Issue 4 2019
Édition 4 2019

Communications Africa Afrique

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Access to smartphones

The price is (almost) right

Kenya

VoLTE: voice, data or both?

Power

New approaches to fuelling towers

Satellites

Still a major player in Africa

Broadcasting: A new view for Ethiopia

FEATURES: ● Mobile broadband ● Fuel cells ● Ka-band
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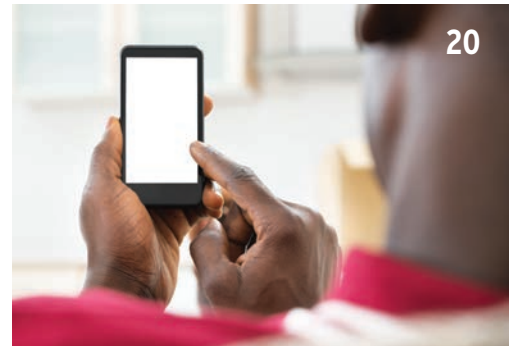
A note from the Editor

In this issue we discuss game-changing, telecommunications trends across Africa. A TV delivery system in Ethiopia, VoLTE in Kenya and mobile broadband take-up in East Africa, along with Ka-band satellite communications and new approaches to power supply, herald new directions for communications in Africa. We'd also like to add our voice to the many who have mourned the passing of Bob Collymore, CEO of Safaricom. He was an extraordinary leader of an extraordinary company.

Une note du rédacteur

Dans ce numéro, nous discutons des tendances des télécommunications qui changent les règles du jeu en Afrique. Un système de diffusion de télévision en Éthiopie, VoLTE au Kenya et l'adoption du haut débit mobile en Afrique de l'Est, ainsi que des communications par satellite en bande Ka et de nouvelles approches en matière d'alimentation électrique ouvrent de nouvelles voies aux communications en Afrique. Nous voudrions également ajouter notre voix aux nombreuses personnes qui ont déploré le décès de Bob Collymore, PDG de Safaricom. Il était un dirigeant extraordinaire d'une entreprise extraordinaire.

Access to affordable smartphone handsets is becoming easier across more of Africa.



East Africa has the potential to be transformed if mobile broadband potential is realised.

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Subscriptions: circulation@alaincharles.com
Chairman: Derek Fordham
Printed by: Buxton Press **Printed in:** August 2019
Communications Africa/Afrique is a bi-monthly magazine
ISSN: 0962 3841

Alain Charles Publishing

Vivo announces expansion plan into the Middle East and Africa

VIVO ANNOUNCED ITS planned expansions into the Middle East and Africa markets and will soon launch its latest Y series smartphones in the region. As part of its global expansion, Vivo's products are now available in the UAE and Morocco, with Nigeria, Kenya, Egypt, Saudi Arabia and Bahrain to follow suit in the coming months.

Building on the success of the V15 and NEX in markets across Asia, Vivo is continuing its mission to bring its products to more consumers worldwide. According to Counterpoint Research, the smartphone market in the Middle East and Africa has increased by 6% year-on-year (YoY) in Q1 2019, while the feature phone market decreased by 6% (YoY) during the same period, which demonstrates a growing demand for innovative smartphones in the region.

"Since our first entry into international markets in 2014, we have been dedicated to understanding the needs of consumers through in-depth research in an effort to bring innovative products and services to meet changing lifestyle needs," said Spark Ni, senior vice president of Vivo. "The Middle East and Africa markets are important to us, and we will tailor our approach with consumers' needs in mind. The launch of Y series is just the beginning. We look forward to bringing our other widely popular products beyond Y series to consumers in the Middle East and Africa very soon."


Photo: flickr

Vivo will provide low-cost offerings for its expansion into Africa and the Middle East

Vivo has been steadily introducing innovative features into the mobile phone arena. It has previously introduced the world's first in-display fingerprint scanning technology and has also launched the Elevating Front Camera smartphone, NEX. Its latest V15Pro is the first model after the NEX to incorporate the industry's first Elevating Front Camera.

Vivo is also investing heavily in 5G and AI development. At the recent Mobile World Congress Shanghai 2019, the company announced its strategy to accelerate its innovations across smart devices and applications for the 5G era, and showcased a range of 5G applications and many more smart life scenarios.

The Y series will be available in the Middle East and Africa markets progressively starting in UAE and Morocco.

Safaricom CEO Bob Collymore passed away

IT HAS BEEN announced that the CEO of Safaricom, Bob William Collymore, has passed away at the age of 61, after succumbing to cancer on 1 July. Prior to heading Safaricom, Bob Collymore held various positions in the telecommunications industry. He moved to Japan in 2003 to manage the integration of J-Phone into the Vodafone Group. In 2006, he became the governance director for Africa at Vodafone, before subsequently becoming the CEO at Safaricom in 2010. When he initially joined Safaricom, there was a price war sparked by its arch-rival, Airtel Kenya, but Collymore refused to slash prices in his drive to provide better service. Today, Safaricom is the largest telecommunications provider in Kenya, and one of the most profitable companies in the East and Central African region.

Intelsat and Stratosat to improve broadband connectivity in Central Africa

INTELSAT SA HAS announced an agreement with Stratosat Datacom to deliver high-speed broadband services across Central Africa by integrating managed connectivity from Intelsat's global network with valued-added engineering and management services from Stratosat.

Together, the companies aim to bring internet and virtual private networking (VPN) connectivity to markets across a region that has traditionally lacked access to reliable communications capabilities.

The Stratosat NextGen managed service – powered by Intelsat's FlexEnterprise – can be rapidly deployed and will dramatically improve the reach and performance of networks for small, medium, and large businesses in the region, including schools, hospitals, financial firms, mining and agriculture companies. NextGen will enable multinational enterprises to engage and connect with their partners and customers throughout the region by offering cost-effective broadband solutions to end users, driving business and overall economic growth.

Intelsat's FlexEnterprise is a secure, managed connectivity service with broad global coverage that removes the complexity of delivering high-speed broadband services to enterprises. FlexEnterprise delivers a superior experience while reducing the total cost of ownership and improving the economics of network expansion by pairing high-throughput connectivity from Intelsat's space-based network with smaller, more capable ground hardware. This delivers dramatically enhanced network speed, coverage, and security, enabling access to services and applications that are not supported by traditional networks.

"Because connectivity is essential to supporting the growth of local and regional economies, Intelsat is committed to making broadband connectivity more attainable for businesses, communities, and individuals across Africa," said Brian Jakins, Intelsat's regional vice-president, Africa. "Stratosat is the first of Intelsat's FlexEnterprise partners to focus on expanding broadband connectivity in the Central African region."

Angola Cables set to launch Angola's first live gaming portal

TELECOMS COMPANY ANGOLA Cables has announced that it will provide a new live gaming portal in Angola through its ultra-low latency submarine fibre cable routes. This will be open to all African eSports and gaming communities, offering the lowest latency experience ever.

The introduction of the gaming portal marks the first incursion of Angola Cables into the eSports arena, made possible through a partnership with eSport and gaming specialists, Qwatti eSports.

The partnership was concluded following the growing demand from the youth population for premium gaming experiences, not just at country level, but worldwide.

The gaming portal will feature tournaments across multiple platforms, including consoles, mobile games, and computers. It will feature an interactive tool to facilitate expertise and knowledge sharing within the gaming community, virtually connecting gaming enthusiasts from around the world.

Crisóstomo Mbundu, product manager at Angola Cables, said the new SACS cable, with data centres at each end of the cable network, is capable of providing connections to events taking place in America, Latin America, Europe, Asia and Africa.

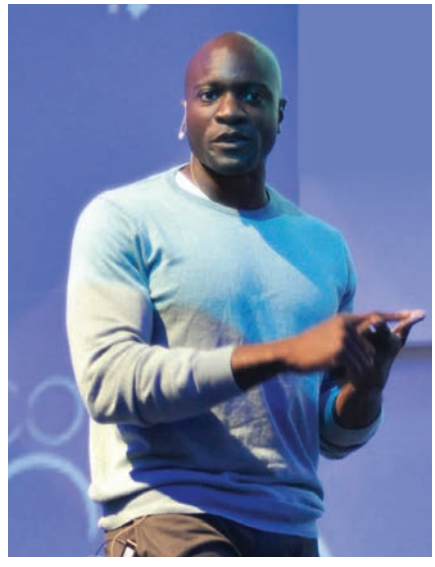
"The gaming portal is the first step in connecting African gamers in the region with users in America, Europe, and Asia. SACS offers a compelling service proposition for global gamers, the eSport community, gaming producers, and providers of streamed events seeking interactive experiences with low latencies," he added.

Angola Cables provides infrastructure to support gaming activities that leverage the capacity of subsea cable systems SACS, Monet and WACS. The company currently connects Europe, Africa and the Americas, reaching Asia through partners' routes.

"Key development information and indicators are at risk of quickly becoming outdated and of limited value to understanding the scale, speed and locations of newly developing urban areas and informal settlements. It is therefore imperative for information with a geospatial component to inform the continent's sustainable planning and development."

- Oliver Chinganya
Director
The Economic Commission for Africa's Centre for Statistics

"Adoption of social media, mobile phones and mobile money are enabling Africa and its youth to leapfrog to the next wave of digital technology. This infrastructure is the foundation upon which so much innovation in Africa is built and will be built over the next five years."



- Ime Archibong
Vice President – Product Partnerships Facebook

"Bob helped position Kenya as a global leader in financial inclusion. His legacy will live on through all the people in Kenya and throughout the world whose lives have been changed by Safaricom's innovations."

- Patrick Njoroge
Governor, Central Bank of Kenya, on the death of Bob Collymore, CEO of Safaricom.

"With the Channel VAS vision being the financial inclusion of unbanked populations in Africa, coming closer to other major players in the mobile ecosystem to work together towards that goal is facilitated through events like M360 Africa."

- Bassim Haidar
Founder and CEO
Channel VAS

"We established our presence ... by successfully providing easily accessible educational services through more than 35,000 hours of tutoring [on a smart-device platform]. Egypt [is an] important market and we are focused on engaging students in the three countries in the most relevant manner based on their preferences and needs."

- Noor Boodai
Founder and CEO
Darisni

Data Collection Summer School launched for university students in Chad

COLLECTING DATA IS vital to better understanding of migrant flows and needs of displaced populations in Chad, where more than 244,000 persons are currently displaced

The International Organization for Migration (IOM) organised the first DTM Summer School for university students in N'Djamena during the first week of August, a six-day training that hosted 15 undergraduate and graduate students in sociology, economics, information management and computer science. The IOM programme offered participants exposure to data collection methodologies as well as the latest tools for data processing and analysis.

The course helped students to understand migration trends.

Through IOM's Displacement Tracking Matrix (DTM) tool, data collection can help develop evidence-based policies, programming, and improve the humanitarian response in the country.

"We want to build a talent pool to support and improve data collection in the country and continue to give opportunities to the youth to build upon their capacity," said Yakin Mwanza, IOM DTM coordinator in Chad, who emphasised the importance of annually renewing this initiative to offer more opportunities to Chadian youth to develop their skills in data collection and management.

For most participants, the summer school provided their first technical training in the field. Participants also became more aware of IOM's work in Chad, and how IOM's reliance on reliable data can contribute to protecting displaced communities.

"I encourage IOM to continue this initiative for all Chadian youth. This training helps us, the youth, to understand migration trends in our country and help contribute to the protection of displaced Chadians," said Nanra, a data science student.

After the training, participants took an exam to select four winners for internships with the DTM team.

The DTM Summer School received funding from the Federal Republic of Germany through its Emergency Assistance to Displaced Populations in Chad project and the Netherlands through the Enhancing the Understanding of Migration and Human Mobility in Chad Through Improved Migration-Related Data Management project.

Facebook expands languages in fact-checking programme

FACEBOOK, WITH AFRICA Check, has announced that it has added new local language support for several African languages as part of its third-party fact-checking programme, which helps to assess the accuracy of news on Facebook and aims to reduce the spread of misinformation. Launched in 2018 across five countries in Sub-Saharan Africa, including South Africa, Kenya, Nigeria, Senegal and Cameroon, Facebook has partnered with Africa Check to expand its local language coverage across:

- Nigeria, in Yoruba and Igbo, adding to Hausa, which was already supported
- Swahili in Kenya
- Wolof in Senegal
- Afrikaans, Zulu, Setswana, Sotho, Northern Sotho and Southern Ndebele in South Africa.

Kojo Boakye, Facebook head of Public Policy, Africa, said, " This will help in further improving the quality of information people see on Facebook."

ECA highlights importance of geospatial technology

THE ECONOMIC COMMISSION for Africa (ECA) views geospatial technology as a significant component that will help push the continent's transformative development agenda further, said Oliver Chinganya, director of the Commission's African Centre for Statistics (ACS).

In a keynote address at an event marking Digital Earth Africa Day, Chinganya said the ECA will continue to work in partnership with organisations such as Digital Earth Africa to ensure nations develop their technical capacity.

"It is therefore of greater importance to have access to real time and precise spatial information, given Africa's size and complex biophysical environment, to support effective decision-making. For instance, while Africa's demographic trends, including rapid urbanisation, represent economic opportunities, they also represent real challenges with regard to human welfare and infrastructure needs," said Chinganya.

"Key development information and indicators are at risk of quickly becoming outdated and of limited value to understanding the scale, speed and locations of newly developing urban areas and informal settlements. It is therefore imperative for information with a geospatial component to inform the continent's sustainable planning and development."

"Geospatial technologies are gradually becoming the driving force of many applications and services, from land administration to natural resource management to agriculture, across countries like Kenya, South Africa, Ghana, and Rwanda, to mention just a few," the ECA director said.

He added, "I believe that through Digital Earth Africa, Earth Observation can powerfully enhance the way we provide services to our community and I would like to take the opportunity to champion the use of space technology and information services to drive Africa to become more spatially enabled.

