raise awareness for the potential of the digital economy – and our members are deeply committed to ensuring that every African enjoys the benefit of the digital economy."

Established in 2010 under the banner of the FTTx Council Africa, the Digital Council is an independent, not-for-profit organisation that seeks dialogue with all stakeholders to discuss how to maximise the societal benefits of digital and data-driven technologies to increase equality and inclusivity, wellbeing and digital adoption. ✆

http://www.digitalcouncil.africa

The fixed network advantage

Even in Africa, fibre can sometimes have an advantage over mobile, as the success of solutions provider Liquid Intelligent Networks proves.

AFRICAN BROADBAND MARKETS are predominantly mobile because of the combination of a lack of fixed infrastructure – in part a result of lack of investment and lack of operational skills – and the advantageous balance between cost and broadband capacity offered by wireless services.

However, a fixed network, not limited by spectrum and other physical characteristics of wireless communication, has an advantage in areas where high capacity, need for a dedicated service and concentrated demand meet. And communications services and solutions provider, Liquid Intelligent Technologies (formerly Liquid Telecom) has enjoyed some success in proving this.

As David Eurin, chief strategy officer, Liquid Intelligent Technologies, said, "Fibre to the premise (home or business) is a very good medium to offer broadband; it supports a range of services that require a service level hard to deliver over the air."

Nor is that the only advantage fibre has over mobile. "Cloud-based services involving sophisticated graphical interfaces, cybersecurity, high computing power and large data transfer, are often best delivered over fixed networks," Eurin argued. As for costs, he said, "Early investment in FTTx [a term for most forms of last-mile fibre deployment] can allow further deployments in surrounding areas, using an operational leverage over sunk costs."

The result, he suggests, is snowballing the effects of FTTx, "where initial roll-outs in high-income areas are followed by additional roll-outs in slightly less affluent neighbourhoods or business centres. Liquid has rolled out FTTx to tens of thousands of business buildings and almost 100,000 domestic premises in South Africa, Zimbabwe, Zambia, DRC, Tanzania, Kenya, Uganda, Rwanda and South Sudan."

Liquid is also doing this on a larger scale than last-mile fibre. In fact, as recently as March, Liquid Intelligent Technologies deployed its fibre network in the Democratic Republic of Congo (DRC), connecting millions of DRC citizens and thousands of businesses to the One Africa broadband network, totalling over 73,000km across the continent and linking Kinshasa and most major cities in the DRC directly to the world.

Remote coverage: a better business model

Bringing telecommunications to remote parts of Africa has not always been easy nor has it been deemed to be highly profitable; however there are disruptive business models based on purposely built RAN solutions that can make it work. One such model is the network as a service (NaaS), as Francis Letourneau, CEO of NuRAN Wireless, explains to Ron Murphy.

"There's a reason why most unconnected people are not connected," says Francis Letourneau, CEO of NuRAN Wireless. "Until now, the vast majority of an MNO's investments were going straight into the urban and suburban areas for increasing capacity or getting over-the-top-type solutions, etc.... In the rural market the typical telco infrastructure investment was thought to be too great for the potential return."

But, he adds, this is an opportunity for "players like us, bringing an alternative that the MNO needs: coming in, investing, deploying and running the network on their behalf".

NuRAN is a specialised telecommunications company that meets the growing and immediate demand for wireless network coverage in developing countries and remote regions. Its solutions include 2G, 3G, and 4G technologies.

However, that doesn't mean 4G is currently ideal for rural Africa. "In terms of the RAN perspective, even 2G will still be around for a few more years at least," says Letourneau. In addition, remote regions need massive RAN investment – especially on the base stations and the base station controller side. Letourneau also estimates that up to 30,000 more towers could be needed in the next three to five years in rural Africa alone.

Nuran has developed the 'network as a service'. Letourneau explains, "One key value proposition is that our RAN technology is centric to our offering. Purposely built for rural, its low power consumption, satellite bandwidth optimisation and low footprint allow NuRAN to be more cost-effective in terms of the capital and operational expenditures for the rural networks. We do it purpose-built: an infrastructure aligned to the need of each area. There's a definite ROI – if you do it right."

Photo: NuRAN Wireless

Francis Letourneau, CEO of NuRAN Wireless.

In this model, the MNO's asset is not the network but its subscriber base. Outsourcing the network to companies like NuRAN is a logical consequence of this approach.

Some MNOs will want the assets returned when the time is right. Two recent NuRAN contracts – with Orange in the Democratic Republic of Congo and Cameroon – will involve the assets being transferred back to Orange after a certain period of time. But this will not immediately affect the NaaS model. Letourneau says, "NuRAN will still do the management, even if the assets are transferred back, as part of the ten-year deal we have on the table now."

Whatever the agreement, for NuRAN, this is going to be a rural play. "We are not planning to go into cities; that market is extremely well covered. We built our solution for rural, and we will stick to rural for quite a long time as the demand is, essential and immediate."

But it won't always be 2G or 3G. If you give an end user communications technology, Letourneau explains, he or she will, over time, want more apps and more bandwidth "and we will need to follow the trends".

There is a way to connect rural people profitably and that's why we are confident.

That said, cost will still be a driver to any rural 3G or 4G rollout and, when more data services are involved, the price of satellite bandwidth will be a consideration. "Most rural areas will be covered by satellite [backhaul] and current satellite cost is high for running broadband in an economically viable situation," Letourneau explains.

He is, however, hopeful that new launches and new satellite technology – like LEOs – will positively affect these costs. There is also the real possibility and likelihood that governments, private companies and other investors may see a benefit in subsidising the sort of digital inclusion that spreads the benefits of e-health, e-Learning, and mobile finance.

As for the excitement over the potential of VRAN and ORAN, he doesn't think it applies to African rural networks. "OpenRAN is good for urban and suburban areas," says Letourneau. He adds, "In the rural context you need to have a cost-optimised, purpose-built solution. The site needs a certain level of intelligence in terms of signal processing and call management. You can't have the processing done elsewhere."

