

# Communications Africa Afrique

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## Transforming network infrastructure for 5G

Mobile World Congress  
examines the challenges  
and opportunities ahead



### Network densification

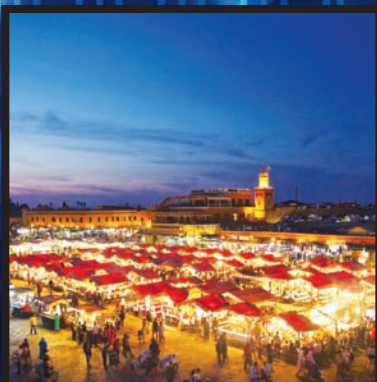
Reducing the cost of network ownership

### CABSAT

A round-up of new products/services  
from exhibitors

### Fibre connectivity

The challenges for African businesses



P4 - Datacloud Africa will be held in  
Marrakech, Morocco.

**FEATURES:** ● Communications ● Mobile ● Satellites

**REGULAR REPORTS:** ● Agenda ● Solutions



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## A note from the Editor

THIS EDITION OF Communications Africa focuses on a range of topics, from the latest developments in satellites - presenting highlight's from the recent Cabsat show held in Dubai, to the deployment of fibre connectivity across the continent and the challenges that are still facing the market. In this issue we also explore the role of small cells in densification driven by a surge in city data traffic.

## Une note du rédacteur

CETTE ÉDITION DE Communications Africa se concentre sur un éventail de sujets, des derniers développements dans les satellites - présentant les faits saillants du récent salon Cabsat à Dubaï, au déploiement de la connectivité fibre à travers le continent et les défis auxquels le marché est toujours confronté. Dans ce numéro, nous explorons également le rôle des petites cellules dans la densification en raison d'une augmentation du trafic de données de la ville.

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## When you default payment on TV license fees in Ghana

THE GHANA BROADCASTING Corporation [GBC] has been directed by its governing board not to pursue any prosecution of people who may default on the non-payment of TV license fees.

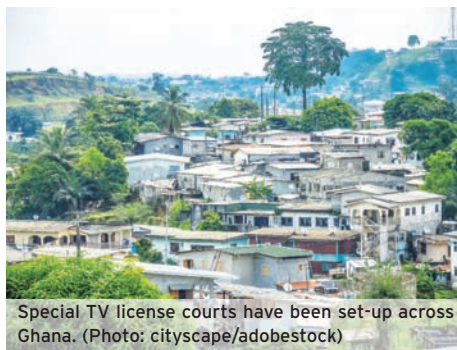
Responding to the outcry and criticism that met the renewed efforts of the state broadcaster to ensure compliance with the law, the GBC Board assured the public that nobody will be prosecuted.

Following the chief justice's setting up of special TV license courts across the country to prosecute people who refuse to pay the mandatory TV license fees in line with the TV licensing Act, there have been concerns over the TV license regime. Domestic TV users are to pay between GHc36 US\$7.92 and US\$13.21 for one or more TV sets in a household, while TV set repairers and sales outlets are to pay an annual sum of between US\$13.21 to US\$52.83

Following the setting up of the special court, it was expected that defaulting TV owners or operators will be prosecuted per Section 1(a) of the TV licensing Act 1966 (NLCD 89) with defaulters facing a fine or a prison term of up to one year. However, a statement released by the Board said, "following an evaluation of the situation has instructed the management of the Ghana Broadcasting Corporation (GBC) not to pursue any activity or set of processes, leading to the prosecution of any individual for the non-payment of the Television license fee."

"The Governing Board is assuring the general public not to entertain any fear for any such possible prosecutions," the statement added. The board also urged the National Media Commission (NMC) to explore a more sustainable funding module for the GBC. "With Respect to the future of the Ghana Broadcasting Corporation, the Board recommends that the National Media Commission (NMC) drives the process of engaging critical stakeholders to resolve the status of GBC, and find a more enduring funding module, that would enable it to discharge its constitutional mandate."

Nana Yaa Ofori Atta



Special TV license courts have been set-up across Ghana. (Photo: cityscape/adobestock)

## Coindirect live in Africa

COINDIRECT.COM HAS ANNOUNCED the initial launch of its platform for local currency trading. The Coindirect.com cryptocurrency marketplace aims to make trading in digital currencies simple, and is now live in the United Kingdom, South Africa, Nigeria and Kenya, ahead of a global rollout in early this year. Coindirect.com supports local currency purchases in the UK, South Africa, Nigeria and Kenya, with more countries to follow early in 2018. "We're extremely excited to be offering our customers across the globe the ability to buy popular cryptocurrencies such as Bitcoin and Ethereum in their local currencies," says Coindirect.com director, Basil Bielich. "By simplifying and demystifying the process of purchasing cryptocurrencies, we hope to accelerate their adoption across the globe."

## Datacloud Africa to be held in Marrakech

AFRICA'S DEFINING DATA centre, cloud and edge forum for providers, their investors and customers is launched for 2018

BroadGroup has announced the launch of the leadership summit for Africa's data centre, cloud, fiber and edge infrastructure leadership, 28 September 2018 in Marrakech.

Recognising the challenges for Africa's digital economy and growth this forum establishes for the first time a unique opportunity for companies engaged in creating new IT ecosystems, their investors financiers and government agencies to meet, network and collaborate.

As more is invested in improving connectivity, the gradual emergence of Internet exchanges, and a shift to local content hosting, investors have responded with the construction of a number of high quality facilities and partial use of new digital parks.

Attendees will include senior executives managing data centre businesses from across the continent, subsea and terrestrial fiber providers, satellite services, content and solutions providers, telcos, constructions firms, power grid and innovative energy suppliers.

"Datacloud Africa is focused on investing, powering, connecting, and deploying data centres across the continent," said Gregory Gerot, vice president and managing director of BroadGroup. "It will bring together engaged leaders and investors with a single objective to create a new pathway for practical outcomes to accelerate data centre development."

Datacloud Africa takes place at the Four Seasons hotel in Marrakech 28 September 2018 and will include an Awards ceremony.

Datacloud Africa will be held in Marrakech, Morocco. (Photo: Pixabay)



## ABS board appoints Jim Simpson as new CEO

ABS HAS ANNOUNCED Jim Simpson has been appointed as the new Chief Executive Officer (CEO) of the company. Jim Simpson spent 35 years at The Boeing Company in a number of leadership positions in the Satellite and Launch Business. Following his retirement from Boeing, he served two years as the senior vice president for strategy and business development and was an officer of Aerojet Rocketdyne focused on propulsion and power systems for satellites, rockets and defense productions. "We are very excited to welcome Jim to the ABS family! His extensive experience, leadership, and knowledge of the business will create significant value for the company as ABS transitions to the next phase of our long term growth strategy. The board and I are delighted that Jim Simpson as the new Chief Executive Officer will lead the executive team to effect the company's continuing expansion," said Jim Frownfelter, chairman of ABS.

Jim has obtained B.S. and M.S. degrees from the University of California, Los Angeles, an M.B.A. from the University of Southern California and a graduate certificate in Programme Management from California Institute of Technology. Jim Simpson, CEO of ABS stated, "I want to build upon and extend the legacy that the company has created as we move into the next chapter of ABS. I look forward to leading our efforts to further strengthen and grow ABS through a focus on greater execution, creation of strategic partnerships, and further penetration into new markets and products."