"The challenges we face, from climate change and over-exploitation of our natural resources to food security, can all be addressed through the insights, knowledge and analysis of changes across our land surface and coastline," he said.

Mimecast launches cyber threat intelligence service

MIMECAST LIMITED, A leading email and data security company, has introduced Mimecast Threat Intelligence, which offers customers a deeper understanding of the cyber threats their organisations face. The new features are designed to give organisations access to threat data and analytics specific to their overall organisation, offering a more granular view of the attacks Mimecast has blocked.

The Mimecast Threat Intelligence dashboard highlights end-users who are most at risk, malware detections, malware origin by geo-location, Indicators of Compromise (IoCs) and malware forensics based on static and behavioural analysis. The data is consolidated into a user-friendly view and is also available for integration into an organisation's security ecosystem through the Threat Feed API. This targeted threat intelligence provides greater visibility and insight to security professionals, enabling them to more easily respond and remediate against threats and malicious files.

The cybersecurity landscape changes daily, and attackers are constantly changing their techniques to avoid detection. According to Mimecast's *The State of Email Security Report 2019*, 94 per cent of organisations saw phishing attacks in the last 12 months and 61 per cent said it was likely or inevitable that they would be hit with an email-borne attack. IT and security teams are often overwhelmed by the volume of information they need to track and if the intelligence they need to proactively defend their organisation is buried, their defense becomes less effective.

"The cyberthreat landscape is dynamic, complex and driven by a relentless community of adversaries. IT and security teams need threat intelligence that is easy to digest and actionable, so they can better leverage the information to proactively prevent and defend against cyberattacks," said Josh Douglas, vice president of threat intelligence at Mimecast. "Mimecast sees a lot of data, as we process more than 300 million emails every day. Mimecast Threat Intelligence helps organisations get the deep insights they need to build a more cyber- resilient environment."

Helio IPO revived

HELIOS TOWERS, ONE of the largest mobile tower operators in sub-Saharan Africa, has revived its plans to be listed on Johannesburg and the London Stock Exchange.If successful, the IPO could value the company at US$3bn.

In March 2018, Helios announced its intention for an initial public offering in London and Johannesburg to allow shareholders such as Soros Fund Management LLC to reduce their stakes. However, two weeks after the announcement, plans were abandoned when the company reported that shareholders refused to collaborate with the plans. Helios owns about 6,700 towers across five African countries, serving customers including Airtel Africa Plc, MTN Group Ltd. and Vodacom Group Ltd.

The company is the only independent tower operator in the DRC, Tanzania and Congo Brazzaville.

Inmarsat rolls out satellite solution across African wildlife reserves

INMARSAT HAS JOINED forces with RESOLVE, the Washington DC-based non-profit environmental and health organisation, to develop a revolutionary, satellite-enabled solution to safeguard endangered wildlife across the African continent.

RESOLVE's Biodiversity and Wildlife team have developed an innovative end-to-end anti-poaching system; TrailGuard AI. Intel played a critical role in development, providing engineering expertise and other in-kind support. The Leonardo DiCaprio Foundation and National Geographic Society are partnering to fund and deploy TrailGuard AI. The system uses an advanced artificial intelligence (AI)-powered camera to detect humans in nature reserves with 97 per cent accuracy, and instantly transmit images to park rangers' facilities, enabling them to identify would-be poachers and intervene.

Photo:Jeremy Vandel/Flickr

Elephants on a wildlife reserve in Tanzania.

The solution leverages Inmarsat's L-band, global, mobile satellite communications network to ensure the transmission of these images to rangers, overcoming the lack of reliable terrestrial connectivity in remote nature reserves. TrailGuard AI utilises Inmarsat's mobile BGAN terminals, which are simple to set up and connect to the units, and can withstand exceptionally harsh environments.

Alastair Bovim, vice president, managed services Inmarsat Enterprise, commented: "We are delighted to be joining forces with RESOLVE to help support sustainability and biodiversity in Africa. Our collaboration will ensure that when TrailGuard detects a poacher, rangers are notified immediately of their exact location and can initiate an effective response, no matter how remote the environment. Africa's poaching problem won't be solved overnight, but if we can prevent even a small proportion of attacks, it will have a hugely positive impact on the continent's incredible wildlife."

OneWeb and Airbus pair up for providing internet connectivity to everyone

ONEWEB SATELLITES, A joint venture of OneWeb and Airbus, opened the world's first high-volume, high-speed advanced satellite production facility, with the aim of providing transformative connectivity.

"OneWeb Satellites and its partners are transforming the satellite and space industry. By producing high-quality satellites at a fraction of the cost and schedule of traditional manufacturers, we are not only enabling OneWeb to connect the planet, we are making space dramatically more accessible to everyone," said Tony Gingiss, CEO of OneWeb Satellites.

The facility's production capabilities will first support the rapid scaling of the OneWeb network, starting with a constellation of 650 satellites and scaling to 1,980 satellites delivering global connectivity. With half the world's population unconnected and inconsistent connectivity persisting as people travel more at sea and in the skies, the high-performance communication satellites built in this facility will enable high-speed internet access that can unlock healthcare, education, and economic advancements.

"This is a defining moment in the history of OneWeb, and the space industry. With today's opening, we are one step closer to connecting the unconnected for the benefit of societies all over the world," said Adrian Steckel, CEO of OneWeb. This facility will ensure we can begin delivering global connectivity in some areas as early as next year and globally in 2021, he added. The 105,500 square foot production facility, which has two production lines capable of producing two satellites a day, is helping to revitalise Florida's Space Coast with 250 new high-tech jobs and 3,000 indirect jobs through the supply chain. "Airbus is manufacturing products in the US from all of our business divisions –commercial aircraft, helicopters and now satellites," said C Jeffrey Knittel, chairman and CEO of Airbus Americas. "We take seriously our partnerships in the communities where we do business, and we're proud to contribute our aerospace manufacturing expertise to the Space Coast with 250 new high-tech jobs in Florida. We are equally excited to welcome these new employees to the Airbus OneWeb Satellites team in the US."

Eutelsat wins major West African power pool contract

EUTELSAT COMMUNICATIONS HAS secured a multi-year contract with GLOBAL Technologies for C-band capacity on its Eutelsat 10A satellite to provide connectivity and communications for the West Africa Power Pool Project (WAPP). Established in 1999 by ECOWAS (Economic Community of West Africa States), the WAPP project aims to interconnect the power grids of 14 West African countries, namely Burkina Faso, Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo .

GLOBAL Technologies was awarded the telecommunications part of the project, and, through this contract signature, will leverage Eutelsat 10A satellite's dedicated coverage of West Africa to monitor the main power distribution sites across the region.

Philippe Oliva, Eutelsat's chief commercial officer, said: "After a successful partnership in Mauritania three years ago, we are delighted to be working alongside GLOBAL Technologies once again with assisting WAPP in achieving its ambitious shared energy project in the West African region over the coming months."

Jean-Paul Steinitz, CEO of GLOBAL, added: "To support WAPP in its vision to promote and develop power generation and transmission infrastructures across West Africa, we have teamed up with Eutelsat to leverage the prime capacity available on its EUTELSAT 10A satellite. Thanks to Eutelsat's reliable and cost-effective satellite coverage of the region, GLOBAL Technologies will contribute to offer a better and cheaper access to power for millions of people by delivering telecom infrastructure to connect the WAPP countries."

In June, the 33rd coordination meeting of WAPP's technical and financial partners was held to agree on actions to accelerate projects. The session allowed WAPP to present the new ECOWAS Master Plan for the Development of Regional Power Generation and Transmission Infrastructure 2019-2033, including 75 priority projects with a financing requirement of more than US$36 bn.

GSMA launches partnership to boost connectivity across rural Ghana

THE GSMA, WHICH represents mobile operators worldwide, has formed a partnership with Vodafone Ghana and the Ghana Investment Fund for Electronic Communications (GIFEC) to support the deployment of mobile internet connectivity solutions for rural communities.

As part of the Connected Society Innovation Fund for Rural Connectivity, the project will run until late 2020. The GSMA-led project will fund mobile network equipment vendors to deploy their solutions to support mobile operator efforts in Ghana. Vodafone Ghana will be testing and deploying these innovations on its networks, while GIFEC will provide land for site coverage. The fund will enable tax and duty exemptions of up to 30 per cent for imported equipment to encourage reinvestment and enhance coverage extensions.

In Ghana, two vendors and their partners were selected and are expected to be awarded up to US$400,000 each for implementing turnkey solutions to suit challenging rural environments with low population density, difficult terrain or limited infrastructure. Each project was judged on its ability to provide solutions that are innovative, scalable and commercially sustainable. Once the sites are fully commissioned, they will be integrated into Vodafone's network as the project's primary partner.

The project aims to transform communication in rural Ghana.

Photo: IWMI/Flickr

The project focuses on specific rural areas that lack connectivity but have economic potential. The selection was conducted with analysis from the GSMA using its coverage mapping tool. Fund grantees will work in consortiums to deliver their solutions and provide mobile internet coverage and mobile services from Vodafone Ghana. At the end of the project, the mobile operators will take over the maintenance and operation of the sites.

"The challenge in reaching the unconnected in our part of the world rests crucially on affordability, literacy, relevant service as well as appropriate technology. It is observed that universal connectivity requires smart public interventions as market forces are not sufficient. As we explore this partnership to deliver connectivity for communities in the Northern and Upper West regions of Ghana, the last mile of connecting the unconnected will be achieved to create avenues for digital inclusiveness," said Abraham Kofi Asante, CEO, GIFEC.

NigeriaCom returns to Lagos this September

TAKING PLACE FROM 11-12 September at the Oriental Hotel in Lagos, the 11th annual NigeriaCom will be the premier event for networks and digital services in Nigeria. In addition to being an ICT event, the showcase will serve as a platform to boost Nigeria's digital economy by focusing on ways to bring new digital services to the people and businesses of Nigeria. C-suite operator executives and digital tech leaders will define pathways to strengthen low-cost broadband connectivity and digital services offerings, future-proofing business models across telecoms and the whole spectrum of enterprise verticals in Nigeria.

The event aims to provide a platform for companies to showcase their products and solutions.

Photo: Adobe Stock

This year will see more than 650 industry professionals in attendance, as well as 45 speakers. Prominent headliners of the event will include Wole Abu, CEO of Pan African Towers, Gbenga Adebayo, chairman of ALTON, and Anthony Dara, founder and CEO of Network News 24, as well as Sigun Aina, president of the Fintech Association of Nigeria.

The event will provide plenty of features for those in attendance, including AHub Nigeria, which will bring together tech start-ups with potential partners and investors, as well as LeadersIn Nigerian Tech, a boardroom-baseddialogue that will tackle challenging and controversial issues within the tech world in an intimate setting.

There will be networking opportunities, with a facilitated VIP meeting service, where guests will be able to create a bespoke wish-list of who they want to meet, receiving one-to-one introductions with senior and influential VIPs. Post-event, guests will be able to reconnect with existing industry contacts and develop new relationships with Nigeria's TMT leaders at the poolside party.

Events/Événements 2019

SEPTEMBER/SEPTEMBRE

9-12	**ITU Telecom World**	Budapest, Hungary	www.telecomworld.itu.int
11-12	**NigeriaCom**	Lagos, Nigeria	www.tmt.knect365.com/nigeria-com/
13-17	**IBC**	Amsterdam, Netherlands	www.ibc.org
17	**Public Sector Networks Summit**	London, UK	www.publicsectorconnect.org
24-25	**Telecoms World Middle East**	Dubai, UAE	www.terrapin.com

OCTOBER/OCTOBRE

6-10	**GITEX**	Dubai, UAE	www.gitex.com
8-9	**Tower Xchange Meetup Africa 2019**	Sandton, South Africa	www.towerxchange.com
14-16	**India Mobile Congress**	New Delhi, India	www.indiamobilecongress.com
15-17	**Broadband World Forum**	Amsterdam, Netherlands	www.tmt.knect365.com/bbwf/
29-30	**Total Telecom Congress**	London, UK	www.terrapinn.com

NOVEMBER/NOVEMBRE

4-6	**Voice & Advanced Communications Summit**	Berlin, Germany	www.tmt.knect365.com/voice-advanced-communications-summit
12-14	**AfricaCom**	Cape Town, South Africa	www.tmt.knect365.com/africacom/
18-19	**VizAfrica**	Gaborone, Botswana	www.vizafrica.codata.org

AfricaCom 2019 set to take place in November

AFRICA'S LARGEST TECH and telecoms event will be taking place from 12-14 November at the Cape Town International Convention Centre, South Africa. This year, the event will be expecting over 15,000 guests with 92 per cent of countries in Africa in attendance.

Over the past 21 years, AfricaCom has become the biggest telecoms and technology event in Africa, connecting business leaders from the worlds of connectivity and communications, enterprise digital transformation, ICT policy, broadcasting and digital media.

This year, to help attendees further navigate their digital transformation journeys, there will be the launch of a new IT event within AfricaCom called AfricaTech. AfricaTech will take over the whole of the Convention Centre and include an exhibition area split into different technology zones dedicated to Internet of Things, Blockchain, Artificial Intelligence, Fintech, Cloud Computing and Data Centres. These dedicated technology zones will enable enterprise visitors to quickly find the technology solution providers they most want to do business with.

On 12 November, there will be an opportunity for networking with 2,000 industry leaders at the AFest event, which will take place at the Shimmy Beach Club, while on 13 November, the AfricaCom Awards will celebrate the achievements of the best companies, solutions, products and personalities improving connectivity and driving Africa's digital transformation.

AfricaCom is the biggest ICT exhibition on the continent.

Photo: Adobe Stock

The official 2019 line-up of speakers will feature 11 of Africa's most prominent ICT thought leaders, including Mohamed Rahman Swaray, the minister of information and communications in Sierra Leone, Ahmad Ahmad, president of the Confederation of African Football (CAF), Isabel dos Santos, chair at UNITEL, as well as Calvo Mawela, CEO at MultiChoice Group. All the headliner sessions will be free to attend.