Thus Letourneau remains optimistic about the market for remote coverage in Africa and feels its NaaS approach is the right one. "There is a way to connect rural people profitably and that's why we are confident. Because there are companies like us that have developed technologies built for just that purpose." ✆

Language lessons – part two

In our second look at modern approaches to dubbing and subtitling, we discuss with Allan Dembry, CTO, Iyuno Media Group, the role of voice actors, the demands of the OTT world and the changing requirements of African markets.

NEW TECHNOLOGY HAS transformed dubbing and subtitling. However, new approaches to TV production and distribution have brought new pressures to bear on the localisation process. In a recent interview with Communications Africa, Allan Dembry, CTO, Iyuno Media Group, a market leader in the localisation industry, explained why. But he began with a look at a long-established part of the localisation process: the role of voice actors.

Photo: Iyuno Media Group

Allan Dembry: "There is a real divide in terms of subtitling and dubbing by region and language."

Communications Africa: How difficult is it to fit new dialogue, lip-synced, into the same time frame as the original? Do voice actors need to be dubbing specialists?

Allan Dembry, chief technology officer, Iyuno Media Group: Voice actors need to develop specialised skills so that they are able to synchronise as much as possible their spoken dialogue to the actors on screen. However, the level of accuracy required here differs from region to region. In some regions it's permissible for the dubbed voice to not match perfectly with the on-screen lip movements of the original actor.

However, in other markets, most markedly in French-speaking territories, the need to match audio and syllables to the lip movement of the on-screen actors is a necessity. Rythmo band recording [a precise approach but one that can be demanding to prepare] requires investment up front in mapping out the lip movements into an understandable and viewable syntax in the script so that the voice actor can ensure that the dubbed audio matches as closely as possible the lip movements on screen. Ultimately, the amount of studio time is then reduced by taking this approach.

Communications Africa: I believe there is a lot more pressure on time now that shows can roll out simultaneously across multiple territories. Is this true? How do you manage this?

Allan Dembry: This is very true. With broadcast there was always a need to deliver localised content in a timely manner, and often the turnaround times were very tight, but now that we are in the OTT world of myriad different platforms, as well as content simultaneously releasing in multiple territories and languages on those platforms, there is huge pressure to manage and deliver projects on time, while still maintaining the high levels of quality expected by both our clients and, of course, the end consumer. To achieve this we use our cloud-based project management platform, MSX, to coordinate, manage and deliver those global projects. As we mentioned earlier [see issue 1 2020] around the end-to-end process, this global approach allows us to allocate work out in parallel to multiple teams and have the completed work streams come back together for finishing, QC [quality control] and ultimately distribution.

Depending on how many languages we are dubbing and subtitling the materials into, and the number of materials being localised – for example, an entire season of a show – it can be a truly global undertaking. Ensuring this is properly coordinated, [with] tasks allocated, deliverables tracked, and timely delivery, is no small undertaking but, thankfully, we've got the tools needed to help us to achieve that.

Communications Africa: I have also been told that some territories prefer dubbing to subtitling (and vice versa). Why is this?

Allan Dembry: That's very true. With the exception of children's content, which is almost universally dubbed, there is a real divide in terms of subtitling and dubbing by region and language. There are lots of theories

and reasons for this. If we take the example first of English-language content, in the Nordics, Netherlands and other countries where English is a common language taught in the lower grades in school, subtitling is preferred so as to get the original voices. As most of the population speaks fluent English, this means the performance and emotions of the original actor are caught by the audience even if speaking in a 'foreign' language. The culture of subtitling is, therefore, settled in these territories. This then applies even if the content in question is French, Korean or German; it will still be subtitled rather than dubbed for these languages. There has been a small movement towards dubbing more content for these territories, but for the most part it has made small headway and can be considered a bit odd.

Photo: Iyuno Media Group

Turnaround times have always been tight, but OTT has added to time pressure.

Conversely, in German and French-speaking territories, the view is often that you will not get the full experience of the feature if it's subtitled instead of dubbed because you need to focus your attention on the text and not the acting.

There's also no doubt that dubbing is more expensive to produce than subtitling, so in many territories, or with certain content types, subtitling is often the only cost-effective way to localise the content.

It will be interesting to see how this changes as a result of OTT platforms, most notably Netflix, producing locally and distributing globally. Will this change wider attitudes to subtitling versus dubbing?

Communications Africa: For the African market is most of your work subtitled in French or Portuguese, or do you do offer Swahili or major local languages?

Allan Dembry: For the African market most of the content that we've historically localised is either Arabic or French and Portuguese dubs that have been created for the European market. However, we are starting to see that changing in our engagement with clients. In recent years we've seen an increased interest in local languages such as Swahili and Zulu which has led to a number of projects being delivered in these languages, and although this is still very much a growth market it is a very exciting development for us. ✆

Photo: Iyuno Media Group

Technology has transformed the dubbing and subtitling process.

Iyuno Media Group is the market leader in the localisation industry with leading-edge technology providing dubbing, subtitling, and access services in any language. www.iyunomg.com As chief technology officer, Allan Dembry oversees all aspects of Iyuno Media Group's technology, including its engineering, infrastructure and networking teams.

Continued from page 19

Of course, threats designed to avoid detection will try things that have not been done before to avoid signature detection. However, "AI is smart because it looks at behaviour and intent. Once the AI has found something it then actions the security infrastructure to deal with the threats and to neutralise them." Hutton added, "Because this is handled by AI and not an overburdened human analyst, the results are near real time."

Which brings us to awareness. How should African businesses try to understand threats and (where relevant) find solutions? Hutton noted, "Technology and organisation awareness is a chicken-and-egg scenario." For many organisations, putting technology in place is the starting point. This can then be followed with investment in the human element. The quality of technology deployed has a direct impact on how much awareness will be required.