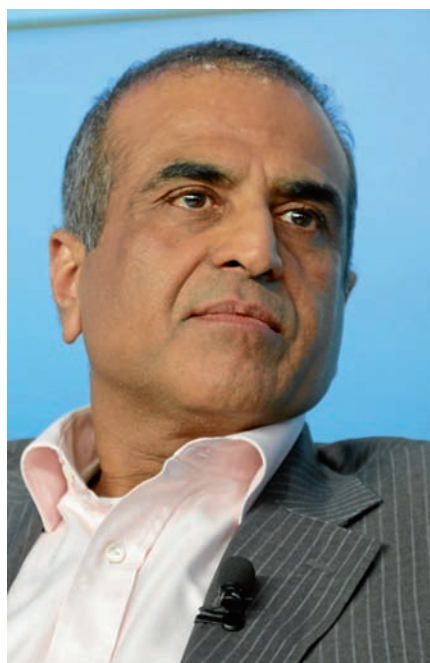


Jim Simpson, ABS CEO. (Photo: ABS)

“Airtel and Tigo have merged their operations to create a strong viable entity in Ghana. In acquiring Tigo Rwanda, we aim to become a profitable and a strong challenger in a two-player market.”

**- Sunil Mittal**

*Chairman  
Bharti Airtel*



“As we launch Microsoft Kaizala in Kenya, we hope to help connect the complete value chain, including even the unconnected parts of organisations – from small businesses to large enterprises and governments who want to connect with their citizens.”

**- Rajiv Kumar**

*Corporate Vice President,  
Office Product Group  
Microsoft*

“Banks need to make sure they have the right ICT infrastructure in place to support the critical services they offer. Their choice is either to build their own robust infrastructure, or lease services from us.”

**- Dan Kwach**

*General manager  
East Africa Data Centre*

“We will be working hard to provide a new, innovative, affordable, no-hassle way for Liberians to get access on their mobile to all of the great entertainment they get on satellite television.”

**- Magnus Nmonwu**

*Regional director  
Sage*



“Nigeria's over 60 per cent Internet penetration means that more 90m people would be online in the coming years. Cloud usage is expected to move more than double to 80 per cent of businesses in the next year.”

**- Adebayo Shittu**

*Nigeria's minister of  
communications and  
technology*



“Without improving tax collection, West African countries will not be able to effectively finance the building of infrastructure and the provision of public services”

**- Noel Chateau**

*Chief marketing  
Orange Liberia*



# AfricaCom returns to Cape Town for 20th anniversary

Last year marked the 20th anniversary of AfricaCom, the biggest telecoms, media and technology event in the world, with a number of exhibitors including Nokia, Facebook, Liquid Telecom and Gazprom, taking to the stands to showcase their new digital solutions.

**H**ELD AT THE Cape Town International Convention Centre, the discussions at the event highlighted a number of pressing issues facing the industry. From exploring how the continent can tackle the ongoing connectivity problem - the cost of data and the deployment of satellite to exploring ways to address digital inclusion and education - examining how industry professionals can make the most of connectivity with the tools to hand.

This year's event saw telecommunications and postal services deputy minister, Stella Ndabeni-Abrahams presenting a keynote address at the conference on 8 November 2017. The presentation focused on the value of ICT and digital connectivity under the theme, "Visions for Africa: ensuring a connected Africa through satellite communication." This included an overview of the satellite communication policy interventions, regulatory framework, legislation and collective efforts. David Harrower, senior vice president of global sales and business development at iDirect, also addressed AfricaCom attendees on the role

that satellite communication plays in driving socio-economic change especially across the business/financial, healthcare and education business sectors, as well as for government services.

One of the companies exhibiting at this year's show was **Nokia**. The company explored how the connected world can shape Africa's future. Joachim Wuilmet, head of customer marketing and communications MEA said Nokia is excited to share its next generation of network technology with the broader African market, "Africa is the perfect place to share Nokia's vision of shaping the future of technology to transform human experiences with effortless, simple and dependable technologies. We look forward to discussing how both existing and new customers can use technology to improve people's lives."

**Liquid Telecom** announced at the show it will partner with Huawei to deliver 100G links across South Africa. The 100G link will support growing demand for cloud-based services and provide customers with high-speed access to Liquid Telecom's data centres in Johannesburg and Cape Town, which are currently undergoing major expansions to meet the needs of global cloud players and enterprise customers. Alongside this, the company launched a competition in partnership with Meltwater Entrepreneurial School of Technology (MEST) during which five start-ups operating in the gaming, entertainment, music and AR/VR sectors pitched in front of an audience and judging panel. The winner received a six-month fixed membership at the MEST Incubator Cape Town, and the

opportunity to nurture and grow their start-up in markets across Africa.

**Gazprom** demonstrated the capabilities of Yamal satellites for service provision in African and Middle Eastern countries at the event. Telemedia extended its capacity utilisation of Yamal-402 satellite in order to provide occasional services for RSA television broadcasters for their coverage of sport and political events. Gazprom also signed a contract on capacity utilisation of the same satellite for the state television of Angolan whereby a new channel dedicated to horse racing will be transmitted via Yamal-402. GSS reached an agreement with Gilat Satellite Networks on expansion of education project in Ghana.

**Facebook** also took part in a number of events at the show, showcasing how the platform is being used by businesses, start-ups and individuals across the continent to drive the digital economy. "AfricaCom 2017 is an opportunity to share what we're doing to serve the 108mn people on the continent who use Facebook each month, as well as how we're empowering entrepreneurs and startups," said Emeka Afigbo, head of platform partnerships Middle East and Africa. This year's event also welcomed the 10th AfricaCom Awards held at The Lookout, overlooking the waters of Granger Bay, Cape Town. "We are delighted to recognise the sterling works performed by companies and personalities that are developing solutions and products to improve connectivity that will drive Africa into the fourth industrial revolution. Congratulations to all," said Tom Cuthell, portfolio director of KNet365. ©



AfricaCom 2017 explored how digital connectivity is a driving factor for economic and social development.

### Samsung to double Africa's share of revenues in five years

SAMSUNG HAS ANNOUNCED plans to double the annual revenue contribution from its African markets to 20 per cent of the firm's global total in the next five years, Sung Yoon, head of business for Africa told Reuters. He noted that the electronics giant would set up retail channels in more African countries. "We think Africa is extremely important for the future," he told the news agency.



Samsung Electronics HQ in Suwon, South Korea.  
(Photo: Wikimedia/commons)

### MainOne joins forces with WACREN to boost connectivity

MAINONE HAS ENTERED a 15-year contract with WACREN to provide high-speed bandwidth services. WACREN, the regional research and education network (REN) that facilitates interconnections between national RENs in West and Central Africa will use MainOne to provide high-speed backbone data services. "This is a big step for the REN and academic communities in West and Central Africa and will ensure that our members are better equipped to provide premium research and education services," said Boubakar Barry, CEO of WACREN.

### Unicorn Media & Communication: re-inventing media as a whole

UNICORN MEDIA & COMMUNICATIONS, a subsidiary of Unicorn Conglomerate in South Africa, will be offering news updates through new/media websites, online radio and television and online library and communications. The company plans to expand to four geographic locations of Africa (Nigeria, South Africa, Kenya & Egypt), UK, America, South Korea and Australia. "This is a big step for the REN and academic

communities in West and Central Africa and will ensure that our members are better equipped to provide premium research and education services".

### Kenyan bloggers partner to start a Kenyan Tech podcast

A NEW PODCAST will be launched by Kenyan bloggers Nixon Kanali, Emmanuel Chenze, Kaluka Wanjala, David Gitonga and Kevin Kimani, in the country, with the goal to grow the podcast landscape in Kenya and move it mainstream. "The idea of a 24BIT Podcast is something we want to build working as a team. We want to partner with more local companies, and influencers to ensure we reach out to more listeners. These audience can listen to us while in traffic, at the office or even at home," said Nixon Kanali, a blogger at [www.TechTrendske.co.ke](http://www.TechTrendske.co.ke).