The ballroom at the convention centre will be turned into a VIP Village, a place where attendees can spend time speaking to CEOs, CIOs, CDOs, investors and government leaders. Guests will have a chance to entertain clients, host private meetings, and participate in closed-door, interactive boardroom sessions.

Satcoms still flourishing in Africa

Why is satellite still flourishing at a time of continuing cellular growth in Africa? As Fulvio Sansone, co-founder & CTO of SatADSL, tells Vaughan O'Grady, satellite still has a reach few other communications technologies can economically match.

Rainfall-prone areas in west Africa can experience issues with satellite technology when rain gets in the way of the signal.

Photo: Charlie/Flickr

WE HAVE WRITTEN about Ka-band on many occasions in the past. For those of you who are not up to date about this fascinating player in modern satellite services, it's a portion of the microwave part of the electromagnetic spectrum defined as frequencies in the range 26.5–40 gigahertz (GHz).

The impression one gets from regular news announcements is that, with such benefits as greater capacity, throughput and new technology, Ka-band satellites are gaining many new adherents among satellite operators trying to meet the growing demand for internet-based and data-driven applications.

It's not surprising therefore that commercial Ka-band broadband services in Sub-Saharan Africa have recently been launched by SatADSL, a provider of professional VSAT services via satellite, utilising satellite technology company Avanti's high throughput satellite (HTS) HYLAS 4.

So has Ka ousted Ku and C-band, the long-established bands of choice for satellite communications?

Not so, says Fulvio Sansone, Co-founder and CTO of SatADSL. As he says: "Each frequency band has its merits and consequently has a role in a specific market or for specific applications."

He explains: "Ka-band has the advantage of a larger bandwidth [and] therefore the possibility of offering higher data rates to the customers. Most of the other advantages that Ka-band satellite operators advertise are rather related to the fact they use Ka-band on high throughput satellites (HTS) allowing the provision of high data rates both in download and upload at lower cost. But this is a merit of HTS, not of Ka-band."

"Ka-band has the advantage of a larger bandwidth and the possibility of offering higher data rates to the customers"

One of the problems for satellite communications, notably in heavy-rainfall-prone areas such as west Africa or Brazil, tends to be rain fade or attenuation – put simply, rain getting in the way of the signal.

C-band is extremely resilient to severe weather conditions – a plus point for those choosing frequencies from 4 to 8 GHz but, until recently more of a problem in Ku (12-18 GHz) and Ka bands.

This is changing, says Sansone. "Rain fade issues in both Ka and Ku-band have been largely mitigated by the development of countermeasures like adaptive coding and modulation (ACM), but attenuation in Ka-band remains

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higher than in Ku and C-band, so users looking for high-availability connections for critical applications still value Ku and even more C-band."

SatADSL was founded in 2010. It develops what it calls creative solutions to provide Internet access to communities and enterprises in sub-Saharan Africa using satellite connectivity.

Not surprisingly, its promotional material mentions cost-effective coverage to communities and businesses. Certainly Ka-band in particular seems to be more suitable for consumer and small business applications.

But suitability isn't as much of an issue as affordability.

As Sansone points out: "The cost of the satellite terminal remains prohibitive for most consumers in Africa as well as in other developing regions. Therefore," he continues, "a promising strategy seems to be the provision of services to communities through Wi-Fi or other wireless access technology backhauled via the satellite connection. This would allow the end users to access the service through a smartphone, tablet or laptop."

Doing this will require a network of local service providers operating and marketing the service.

"This is where SatADSL has an edge thanks to the large network of local ISP partners we have, especially in Africa," says Sansone.

The announcement of the new services launched by launched by SatADSL also mentions the availability of what is said to be the industry's first multi-hubs cloud-based satellite delivery platform (C-SDP), described as a complete OSS/BSS, carrier-grade, fully redundant platform that will provide telcos and service providers the opportunity to offer satellite services via the cloud over any frequency band.

Which leads to a few inevitable questions: Is this the first time cloud has supported satcom service provision? What has made this feasible? And how does it bring down costs?

Photo: USAID Digital Development/Flickr

Enabling mobile communications in remote areas is still a major opportunity for satellite providers across Africa.

Sansone is clear that in and of itself the C-SDP does not bring costs down. "It simply allows decoupling the service offering to the users from the satellite communication technology implemented," he points out.

However, he adds: "At the same time, this allows offering best effort, pre-paid services to a very large number of users on the same large bandwidth, so maximising the statistical multiplexing gain on the one hand, and massively reducing the money collection risk for all players in the value chain. Both benefits are key drivers in end-user cost reduction, together, of course, with the general reduction in the cost of the satellite bandwidth we see is currently happening."

As a general point, of course, cost reduction has to be a major factor in the continuing success of satellite communications. Does he expect hardware and software advances to continue to make satellite services cheaper to provide and buy?

"As in any other markets," Sansone says, "there are two main factors driving costs down in satellite communications: competitive pressure and technological advancements."

On the question of competitive pressure, there appears already to be a significant increase in competition in the market all along the value chain. However, he adds: "Time will tell us if the market elasticity is such as to more than compensate for the price reductions and resulting overall revenue decline."

On the technology side, HTS is a relatively recent advance that has allowed substantial reduction in bandwidth price.

"It nevertheless comes with higher risk for service providers due to the smaller beam coverage and hence the need to book capacity on several beams to cover the same regional area," Sansone points out.

While impressive, HTS is just one of many improvements arriving or on the way in the next few years.

"The next big technology advancements in the pipeline are the announced low-earth orbit (LEO) constellations," Sansone points out. "These promise to be a huge leapfrog, allowing very low cost and very high data rates with drastically reduced latency comparable to terrestrial ones. But," he adds, "the feasibility of these constellations, apart from the space technology challenges still to be addressed, will depend on the availability of electronically steerable antennas at low cost for the end user terminals – and today we are still far from achieving price points for such components compatible with mass market deployment."

"Two main factors drive costs down in satellite communications: competitive pressure and technological advancements"

Nevertheless satellite connectivity is doing well in Africa, despite the growth of mobile and fibre and Sansone is clear that it will continue to flourish in the future in Africa as well as in other regions of the world for the simple reason that the deployment of terrestrial infrastructures becomes uneconomical as soon as land extension increases and population density decreases.

Satellite communications by contrast, still has a number of important roles to play – including, ironically, enabling mobile communications in remote areas.

As Sansone puts it: "Satellite communications can enable the deployment of terrestrial infrastructure, like cellular coverage to remote areas, by providing an economical and fast-to-deploy backhaul opportunity." ✆

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Nigeria's telecoms growth is expected to grow to 2.4 per cent in 2020.

It's boom time for passive telecom infrastructure

Ahead of the TowerXchange Meetup Africa – taking place on the 8-9 October in Johannesburg – Matthew Edwards, head of research at EMEA collected and collated the most up-to-date insights on the markets he tracks.

IN NIGERIA, AMERICAN Tower's investment surged in the first half of 2019, adding 117 net new sites, bringing its portfolio from 4,760 to 4,877. Our figures for IHS Towers show a net increase of 761 towers from 15,629 at the end of 2017 to 16,390 in 2019.

Pan African Towers is adding around 60 sites per quarter for a Nigerian operator. And LASIMRA, the Lagos State regulator, reckons on 250 new towers being built a year in Lagos State alone each year. The fundamentals pushing Nigerian telecoms growth are improving, with growth of 1.9 per cent in 2018, 2.3 per cent in 2019 and 2.4 per cent in 2020, and 50 million new 4G subscribers by 2025.

Ghana is one of sub-Saharan Africa's most developed telecoms markets and American Tower's recent announcement of intent to acquire Eaton Towers rests on the back of plans for further profitable growth in the country. From today up to 2022, Ghana is estimated to require 1,000 new sites, or nearly 300 a year; 20-25 per cent will be smaller builds, of 15m-20m in urban areas. While grid coverage and availability is good by African standards, electricity prices have recently skyrocketed, meaning that the business case for solar and hybrid is strengthened and the use of deep cycle batteries is growing. Ethiopia, a country of 100 million people and an economy growing 10 per cent per annum, is the latest market to draw the attention of the tower industry. TowerXchange would conservatively estimate the opportunity for passive telecom infrastructure investment in Ethiopia in 2020 at a quarter of a billion dollars, with ongoing investment at a similar level for a number of years. Two new licences are to be issued in 2019, and by the end of the year a 49 per cent stake in Ethio Telecom will be sold. MTN, Vodacom/Safaricom, Orange and Etisalat are all believed to be interested in entering Ethiopia.

Ethiopia is the latest market to draw the attention of the tower industry.

TowerXchange predicts between 500 and 1,000 new sites will be added by each operator in 2020 following the award of licences. That is a total of 1,500-3,000 new sites added per year. This figure excludes the tower strengthening work and equipment upgrading required to bring up service levels to those expected by international mobile operators. Prior to privatisation, Ethio Telecom issued a request for proposals for a telecom Energy Services Company (ESCO) for the energy management of thousands of sites.

In South Africa, following a burst of building by MTN that finished a couple of years ago, growth had slowed, but TowerXchange expects new build activity to pick up. Capital investment into towers is accelerating in Africa's richest country, adding to the country's stock of 30,183 towers. In the next three years TowerXchange sees scope for another 2,000 to 3,000 towers in South Africa. By 2024, TowerXchange expects all towers around Johannesburg and Pretoria to be connected to fibre, whereas only 10-20 per cent of them are connected now. Across urban South Africa generally, we expect 50-75 per cent of towers to be fibreised in the next five years, which would require thousands of connections per year.

MTN Group plans to roll out more than 5,000 rural sites by the end of 2020, and 5,000 more a year after that. Innovative solutions are sought, encompassing different low-cost structures, power systems and economic models. MTN will explore alternative power systems, such as solar-only for ultra-rural sites, satellite-only backhaul and commercial models such as revenue-sharing and tower-leasing options. ✆

Learn more about the African Tower market at the TowerXchange Meetup Africa in Johannesburg on October 8-9. Source: An excerpt from TowerXchange's "Where will the growth come from in African towers?" Access the full African Tower Analysis: www.bit.ly/2OX3vdw

Undersea cables: the highway to Africa's future digital development

The development of telecoms infrastructure in Africa has long been held back by a lack of investment, legacy infrastructure and poor implementation of regulation. These factors have impeded rather than progressed the telecoms sector and digital evolution of the continent. But Angola Cables' CEO António Nunes says that recent investments in subsea cables in the South Atlantic have opened a new highway for Africa's digital development.

Photo: Angola Cables

António Nunes, Angola Cables CEO.

Reconfiguring internet traffic across the Southern Hemisphere

The North Atlantic Ocean has several undersea cable networks linking the UK, Europe and the Scandinavian countries to the US market. These critical information highways have been instrumental in providing conduits for the rapid expansion of digital ecosystems across the Northern Hemisphere.

In the South Atlantic, only five carrier cables are in operation, but additional investment could see more cables being commissioned, or existing ones upgraded, to meet future needs.

The South Atlantic Cable System (SACS) which went into commercial operation in September last year, is the first and fastest high-volume, ultra-low-latency fibre optic cable connecting Africa to Latin America.

"The commercialisation of the cable is 'more than just a game-changer' when it comes to data connectivity and services between the two continents," says Nunes. "We believe that the digital link between Africa and the Americas will generate multiple advantages worldwide for internet service providers (ISPs), Cloud Service Providers (CSPs) and Over the Top Content Providers (OTTs) making use of the SACS connection."

SACS, with its onward connections to the Monet Cable and the West Africa Cable System (WACS), offers data transfer speeds that are up to five times faster than existing cable routings.

Growing demand for connectivity, content and data

The demand for connectivity on the African continent is increasing at a rapid pace. The number of mobile subscribers in Africa currently exceeds more than a billion subscriptions – and continues to grow. As Africa's population of more than 1.3 billion people becomes more urbanised, the appetite for digital services and access to data will rise. Subsea cable networks will provide the backbone to carry this additional content and data across continents and the world.

"As a multi-national IT solutions operator, we need to capitalise on the demand for connectivity and use our capacity to offer better eco-systems and services to accommodate the high demands for increased bandwidth and access to secure cloud and colocation services," notes Nunes.

Africa's digital future: the cloud

In the gig economy, the real digital revolution is taking place in the cloud. The cloud offers enterprises the opportunity to improve business efficiencies, increase productivity, and reduce the costs and complexities associated with the purchase and maintenance of IT hardware and infrastructure. In Africa, where legacy infrastructure cannot simply be upgraded, the cloud offers an alternative environment to leapfrog Africa's digital capabilities. Although many areas within Africa are not able to utilise the full benefits of cloud-linked computing due to slow or cumbersome internet connections, uptake by companies has more than doubled since 2013.

Developing economies by bridging the digital divide

According to Nunes, the African telecoms sector is in a unique position to accelerate economic development across the region. "Connectivity holds the key to future economic prosperity and growth – and where data will be the underlying currency, there is a responsibility for telcos, governments and regulators to remove the obstacles blocking progress. The responsibility lies with multiple stakeholders in the industry, including service providers, vendors, regulators, and governments – all of whom will need to work together to improve the availability and affordability of connectivity services to ensure the orderly development of the telco market on the African continent – and Angola Cables is playing its part," concludes Nunes.

Case study: South Atlantic Cable System (SACS)

The advanced 6,165km trans-Atlantic cable offers a high quality of service with significantly improved latency. This subsea network has the potential to dramatically alter digital traffic routing options in the Southern Hemisphere. SACS is 100 per cent owned and managed by Angola Cables, and has been designed with 100Gbps coherent WDM technology on an end-to-end solution. With four fibre pairs it offers a total design capacity of 40 Tbit/s between Fortaleza (Brazil) and Luanda (Angola).