"Security is a trade-off," he continued. "For organisations to be able to make good trade-off decisions, they need to understand the security risks. The more time taken to understand the risk associated with their business, the better trade-offs they will ultimately make."

He added, "At Fortinet, we work with organisations to provide broad visibility into every segment of their network, device, appliance and applications that run on them; whether virtual, in the cloud or on-premises. This helps organisations make better security trade-offs." ✆

Protection across an entire digital attack surface

The Fortinet Security Fabric delivers broad, integrated, and automated protection across an organisation's entire digital attack surface - from IoT to the edge and network core to multi-clouds.

An integrated next-generation firewall (NGFW) and a software-defined wide-area network (SD-WAN) help a variety of businesses to achieve optimal network performance and strong security to protect against new and old attacks. With its advanced networking capabilities, Fortinet Secure SD-WAN – which integrates NGFW and secure SD-WAN in a single offering – is able to provide advanced security to protect vulnerable branch locations with direct internet access, while also delivering all the benefits of an SD-WAN solution, including improved performance of business-critical applications, better user experience, and better protection at the WAN edge.

www.fortinet.com

Who's attacking your network?

The people or organisations attacking networks fit into the following categories:

- **Government-sponsored:** These groups are well-funded and often build sophisticated, targeted attacks. They are typically motivated by political, economic, technical, and military agendas.
- **Organised crime:** These groups are typically looking for personally identifiable information (PII), such as social security numbers, health records, credit cards, and banking information.
- **Hacktivists:** These attackers have a political agenda and create high-profile attacks and distribute propaganda to cause damage to organisations in order to achieve a cause or gain awareness for an issue.
- **Insider threat:** Insider attackers are typically disgruntled employees or ex-employees looking for revenge or some type of financial gain. They sometimes collaborate with other threat actors in exchange for money.
- **Opportunistic:** These are usually 'script kiddies' driven by the desire for notoriety, but may be security researchers or professional hackers looking to profit from finding and exposing flaws in network systems and devices.

A changing communications landscape

A number of important recent initiatives have undoubtedly advanced the roll-out of telecommunications to more people in Uganda. But it is not all good news – for end users or operators. Deblina Roy reports.

Can innovative communications initiatives bring the internet to Uganda's rural areas?

Photo: Adobe Stock

AMONG RECENT TELECOMMUNICATIONS initiatives in Africa, one of the most innovative is Uganda's Electricity and Fibre To The Village (E-/FTTV) project, a shared infrastructure concept that is bringing fibre to Ugandan villages, combining the roll-out of electricity distribution lines and fibre optic cable in rural Uganda.

ADVA Optical Networking SE, Corning, the Rural Electrification Agency (REA), National Information Technology Authority Uganda (NITA-U) and the Uganda Communication Commission/Rural Communication Development Fund (UCC/RCDF) have teamed up to roll out a solution that, it is claimed, will save up to 40% of the deployment cost of civil works. The ICT side of the project, meanwhile, will expand the use of electricity by enabling the use of applications, such as e-government, e-health, e-learning and digital financial services.

But it is not just rural areas of Uganda that are seeing new services. Operator MTN has reportedly introduced fibre-to-the-home services in selected areas across Uganda.

In fact, MTN has already been offering fibre to select businesses across the city, but this approach expands the user base to include home clients that have previously been served by its home internet service – called MTN WakaNet – via a wireless connection.

Change is coming on the device side too: end users in the country will soon be seeing more locally made phones. In 2019, the government of Uganda and China's ENGO Holdings Limited signed an MoU to start assembling and manufacturing phones and computers. The initiative is a collaboration linked to the Buy Uganda, Build Uganda (BUBU) policy; all phones and laptops will be tagged 'Uganda.'

There's even good news for the country's attempts to build more data infrastructure. Raxio Data Centre has been officially recognised as the First Tier III Certified Data Centre in Uganda after receiving the Uptime Institute Tier III Certification. With this certification, Raxio Data Centre becomes one of fewer than 15 Tier III, privately-owned, carrier-neutral data centres in Africa and the second in East Africa.

And data demand is undoubtedly growing. According to the Data Reportal site, there were 10.67 million internet users in Uganda in January 2020. The number of internet users in Uganda increased by 357 thousand (+3.5%) between 2019 and 2020. Internet penetration in Uganda stood at 24% in January 2020. There were 2.50 million social media users in Uganda in January 2020. The number of social media users in Uganda increased by 27% between April 2019 and January 2020. Social media penetration in Uganda stood at 5.6% in January 2020.

Given this growth it is no surprise that attempts to expand access are continuing. The Uganda Communications Commission (UCC) is preparing a legal framework for the deployment and sharing of telecoms infrastructure. The regulator wants local operators to pool their efforts in order to speed up network expansion, reports Agence Ecofin.

However, the news is not all good. In May 2018, the government of Uganda proposed legislation that placed a 1% tax levy on the value of all mobile money transactions, including cash-in, transfer and cash-out. It was introduced in July of that year, but a public outcry saw the tax law amended in November 2018 to apply a 0.5% tax on the value of withdrawals only.

However, 2019 saw another unpopular intervention as millions of people in Uganda abandoned social media after punishing taxes were imposed on the use of networking sites and on money transactions using mobile phones.

Possibly most controversial of all has been Uganda's blanket ban on all social media and messaging apps before the election in January 2021, a move backed by the communications regulator and widely seen as retaliation when Facebook suspended some Ugandan accounts on the grounds of what it saw as Coordinated Inauthentic Behaviour (CIB) attempting to influence public debate.