### Microsoft launches Kaizala mobile app in Kenya

MICROSOFT HAS LAUNCHED Kaizala in Kenya, a mobile app designed for large group communication, work management, reporting and analytics integrated with Office 365. The app enables businesses to connect with large groups of people across their entire value chain, on a single platform on their mobile phone. "Kaizala makes it easier and less time consuming for organisations to communicate, assign and track work in real-time, and create reports based on aggregated data," said Sebah Haileleul, country general manager for Microsoft East and Southern Africa.

### International Development Secretary hails power of technology to deliver aid

INTERNATIONAL DEVELOPMENT SECRETARY, Penny Mordaunt, has hailed the "incredible power of technology to deliver aid in new ways" on her first official visit to Kenya in the post. During her visit Mordaunt saw how UK aid is supporting vulnerable communities in the North of the country devastated by East Africa's drought. "Here in Kenya technology is delivering UK aid in new ways, from innovative cash transfers using biometrics, through to trade technologies that support economic growth, jobs and investment," said Mordaunt.

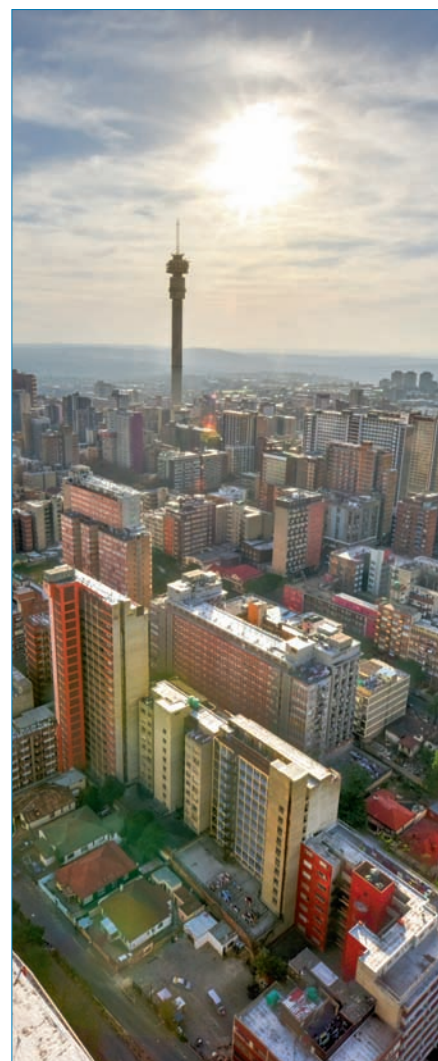
### Gainde 2000 displays ORBUS SIGN project at CES Las Vegas

GAINDE 2000 SHOWCASED its research project ORBUS SIGN at Consumer Electronics Show (CES) in Las Vegas, held 9-12 January 2018. Speaking about the product, Ibrahim Nour Eddine Diagne, general manager at Gainde 2000 said, "ORBUS SIGN eliminates handwritten signatures in a long process generally entailing the printing, distribution and waiting for signed documents to be sent

and returned. "It is also a solution that brings a simple alternative, particularly in Africa, where illiteracy is nearly 40 per cent." GAINDE 2000 has become one of the African leaders in the dematerialisation of administrative formalities, digital security and electronic payments and has rolled out solutions in five countries and internationally rendered consulting services.

### Bank Zero launches in South Africa

BANK ZERO HAS granted a provisional licence after an in-depth evaluation process by the South African, it revealed. The bank said it aims to offer a unique and fresh approach to banking without any legacy systems which can be costly to maintain. "Facebook, WhatsApp, Twitter and Instagram are the new normal for societies. Why shouldn't banks also innovate in this era of wider connectedness whilst still ensuring a robust banking value proposition? Bank Zero is addressing these realities, while employing cutting-edge technologies and delivering state-of-the-art security," stated co-founder and chairman, Michael Jordaan.



Bank Zero will be launched in South Africa.  
(Photo: adobestock)



## Events/Événements 2018

### FEBRUARY/FÉVRIER

22-23	<b>Ecommerce Africa</b>	Cape Town, South Africa	<a href="http://www.ecommerce-africa.com">www.ecommerce-africa.com</a>
22-23	<b>Mobile IT</b>	Krakow, Poland	<a href="http://www.targi.krakow.pl">www.targi.krakow.pl</a>
27-2	<b>Mobile World Congress</b>	Barcelona, Spain	<a href="http://www.mobileworldcongress.com">www.mobileworldcongress.com</a>

### MARCH/MARS

1-3	<b>The Blockchain Africa Conference 2017</b>	Johannesburg, South Africa	<a href="http://www.blockchainafrica.co">www.blockchainafrica.co</a>
5-9	<b>CIS</b>	Dusseldorf, Germany	<a href="http://www.eurocis-tradefair.com">www.eurocis-tradefair.com</a>
19-23	<b>OFC Los Angeles</b>	Los Angeles, USA	<a href="http://www.ofcconference.org">www.ofcconference.org</a>
20-24	<b>CeBIT</b>	Hanover, Germany	<a href="http://www.cebit.de">www.cebit.de</a>
21-23	<b>CABSAT</b>	Dubai, UAE	<a href="http://www.cabsat.com">www.cabsat.com</a>
22-23	<b>Cashless Africa</b>	Lagos, Nigeria	<a href="http://www.cashlessafrica.com">www.cashlessafrica.com</a>
29-30	<b>International Wireless Communications Expo</b>	Las Vegas, USA	<a href="http://www.iwceexpo.com">www.iwceexpo.com</a>

### APRIL/AVRIL

1-3	<b>Vietnam International Broadcast &amp; AV Show</b>	Ho Chi Minh City, Vietnam	<a href="http://www.vibashow.com.vn">www.vibashow.com.vn</a>
5-7	<b>Med-e-Tel</b>	Luxembourg	<a href="http://www.medetel.eu">www.medetel.eu</a>
21-27	<b>Nabshow</b>	Las Vegas, USA	<a href="http://www.nabshow.com">www.nabshow.com</a>
27-28	<b>IOT Global Congress 2017</b>	London, UK	<a href="http://www.iotglobalcongress.com">www.iotglobalcongress.com</a>

## NAB show reveals new event schedule highlighting industry awards

NAB SHOW, ONE of the world's largest conventions encompassing The MET Effect, the convergence of media, entertainment and technology, is going to be held from 7-12 April 2018 in Las Vegas.

With 103,000 attendees from 161 countries and more than 1,800 exhibitors, NAB Show is the marketplace for solutions that transcend traditional broadcasting and embrace content delivery to new screens in new ways. From creation to consumption, across multiple platforms and countless nationalities, NAB Show aims to convene global visionaries to bring content to life in new and exciting ways.

NAB Show will debut two new events highlighting broadcast industry achievement. The NAB Achievement in Broadcasting Dinner will be held on 9 April 2018, at the Encore Las Vegas. A separate NAB: We Are Broadcasters Celebration will be held on 10 April 2018, at the Las Vegas Convention Centre.

The events will shine a light on the broadcast industry, recognising individuals and companies for their contributions in advancing the industry through technology, public service and superior content.

The NAB: We Are Broadcasters Celebration is expected to include the presentation of the NAB Crystal Radio Awards and the NAB Crystal Heritage Award, in addition to the Radio and Television Engineering Achievement Awards and the Television Chairman's Award.



GoPro Exhibit at the 2017 NAB Show

"These changes are an opportunity to better highlight major awards and expose them to a broader NAB Show audience," said Chris Brown, executive vice president of conventions and business operations at NAB.

"The new schedule also reflects NAB's focus on keeping the show fresh and relevant while continuing to highlight the great work our industry does from a business, creative and community perspective."