Manufactured and powered by NEC Corporation, the SACS cable is one of the most advanced submarine telecommunications systems to go into commercial operation in the Southern Hemisphere. ✆

Routing	Ms (RT)
Miami, USA – Johannesburg, South Africa	177
São Paulo, Brazil – Lagos, Nigeria	159
São Paulo, Brazil – Douala, Cameroon	141
Fortaleza, Brazil – Cape Town, South Africa	96
Fortaleza, Brazil – Lisbon, Portugal	161
São Paulo, Brazil – London, England	209
Miami, USA – London, England	106
Fortaleza, Brazil – London, England	166
Lisbon, Portugal – São Paulo, Brazil	205
New York City, USA – Lagos, Nigeria	210
New York City, Johannesburg, South Africa	210

Mobiles for the masses?

Barry Mansfield looks into the rise of Transsion, a China-based smartphone manufacturer which has been outpacing its rivals Apple and Samsung in Africa over the last year.

Photo: AS Photo Project / Adobe Stock

Smartphone adoption is picking up in Africa.

The company shifted 124 million phones worldwide in 2018 and accounts for 54 per cent of the African feature phone market.

ALTHOUGH IT IS little known in Europe, Transsion is a top-seller of smartphones in Africa under its Tecno brand. Headquartered in Shenzhen – where African e-commerce giant Jumia runs its logistics supply-chain base – the firm operates a manufacturing plant in Ethiopia and has expanded its footprint in India. In early August, it announced its intention to list in an IPO on Shanghai's STAR Market (the new Nasdaq-style board for technology stocks that went live in July with 25 companies floating). It hopes to generate around three billion yuan or US$430mn.

Executives say they plan to spend most of the new funds on creating more phone assembly hubs, with an extra 430 million yuan (US$60mn) allocated to further research and development, including a mobile phone R&D complex in Shanghai. Unusually, the firm was already in the black prior to its IPO. It reported 22.6 billion yuan (US$3.29bn) in revenue last year alone, up from 20 billion yuan in 2017. Although net profit for 2018 fell to 654 million yuan, down from 677 million yuan a year earlier, Transsion wasn't exactly desperate for the funds.

Transsion is a dark horse in the mobile world. It doesn't do business in China, despite being based there. In Africa, it likes to describe itself as an African company. The company shifted 124 million phones worldwide in 2018 and accounts for 54 per cent of the African feature phone market through brands like Infinix and Itel, alongside Tecno. Its smartphone sales in Africa are ahead of Huawei, according to consultancy IDC. Transsion has R&D

centres in Nigeria and Kenya and its sales network in Africa includes retail outlets in Kenya, Nigeria, Ethiopia, Tanzania and Egypt.

Recipe for success

So what is the secret of its success? Analysts say Transsion's growth is partly down to an accessible pricing model, effective use of local languages (Amharic, Hausa and Swahili were added to the keyboards) and the convenience of its longer battery life to consumers in African markets (where longer journey times and inadequate recharging facilities are not unusual). A preloaded music streaming app called Boomplay has helped to drive sales of the devices further. The company now boasts 10,000 local employees in Africa and is the continent's seventh most popular brand.

Transsion sells feature phones for less than US$20. It offers phones without smart features for US$9, shifting 60 million Itel handsets at that price in 2018. It also sold 30 million Tecno phones at US$11 each. Its phones incorporate heat protection to preserve the electronics. They were the first devices to introduce night-time photography settings for darker skin tones. Transsion is capitalising on Africa's continued shift from simple USSD phones to feature phones and then to smartphones. Smartphone adoption on the continent is weak, at 34 per cent, but is expected to surge to 67 per cent by 2025, according to the GSMA.

In fact, smartphone adoption is already picking up. Africa posted an annual spurt in shipments last year, for the first time since 2015. In Nigeria, Kenya, and South Africa, thousands of ventures are developing business models around mobile-based products and apps. If Transsion's IPO inspires greater smartphone conversion on the continent, that could activate more startup and investment activity – from VOD applications to fintech. There are rumours that the Shenzhen firm is considering a move into venture investing on the continent.

China's involvement with African startups has been relatively limited compared to its co-operation on commodities and infrastructure – further enhanced in recent years as Beijing continues its Belt and Road Initiative. Transsion's IPO move follows Chinese-owned Opera's lavish venture spending in Nigeria as a sign of greater Chinese influence and investment in the continent's digital scene.

Facing the challenges

There is now an abundance of entry-level products in most African markets. Curiously, Transsion faces increased competition on African soil from compatriot Vivo (the fifth

Photo: Tecno Mobile

Tecno Mobile's new smart feature phone brings users online for the first time.

largest smartphone maker) as it aims to introduce its own low-cost offerings to the continent – beginning with the launch of its budget-friendly Y series smartphones in Nigeria, Kenya and Egypt, a line of products already on sale in Morocco. However, Transsion's smartphones are still cheaper than its rivals; last year it shifted 34 million phones for between US$45 and US$91. The cheapest Y series is US$170.

If Transsion's IPO inspires greater smartphone conversion on the continent, that could activate more startup and investment activity.

More challenges can be expected. In its prospectus, Transsion recognises the emerging threat from India's Lyf as it launches its own competitively priced devices. Xiaomi is pushing harder into Africa; Huawei has unveiled an e-commerce platform in South Africa to sell phones and related products. Xiaomi has joined forces with Jumia to sell handsets. Executives have warned about the risk of losing customers if Transsion fails to maintain innovation, and they have also highlighted areas like brand management, marketing, after-sales service and supply chain management for investment.

Other problems include the spread of fake phones – Startcounter estimated that a quarter of handsets in circulation in Kenya last year were counterfeits, for example. Tecno had a hard fight against counterfeiting in Nigeria, but it eventually created a database-like portal to allow customers to personally verify their device serial number. After inputting the IMEI and VC number of the phone, the site establishes if it is genuine or not. It is possible to carry out a similar check on Tecno batteries (this verification process works with only the IMEI and no VC number).

The company is responding to competition by pushing into new territories, including Bangladesh, Pakistan, Vietnam and Indonesia. In Africa, it has started selling digital accessories (as oraimo) and home appliances (under the name Syinix). Transsion is turning to mobile internet services as an additional source of revenue, and the Boomplay service now aims to cash in on the increasing popularity of Afrobeats and local music. The warranty system Carlcare means that consumers can take the handset back to be repaired. These touches help Transsion to stand apart from the crowd. ✆

Affordable access to apps

TECNO MOBILE, A premium smartphone brand from Transsion Holdings, has announced the launch of its latest 3G smart feature phone, T901, the first Tecno device running on KaiOS, a leading mobile operating system for smart feature phones.

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

This is a significant step, say both companies, in closing the digital divide by bringing users –previously inhibited by device affordability – online for the first time.

T901 is equipped with a hybrid dual-SIM slot which can support two SIM cards and with 512MB +256MB memory. It boasts a 2.4-inch QVGA display with 240x320 pixels resolution, and a powerful 1900mAh battery which enables 25 days of standby time and up to 19 hours of non-stop calling. The new device comes embedded with both a front and a rear camera with built-in flashlight, which enables clearer photos even at night and in other dark environments.

The T901 will be available in three colour options: gold, black and blue.

Energy provision for telecom towers

Downtime is not as big an issue as it once was for African tower owners. But according to Matthew Edwards and Kieron Osmotherly of TowerXchange, a thought leadership community in the emerging market towers sector, power supply challenges remain.

Communications Africa (CAF): On the African continent, power remains the biggest operating cost and the biggest source of downtime for telecom tower owners. Has this situation got worse or better in the past decade?

Matthew Edwards, Head of Research, EMEA, TowerXchange (ME): Downtime due to power outages or unreliable energy supply has improved considerably in the last decade, partly because of technological innovation, but mostly because of the entry of towercos into the African market. For a mobile network operator a telecoms tower is a necessary cost centre to provide service, but for a towerco it is a revenue-generating asset. That means towercos invest in their towers, updating energy systems, putting in new generators, batteries, better rectifiers, renewables and remote monitoring systems, but the improvement uptime is about professionalising the tower management process. For example, Eaton Towers in Ghana recently reported 100 per cent uptime for their towers. That was unheard of a decade ago.

CAF: Are problems like diesel theft, lack of grid power, on-site inefficiencies and a general need for technology improvements close to being overcome?

Kieron Osmotherly, Founder & CEO at TowerXchange (KO): Good progress has been made, but many places in Africa still lack good quality infrastructure. Diesel and battery theft remain sources of downtime and increased cost for towercos, but technological fixes like mixing fuels or switching to lithium ion have reduced its prevalence. But most important has been community engagement. People like their cell phones – and if you teach people that the people selling them stolen diesel is why they can't get a signal you can reduce theft. Until grid quality improves, there will always be some inefficiencies at cell sites, but improvements in technology and careful management by towercos are keeping costs down.

CAF: What are the leading alternatives to grid connections, diesel generators and lead acid batteries?

ME: A mobile operator will always prefer a stable grid connection, if one is available, but diesel generators and lead acid batteries have been a safe alternative in Africa where grid is unreliable (outside South Africa). Improvements in solar power, and hybrid solutions combining solar, diesel gensets and lithium ion batteries, have become competitive but there isn't a single leading solution. Sites on unreliable grid connections need solutions which may only be needed once a week and be close to maintenance teams, whereas an off-grid site in the mountains may need to generate 24/7/365 and be low maintenance because site visits are expensive. There is no silver bullet or sea change in uptime, but there are lots of dedicated people working to push up service levels.

CAF: Are any other power system innovations driving performance and efficiency improvements at African cell sites?

KO: Remote monitoring systems have delivered a big improvement in power system performance and promise more in the future. Data collection and utilisation are essential to get the most out of your assets, and towercos have invested in these systems to keep track of their performance. Live updates are available for network operation centres that track uptime, solar panel efficiency and battery cell performance, which makes real-time response possible. But in the longer term, towercos are building a picture of how their assets work and can make predictions about which sites need pre-emptive visits and which sites need upgrades before they go down.

Photo: EAton Towers

Ghana's Eaton Towers has reported 100 per cent uptime for its towers, which was unheard of a decade ago.

CAF: Will 4G and 5G increase tower power demands? Are newer approaches – like infrastructure sharing and neutral host – likely to be attractive to African MNOs and towercos?

ME: Africa needs to at least double its site count just to keep pace and 4G and 5G require much denser networks and more points of presence. But while Africa needs lots more towers, many of those towers will be shared, especially for 5G mobile broadband or 5G IoT, when it comes. Mobile operators in Africa want to keep their capital expenditure down and sharing towers or neutral host can help do that. Those trends might mitigate the need for new towers, but it can only slow the rate of growth a little.

5G will also increase the power load on cell sites by as much as 2-3x, accentuating the challenges of power management.

CAF: How are TowerXchange events useful to African towercos and MNOs hoping to tackle power costs?

KO: TowerXchange Meetup Africa is the continent's only show dedicated to passive telecom infrastructure. We bring together the whole supply chain, from mobile operators, their towercos and the energy supply chain, to discuss service levels, innovation and future demand for towers and power. Beyond being a showcase, TowerXchange runs supplier briefings by leading towercos that put energy suppliers in the room with the buyers to hear about upcoming RFPs, innovation initiatives and testbeds. We also run a dedicated Energy Working Group that features the latest technology and operations. ✆

For more information on TowerXchange, its meetups and its services, go to www.towerxchange.com

An attractive alternative

We look at alternative power sources for the African market with Rami Reshef, CEO of manufacturer of fuel cell energy solutions GenCell Energy.

A GenCell truck delivering one of its fuel cell solutions to a customer, offering an alternative and a complementary solution to diesel, solar and wind.

Communications Africa (CAF):
Why should the African telecommunications industry look to fuel cells for power generation compared to, say, diesel, solar or wind?
Rami Reshef, CEO, GenCell Energy (RR): Ingenious electrochemical devices that efficiently leverage the energy-carrying capacity of hydrogen to generate power for nearly every energy application with pure water and heat as their only by-products, fuel cells are not a substitute, but rather a complement to other intermittent renewable energy sources such as solar or wind, and they have many valuable features that differentiate them from other power sources.

While solar and wind are intermittent sources of energy, fuel cells offer a constant, ultrareliable source of power that, unlike batteries, will last for extended duration, for as long as the cells have access to fuel supply. While solar and wind require significant physical space for power generation facilities, fuel cells are relatively compact.

Alkaline fuel cells such as GenCell develops offer high efficiency and require little to no maintenance as they withstand temperatures from between -40 to +45 degrees C and employ no moving parts; they can be depended upon to operate for ten years or more with virtually undiminished power quality and quantity. In contrast to diesel generators, fuel cells are noiseless, release zero carbon or other polluting emissions and require very little maintenance.