It would be a pity if interventions like these were to undermine the positive developments of cheaper communications and greater connectivity. Service providers, end users and potential investors will no doubt be following developments in 2021 with interest. ✆

Mobile money cuts travel bills

Money transfer, electricity bills – and now fuel. The uses of M-Pesa in Tanzania are growing – as are user numbers and the revenue made from the service. It has also meant less time taken off work to travel, as Mwangi Mumero explains.

HOTEL WAITRESS ADIMU Jason sends her ailing and aged parents Tsh45,000 (US$20) weekly via the Vodacom Tanzania money transfer service M-Pesa.

She would require at least three days to travel to her parents' home in Kigoma in western Tanzania – more than 1,370km by road. However, she works in a three-star hotel in Dar es Salaam, where, like other hotel workers, she is kept busy – often doing 12-hour day shifts.

"The money transfer service has eased the way we send money: it's quick, convenient and fast. We don't have to seek leave from work to travel to rural areas," said Ms Jason, reminiscing on how tedious sending money to relatives had been before the arrival of digital transfers.

Photo: Adobe Stock

Long journeys to rural family have become less common thanks to digital money transfers.

She is not alone. In fact she is one of more than 10.1 million Vodacom M-Pesa subscribers. The company had 15.5 million network subscribers by the end of March 2020, giving it a market share of 32.8%. In May 2020, the company reported a 7.4% increase in M-Pesa revenue, contributing 35% of service revenue.

The appeal of the service to people like Ms Jason is clear. An M-Pesa subscriber can send and receive money, buy top-up airtime and pay for goods and services at outlets with just a simple phone. The service is particularly useful to users who have no bank accounts and live in remote rural areas.

According to the World Bank, the use of mobile wallets in Tanzania has increased financial inclusivity to 56% of the population. At least 43% of adult Tanzanians save, 35% of them through a mobile wallet.

Of the 44% who borrow, 4% do so via mobile money and 3% from banks, according to the 2017 Fin Scope report by the Financial Sector Deepening Trust (FSDT). FSDT adopts a market development approach toward addressing systemic constraints in the market and to contribute towards achieving pro-poor growth in the financial sector.

According to the Tanzania Communication Regulatory Authority (TCRA), six mobile operators offer mobile money services in the country. They include Vodacom with M-Pesa (39%), Tigo with Tigo Pesa (30%), Airtel with Airtel Money (20%), Halotel with Halopesa (7%) TTCL (3%) and Zantel with Ezy Pesa (1%).

The country's mobile money penetration reached 53% – 29.7 million mobile money subscriptions – in 2020, compared to 21 million in 2018, an increase of 41%. In June 2020 alone, at least 272 million mobile money transactions took place, with a total value of US$4.6bn.

To widen their reach, service providers such as Vodacom have enabled international interoperability through partnerships with global money transfer services like MoneyGram and Western Union.

Regionally, Vodacom Tanzania also allows for operator-to-operator international money transfer interoperability through a partnership with Kenya's Safaricom.

But that's not all. Recognising the value digital payments can have on business processes, Oryx Oil Tanzania has signed a partnership with Vodacom which brings the M-Pesa payment service to petrol stations. Under the deal, customers are now able to use their M-Pesa platform to pay for fuel from 52 Oryx fuel stations countrywide.

"We continue to extend payment options available at all our fuel stations to increase customer convenience – but also safety," said Chris Swart, MD, Oryx Oil Tanzania, during the signing of the partnership late last year.

According to Swart, using digital platforms such as M-Pesa in processing payments and collecting revenues can improve safety, convenience and transparency for both the customer and the business.

Vodacom officials have acknowledged the rising demand for digital payment by merchants and retail outlets and the importance of helping customers to avoid the risks and burdens of carrying cash.

"The company is driving digital payment in the retail ecosystems by extending the service to more private and public institutions," observed Nelusigwe Mwangota, Vodacom M-Pesa's reporting and planning head during the signing of the partnership.

And it is not going to stop there. TCRA reports indicate that more than 70% of electricity bills in the country are now paid through mobile money services. The uses of M-Pesa in Tanzania are continuing to grow and diversify. ✆

Leaving no one behind

In the second part of our look at the findings of the GSMA's , Akinwale Goodluck, head of Africa, GSMA, discusses access to digital services with Phil Desmond and looks at the future of mobile connectivity in sub-Saharan Africa.

TODAY, AS THE GSMA's recent Mobile Economy Sub-Saharan Africa 2020 report* noted, 49% of the sub-Saharan population remains unconnected to mobile internet. While it's a figure that continues to improve, there's still a long way to go. What, then, will drive new connections? What, by contrast, could slow growth?

Akinwale Goodluck, head of Africa, GSMA, points out that the benefits of access to digital services have been more evident than ever recently – digital services have in fact been crucial to keeping economies active and mitigating the socio-economic repercussions of the Covid-19 pandemic.

Thus, he feels, governments and policymakers should implement policies to enhance access to connectivity and drive investment in more resilient digital infrastructure for the future.

"This is crucial to reactivating the region's economy post-Covid-19 as digital technologies play an even more important role in society," he pointed out. "To improve mobile adoption, policy measures should focus on encouraging investment in much-needed infrastructure and improving consumers' ability to access digital services. As such, policymakers should rethink fiscal policy on mobile connectivity, facilitate mobile infrastructure deployment, and prioritise digitisation of person-to-government transactions."

Of course, efficient and effective management of spectrum will also play a part in maximising the opportunities that mobile connectivity can bring to society.

"Making sure the required spectrum resources are available under the right conditions will lower broadband costs, increase coverage and boost connectivity," said Goodluck.

Photo: GSMA

Akinwale Goodluck is the head of GSMA, who recently published the Mobile Economy Sub-Saharan Africa 2020 report.

As he pointed out, the 2020s will see strong growth in the number of Africans connected to mobile broadband. Thus, "as 4G and 5G grow together throughout the decade to come, spectrum preparation can drive cost efficiency and promote growth".