## Le smartphone Nile X fait son entrée en Égypte

EGYPTIAN SILICON INDUSTRIES Co. (E-SICO) a lancé le premier téléphone portable fabriqué en Égypte. L'entreprise a annoncé à ses clients qu'ils pourraient réserver leur nouveau smartphone 4G « Nile X » dès la fin du mois de janvier 2018. Lors du salon professionnel Cairo ICT 2017, l'entreprise Egyptian Company for Silicon Industries a uni ses forces à celles de SICO Technology et de Silicon El-Waha, qui appartient au Ministère des communications et des technologies de l'information. « Le téléphone « Nile X » localement produit fera son entrée sur le marché dans la deuxième quinzaine du mois », a annoncé E-SICO dans une récente déclaration. Le communiqué expliquait également que les clients d'Égypte et d'ailleurs pouvaient appeler le 19242, s'inscrire et fournir toutes les informations les concernant pour acheter le nouveau téléphone, qui sera commercialisé au prix de 237 \$ chez les détaillants.

## Opera Software lance l'appli Opera News en Afrique

OPERA SOFTWARE A lancé Opera News, une nouvelle appli intégrant sa propre intelligence artificielle et développée pour permettre aux utilisateurs d'accéder à des articles de presse et à des vidéos populaires. Cette appli consacrée aux actualités inclut un puissant moteur de recommandations conçu pour aider les utilisateurs à suivre de près les sujets qui les passionnent et le contenu qu'ils aiment visionner. Opera News, qui donne accès à une grande variété d'actualités tendance et de vidéos divertissantes, apprend à chaque utilisation pour devenir plus intelligente. En plus de fournir du contenu constamment actualisé, Opera affirme que l'appli permet à l'utilisateur d'économiser jusqu'à 80 % de son forfait de données mobiles, grâce aux uniques capacités d'économie de données développées par Opera.

L'année dernière, l'entreprise a exprimé son intention d'investir 100 millions \$ sur le marché africain. Dans le cadre de ses nouveaux projets d'expansion, Opera Software va maintenant lancer sa stratégie « Africa First », qui lui permettra de développer et de commercialiser ses produits mobiles sur les marchés africains d'abord. Opera News est le premier produit lancé sous l'égide de cette nouvelle stratégie.

« L'Afrique est une région particulièrement intéressante qui connaîtra une énorme croissance dans les années à venir », explique Jorgen Arnesen, directeur mondial du marketing et de la distribution pour Opera. « Notre nouvelle stratégie s'appuie sur une ambition simple : fabriquer les meilleurs produits qui soient pour la population africaine,



For opera news: Les utilisateurs de l'application peuvent suivre les dernières nouvelles et le divertissement

d'où la priorité que nous accordons à cette région du monde.

Selon les chiffres d'Internet World Statistics 2017, 338 millions d'africains étaient connectés à Internet en juin 2017. La pénétration d'Internet dans les pays africains connaît une expansion rapide, avec une croissance de 14 % d'année en d'année. Plus de 100 000 personnes ont déjà téléchargé Opera News et c'est actuellement l'appli d'actualités la plus téléchargée en Afrique. « Les utilisateurs africains comptent parmi les lecteurs d'actualités les plus avides du monde », ajoute Arnesen. « Les utilisateurs du Nigeria, du Kenya, d'Afrique du Sud, du Ghana et de Tanzanie adorent surfer sur le web pour tout savoir de leurs sujets préférés, qu'il s'agisse de sport, de célébrités, d'art et de culture, de politique ou de life-hacks. Avec Opera News, nous proposons un nouveau type d'expérience aux utilisateurs africains friands d'actualités.

## Telecel Mali, nouvel opérateur de réseaumobile



Telecel Mali est le troisième opérateur de téléphonie mobile au Mali. (Photo: adobestock/Dutourdumonde)

ALPHA TELECOM MALI a enfin confirmé le lancement de Telecel Mali, troisième opérateur de réseau mobile du pays, selon un récent rapport de Telegeography. D'après le site web d'informations Agence Ecofin, l'entreprise de téléphonie mobile a ouvert son réseau au public en décembre 2017, après avoir annoncé le succès d'un appel test effectué sur son infrastructure au mois d'octobre de la même année. Alpha Telecom Mali a officiellement signé le contrat qui lui a permis de récupérer sa licence en février 2013. Souleymane Diallo, PDG d'Alpha Telecom, a attiré l'attention sur le nombre d'emplois que son entreprise allait créer, expliquant : « Des emplois seront directement et indirectement créés avec le recrutement d'une centaine d'employés maliens dès la première année, sans compter plusieurs milliers de distributeurs et de revendeurs, ainsi que les entrepreneurs locaux engagés en sous-traitance pour la construction de sites et autres travaux de déploiement.

## Ecobank annonce la conclusion d'une facilité de crédit avec FMO

ECOBANK TRANSNATIONAL INCORPORATED vient d'annoncer l'obtention d'une nouvelle facilité d'emprunt syndiqué d'une valeur de 200 millions \$ sur cinq à sept ans avec la banque de développement hollandaise FMO.

Il s'agit de la seconde facilité d'emprunt syndiqué organisée par FMO pour le groupe Ecobank au cours des récentes années. La banque utilisera cet emprunt pour apporter des fonds à plusieurs de ses filiales, dans 36 pays africains. FMO s'est chargée de la syndication et a gardé une part de 58,5 millions \$ pour le compte qu'elle gère avec d'autres institutions de financement du développement et des investisseurs importants qui ont fourni les contributions suivantes : DEG – Deutsche Investitionsgesellschaft mbH (25,4 millions \$), Proparco (25,4 millions \$), Société belge d'investissement pour les pays en développement - BIO (15 millions \$), Banque autrichienne de développement - OeEB (15 millions \$), Blue Orchard (30 millions \$), Symbiotics (21,5 millions \$) et Oikocredit (10 millions \$).

ETI est ravi de conclure cet arrangement financier avec FMO, qui a su rassembler un grand nombre d'acteurs financiers autour de cette initiative. Grâce à cette transaction, nous serons en mesure d'offrir un service bien supérieur à nos PME clientes, qui représentent toujours un segment très important du marché pour nous », explique Ade Ayeyemi, PDG.

Jürgen Rigerink, PDG chez FMO, ajoute : « Via cet investissement, nous soutenons les petites et moyennes entreprises situées dans certains des pays d'Afrique où les services bancaires sont les plus précaires. Alors que dans ces pays, les PME sont la principale source d'emplois, elles ne bénéficient que d'un accès très limité aux services financiers.

Fibre connectivity usually carries a price premium in relation to other broadband technologies.

Photo: alexskopje/fadobestock

# Here, there – but not everywhere

Access to fibre could have a transformative effect on African businesses but, as Vaughan O'Grady discovers, ubiquitous fibre connectivity is still a long way off in most African markets.

ONE MIGHT ASSUME, given the arrival of undersea cables in Africa, that many African businesses are enjoying fibre connectivity – but this is by no means correct.

As Juanita Clark, chief executive of FTTH Council Africa, an organisation focussed on the fibre industry and all stakeholders affected by the industry, points out, access to fibre connectivity varies a great deal from country to country, depending on a country's location and its socio-economic conditions.

Countries closer to landing stations are naturally the first to benefit from high-speed fibre connectivity. Landlocked countries are still the last to be connected. "Until recently," she points out, "it was incredibly difficult to do border crossings of terrestrial cable, as there was limited understanding of the technology. This was, and in some cases remains, a slow and cumbersome process."

However, Dobek Pater, director of telecoms, IT and media consultancy Africa Analysis, points out, there are more elements to good connectivity than merely subsea cables. "Looking at the different infrastructure geographies, the other necessary elements are national long-haul infrastructure, metro networks and access networks," he says. He adds, "Most markets have solved the long-haul and metro infrastructure constraints. However, the access (last mile) often remains a problem. There is often a dearth of good quality broadband connectivity, and especially fibre."