"The enormous need for infrastructure feeds the growing demand for energy, which translates to a growing market for hybrid energy generation and storage applications"

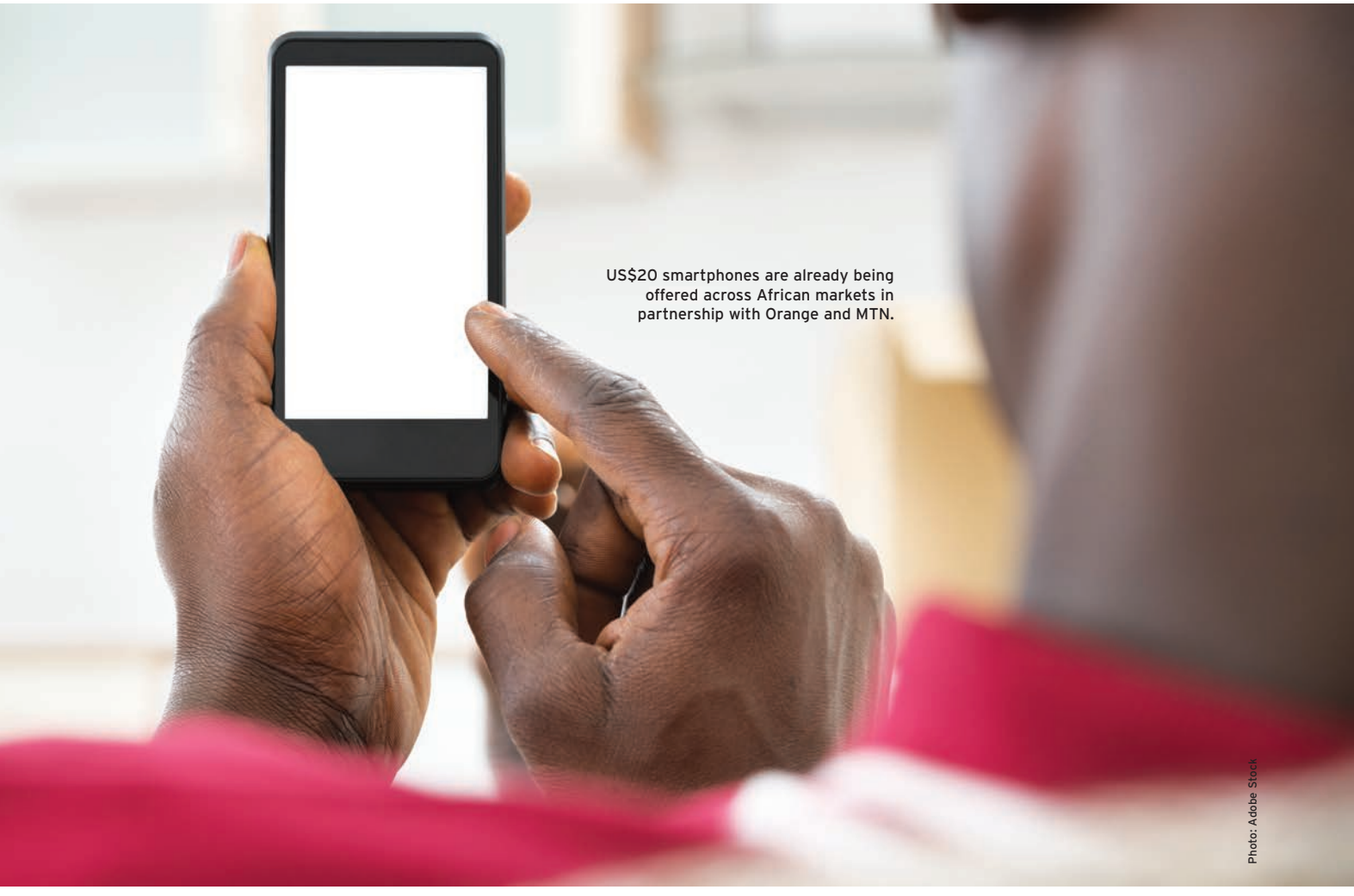
CAF: How could fuel cells offer a viable alternative in Africa, bearing in mind a very competitive landscape, low margins and difficult-to-reach end users?
RR: Fuel cells are playing an integral role in energy generation and storage in Africa, both for rural electrification and for applications in remote locations with harsh climate and terrain and other difficult conditions. The increasing availability of hydrogen makes fuel cells increasingly affordable and improves projects' ROI.

Although there is strong competition, the enormous need for infrastructure feeds the growing demand for energy, and these together translate into a strong, growing market for hybrid energy generation and storage applications that attract a diverse set of local, regional and global governmental and non-governmental public financial investors as well as numerous private banks and investment funds.

The expansion of solar and wind projects in Africa is creating a need for reliable storage components for which fuel cells provide an attractive and viable alternative. ✆

Broadband boom for East Africa?

Mobile broadband availability and use are going to grow in East Africa; that much is clear. However, as Danson Njue of Ovum tells Ron Murphy, what this means for operator business models and device availability is not so obvious.



US$20 smartphones are already being offered across African markets in partnership with Orange and MTN.

Photo: Adobe Stock

EAST AFRICA'S NINE nations will be home to 186 million mobile broadband connections (3G, 4G or 5G) by 2022, according to market forecasts from research house Ovum. The research is part of a report (East Africa TMT Market Outlook, 2Q18*) published last year by Ovum, whose analysts expect the growth of mobile broadband connectivity to be powered by increased deployment and upgrade of 3G and 4G/LTE networks, as well as a rise in smartphone penetration due to better affordability.

The nine nations included in Ovum's East Africa research are: Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, South Sudan, Tanzania and Uganda, but the report suggests that the growth will be particularly noticeable in the region's three main markets of Kenya, Tanzania, and Uganda, which collectively will see an increase from about 40 million mobile broadband users in 2017 to an estimated 112 million in 2022 (of which 32 million will be 4G/LTE connections). In the press release announcing the report Danson Njue, research analyst,

KaiOS Technologies is already offering a US$20 smart feature phone across African markets in partnership with Orange and MTN.

Middle East and Africa, Ovum, says: "The East African region has made great progress in broadband connectivity over the last few years, and this has unlocked great potential in the digital services segment, including mobile financial services [and] digital media as well as enterprise services. However," he adds, "the growth in broadband connectivity has also seen a rise in OTT services, thereby increasing chances of data revenue cannibalization for data service providers in the region."

In an interview with Communications Africa he expands on these points and what they mean for mobile broadband in East Africa. Of course, one assumes that mobile will continue to be the connectivity method of choice in this region. Or is there a possibility that fixed, given the growth of subsea cable, might threaten the dominance of mobile?

Njue is unequivocal on this point. "Yes, mobile will remain the dominant means of connectivity across the East Africa region," he says. He points out that fixed infrastructure is largely underdeveloped across the region, especially in the rural areas. Hence mobile (whose infrastructure is developed) will remain the preferred means of communication. Fixed broadband is making inroads of course, However, he says: "Despite increased fixed broadband (fibre, broadband over TVWS [TV white space], fixed LTE, WiMAX etc) deployment, it will take some time before its penetration can match that of mobile."

One of the points made in the report is that affordability of smartphones will drive smartphone penetration. This does lead to a few questions about the smartphone markets. For instance, what is driving down smartphone prices in the region? How affordable do smartphones need to be for a significant mobile broadband market to exist? And will smartphone providers have to accept lower margins?

Njue points out, reasonably enough, that smartphone affordability is driven by the need by service providers to increase data uptake in their networks in the wake of increased demand for data and digital services by subscribers. As he explains: "MNOs are increasingly recording sharp declines in traditional telco revenues (voice and SMS); hence the need to grow data/digital revenue – and the surest way is to increase the amount of smartphone usage in their networks."

That may be easier said than done, however. As he points out, a huge part of the population in the region under review survives on less than US$1 a day and may not be able to afford the US$30-50 smartphones currently being offered in the market. "However," he says, "there is hope for more affordable smart devices, going by the latest developments in the device market. KaiOS Technologies is already offering a US$20 smart feature phone across several African markets in partnership with Orange and MTN." He adds: "Device manufacturers may accept lower margins if the opportunity to move huge volumes exists. I believe that opportunity exists in Africa."


Photo: Carsten ten Brink/Flickr

A tribal woman using a mobile phone in northern Kenya.

Mobile financial services will play an important role in the growth of digital services in the future.

An area cited as having great potential is the digital services segment. Would growth in this area build on the already strong role of mobile finance – notably in Kenya? "Yes," says Njue. "Mobile financial services (MFS) will play an important role in the growth of digital services in the future. Of course, MFS in itself is a digital service and currently provides a key revenue stream for service providers. In addition, it plays, and will continue to play, a key role in monetising other digital offerings by service providers in the region.

The promotional material for last year's report also quotes Njue as saying the growth in broadband connectivity has seen a rise in OTT services. What OTT services could mobile broadband allow? "There is a wide range of OTT services that can be carried over mobile broadband, including messaging, voice and video calling via apps, music, and SVoD streaming among others," he says. That being the case, OTT, as he has also suggested, could increase the chances of data revenue cannibalisation for data service providers in the region. Is this a threat for MNOs?

Niue explains: "OTT service providers don't own any networks and hence do not incur capex and opex associated with deployment, operating and optimisation of data networks, including the cost of spectrum. By offering their services on top of data networks, OTT players are able to reap profits without incurring any of the above costs. Despite increasing data usage (MB per user) with increased OTT usage, data service providers are constantly faced with demands to reduce data prices due to competition. As such, they compete with rival MNOs as well as the OTT players which becomes a huge threat in their businesses. Furthermore, MNOs are constantly faced with declining voice and SMS revenues." That said, one assumes that there is still a lot of room for broadband growth in East Africa's nine nations. Njue certainly agrees that there is huge growth potential for broadband across East Africa as broadband penetration rates are too low. As to whether this will provide a viable business model for MNOs, he suggests: "With the right digital strategy (which should include the right pricing strategy), broadband will provide a viable business model for MNOs in the region."

A final question takes us some way into the future, given that much mobile broadband in the region is likely to be 3G, at least for the moment. However, will the dominance of mobile for 3G broadband boost the chances of a smooth transition to (consumer-focused) LTE and 5G broadband? Njue does not try to be over-optimistic here, pointing out that the smooth transition to 4G has been hindered by lack of enough spectrum. Very few countries have completed the digital migration and in the markets where the transition is complete, spectrum auctions are yet to be conducted, he points out. "In addition," he says, "small MNOs stand little chance to acquire the high value spectrum due to high prices. There is also the element of unaffordable 4G-capable devices – but this is being addressed."

Given the history of mass take-up of services once thought unaffordable in Africa, one can only suggest that 4G, like 2G and 3G, is likely to find a way. ✆

**East Africa TMT Market Outlook, 2Q18 costs $2,000. To find out more, go to: https://ovum.informa.com/resources/product-content/east-africa-tmt-market-outlook-2q18*

A new view for Ethiopia

The migration to SES satellites in Ethiopia will fuel media growth.

Photo: Adobe Stock

A recent news story announced plans by Ethiopian broadcasters to migrate to SES satellite, creating what has been called, a dedicated Ethiopian TV environment. Vaughan O'Grady discusses this development with Clint Brown, vice president, sales and market development for SES Video Africa.

LEADING SATELLITE OPERATOR SES, the Association of Ethiopian Broadcasters (AEB), and the Ethiopian Broadcasting Cooperation (EBC) recently announced an agreement that will result in the creation of what has been called a dedicated Ethiopian TV environment. In particular, the AEB agreement will see the most popular Ethiopian TV channels migrate to a new TV neighbourhood hosted by SES's NSS-12 satellite at 57 degrees East.

The agreement announcement refers to 'consolidation of Ethiopian content'. What does this mean in practice? Clint Brown, vice president, sales and market development for SES Video in Africa, explains: "Up until now, the majority of Ethiopia's content has been broadcast from an orbital location that also supplies content to Middle Eastern and North African countries. This resulted in a mix of local and international content in a variety of foreign languages. The migration of the major Ethiopian channels to an SES satellite will create a dedicated Ethiopian TV neighbourhood for the first time, which will allow broadcasters to invest in creating more local content in the future."

He continues: "By delivering curated local content to viewers in high quality, this truly Ethiopian TV neighbourhood will fuel growth in the Ethiopian media sector, as local networks will now be able to easily expand their audience reach." And this should benefit advertising markets as well as viewers. He says: "Audience growth traditionally results in stronger advertising markets that will in turn fuel the development of Ethiopia's free-to-air (FTA) market.

Even as cellular, fixed, and Wi-Fi make inroads into African markets, it seems the continuing role and importance of satellite can never be underestimated.

So is there a lot of pent-up demand in Ethiopia? Although Ethiopia currently has more than 4 million TV households that access television service via satellite, this is a country where many homes still do not have TV or access to multiple channels. The new offering may change that, however. The migration to the NSS-12 satellite is not only creating a dedicated Ethiopian TV neighbourhood, it will also deliver content in high definition (HD) for the first time in Ethiopia. "The consolidation of all the content in the same package, and in a higher quality, will, we hope, entice those who have previously not had TV service in the past to gain access," says Brown.

For the moment, however, viewers are spread mainly through the urban areas and semi-urban areas as well as nearby rural areas that have access to electricity. Again, that could change in the not-too-distant future. "With the growing efforts of the Ethiopian government to expand access to electricity, TV reach across the country is expected to grow proportionally."

This isn't just about regular, scheduled programming either. It's undoubtedly the case, as Brown says, that satellite is the best way to deliver high-quality video to a large population cost-efficiently, but, he points out, SES goes beyond satellite broadcasting, supplying hybrid solutions for all distribution models, including video-on-demand over IP. "By creating dedicated TV neighbourhoods, like we are in Ethiopia, we are not just distributing content, we are building a stronger local media industry. These economic conditions normally result in more choice for audiences at home."

Of course this sort of procedure is easy to explain. Delivery is another thing entirely. For companies like SES satellite delivery means big investment and important technical decisions, notably the orbit, the backup and the choice of band for the service.

"For video broadcasting a geostationary orbit (GEO) is the most appropriate to optimise the cost efficiencies that satellite enables," says Brown. GEO, as most readers will be aware, is a circular geosynchronous orbit 35,786 km (22,236 mi) above Earth's equator and following the direction of Earth's rotation. An object in such an orbit appears motionless, at a fixed position in the sky, to ground observers. It is much further away than MEO (medium earth orbit: usually around 20,000 km above the earth) or LEO (low-earth orbit: close to 2000km), but covers a bigger area with fewer satellites.

As Brown says: "From our GEO constellation we reach more than 355 million TV homes around the world, delivering more than 8,200 channels. Satellite is extremely robust infrastructure, and we have the leading fleet availability rate, at 99.999%, representing the reliability of our services. In the case of Ethiopia we set up backup systems from our teleport in Djibouti."