As for the financial impact of Covid-19 on the mobile industry in sub-Saharan Africa, the sudden enforcement of lockdown measures at the start of the pandemic led to a sharp rise in data consumption and mobile money transactions as a number of social and economic activities shifted online. However, said Goodluck, "While increased usage had a positive impact on revenues initially, it was soon partially offset by discounts, transaction-fee waivers and other initiatives from operators to support vulnerable consumers."

Another driver continues to encourage usage, of course: prepaid mobile plans. Prepaid connections account for more than 95% of mobile connections in sub-Saharan Africa, meaning users have the flexibility to vary their spend on telecommunications when their financial situation changes.

Akinwale Goodluck: "Spectrum preparation can drive cost efficiency and promote growth"

As for what they might be spending their money on, non-voice services will be more widely available in the coming years. Despite economic uncertainty, operators will continue to invest in infrastructure rollout, especially mobile broadband networks; 5G will account for the majority of capex from 2024.

Infrastructure investment will be serving growing demand. By the end of 2019, 477 million people in Africa subscribed to a mobile service; that's 45% of the population. "And the region will reach several important milestones over the next five years," said Goodluck. In 2020, 50% of total connections were smartphones and in 2021 there will be half a billion mobile subscribers – and one billion mobile connections by 2024. "This growth is made possible by the continual investment by mobile operators in network infrastructure, which we expect to be US$52bn between 2019 and 2025," said Goodluck.

But mobile isn't just about making calls and surfing the 'net. Mobile, as the report points out, is undoubtedly contributing to economic growth and social progress.

Statistics from GSMA Intelligence highlighted in the report indicate that the mobile ecosystem supports more than 3.8 million jobs (directly and indirectly) and makes a substantial contribution to the funding of the public sector, with almost US$17bn raised through taxation.

Continued on page 33

Marketplace business model for Telcos

All-pervasive digitisation has hastened the digital transformation of communication service providers (CSPs) too. It has redefined the industry's assumptions about network, architecture, applications, organisational structure, customers, industry partners and competitors. Rahul Puri is the business head, EMEA, Sterlite Technologies, explains.

THE DIGITAL DISRUPTION has triggered the emergence of new business models that mandate them to make a tectonic shift and turn into high-tech software companies, focus on partnership as a growth strategy to deliver their core services in conjunction with partners who understand the sector's specific needs, be it in entertainment, education, health care or public service.

'Collaboration', is the need of an hour.

In the 'new world' order, while CSPs will lay the platform for digital connectivity, business will be brought in only through collaborations and partnership. There will be an increasing need to create innovative offerings that connect core telco services with cross industry offerings, say entertainment packages, restaurant or transport options, music, books, travel or even education course recommendations. Recent mergers in the telco industry from different verticals bear testimony to the future possibilities being thus predicted.

Photo: Sterlite Technologies

Rahul Puri is the business head, EMEA, Sterlite Technologies.

The new world will, therefore, belong to 'Digital Lifestyle/Service Providers' (DSPs). Evolution to this new avatar will require an architectural shift with complete unison of Platform, Processes and People.

Collaboration platform: A platform where different partners can latch-on seamlessly to integrate their specialised product catalogue with the unified product catalogue of the CSP (or DSP). This will allow CSPs to make bundled, innovative data-driven offerings. Hardware sales should be driven with options of disaggregated software, cloud storage and services, network slicing, security, data analytics-as-a-service etc. Robustness of this collaborative marketplace will be determined by the on-boarding ease of partners-customers, customer retention, data analytics, omni-channel and the multi-device experience on offer.

Digital Identity: A common digital identity of the user across different channels, devices, products, services, and partners will be mandatory. The ability to leverage user behaviour across verticals, reinforced by AI / ML will bring customer stickiness.

Design-Thinking led use-cases-driven model: Products and services should be use case-driven with each customer behaviour, mapped through deep insight and data objectivity (hyper-personalised) across the journey. The target will be to create differentiation based on customer experience rather than legacy capabilities.

Cloud-Native open-based architecture: The new world will require open-source, open digital architecture, open API based easy integration plugins across the ecosystem. A cloud-native model, with modern containerization, high availability, scalability, observability, CI-CD, is the main characteristics of such an architecture.

STL Model for Marketplace: STL brings a unique and robust framework that works on all the above dimensions. It has deployed DevOps-related models for CSPs which looks holistically at the people aspect, deploys squad-based teams on both the customer end as well as the CSP end, ensures programme and product management and implements CI-CD right from product development to automated deployment at customer premises.

At the platform end, STL has an entire modernised software suite – from the engagement layer that interacts with all the channels to the middle and backend layer. Additionally, an integrated analytics engine provides deep insight into customer behaviour from partner and network functions. The solution is built with open architecture concepts allowing it to integrate easily with the wider ecosystem of partners and vendors.

STL provides not just the Marketplace framework consultancy but also allows customers to pick and choose essential components from the suite of STL products and services to work alongside their existing stack. The technology journeys include systematic upgrade of the existing stack of the customer to 5G, CNF, data and security management including network components. This allows prudent CAPEX management and a diverse portfolio of digital products and services. ✆

Meeting the ever changing needs of the customers

Sparkle is continuously increasing its efforts in its product portfolio innovations. The company is also investing in infrastructural expansion to consolidate its presence in selected high growth markets.

Africa has always been a continent of reference for Sparkle and will be even more so in the future.

Photo: Sparkle

SPARKLE IS A leading global telecommunications service provider offering a complete range of Internet and Data, Cloud, Data Center, Voice and Mobile solutions designed to meet the ever-changing needs of enterprises, fixed and mobile operators, ISPs, content providers and multimedia players. As part of its expansion and transformation strategy, Sparkle is continuously increasing its efforts in innovating the product portfolio and in investing in a precise infrastructural expansion for the consolidation of its presence in selected key and high growth markets.