He continues, "A big factor in terms of fibre is the cost of deployment – still very high in most markets –

and price of retail fibre connectivity vs. affordability for local businesses, especially SMEs. Fibre connectivity often carries a price premium in relation to other broadband technologies – except satellite / VSAT – as it normally provides a better quality service."

Fibre connectivity is nevertheless growing but, says Clark, "deploying fibre is a slow process, and often the red tape for access to Rights of Way – Wayleaves – holds up the process." However, she adds, many African countries do today enjoy the fast speeds and low latency that fibre offers – notably South Africa.

But connectivity is not just about fibre. Pater notes that in many markets, broadband connectivity options include satellite or VSAT, mobile broadband (3G and increasingly 4G) and fixed wireless access – WiMAX (and variations thereof) or occasionally LTE-A. There's also DSL (copper) in a few markets and microwave (used by larger businesses). He points out, however, that fibre normally provides a better quality connectivity/service than all of these – although this also depends on the application. "As a technology, fibre is better suited to accessing data-intensive applications or services (although other access technologies are also fine, if they are configured for sufficient capacity). This would enable greater uptake of value-added services and a stronger move towards use of cloud-based services."

So if fibre is superior, what are the barriers to rollout? Deployment cost and maintenance or repair cost are obvious concerns but, aside from the ongoing financial investment requirements, the main

**Deploying fibre is a slow process, and often the red tape for access to Rights of Way – Wayleaves – holds up the process.**



barriers to entry remain the slow and cumbersome Right of Way processes and procedures. “Not only does this slow down the process, it is also a major concern for investors,” says Clark. “Whilst matters have improved, we still have a long way to go towards assuring both operators and investors that their investment is safe.”

At the moment it can take a months to obtain permission to cross or dig up a road, “but this has been improving in certain markets”, she adds.

Another barrier, she suggests, is the attitude of business park owners. As she points out, “One would think that giving your tenants access to high-speed fibre in itself is a great value proposition. However, we are more and more concerned by this trend of property management companies/owners that refuse access to business parks unless they are financially compensated.”

And, as we have noted, there is also the problem of affordability for business (that is, high retail prices), which translates to lower real demand for fibre.

One might also think that fibre is only likely to benefit businesses or industries based in cities or close to cable landing points. That, however, rather depends on where the landing station actually is but, says Pater, it certainly takes time to permeate smaller cities and towns (although South Africa seems to be an exception).

But would a remote mining, logging or oil company be unable to benefit due to its isolated position? Not necessarily. Pater says fibre is or will be deployed if a remote site (for example, a mine) is located relatively close to a fibre backbone and a break-out point can be installed, or in the unlikely event that there is an economic case for the operator to bring fibre to remote premises. However, “by and large, businesses located in more remote locations will continue to rely on microwave and/or satellite connectivity,” he points out.

In any case there is no ‘one size fits all’ approach to connectivity that will work in Africa, Clark points out. “Each situation needs to be assessed to ensure that companies make decisions that will work best for them. Whilst fibre is the single best possible connectivity solution for a variety of reasons, the cost associated with deploying it to a remote mine may not be feasible. Having said that, if one is to deploy electricity to a remote town, combining that with a fibre cable is incredibly cost effective. Many factors can remove the high costs associated with the deployment of fibre for backhaul and leveraging existing poles and ducts is one such method. The cost is not in the glass [fibre], it is only in the deployment. It will, however, depend on the need and long-term goals of the company.”

Among African countries leading the rollout of fibre to businesses, Mauritius is very much the front-runner with almost 100 per cent

**Whilst fibre is the single best possible connectivity solution for a variety of reasons, the cost associated with deploying it to a remote mine may not be feasible.**

penetration to both business and homes. South Africa is second and Kenya in third place. Pater and Clark also mention developments in other African countries such as Tanzania, Uganda, Rwanda, Namibia, Botswana, Zimbabwe, Ghana and Zambia, although Pater adds, “It needs to be emphasised that in sub-Saharan Africa, by and large, the deployment of fibre to – and use of fibre-based services by – businesses is still very low”.

However, even while this deployment is still at an introductory or very early growth stage, this is an important technology for Africa; the very existence of the FTTX Council Africa underlines that fact. It’s not going to be easy but if it spreads across the continent, fibre could be as transformative for both businesses and consumers in its own way as cellular once was. Certainly an FTTX Council Africa membership of over 70 hopes so. ©



Photograph: BillionPhotos.com/adobestock

Dobek Pater, director of telecoms, IT and media consultancy Africa Analysis expects the use of fibre to facilitate an increased uptake of cloud-based services.

# Taking centre stage in digital transformation

A new wave of African data centre builds is bringing with it new opportunities for putting essential business services on the cloud. Liquid Telecom explains how data centres will play a central role in supporting Africa's digital future.

**A**FRICA'S DIGITAL TRANSFORMATION is gathering pace. Broadband adoption continues to boom, with nearly a third of Africans now online, according to Internet World Stats. In many African economies, the price of broadband services is falling, and networks are continuing to densify and interconnect across borders.

Enterprises and consumers alike are benefiting from increasingly robust connectivity, and long standing challenges around data privacy and protection are starting to receive much needed attention. As a generation of African digital natives emerges, demand is being created for high quality carrier-neutral data centre capacity.

In the continent's more progressive economies at least, this demand is translating into a wave of infrastructure development.

Demand for services such as cloud, disaster recovery and storage, coupled with a relative shortage of supporting infrastructure, will act to increase demand for data centre services, stimulating a further wave of infrastructure development.

**Microsoft has committed to investing in Africa-based cloud services with news last year that it plans to deliver Microsoft Cloud for the first time from data centres located in Johannesburg and Cape Town**

## Reaching international standards

The best of this new wave of data centres bear comparison with facilities to be found in more developed parts of the world, matching them for build quality, resilience and security. For example, the Nairobi-based East Africa Data Centre (EADC), a subsidiary of Liquid Telecom Kenya, is a recent winner of Tier III Certification and is home to web-scale players such as Google and Facebook, both of which hold their regional caches there.

EADC also hosts the Kenya Internet Exchange Point (KIXP) and a wealth of banking and commercial data. It houses 2,000sqm of secured space for data servers over four floors, making it the largest data centre in the region. "We've definitely seen a rise in demand for data centre space in various parts of Africa," says Dan Kwach, general manager of the East Africa Data Centre. "There are a number of reasons for this. For one there's been a very strong element of transition, with a lot of businesses going through a period of digital change. There's a move to improve the efficiency of end user ICT, and that means an increase in the consumption of IT services of the kind that we offer."

Numerous pieces of legislation are emerging that are further driving data centre demand: "In Kenya, for example, there is a lot of regulation affecting the financial services sector," he points out. "Banks need to make sure they have the right ICT infrastructure in place to support the critical services they offer. Their choice is either to build their own robust infrastructure, or lease services from us. There are new data protection laws too, often dictating that certain kinds of data are kept within borders. In many countries data protection legislation is being firmed up along these lines, with Tanzania probably taking the lead in East Africa."



The East Africa Data Centre (EADC) in Nairobi is Tier III certified.

## A future in the cloud

The development of world-class data facilities like EADC is welcome news for those who believe Africa's digital future lies in the cloud. We have already seen a surge of adoption of cloud-based ICT services among Africa's enterprise community, and further builds can only accelerate this trend.

A hopeful sign is the interest being taken in Africa as a cloud services market by various of the world's hyper-scale web giants. Microsoft, for example, has committed to investing in Africa-based cloud services with news last year that it plans to deliver Microsoft Cloud for the first time from data centres located in Johannesburg and Cape Town. Initial availability is anticipated in 2018.