The band of choice can vary between providers. In this case, says Brown, "Ethiopians will receive their television service over Ku-band, which is the most common band used for direct-to-home (DTH) broadcasting. We use this band for DTH because it gives viewers the best experience possible with the smallest antenna possible, a common priority as it needs to be attached to the façade or roof of a property."

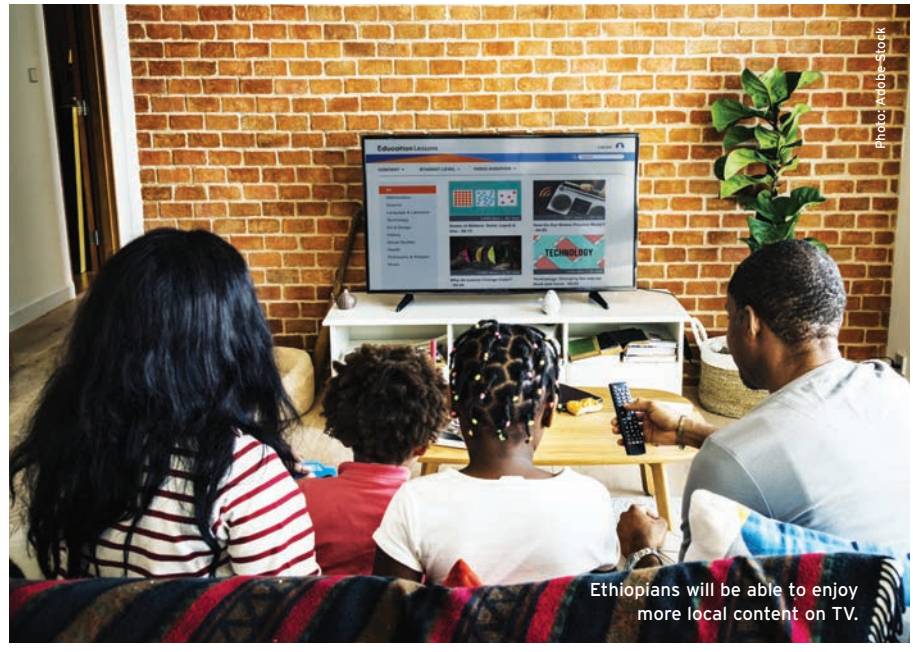


Photo: Arabe-Stock

Ethiopians will be able to enjoy more local content on TV.

SES goes beyond satellite broadcasting, supplying hybrid solutions for all distribution models.

But the company does have experience of multiple satellite types – and not just in broadcasting. "GEO satellites aside," Brown explains, "we also are the first satellite operator to offer services from a commercial non-geostationary orbit (NGSO) constellation, such as medium earth orbit (MEO) or low earth orbit (LEO). Our MEO O3b constellation delivers fibre-like internet connectivity across the globe, reaching even the most remote areas."

Even as cellular, fixed and Wi-Fi make inroads into African markets, it seems the continuing role and importance of satellite can never be underestimated. ✆

From OB to OTT – how the International Broadcasting Convention has evolved since its early days

FOR THE DIMINISHING number of people who can remember the arrival of IBC (the International Broadcasting Convention) at Amsterdam's RAI Exhibition and Convention Centre in 1992 (let alone the years from 1967 when it mainly occupied hotels in the UK), it is astonishing to see how it has developed.

The event (show.ibc.org), this year held from 13-17 September in the Dutch capital, has vastly increased in size of course, from a few exhibition halls to 15, hosting what is described as the world's most influential media, entertainment and technology show. But more impressive is the breadth of its coverage.

Back in the early 1990s, the focus was very much on broadcast technology. Today the scope of the exhibition has broadened massively. Alongside the usual impressive array of cameras, microphones, lighting, outside broadcast (OB) equipment and kit for editing and creating effects, you can find hardware and software for media monitoring and compliance logging, integrated production switchers, video encoding, workflow apps, content streaming enablers, facility management software, and OTT content availability monitoring solutions.


Photo: RAI

RAI Exhibition and Convention Centre will again play host to the IBC event.

Business models and approaches to delivery are changing too. These days 5G, remote production, the role of the cloud in automated media workflows and the role of OTT are just as talked-about as linear broadcasting, engaging and retaining audiences and vendor consolidation.

A quick look at the conference programme underlines this impression. Topics to be discussed include creating content for environmental change; new business models from linear to SVoD; the current and future state of virtual and augmented reality; forging the next generation of 360° entertainment; and, of course, artificial intelligence and machine learning, to name only a few.

For the first time, the event will be recognising the importance of social responsibility in the broadasting sector with the addition of the Social Impact Award as part of the awards programme. This year's call for entries received an overwhelming response – the judges created three shortlists, recognising initiatives focused on diversity and inclusivity, minimising environmental impact, and ethical leadership.

Today's IBC has clearly come a long way from the modest three halls of 1992 but, given the increasing overlap between broadcast, IT and telecoms, so has the industry it represents.

When voice means data

Kenya's Safaricom is the latest operator to announce voice over LTE (VoLTE), a service that promises better, more efficient voice services by turning voice into an app on a data network. But, asks Phil Desmond, will Safaricom customers buy into it?

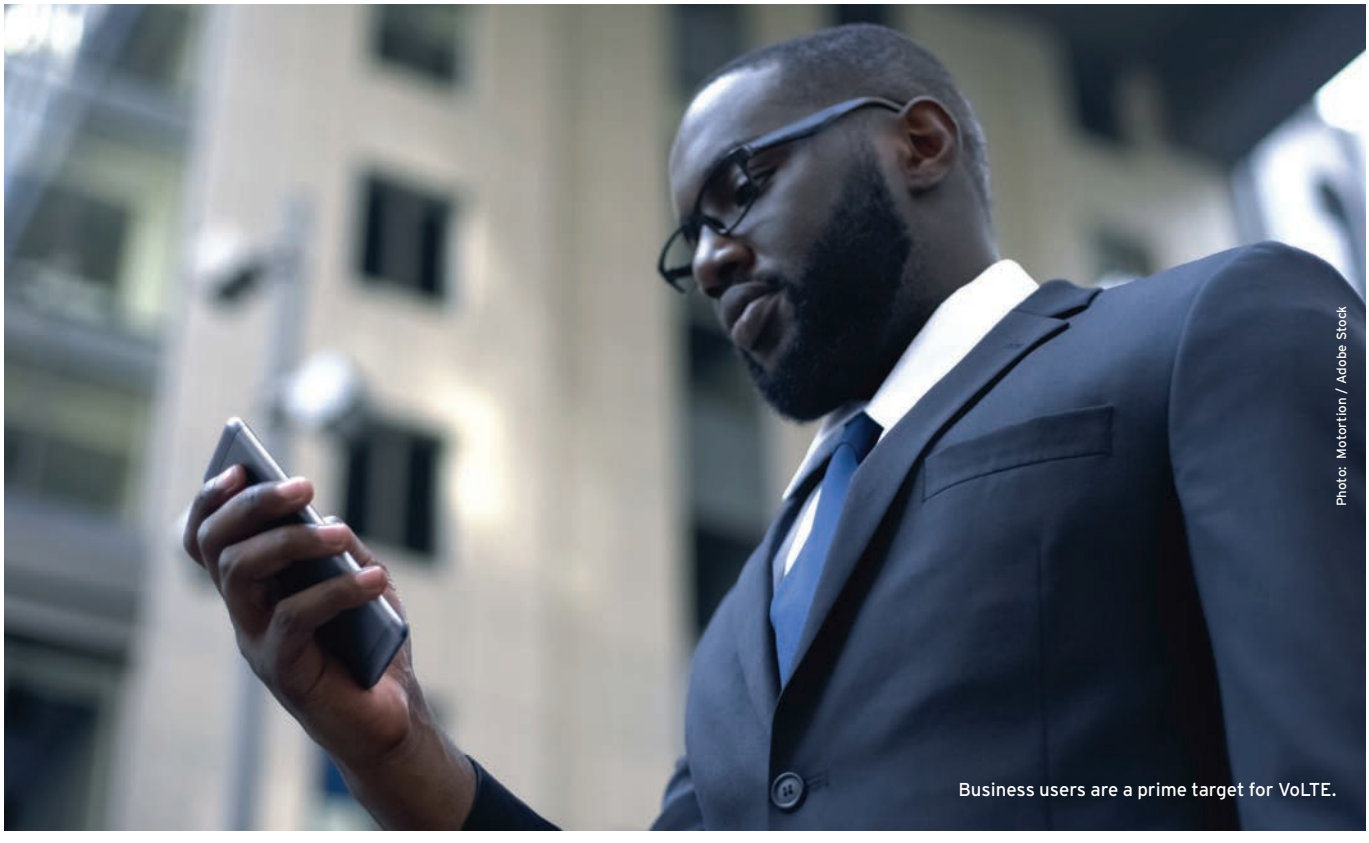


Photo: Motortion / Adobe Stock

Business users are a prime target for VoLTE.

TOWARDS THE END of June, Kenyan operator Safaricom launched voice and video calls over its 4G network. More accurately, it launched the service popularly known as voice over LTE, or VoLTE (along with video over LTE, or ViLTE).

The services are immediately available countrywide to any Safaricom customer with a VoLTE-supporting 4G device and a 4G-enabled SIM card. They will be offered at no additional cost compared to standard calls, says Kenya's leading operator.

But what is VoLTE? And why now? VoLTE is probably best explained as a variant on VoIP (voice over internet protocol), which many people know from Skype: voice calls over a broadband connection. As one commentator has put it, VoLTE is essentially voice over IP over 4G using IMS (IP multimedia sub-system).

This means that, with VoLTE, the voice service can be delivered as data flows within the LTE data bearer or, to put it another way, voice is an app on a data network, rather than separate from it.

That said, LTE is a data-only networking technology, so you won't be getting LTE voice any other way, although your phone may switch back to existing voice over 3G or 2G (most 4G phones do support voice calls on 3G and older cellular networks). This is less efficient than using LTE for everything; it's also a drain on the battery, not just due to all that switching, but due to the need to search for a different signal each time. In any case, you can use voice and data at the same time with VoLTE, which is likely to be a bonus for many users – businesspeople in particular.

You can use voice and data at the same time with VoLTE, which is likely to be a bonus for many users.

One size fits all

Also, VoLTE is standardised. A GSMA document (VoLTE Service Description and Implementation Guidelines) notes: "Voice over LTE, or VoLTE, is a GSMA profile of the standards definition for the delivery of services currently provided via circuit switched networks – mainly voice and SMS – over the packet switched-only network of LTE, leveraging the core network IP multimedia sub-system (IMS)". It adds that "VoLTE is in accordance with 3GPP specifications and additional profiling is defined within GSMA Permanent Reference Documents".

Essentially, this means you shouldn't be getting lots of different versions of VoLTE; one size should indeed fit all.

VoLTE also means a lot more capacity. In fact VoLTE has up to three times more voice and data capacity than 3G UMTS and up to six times more than 2G GSM. And it frees up bandwidth. Thus, because the data network allows for more efficient use of bandwidth, operators are able to promote features such as high-definition voice and video chat as being available through VoLTE-equipped devices and networks.

This is a strong part of the Safaricom offer, of course. As its announcement says: "VoLTE offers a richer calling experience and clearer calls achieving high definition voice quality. VoLTE also eliminates background noise, background jitter and other distortions that are characteristic of older calling technologies."

Benefits for both end users and operators

If VoLTE were great for end users only it would still be an appealing concept and worth selling. As both end users and operators benefit, you can expect operators to get right behind it. For users the calls are, as we have noted, clearer and device battery life is longer. For operators it's a lot more efficient and, again, it wastes less bandwidth. Voice as a data app is much more efficient than voice connections over old circuit-switched technology.

This could have knock-on effects for operational efficiencies too. Obviously, if VoLTE brings voice into the data domain, operators will avoid the expenses of two separate networks. Taking this one step further (although this is not likely to be an immediate concern in Africa), if voice traffic can be completely removed from legacy networks, service providers could also make use of the freed-up cellular spectrum for 4G or 5G.

On the other hand, VoLTE does require a massive rollout of LTE-capable equipment at cellular network level, which, as far as one can tell, is what is happening in Kenya. "Safaricom," the announcement says, "has also committed to have the service available to a majority of Kenyans by embarking on an ambitious expansion of its 4G network. The company will double the number of 4G base stations across the country to more than 5,000 by the end of the year."

For the moment, the target may well be high-end and, especially, business users.

Target market

So who is going to buy into VoLTE in Kenya? For the moment, the target may well be high-end and, especially, business users. Realistically, the mass market is not going to rush out to buy VoLTE-capable devices. The low-end prices being promoted by Safaricom seem to be between 38 and 58 dollars, but that may still be too much for a many end users.

As 4G coverage grows in Kenya, can VoLTE really become a mass-market technology?

And pricing is another interesting question. VoLTE will be offered at no additional cost compared to standard calls, says Safaricom. Does that mean per minute pricing remains or is VoLTE part of a data package? How will voice be sold as a differentiator if it just becomes part of a data bundle? And what about video (remember, the service also offers video over LTE (ViLTE))?

Also, if VoLTE – as a data service – can be accessed over Wi-Fi (in homes or Wi-Fi-enabled shops, say) do operators lose out? It's not clear either what this means for roaming charges. The GSMA has pointed out that seamless roaming can be optimised in the all-IP world (if, as it says, all parties adhere to a single, common implementation of interfaces between every device and network). Is that good or bad for VoLTE pricing and operator revenues?

Finally, why should end users not prefer OTT offerings like Skype or WhatsApp? The obvious answer is that VoLTE is handled by the operator's network, so quality of service (QoS) should be guaranteed, but QoS may be less of a selling point for many Kenyans than longer battery life and greater convenience backed by reasonable prices.

That said, there's a lot of industry muscle behind VoLTE. The GSMA in particular has said: "Our goal is to achieve a consistent, industry-wide approach to delivering services for LTE." That's six billion connections or more over a single technology whose use is accepted by everyone.