In this contest, Africa has always been a continent of reference for Sparkle and will be even more so in the future. Sparkle historically has been playing a major role in providing international connectivity services to North African markets through its Sicily Landing Hub and a unique mix of bilateral and consortia cables, thus becoming one of top internet hub for Africa over the last ten years. This has also reinforced Sparkle's positioning for the delivery of connectivity services for multinational customers in all the North African countries: Algeria, Tunisia, Morocco, Libya and Egypt.

Sparkle is actively pursuing the goal to connect to its global network and worldwide Tier 1 IP backbone the entire African continent and its most relevant players. To further strengthen its positioning, in the latest years, Sparkle has invested in new large projects such as the construction of the BlueMed Cable or the opening of new PoPs in Africa. These are the initial steps of Sparkle's expansion plan to support the growing IP connectivity needs in the African continent in the coming years. The new BlueMed Cable, along with the other investments Sparkle is making in the Mediterranean to be even closer to Africa, will provide advanced connectivity and strengthen Italy's role as digital gateway between Africa, the Middle East, Asia and Europe. The presence in various new PoPs located close to or in Africa (i.e. Lisbon and Madrid, Djibouti, Lagos and Casablanca) proves that the continent continues to be a market of primary interest, on which Sparkle offers its telecommunications services.

Sparkle is actively pursuing the goal to connect to its global network and worldwide Tier 1 IP backbone the entire African continent and its most relevant players.

In the longer term, the African continent is destined to have an increasing importance for Sparkle. In fact, an increase in demand for telecommunications services is directly related to the development prospects of the African economy and the demographic increase. All aspects that are at the basis of the growing investments planned by Sparkle in the continent, also in partnership with local operators or with hyper-scalers/OTT to leverage on scale, cost efficiency and time to market. ✆

Nokia and AWS to enable cloud-based 5G radio solutions

NOKIA HAS SIGNED an agreement with Amazon Web Services (AWS) to research and enable Cloud RAN (vRAN) and Open RAN technologies to support the development of new customer-focused 5G solutions. Nokia is pursuing a strategy of collaborating with AWS to extend the reach of its Cloud RAN technologies in support of 5G deployments and the development of new use cases.

The initiative will see engineering teams from both companies research how the combination of Nokia's RAN (Radio Access Network), Open RAN, Cloud RAN and edge solutions can operate seamlessly with AWS Outposts. Operators will be able to simplify the network virtualization and platform layers for the Core and RAN network functions by leveraging the agility and scalability of cloud. This will also enable enterprises to achieve their desired business outcomes for new 5G use cases developed by AWS ISV Partners.

The collaboration will cover three distinct areas. First, the project will focus on onboarding and validating Nokia's 5G vDU (virtualized distributed unit) on AWS Outposts using Amazon EKS for far edge cloud or on-premises deployments. The second area will examine the implementation of Nokia's 5G vCU (virtualized centralized unit) with AWS Outposts, AWS Local Zones, using Amazon EKS as a cloud native deployment. The third part of the collaboration will build a proof of concept for an end-to-end solution with Nokia's 5G Cloud RAN and 5G standalone Core network running on AWS, where end enterprise users can leverage 5G for use cases such as an industrial application.

As part of this collaboration, Nokia will run AWS EKS anywhere on the Nokia AirFrame Open Edge server.

SatADSL unveils new look cloud platform neXat

SATADSL HAS REVEALED its rebranded flagship cloud services platform owing to a range of new implemented and planned features. The platform, now called neXat, offers a Platform-as-a-Service (PaaS) that opens new markets for teleport, hub, and satellite operators to sell unused satellite capacity and offers monetizable customised satellite services and extended hub capabilities.

neXat, previously known as the Cloud-based Service Delivery Platform (C-SDP) - allows satellite, teleport and hub operators to offer the full range of SatADSL value-added services to their own clients. It offers classical and packaged satellite connectivity services, with customer management, monitoring, billing, and online payments. SatADSL is currently enhancing neXat security, redundancy, and resiliency features in the frame of a contract with the European Space Agency (ESA). The added security makes it more attractive to large teleports, governments and large enterprises with stringent safeguarding requirements. SatADSL is also developing an e-commerce feature which will allow customers, ISPs, and teleport and satellite operators to request quotations and place bandwidth orders. SatADSL is also securing patent ownership of the cloud-based satellite services technology.

SatADSL's satellite aggregation services allow operators to get easy access to satellite capacity and teleport and hub infrastructure globally. https://www.satadsl.net/

IFS launches IFS cloud

IFS HAS LAUNCHED IFS Cloud, a single platform that innately connects all its products to deliver the end-to-end capabilities a company needs to orchestrate its customers, people and assets and deliver moments of service. Customers can choose to deploy best-of-breed or leverage the power of connecting their value chains across capabilities such as enterprise resource planning (ERP), customer relationship management (CRM), human capital management (HCM), asset management (EAM) and field service (FSM).

With IFS Cloud, IFS offers a unique and single technology platform with one common user experience, one data model and one consistent support offering. IFS Cloud brings simplicity, choice and innovation to organizations that need to evolve to new business models, control costs, expand faster and serve their customers better. By implementing IFS Cloud, companies can easily scale and simply switch on new functionality when needed.

Likewise, customers can choose how and where they deploy IFS Cloud, which has been engineered for the cloud but can be deployed on-premises with a choice of residency. Unlike many offerings, IFS customers will benefit from the same solution functionality and delightful user experiences, regardless of their deployment choice, without compromise.

As a departure from competing legacy suites and software portfolios that rely on complex and costly integrations, IFS Cloud is designed to make it easier and more cost-effective for customers to buy, deploy, run, and update their enterprise software. IFS Cloud marks the start of twice-yearly feature releases, giving customers the choice to move to the latest version as and when their business is ready.