Currently many companies in Africa rely on cloud services delivered from outside of the continent, so the main significance of Microsoft's investment is that it will provide cloud services across Africa, but with the data residing in South Africa.

Last year, Liquid Telecom joined Microsoft's Cloud Solution Provider (CSP) programme, enabling it to deliver scalable and secure cloud services across Africa. As an official CSP partner, Liquid Telecom will for the first time serve businesses of all sizes in Africa with cloud services and products, such as Microsoft Azure, Microsoft Dynamics 365, Microsoft Office 365, Enterprise Mobility Suite and Windows 10.

Liquid Telecom also operates data centres in Johannesburg and Cape Town. These are home to the fibre routes of many major carriers, MNOs, cloud service providers and financial institutions.

The two facilities, which offer a combined 4,800sqm of rack space, were acquired by Liquid Telecom earlier in 2017, as part of the US\$6.5bn acquisition of South African communications network operator Neotel. They are undergoing major expansions to meet the needs of global cloud players.

Such developments point to a future in which African enterprises will no longer have to access cloud services from outside the continent. ☺



# Safeguarding the oil and gas industry from cyber attacks

With oil and gas being a prime target for cyber criminals, last year's ADIPEC Security in Energy conference focused on strategies to mitigate cyber crime risks and deploy defence mechanisms to protect critical industry systems and infrastructure.

**W**ITH OIL AND gas being a prime target for cyber criminals, the ADIPEC Security in Energy conference focused on strategies to mitigate cyber crime risks and deploy defence mechanisms to protect critical industry systems and infrastructure.

THE NOTPETYA RANSOMWARE attack at the end of June appears to have specifically targeted oil and gas companies. According to analysis by Kaspersky Labs, oil and gas accounted for around 25 per cent of targets, a close second to the finance sector, and just "Cybercrime is a serious problem for any business, but recent incidents raise concerns that oil and gas companies will be high priority targets for attacks," said Christopher Hudson, president – Global Energy at ADIPEC organisers dmg events. Speaking ahead of the conference that was held in November last year, he said, "The Security in Energy conference on 14-15 November provides a robust discussion specific to the needs of this industry, helping companies ensure that strong defences are in place." The conference delivered the latest market intelligence in energy security protocols, and placed a spotlight on the best innovations, security practices and crisis planning within the industry. Specific conference sessions covered key topics including ransomware; the internet of things (IoT); the convergence of operating technology and IT; security and compliance risks in cloud computing; risk management for supply chain and business continuity and the use of big data and analytics. Keynote addresses focused on the balance between investment and risk, and the impact of regional collaboration on oil and gas security, with discussions including both defensive and offensive approaches to security. There was a significant discussion of threats to critical infrastructure, where attacks could cause widespread operational disruption and safety risks. It offered insights into and front-line protection strategies, whether for new systems, or by retrofitting of existing industrial control systems to build secure and resilient operations. There will also be a dedicated Security in Energy zone in the ADIPEC exhibition halls. "Illicit cyber activity is here to stay," said Don Randall, former head of security and chief information security officer for the Bank of England, who will be sharing his



Photograph: Alex/adobe stock

Companies need to ensure that strong defences are in place to protect against cyber crime.

expertise during the conference. "But understanding the motivation of the perpetrators, with appropriate responses and education, can substantially reduce the risk and harm." The list of speakers featured leading figures from organisations tasked with tackling cybercrime in the Middle East, including Ahmed Alshemaly, director, Cyber Defense Centre, National Electronic Security Authority (NESA), United Arab Emirates; Eng. Ibrahim AlShamrani, executive director of Operations, National Cyber Security Center, Ministry of Interior, Saudi Arabia; and Mohammed Bushlaibi, forensic analyst, Telecommunications Regulatory Authority (TRA), United Arab Emirates. They will speak alongside renowned international experts. According to Accenture's High Performance Security 2016 Report, 96 cyberattacks were reported over 12 months by oil and gas company heads, while 55 per cent of oil and gas leaders say the need to fill cybersecurity gaps in end point or network security is their most pressing concern. The Cisco 2017 Annual Cybersecurity Report estimates that the frequency of ransomware attacks is growing by around 350 per cent each year. The tools to conduct an attack are easy to obtain and easy to use. Reduction in security budgets While the number of attacks is increasing, there are concerns that some oil and gas companies have reduced their security budgets as they struggle to balance cost against risk at a time when finances are under pressure, leaving themselves dangerously exposed. The Security

in Energy conference sessions will aim to bridge this awareness gap, emphasise the importance of building a solid defence platform against cyber-attacks and understanding the fallout of an attack and its implications to business. "Cybercrime is a threat to the global economy," said Sandip Patel, QC, a UK-based lawyer and leading international expert on prosecuting cybercrime cases in court, and one of the speakers at the Security in Energy conference. "Some estimates cost it at more than US\$445bn, but the true cost is far greater as many countries do not report on this." A company's security protocols are generally in the capable hands of the CIO/CISO. However, in order for the protocols to be 100 per cent understood and delivered, it is the priority of the entire organisation, from the top-down and bottom-up, to ensure a solid framework and delivery. Bridging the vocabulary gap between security professionals and their CEO's and senior management teams is vital to ensure they are all aligned on the ever-present security risks to their organisation. "Reducing cost and improving efficiency are important messages in oil and gas today, and many companies are investing in technology to reduce their costs," said Hudson. "Keeping that technology safe and secure needs to be a number one priority. It needs to be as much a concern for the CEO as it is for the chief information officer. "Security in Energy recognises that this is a core issue for a modern business, and cannot be pushed into a departmental silo." ©

Despite the roll-out of e-commerce across Africa people will need to develop enough trust to make online payments.

## The challenges facing Africa's digital content and services sector

Photograph: Oly/AdobeStock

A range of stats show that Africa's digital content and services sector has grown and African consumers are using online services more than ever before. However, high costs of consumer data and the challenges of e-commerce make it a far from easy road.

**There is an increased level of competition with lots of classifieds-style sales being made informally off Facebook which has recently launched a business sales platform.**

**B**alancing Act's RUSSELL SOUTHWOOD LOOKS at what Naspers decision to close down OLX offices in Kenya and Nigeria and Nigeria's Zinox buying Konga – tell us about the developing digital services sector.

In retrospect, the sale of Konga was probably an inevitable consequence of Kinnevik deciding that Africa was not making enough money to justify staying there. Before this point, Millicom had been developing a digital strategy and Kinnevik had been investing in emerging digital services start-ups. For example, besides Konga, it also invested \$5mn in Deal Dey in 2015.

With the decision to pull-out, it has slowly been liquidating the portfolio of investments. Its free-to-air broadcast arm was sold to Econet Media with its CEO Joe

Hundah at the helm. Recently MTG sold Trace TV, the global hip-hop and sports channel operator. It also sold its shareholding in Rocket in 2017.

It would have sold its African Tigo operations as one but there were clearly no buyers. It's the same problem Airtel has. So it has been forced to enter into two merger deals and clearly will look for more mergers or buyers in the future.

So the key question for anyone is: is the lack of a perceived business opportunity in Africa something that is particular to Kinnevik's circumstances (and its rate of return) or a broadly correct commercial judgement. When I spoke to Shola Adekoya, CEO, Konga (who will be staying on in the new company under Zinox) in July 2017 it was clear that original model was undergoing significant change. The sale of

high-end electrical goods and mobile phones that had driven the first phase was no longer producing the return customers. At that point, 90 per cent of its turnover comes from its marketplace where individual merchants hold the inventory and 10 per cent from direct sales.

Because customers have been buying high-value, one-off items, Konga looked at how it can build a more continuous relationship with its customers. So it launched Konga Daily, a groceries service, which warehouses everything except fresh produce which is then bought in. The service is only available in Lagos, "We have plans to roll it out. We'd like to follow the market and look to serve cities outside Lagos."