However, 'everyone' doesn't include more than a tiny percentage of African end users, at least at the moment. And yet this VoLTE service isn't the first in the African market. In fact it's not even the first in Kenya. Rival service Faiba 4G has been available and offering VoLTE for a while. However, Safaricom's network reach and sheer strength in the market will be invaluable competitive aids to promotion and attractive pricing.

So perhaps there's really only one important question to answer, which is: As 4G coverage grows in Kenya, can VoLTE really become a mass-market technology?

This is clearly the hope of Safaricom, but it's hard to predict take-up of VoLTE-enabled phones in Kenya, where, according to some analysts, the dominance of feature phones and older smartphone models means that the immediate market for VoLTE remains small.

Nevertheless slow change doesn't mean no change and many previous predictions of cost ceilings and user attitudes in Africa have been proved wrong. In any case operators have a strong incentive to try to change end user habits – not just to get them to try LTE-delivered voice services that could benefit the operator as well as the end user but to lay the groundwork for the even greater revolution that will be 5G. ✆

Photo: Creativa Images / Adobe Stock

The mass market is not going to rush out to buy VoLTE-capable devices.

afriQloud cloud service starts in Uganda; 15 African nations to follow in next year

PAN-AFRICAN CONNECTIVITY PROVIDER, BringCom, in partnership with science and technology investor Imprimatur Capital, and European edge cloud software company GIG Technology, has introduced afriQloud to provide the African technology industry with cloud sovereignty.

afriQloud has been launched in Uganda, with the aim of providing secure distributed edge cloud service at internationally competitive rates to local and foreign customers.


Photo: phoniamaiphoto/Adobe Stock

The afriQloud is aiming to have the edge cloud installed in cities and tech hub ecosystems.

Hans van Linschoten, founding partner of Imprimatur Capital Africa and CEO of afriQloud, said, "We see significant potential in the growing African cloud market where an estimated US$2bn is being spent in cloud this year, and we're excited to bring this service to the continent. By the end of 2019, we will complement the few developed markets clouds with a powerful and local distributed cloud in at least 15 countries. This ensures data sovereignty for institutions and governments within Africa's shores."

Mark Simmonds, chairman of GIG Technology, said, "Although cloud adoption is predominantly private, the African markets are generating a growth of 30 per cent in public cloud sales. Few other ICT market segments in the African tech ecosystem have the potential of adding an incremental US$2bn in top line revenue over the next five years."

Fabrice Langreney, CEO of BringCom, said, "Opening up of the global market will require African companies and organisations to be equally competitive in deployment of e-solutions, scalability, secure data accessibility and connectivity in line with international standards."

The afriQloud is aiming to have the edge cloud installed in cities and tech hub ecosystems which host a high number of start-ups and developers.

According to Hans van Linschoten, in a few months, the afriQloud will expand its service in East Africa – Tanzania, Kenya, Rwanda and Ethiopia.

Thuraya unveils smart satellite solutions

THURAYA TELECOMMUNICATIONS COMPANY unveiled smart solutions for the fast-growing APAC market at CommunicAsia 2019. Thuraya developed an enhanced version of its dual mode, tracking and monitoring solution – the T2M-DUAL – tailored for fleet management, renewable energy, security and surveillance.

Thuraya's innovations include SAT-GSM phone, X5-Touch and WE SAT-LTE broadband hotspot. VSAT+ maritime service and the WE SAT-LTE ensure disruption-free, end-to-end data flow at sea and on land. By combining the power of L-band with the dexterity of GSM and the global reach of Ku, Thuraya provides users access to voice, broadband and machine-to-machine communications on many platforms and networks.

Spire Solutions partners with Lookout to tackle mobile threats

MOBILE SECURITY ISSUES are growing in volume and importance, even though Apple and Google constantly add security features. According to the Gartner Market Guide for mobile threat defense (MTD) 2018, nearly 20 per cent of businesses and industry apps leaks personally identifiable information, while every year 42mn mobile malware attacks take place. Gartner predicts that "by 2020, 30 per cent of organisations will have MTD in place, an increase from less than 10 per cent in 2018".


Photo: jippu2498/Adobe Stock

Lookout enables enterprises to constantly assess device health.

To address customer challenges related to mobile endpoint security, Spire Solutions has signed a partnership agreement with Lookout. Through continuous conditional access, Lookout enables enterprises to constantly assess device health and allow employees to authenticate to corporate resources over any network.

"Mobile threat vectors are particularly dangerous, and we regularly hear news about compromised mobile applications. By partnering with Lookout, we aim to increase awareness of mobile device security in the region, and help customers achieve resilience across their endpoint infrastructure," said Sapan Agarwal, deputy vice-president of product management at Spire Solutions.

"Securing data in the post-perimeter world requires organisations to move critical security capabilities to mobile devices so that employees have the ability to browse to any site and download any app without worrying about being tracked or being infected," said Bahaa Hudairi, regional sales director META, at Lookout.

"As we seek to accelerate our growth in the Middle East, partnering with Spire Solutions will enable us to leverage their regional coverage and top-notch technical expertise," he added.

Voith supplies water-to-wire solution for small hydropower plant in Burundi

THE TECHNOLOGY GROUP Voith has won an order to design, manufacture and supply all electromechanical equipment for the small hydropower plant Kabu 16 in Burundi. The company will supervise the installation and commissioning of the plant.

The Voith scope includes two vertical Francis turbines with a capacity of 10MW each, valves, generators, the governor and automation system, as well as the mechanical and electrical balance of plant systems.

The order for the plant was placed between Angelique International Limited on behalf of the Ministry of Hydraulics, Energy & Mines of the Republic of Burundi and Voith.

Construction works on the new plant are in progress and expected to be finished in autumn 2020. The project is expected to provide benefits to the people in Burundi in terms of improved power supply, employment generation and infrastructure improvement.

"The small hydropower plant Kabu 16 in Burundi will definitely contribute to the economic and social development of the region," said Saurabh Sharma, vice-president and business head small hydro of Voith Hydro India. "I am proud that Voith can support the project with a complete water-to-wire solution. The future plant operator will also benefit from a plant with a long performance time and low maintenance requirements."

Small hydro power plants are an important component of the African energy mix. However, only a small percentage of the small hydropower potential on the continent has been exploited. Especially in the Central African countries with low electrification rates, there is extensive potential for future developments.

The expansion of small-scale hydropower can help to supply the population with electricity. In remote and mountainous regions, small hydropower plants deliver electricity to thousands of people, according to the company statement.

Vodacom presents IoT products

VODACOM HAS ENTERED the consumer Internet of Things (IoT) market. V by Vodacom is a range of devices, which allow customers to connect and monitor their home, children, pets and possessions when they are not present. Consumers can now connect their compatible home and leisure IoT devices to the Vodacom dedicated global IoT network using a dedicated IoT V-Sim.

The V by Vodacom range includes the V-pet tracker, V-Kids watch tracker, V-bag tracker and a V-home safety starter kit with a multipurpose sensor, siren, HD camera and a mobile Wi-Fi hub. The cellular IoT products come with easy connectivity via the V-Sim, GPS device tracking and notification alerts when the pets, kids or possessions move outside of a virtual fenced area and a V-home monitoring service as part of the V-home safety kit.

TECNO rolls out first mobile T901 running on KaiOS

TECNO HAS launched 3G smart feature phone T901, the first TECNO device running on KaiOS, the mobile operating system for smart feature phones. This is a significant step for both companies in closing the digital divide by bringing users – previously inhibited by device affordability – online for the first time. The T901 will be available in three color options: gold, blue and black.

Photo: KaiOS

T901 is equipped with a hybrid dual-SIM slot.

"With the arrival of T901 powered by KaiOS, users gain access to apps, such as WhatsApp, YouTube, Google Maps, and others on an affordable TECNO smart feature phone for the first time. The phone supports GPS, Wi-Fi, and 3G, with significant network speed growth and better anti-signal interference performance, as well as faster signal reception in call mode than those in 2G. T901 comes equipped with the Google Assistant, allowing users to operate the device with their voice. With all these features, TECNO is practicing our commitment to allowing the consumers to reach beyond their current limitations and uncover a world of possibilities," said Stephen Ha, managing director of TECNO Mobile.

T901 is equipped with a hybrid dual-SIM slot, which can support two SIM cards and with 512MB +256MB memory for more spaces to save users' memories. It has a 2.4-inch QVGA display with 240x320 pixels resolution, and a 1900mAh battery which enables 25 days of standby time and up to 19 hours of non-stop calling.

The device comes embedded with both a front and a rear camera with built-in flashlight, which enables clearer photos at night and in dark environments.

KaiOS enables a new category of affordable smart feature phones that require limited memory, while still offering a better user experience.

It supports 3G and 4G/LTE, Wi-Fi, GPS, and NFC. KaiOS-enabled phones come with apps and services, such as Facebook, YouTube, and Google Maps, as well as a store for apps called the KaiStore.

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

Paradise Game opens video game, e-learning and edtech centre in West Africa

PARADISE GAME HAS launched the video game, e-learning and edtech centre in Côte d'Ivoire, often claimed to be the largest video game venue in West Africa.

Photo: Yakobchuk Olena /Adobe Stock

The centre focuses on promotion of esports in Africa.

Set up in 1,200 square metres of space at Cosmos Yopougon shopping mall, the centre has the latest equipment and focuses on promotion of e-sports in Africa through tournaments and training esport players for international competitions. Video game fans can enjoy the latest games while preparing for the upcoming Festival de l'Electronique et du Jeu Vidéo d'Abidjan (FEJA), the largest esport event in Africa.

Starting in September 2019, a dedicated room of 80 square metres will host middle school and high school students for training sessions on computers, robotics, and the development of video games.

In 2020, the game centre will host the first edtech and e-learning programme in Yopougon where teachers, students, start-ups and entrepreneurs will work together on creating the future educational tools for Africa.

These two initiatives are aimed at getting the youth to join the new technology wave and be abreast of robotics, artificial intelligence and virtual reality.

From video game crash courses to learning poems and playing board games, the community will be able to undertake a wide range of activities at the centre.

Sidick Bakayoko, founder of Paradise Game, said the company's ambition is to transform the entertainment industry in Africa by allowing young Africans to discover the video game field, robotics and virtual reality.

With more than 500,000 visitors expected per year, the centre is aiming to position itself as a platform to entertain, educate and empower young Africans.

Jumia teams up with Vivo Energy to increase its distribution network in Africa

PAN-AFRICAN COMPANIES VIVO Energy, a retailer and distributor of Shell and Engen-branded fuels and lubricants, and Jumia, an e-commerce platform, are partnering to develop and pilot a series of additional services in selected countries where both companies operate.

Vivo Energy is planning to offer convenient solutions to customers, building on its non-fuel retail offering. The partnership will see Vivo Energy's retail service stations used as pick-up and drop-off points for customers, allowing them to collect or return online orders made on Jumia's digital platform.

Additionally, Jumia's customers will be able to place and pay for Jumia orders at selected service stations. Other initiatives are being explored to combine Vivo Energy's network of physical service stations and Jumia's digital platform.

Boris Gbahoue, Jumia's executive vice-president of marketing, said: "We are constantly looking at how we can further adapt our technology to be a part of the local infrastructure and become more accessible to more customers. We are excited to announce this partnership with Vivo Energy, as we are confident that their retail network will enable Jumia to conveniently deliver products to current and new customers, including in remote areas. We will continue to expand our brand partnerships, with an aim to diversify product offerings."

Omar Benson, vice-president, retail, quick service restaurants, convenience retail, and other non-fuel retail, at Vivo Energy added: "We are delighted to be partnering with Jumia to develop and implement these initiatives. Our customers are rightly demanding newer and faster ways of accessing products and services. Vivo Energy and Jumia are both focused on developing innovative ways to make their customers' experience more convenient and rewarding. We are excited about the partnership and the potential it offers."

Vivo Energy has a network of more than 2,100 service stations in 23 countries spreading across North, West, East and Southern Africa. African e-commerce platform Jumia is active in 14 countries in the region.

Raspberry Pi 4 is available for pre-order

RS COMPONENTS SOUTH Africa announced that the latest offerings from the Raspberry Pi Foundation have been approved by the Independent Communications Authority of South Africa (ICASA) and are now available for pre-order.

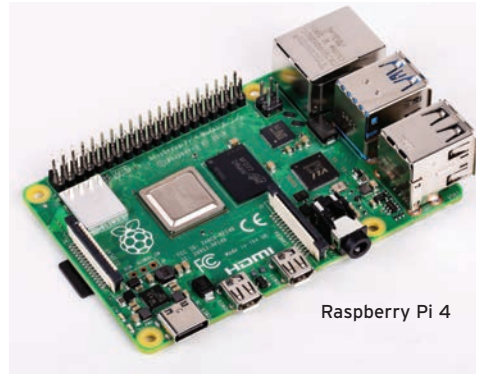


Photo: RS Components

Raspberry Pi 4

The first of the fourth generation Raspberry Pi that will be available is the Pi 4 Model B. Eben Upton, founder of Raspberry Pi, said the latest offering was a comprehensive upgrade, touching almost every element of the platform. "For the first time, we provide a PC-like level of performance for most users, while retaining the interfacing capabilities and hackability of the classic Raspberry Pi line. What's changed with Raspberry Pi 4 is that, in addition to being a device for learning about computing, it's also much more suitable than its predecessors for use as a general-purpose classroom computer," he added. Brian Andrew, managing director of RS Components South Africa, said that he was excited to welcome the latest Raspberry Pi offering to its customers. "It is undeniable just how popular Raspberry Pi's have become over the years. These microcomputers have come a long way and here in SA the popularity continues to gain traction. We would like to advise all our customers that we are hard at work to make sure we get the Pi 4's as soon as possible. Now that we have ICASA's go ahead it is just a waiting game because of the high demand globally. We are expecting stock in September 2019," he commented.