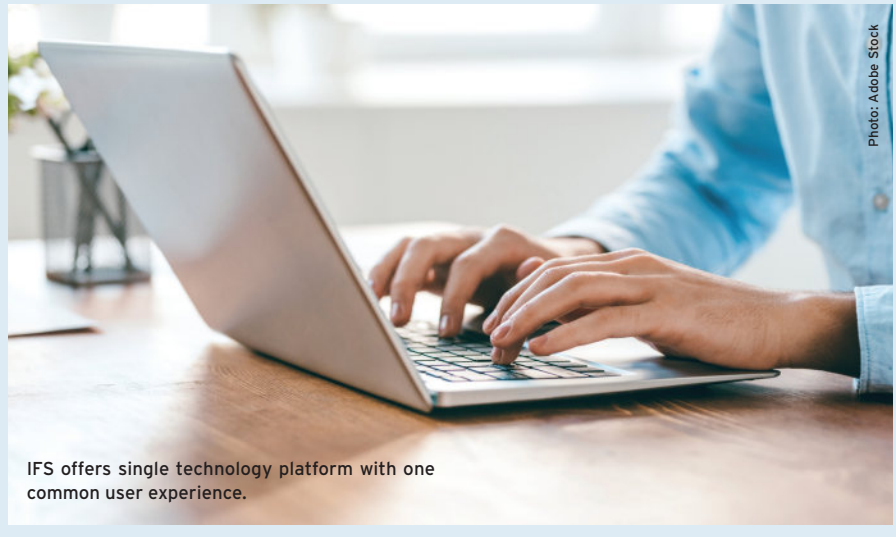


Photo: Adobe Stock

IFS offers single technology platform with one common user experience.

Darren Roos, IFS CEO, commented, "The path to digital transformation is not a simple one. Most businesses are complex and have intricate value chains, which is why few organizations succeed and even fewer vendors provide the tools to truly enable it. At IFS, our single most important goal is to deliver value to our customers, and we want to provide a clear path for them to evolve to new business models, compete and win."

IFS Cloud's architecture also includes new and improved application services for intelligent and autonomous business that can be natively leveraged across IFS products and across industries. This makes it practical and affordable for customers to take advantage of technologies such as machine learning (ML), augmented and mixed reality (AR/MR), artificial intelligence (AI), and internet of things (IoT), ready to use 'out of the box'.

IFS Cloud is being adopted by a number of pioneer customers across IFS focus markets of aerospace & defense, construction & infrastructure, energy & utilities, manufacturing, and service industries. One such customer is Cimcorp Group, a world-leading manufacturer of robotics and automation systems.

www.ifs.com/corp/ifs-cloud/ifs-cloud-overview

Everlytic launches channel partnership programme across Africa, seeks business partners

EVERLYTIC, SOUTH AFRICA'S multi-channel bulk messaging and automation-driven marketing software, has launched its Channel Partnership Programme with the aim of partnering with like-minded businesses and agencies across Africa and South Africa, the United Kingdom, Western Europe, and Scandinavia.

The pioneering technology company is looking for channel partners which have existing, complementary relationships with customers, who need bulk, targeted and automated digital messaging solution.

Everlytic's new channel partners would ideally include marketing agencies (and the numerous specialisations within marketing that speak to bulk campaigns); consultancies with expertise in the CRM space or companies selling other similar solutions, looking to round out their offering; as well as technology distributor partners and particularly data-focused software and technology providers in the marketing technology sphere.

"We are looking to identify channel partners selling related solutions to their existing clients who might have a need to communicate with consumers across multiple direct channels whether in bulk or through targeted automation. Our value proposition is simple: we share upwards of 20% of all qualifying monthly recurring receipts with partners, whilst we take care of the tech, support, service, billing, and our sales specialists sell with you and empower you with everything you need," explained JD Engelbrecht, managing director, Everlytic. "With this model, no restructuring or investment from partners is required; instead, we come on board as a trusted partner that enables you to grow your profits with very little effort and no risk," he added.

Everlytic's business has grown to employ more than 70 talented employees and software developers, across offices in Johannesburg and Cape Town, and has a proven track record with enterprise customers that spans sectors and industries.

Photo: Everlytic

"We are looking to identify channel partners selling related solutions to their existing clients who might have a need to communicate with consumers across multiple direct channels whether in bulk or through targeted automation," said JD Engelbrecht, managing director, Everlytic.

"We believe that our marketing and automation software solves customer pain points that are universal – and our bold approach to harnessing data to drive engagement and enable customers to create personalised, impactful content is widely applicable in markets around the world," added Engelbrecht. "Our customers have come to expect advanced functionality, customised solutions and a close working relationship, at a price point that makes it both affordable and sustainable in the long term. Customers very rarely leave us – we are strategic partners to our customers," he signs off.

Continued from page 29

In fact, said Goodluck, "By 2024, mobile's contribution will reach almost US$185bn as countries increasingly benefit from the improvements in productivity and efficiency brought about by the increased take-up of mobile services."

For the GSMA this level of unparalleled reach comes with serious responsibility and the need for ethical leadership. For example, Goodluck said, "In 2016, at MWC Barcelona the mobile industry was first to fully commit to the 17 UN Sustainable Development Goals (SDGs). We recently released our fifth SDG Impact Report where we look at progress made to date and the challenges ahead." He continued, "In the 10 years until 2030 we need to extend mobile connectivity to those that remain offline, whether due to lack of access or the more critical lack of usage. With this changing and uncertain world, collaborative partnerships across different industries and the public and private sectors are necessary to our future."

So are the findings of this report, on balance, grounds for optimism? There's no doubting that the report's findings clearly show the importance of digital connectivity. Sub-Saharan Africa remains the world's fastest-growing region. The 477 million mobile subscribers at the end of 2019 will be joined by an additional 137 million subscribers over the period to 2025, representing a CAGR of 4.3%. Notably, 272 million are now mobile internet users, representing 26% of the population. Of course Covid-19 has highlighted to the world what the mobile industry has known for decades – the importance of robust and resilient mobile networks.