According to Adekoya, the buyers are "not from the top of society". It's the middle class in



Lagos, Port Harcourt and Abuja which accounts for 60 per cent of the orders. A further 30 per cent comes from other and 10 per cent from rural areas. The latter are able to get something at approximately “Lagos price” without the usual stiff mark-ups. 50 per cent are in the 28-45 age range and there is an equal split between men and women.

In November 2017, the changes made clearly were not producing a sufficient turnaround so the company sacked 60 per cent of its staff. Alongside that, it stopped its pay-on-delivery option mainly due to the frequency of cancelled orders and security challenges often faced by delivery personnel. It also shut its warehouse service and started changing merchants rental fees.

Local PC assembler and high-end IT solutions company Zinox bought the company for a widely rumoured US\$10mn but Zinox spokesman Gideon Ayogu told Quartz that the amount was “way higher”. But whatever the price, the point is that Kinnevik was prepared to take a significant hit on the considerable sum it had invested to get out. Naspers also lost out. Among the asset portfolio sold is mobile payment platform KongaPay which has a reported 100,000 subscribers.

Zinox launched an e-commerce platform, BuyRightAfrica in 2008 but was probably too early to market and closed it in 2013. Zinox chairman Leo Stan Ekeh told Technology Times, “It failed because I started too early and there was not the human capital to support it.” It’s probably not entirely coincidental that Zinox’s chairman Leo Stan Ekeh has a son Nnamdi Ekeh who owns an e-commerce platform called Yudala. According to his father the business is now averaging \$100,000-300,000 in daily sales and wants to get to \$1.3mn a day by the end of the year. Ekeh senior said he can easily imagine 2.7bn a day when the economy bounces back. Zinox does not own the company but Ekeh is a personal investor in it.

Also Naspers recently shut down its online classifieds

operation OLX in Kenya and Nigeria, which it entered in 2012. A company statement read, “We made a difficult but important decision in Nigeria to consolidate our operations between some of our offices internationally.”

“Our marketplace will continue to operate here — uninterrupted — as it has since 2010, and we remain committed to the many people here who use our platform to buy and sell every month. We continue to be focused on constantly innovating to make sure that OLX remains the top classifieds platform in the country.” In other words, it would like to continue operating there but without the expense of local offices.

In an interview in *Digital*

*Content Africa* Riccardo Pasqualotto, founder and sales director, Mobi Hunter gave me OLX monthly reach page views for a range of African countries as someone advertising on the site: Nigeria (40mn page views); Kenya (64mn page views); South Africa (35mn page views); Ghana (23mn page views) and Uganda (7mn page views). The average time spent on the site was 19 minutes.

Two observations are worth making: Firstly, there is an increased level of competition with lots of classifieds-style sales being made informally off Facebook and indeed Facebook has recently launched a business sales platform. Secondly, although the Nigerian economy is

better, the legendary “disposable income” of former years is less in evidence.

E-commerce requires time for behaviour change and trust. Clearly the hybrid method used in Nigeria — where the customer pays on the doorstep is fraught with risks — may not be the way to go. People need to develop enough trust to make online payments. They have enough trust to use free services like Facebook and YouTube but it will take time for consumers to change their behavior in relation to paid-for services. Meanwhile cheaper and more reliable data services would also make things easier. ☎

[www.balancingact-africa.com](http://www.balancingact-africa.com)



Photograph: Natalia Puschina/AdobeStock

High costs of consumer data and the challenges of e-commerce are affecting Africa's digital sector.



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TELECOM

Building Africa's digital future

# CABSAT 2018 showcases cutting-edge technology



HYLAS 4 will expand capacity over Europe and sub-Saharan Africa with 64 active Ka-band fixed beams. (Photo: adobestock)

The 24th edition of CABSAT welcomed more than 13,000 industry professionals to the Dubai World Trade Centre (DWTC), with more than 500 international exhibitors in attendance, showcasing their new broadcast and satellite solutions.

The largest broadcast digital media and satellite expo for the Middle East, Africa and Asia was opened by Sheikh Hasher Bin Maktoum Al Maktoum, director general of Dubai's department of information on 14 January. The television market in the Middle East and Africa has been in an unprecedented state of flux of late, continually faced with political and cultural changes. Speaking ahead of the show Trixie LohMirmand, senior vice president, events management, DWTC said, "Our goal is to provide a platform for experts and professionals in the industry to meet and explore the cutting edge of technology. With a burgeoning regional TV market set to reach US\$15bn by 2021, as well as a

host of new solutions for content creation and delivery to be discussed at the content congress, there's a wealth of content readily available for individuals and organisations attending this year." The first day of the event kicked off with a keynote address by Martin Gaiss, former SVP Global Content, 20th Century Fox presented thoughts on new trends in content consumption and some of the latest technological advances. A number of panel sessions and presentations were held under the themes: customer engagement and behaviour trends, emerging technologies for TV & film production, buying & developing new content. Some exhibitors at the show attended the CABSAT Global Meetings Programme, a specialist meetings programme that allows visitors and exhibitors to book meetings. Visitors are able to search the database and arrange meetings with key contacts ahead of or during the show. It also allows users to find contacts specific to their requirements, with filters by sector/ job title and interests. Exhibiting at this year's show was XSAT Global. The company announced at the show the launch of online platform NEXT AFRICA. African-based entrepreneurs are

to benefit thanks to a cost-effective Internet connection (Ka-band Yahsat HTS), a practical course on how to accelerate the business and access to different start-ups and investors worldwide.

The partnership between X SAT FZE, a UAE satellite service provider and Yahsat, the UAE-based satellite operator formed during last year's Cabsat has strengthened in 2018, following the launch of Al Yah 3 Satellite, providing access to uninterrupted, high-speed Internet in 22 African countries. Gleb Larionov, X SAT FZE managing director, said, "Africa's digital economy is expected to reach US\$315bn by 2025. XSAT NEXT AFRICA project's purpose is to create a vibrant community of start-ups to provide them with online access to share the knowledge of how to launch and accelerate the business. To-be-launched Al Yah 3 satellite is an ideal solution for low-cost and high-speed unlimited Internet access in Africa".

FOR-A showcased its video production solutions at the show, highlighting ease of workflow, flexible format conversion, and extensible feature sets. Some of the new solutions presented at the show included FOR-A's flagship 7 M/E video switcher, the HVS-2000; the HVS-490 HD/4K-UHD

video switcher; and the FA-9600 dual channel frame synchroniser.

"We're committed to maintaining and expanding our presence in this region, which is why we're participating in our eighth consecutive CABSAT conference, and why we opened our Dubai office a few years ago," said Khalid Sweidan, senior sales manager of FOR-A Middle East and Africa office. "This has always proved a highly successful show for us, attended by the exact current and potential customers we're looking to connect with and demonstrate the benefits of our latest technology." Some other products that were also on display included: HVS-100TB2 Thunderbolt 2 expansion card for HVS-100/HVS-490/HVS-2000 switchers, which enables single-cable transfer of four channels of HD video from a computer, MFR-3000 12G-SDI routing switcher for 12G/Quad Link 3G, SQD/2SI conversion, Infinity Set Lite virtual studio software, which transforms fixed camera images into virtual crane shots and Ze-One 4k zoom extractor for HD instant replays. Viewsat, a provider of broadcast transmission services, announced at the show that it has extended all 140 of its PlayBox Technology playout systems to the latest generation AirBox Neo. Based in

**Africa's digital economy is expected to reach US\$315bn by 2025. XSAT NEXT AFRICA project's purpose is to create a vibrant community of start-ups to provide them with online access.**



Guildford, UK, Viewsat was established with an initial focus on sub-Saharan Africa and today supports customers in Europe, the Middle East, Asia, North America and across the African continent. "AirBox has powered our playout activity very successfully right from our commencement 11 years ago," said Viewsat CEO Awaes Jaswal. "Being a fully modular system, it enabled us to expand on a channel by channel basis. By 2012 we were broadcasting 80 channels and that has since risen to 140. At times we have been adding extra PlayBox Technology playout servers on an almost monthly basis. The PlayBox Technology user interface is very straightforward which makes AirBox and the new Neo upgrade very popular with our operators and with our customers. Its logical control and information presentation also make operator training easy which is a very important factor. "Most of our clients are currently operating in HD. Each of our playout servers is equipped with a PlayBox Technology TitleBox interactive graphics and character generation, also now upgraded to the Neo version which makes the whole process of channel branding faster, easier and more flexible than before. Our schedulers also appreciate the extended feature set of ListBox Neo which is used for scheduling programmes and interstitials."