This new OS is based on the upcoming Debian 10 Buster release and delivers a modern user interface and updated Chromium 74 web browser. Other improvements include the adoption of the Mesa V3D graphics driver, which offers OpenGL-accelerated web browsing and the ability to run 3D applications in a window.

The Raspberry Pi Foundation has released new accessories for the Pi 4 Model B, including a new case, a USB Type-C power supply, a microUSB to USB Type-C adapter, and micro HDMI cables. Notable upgrades include Gigabit Ethernet, support for up to 4GB of LPDDR4 RAM and dual-band Wi-Fi, as well as 4K60 hardware HEVC decode support.

Cannon partners with McAfee for print security

CANON PARTNERED WITH cyber-security experts McAfee to give print protection against security threats.

The company's image Runner Advance devices are secured by the McAfee Embedded Control Software to counter malware. The regular firmware upgrade provides security through access to six-monthly updates without any expensive hardware replacements.

The latest features and functionality, including McAfee Embedded Control Software, will be available in the upcoming 3.9 firmware update. Canon is set to work closely with McAfee to offer a constantly evolving whitelist of authorised applications to safeguard against unknown applications, unintentional breaches and malicious attacks.

WorldRemit enables remittance receivers to manage their money on their phones

ONLINE MONEY TRANSFER service provider WorldRemit has introduced new app features to make it easier for remittance recipients in several countries, including Cameroon, to manage funds sent from overseas.

Remittance receivers in several countries can now create and access a remote WorldRemit account to receive money instantly to their phones from more than 50 countries worldwide in multiple currencies including USD and XAF as well as store their funds in the app.

The customers can withdraw their money at any time using WorldRemit's convenient pay-out options, including cash pickup at more than 1,500 locations, bank transfer and mobile money transfer. They can send money to other WorldRemit customers living in the same country who have the new app feature.

Users can request money from friends and family abroad by building a transfer (including amount and currency) in the WorldRemit app and sharing the request with their sender via Whatsapp, SMS or email. Senders can then easily approve and deliver the transfer in seconds.

The new app features are free of charge and give WorldRemit money transfer recipients full control over when and how to withdraw their remittances.

Approximately 65 per cent of adults in Cameroon remain unbanked, and customers do not need a bank account to access the full range of services available remotely for money transfer receivers through the WorldRemit app.

Andrew Stewart, managing director for Middle East and Africa at WorldRemit, said: "Cameroon is one of our top ten remittance receiving countries globally, so we are delighted to make it even easier for money transfer recipients in the country to manage their funds."

Avanti confirms successful integration and testing of 5G Limassol platform

IN CONNECTION WITH the 5GENESIS project, Avanti confirmed the successful integration and testing of the first release of the 5G Limassol platform in Cyprus.

A functional end-to-end network, enabled by satellite backhauling through Avanti's HYLAS 2 satellite, with added virtualisation capabilities at the core and edge networks of PrimeTel, is now confirmed.

This development paves the way to integrate a 5G core and a 5G base station next year as they become available from consortium partners Athonet and Eurecom respectively. Moreover, as part of the preparation for demonstrating a complete 5G end-to-end test case, the Internet of Things application provided by the Universitat Politècnica de València has been integrated into the platform with both its physical and virtual components at the core and at the edge. As part of the integrated setup, Avanti has installed a 1.2 m iDirect terminal providing satellite backhaul bandwidth (15Mbps downlink / 5Mbps uplink) through HYLAS 2 to the Limassol platform using Avanti's Gateway Earth Station in Cyprus.

The integration of the 5G Limassol platform is coordinated by Space Hellas Cyprus which is responsible for the overall architecture. The platform itself is hosted at the premises of PrimeTel PLC, a private cypriot mobile network operator and internet service provider, utilising its Limassol data centre for hosting, as well as providing local and remote connectivity to its terrestrial operational network. The Limassol platform is one of the five platforms comprising the 5GENESIS end-to-end 5G facility. 5GENESIS is a 36-month project led by the National Centre for Scientific Research "Demokritos" in Greece, with an objective to validate 5G key performance indicators (KPIs) for various 5G use cases. This will be achieved by bringing together results from a considerable number of EU projects, as well as the partners' internal research and development activities to realise an integrated end-to-end 5G facility.

Eseye unveils AnyNet IRIS app

ESEYE LAUNCHED THE AnyNet IRIS, a gateway app for Amazon Web Services (AWS), which went live on 1 August.

The new app is designed to enhance the user experience and work with the upgraded AnyNet Secure for AWS IoT global cellular solution. David Thompson, Eseye's marketing director, said AnyNet IRIS transforms the way the AWS marketplace integration installs, from a run-once script to a clear graphical interface that enables customers to select the features they want and to add services as they are needed or become available.

The app has a new range of features for AWS customers that are accessed directly on their AWS marketplace account. "These include a simplified launch process, enhanced visibility of the IoT estate through an action audit log and customer app update notifications," he added.

Siemens Mobility chooses Softil for next-gen train communications solutions

SIEMENS MOBILITY AND Softil have announced an agreement that will see a range of next-generation communications solutions come to market for use in long term evolution railway (LTE R) railways, as well as mission-critical push to talk (MCPTT) metro applications such as underground tram buses.

The mission-critical communications (MCX or MCC) enabler Softil aims to support the future railway mobile communications systems (FRMCS) of the International Union of Railways (UIC) to build a global rail traffic management system (GRTMS) for the entire rail industry.

"The rail industry is at the forefront of the mission-critical communication revolution and GSM-R based systems have already been replaced by LTE-R solutions in the Asia-Pacific (APAC) and the trend is expected to widen across other markets in 2019/20," said Pierre Hagendorf, CEO of Softil.

The new radio system for the railway industry aims to guarantee the guarantee interoperability with GSM-R while delivering on these three main areas: critical communications, performance communications and business communications. "The rail industry is facing unprecedented challenges in handling increasing numbers of passengers and freight traffic loads," noted Russell Clarke, general manager, mobile communications at Siemens Mobility.

LTE-R is the foundation for the railway variant of the 3GPP MCC over LTE/5G (MCPTT) standard. What sets the LTE-R technology apart from the currently used GSM-R is that it uses the full power of broadband networks including voice, video, text, images and location.

Photo: Peera/Adobe Stock

Softil aims to support the future railway mobile communications systems

The Softil BEEHD framework is LTE-R compatible and set to enable Siemens Mobility's solutions to deliver stable voice as well as data communications on trains running at speeds in excess of 400km per hour. LTE-R technology makes it possible to live-track trains and transmit railroad information to engine drivers, as well as enabling multimedia-based group calling and SMS services on top of voice call services. Additionally, real-time group/individual communication is made possible between train engineers and control centres.

Xerox launches multi-function printers with WiFi direct and mobile printing

XEROX ANNOUNCED A new series of three affordable print devices designed to enhance small office mobility, without compromising image quality, security or the user experience.

Comprised of the Xerox B210 printer, and B205 and B215 multi-function printers, the devices offer high-speed wireless connectivity, allowing users to print anywhere, at any time.

Photo: Xerox

Xerox-B205 multi-function printer

Each device features WiFi direct technology that enables wireless printing without a router and mobile print functionality with Apple AirPrint, Google Cloud Print, Mopria and Android support. The series reaches print speeds of up to 31ppm, while delivering high-resolution 1200x1200-dpi enhanced image quality.

Taking cues from the Xerox VersaLink and AltaLink series, the B215 features a 3.5-inch touchscreen, giving users a smartphone-like experience.

"Small businesses and those working from home have the same desires for ease of use, functionality, capacity and productivity as those in larger offices. This series of lightweight, compact printers provides those capabilities at the right price," said Terry Antinora, vice-president and general manager of Workplace Solutions, Xerox.

These products are available across Europe, Middle East and Africa (EMEA), US, Canada and Latin America.

Trimble introduces new compact-sized tablet for geospatial field applications

TRIMBLE HAS LAUNCHED the latest addition to its portfolio of data collectors—the Trimble T7 tablet. Purpose-built for survey and Geographic Information System (GIS) data collection applications, the next-generation tablet connects to Trimble's suite of survey instruments and Global Navigation Satellite System (GNSS) receivers in a portable and rugged package.

Equipped with a tough 7-inch multi-touch screen, modular expansion capability, multiple connectivity options and featuring a Windows 10 Professional operating system, the T7 streamlines the flow of geospatial data between the field and office for better efficiency and productivity.

Trimble T7 features hot-swappable batteries, a rugged design that meets military (MIL-STD-810G) specifications to protect against moisture, dust ingress, drops and shocks, as well as an improved grip zone for secure handling and portability. The sunlight-readable display, protected by gorilla glass, makes it suitable to view data, images and maps in all outdoor conditions. A professional grade built-in GNSS receiver supports GPS, GLONASS and BeiDou constellations, as well as Satellite-Based Augmentation System (SBAS) capabilities for accurate real-time positioning.

With Intel Pentium N4200 quad core processor, 8 GB memory and powered by the Windows 10 operating system, users can run office software applications in the field. The T7 tablet leverages 4G LTE cellular data, Bluetooth 4.2 and Wi-Fi, which allows users to upload, sync and share data in real-time, as well as collaborate with and receive on-the-job support from the office, helping to reduce time in the field. It features two Trimble EMPOWER module slots, which enable users to attach field-replaceable modules for flexible workflows. It can be paired with the Trimble S-Series total stations.

Successful launch of the second SpaceDataHighway satellite on Ariane 5

THE EDRS-C SATELLITE, the second node of the SpaceDataHighway network – known as EDRS, European Data Relay System – has been successfully launched into geostationary orbit at 31° East by an Ariane 5 rocket from Kourou, French Guiana. After a test period, it will double transmission capacity of the system to serve two observation satellites simultaneously and provide redundant back-up for the SpaceDataHighway.

This second satellite is joining EDRS-A, which transmits on a daily basis the images of Earth acquired by the Copernicus programme's four Sentinel observation satellites. Since it entered service in late 2016, it has achieved more than 20,000 laser connections. The reliability rate has reached 99.5 per cent, and these successful connections have downloaded more than 1 petabyte of data.

Full operations including EDRS-C are expected by the end of 2019, when its inter-satellite link and end-to-end service will be tested and commissioned with the Sentinel satellites. The SpaceDataHighway is the world's first optical fibre network in the sky based on laser technology. It is a unique network of geostationary satellites

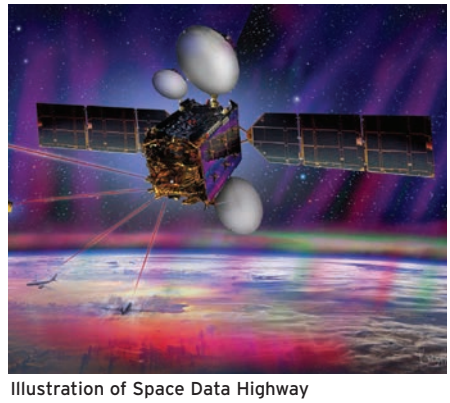


Photo: AirbusSpace

Illustration of Space Data Highway

permanently fixed over a network of ground stations that can transmit data at a rate of 1.8 Gbit/s. It will be a vital component of the Airbus Network for the Sky (NFTS) programme. NFTS combines various technologies – satellite and ground communications, air-to-ground, ground-to-air and air-to-air tactical links, 5G mobile communications and laser connections.

SpaceDataHighway satellites can connect to low-orbiting observation satellites at a distance up to 45,000 km, intelligence UAVs or mission aircraft via laser. From its position in geostationary orbit, the SpaceDataHighway system relays data collected by observation satellites to Earth in near real time, a process that would normally take around 90 minutes. It enables the quantity of image and video data transmitted by observation satellites to be tripled and their mission plan to be reprogrammed at any time, and in just a few minutes.

A third communication node is to be positioned over the Asia-Pacific region by around 2024. Equipped with three laser terminals, EDRS-D will increase the system's communication capacity and considerably expand its coverage. From 2021, the Pleiades Neo Earth observation satellites will begin to use the SpaceDataHighway. By the end of 2019, the system will provide a fully European broadband communication service to the Columbus module of the International Space Station (ISS).

The SpaceDataHighway is a public-private partnership between the European Space Agency (ESA) and Airbus, with the laser terminals developed by Tesat-Spacecom and the DLR German Space Administration. Airbus owns, operates and provides commercial services for the SpaceDataHighway.

AMOS-17 communication satellite launched

SPACECOM, OPERATOR OF the AMOS satellite fleet, confirmed the successful launch of its AMOS-17 satellite from Cape Canaveral Air Force Station, Florida.

Manufactured by Boeing Satellite Systems International, AMOS-17 is 6.5-ton high-power, HTS, satellite designed specifically to meet Africa's communication demands.

AMOS-17's advanced digital payload will provide extensive C-Band HTS, Ka-band and Ku-band capabilities, enabling the combination of broad regional beams and high throughput spot beams to maximise throughput and spectral efficiency. It will offer connectivity between Africa, the Middle East, Europe, India, China and as far west as Brazil.

Following a sequence of in-Orbit tests that are expected to take around three months, AMOS-17 is scheduled to begin commercial operations at the 17°E orbital position later in 2019.

Spacecom CEO and president David Pollack said, "AMOS-17 places us directly into the exciting growth of Africa's sub-saharan vibrant markets. As a leading multi-regional satellite operator, Spacecom is introducing the most technologically advanced satellite with HTS beams to service Africa where AMOS-17 will deliver a large selection of services to a variety of broadcast, broadband and telecom clients."

Spacecom operator of the AMOS-3 and AMOS-7 satellites co-located at 4°W, and AMOS-4 at 65°E, provides high-quality broadcast and communication services to Europe, the Middle East, Africa, and Asia via DTH and DBS operators, ISPs, telecom operators, network integrators and government agencies.

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