Prepaid connections account for more than 95% of mobile connections in sub-Saharan Africa

Photo: Adobe Stock

By the end of 2019, 477 million people in Africa subscribed to a mobile service.

"Of course," said Goodluck, "leaders in Africa know that mobile connectivity is almost always the first building block of response to change and to adapt to new ways of doing business."

Mobile continues to be the great enabler across sub-Saharan Africa, generating revenue and jobs. Which means, says Goodluck, that "this is the moment to lead and build on our public-private partnerships, seizing today's technology, with all its possibilities, for a better future. Collaborative leadership will drive digital inclusion and, with governments prioritising digital strategies, all citizens will be connected and informed, leaving no one behind." ✆

**The GSMA's Mobile Economy Sub-Saharan Africa 2020 report is free to download and can be accessed at https://www.gsma.com/mobileeconomy/sub-saharan-africa/*

ThinKom Solutions develops aero satellite communication antenna variant

THINKOM SOLUTIONS, ONE of the leading solution providers of compact broadband antenna and on-the-move (OTM) applications, has introduced a product variant of its VICTS aero satellite communication antennas, enabling more flexible installation choices and allowing for smaller distributed and embedded phased-array applications.

Developed for the government and military beyond-line-of-sight (BLOS) satellite communication markets, the new product variant aims to integrate the VICTS antenna, antenna control unit (ACU) and power supply (PS) electronics into a single low-profile, small-footprint package. With this, the ACU does not need a separate line-replaceable unit (LRU). Furthermore, the high-efficiency and low-power characteristics of the VICTS are expected to deduct the necessity of other bulky and power-consuming LRUs.

Bill Milroy, chairman and chief technical officer of ThinKom Solutions, explained that the design is a strategic part for becoming the favourable antenna choice for smaller volume-limited and power-limited platforms.

The VICTS antenna measures less than nine cm in total height. It is a flight-proven, high-reliability design and carries all the specific product features of its kind. An added benefit of the new variant is that it enables the transmit and receive antennas to be co-located or alternatively mounted in remotely separated platform locations. This maximises application flexibility in terms of packaging, weight balance and other airframe and operational considerations.

According to Milory, the integrated antenna unit will supply intensified capabilities for government customers through deducting its ACU/PS LRU. Additionally, the system is supportive with low-probability-of-detection and low-probability-of-intercept emissions characteristics. It supplies over-the-air compatibility with the latest hopped and spread spectrum waveforms.

Telecoming and Evina sign to enhance security in DCB payments

EUROPEAN TECHNOLOGY COMPANIES Evina and Telecoming have signed a global alliance to work hand in hand in promoting DCB as the safest and most appropriate payment method in the new mobile economy and, in particular, for the fight against fraud.

The agreement deals a body blow to the mobile fraud that cost the African continent over US$4bn last year.

Roberto Monge, chief operating officer of Telecoming, stated, "Direct carrier billing has been growing in the new digital economy. It is a technology with enormous potential that benefits all players in the mobile environment. With this alliance, we want to place DCB at the forefront of the payments industry and reinforce our commitment to the development of a transparent, secure and stable mobile economy."

The alliance aims to educate on the vast potential of direct carrier billing through the DCBMaster service that allows users to measure their exposure to fraud.

This DCB index will measure the maturity of the DCB market in different regions, based on the analysis of four indicators: fraud protection, innovation, penetration in the digital industry and growth potential.

ADVERTISERS INDEX

Kwik Delivery expands service to Abuja

A BUSINESS-TO-BUSINESS DELIVERY partner, Kwik Delivery Service is expanding fast delivery service in Abuja after it announced the availability of its app-based delivery solution to businesses, government and agencies and merchants.

Customers in Abuja will now have access to the one-hour delivery offered by Kwik Delivery through its fleet of bike delivery partners and its efficient four-wheeled vehicles.

"As the political center of Nigeria, Abuja is in strong demand for speedy, efficient delivery of goods and services," explained Yinka Olayanju, co-founder and chief operating officer of Kwik Delivery. "Whether you are managing the office of the Permanent Secretary or the cabinet of a leading financial institution or a leading multinational company, you need to ensure your documents and parcels are delivered promptly in FCT."

Using the Kwik Delivery app, customers can request a delivery vehicle and track their shipment in real time. Kwik Delivery is vetting the vehicles and drivers and ensures consistent quality of service. It also provides goods in transit insurance.

Romain Poirot-Lellig, founder and CEO of Kwik Delivery, said, "Kwik's breakthrough delivery platform will enable businesses and government agencies to gain productivity and to optimise logistical expenses in the nation's capital."

Kwik Delivery aims to provide an on-demand delivery platform to link African businesses to self-standing delivery riders dubbed Kwiksters. This platform is currently open to Kwiksters operating in Lagos State and Abuja. The delivery app is available on iOS and Android. It is the trading name of Africa Delivery Technologies SAS.

ENABLING **CONNECTIVITY**

With expanded capacity at MENA hotspot of 25.5°E/26°E, state-of-the-art Teleport, and a wide network connectivity, Es'hailSat enables broadcast, broadband, corporate and government services in the Middle East, North Africa and beyond

Es'hailSat سهيل سات

Qatar Satellite Company الشركة القطرية للأقمار الصناعية

Space to deliver your vision

www.eshailsat.qa

Telecom Egypt .... **The Digital Hub**

Telecom Egypt is a leading global operator offering a complete range of Telecom Services, with Egypt's distinctive geographic location spanning over 1000 KMs on Red & Mediterranean seas.

Capitilizing on being International HUB and Partner of Choice for Euro-Asian & African transit traffic, serving variety of customers across a global footprint.

www.te.eg

telecomegypt