Globecast is announcing its new Cloud Channel Playout solution for SD, HD and 4K channels. This solution enhances service deployment efficiency,

reduces time-to-market, and allows broadcasters to reach new global markets with lower upfront investment.

According to Globecast the number of channels can be increased or reduced within days and the channel branding mix reshuffled for particular audiences and events. The new Cloud Channel Playout offer from Globecast also provides broadcasters with an opportunity to increase revenue from international markets by localisation of advertisements, programming and channel branding at a country level, or even at a per-affiliate level, based on local consumer needs.

Bentley Walker, the biggest supplier and operator of VSAT Networks outside of North America, Bentley Walker's EMEA coverage is set to significantly increase with the announcement in 2018 that they will commence service roll out across Africa utilising their initial US\$1mn bandwidth commitment on Avanti's newest High-Throughput Satellite, HYLAS 4 which is due to launch in March 2018 from Kourou, French Guiana. HYLAS 4 will expand capacity over Europe and sub-Saharan Africa with 64 active Ka-band fixed beams and 4 steerable beams with Civil, Government and BSS service capabilities. This will extend Avanti's coverage to 1.7bn people across 118 countries, and support



FOR-A presented its HVS-490 solution at CABSAT.

Bentley Walker's market expansion into West, Central and South Africa.

Enrico Leonardi, chief sales officer of Avanti said – "We are delighted to strengthen our partnership with Bentley Walker with their deployment of iDirect DVB-S2X in Afghanistan, and we look forward to being their trusted partner in more markets with the launch of HYLAS 4."

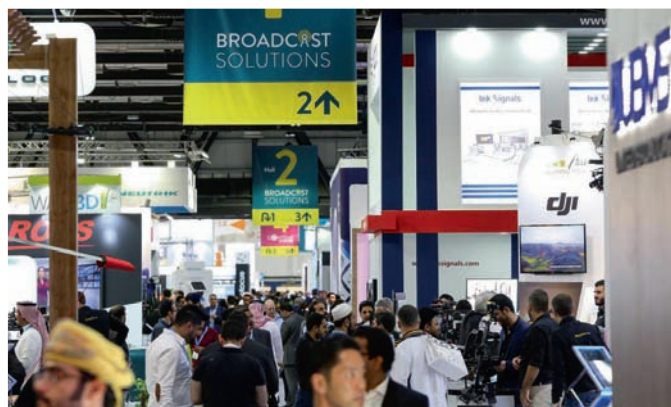
Anthony Walker, CEO of Bentley Walker said – "This is another great extension to our business using Avanti's Ka-band satellite capacity and iDirect's game changing DVB S2X technology placing us at the forefront of the market. We have already gained a number of new clients including military and corporate customers who demand higher throughput and greater efficiencies. We look forward to working with Avanti and iDirect on our continued market expansion into Africa."

David Harrower, vice president global sales, VT iDirect, said, "We are pleased to enable Bentley Walker to extend their reach throughout the world with our DVB-S2X technology. Our next-generation iQ Series of remotes were built to introduce a new level of performance and flexibility for our partners, and greater throughputs and a seamless upgrade path for their end customers."

Also exhibiting at the show was

Arabsat Broadband Services. The company has launched Arabsat Expand, an affordable satellite broadband for EMEA powered by Forsway. "Access to the Internet is today's number one enabler of economic mobility," said Wael Mohammed AlButi, VP & CCO of Arabsat. "You can learn to repair your car from Youtube, about farming from the Cornell Cooperative Extension, and programming from Khan Academy. We all want to change the world for the better and bringing affordable Internet access to developing markets will do just that."

According to Christof Kern, general manager Arabsat Broadband Services, this is the first service offered by Arabsat's newly created business unit for Broadband Services. "We have found the Forsway technology reliable and useful for providing these services in areas where the performance of the Internet is questionable due to under-performing 2G and 3G networks. Anyone who is suffering from a low bandwidth service today will be able to increase their speeds with this new service; it is literally bringing the entrance barrier to a price level everyone will be able to afford. We will offer competitive entrance models to empower businesses and end-users alike throughout Africa and Middle East." ©



CABSAT 2018 welcomed 13,000 industry professionals to the Dubai World Trade Centre. (Photo: CABSAT)

# Delivering new solutions for satellite connectivity

In an exclusive interview with *Communications Africa* SatADSL, Michel Dothey, co-founder and CCO of SatADSL, talks about the company's new Cloud-based Service Delivery Platform and the advantages this brings to operators in Africa and the challenges along the way.

**At the CABSAT show you presented SatADSL's solution for operators. What kind of interest and feedback did you receive at the event?**

Our disruptive Cloud-based Service Delivery Platform (C-SDP) solution was launched in direct response to market demand and the interest in it has been extremely positive. For example, one listener told us that their organisation had been waiting for a solution like this for many years.

Teleport operators were especially interested to hear about the full potential of the solution, as our C-SDP enables them to offer any kind of service (contended, voucher-based, volume-based, etc.) with any kind of technology (iDirect, Newtec, Hughes, etc.).

**Can you tell us of a case study where your newest solutions for operators have proved to be successful?**

A case study that stands out is an iDirect hub operator, which wanted to offer voucher-based services in Africa to lower the risk of non-payment. Thanks to the C-SDP, the operator is now able to offer a full range of uncapped monthly vouchers, as well as volume-based vouchers.

Another example is an operator with an unused transponder. This customer uses our platform to sell capacity at very competitive price. This is done through our network of 75 partners and resellers in 35 sub-Saharan countries.

We also have a teleport operator which uses our platform to unify the management, automatic billing and accounting of its entire fleet of hubs, equipped with different technologies.

**How do you ensure your solutions are both reliable and cost-effective?**

Based on our physical infrastructure, the C-SDP offers several substantial and unique advantages to operators. In addition to there being no up-front investment or Capital Expenditure (CapEx), Operational Expenditure (OpEx) is also reduced.

With fast time to market, the solution can be implemented quickly and no commitment is required from the operator. Operators can optimise their coverage as the platform allows connections to multi-satellites, multi-Bands (C, Ku & Ka) and multi-technologies (Newtec, iDirect, Hughes, etc.).

The platform comes with an in-built Customer Management Tool and white label customer self-care, as well as a very large choice of pre-defined, fully

customisable services. It includes an ultra-flexible billing system (time, volume, unlimited, etc.), an integrated online payment solution (mobile money) and an Application Management Policy (bandwidth and segregation).

**SatADSL's Cloud-based Service Delivery Platform (C-SDP) is now available. What benefits will operators see?**

C-SDP is a unique and innovative solution, which enables operators to bring satellite IP connectivity to their customers without investing energy and money. As a complete OSS/BSS, carrier-grade, fully redundant platform, which allows operators to, for the first time, offer, via the cloud, satellite services over any frequency band, the C-SDP offers unique and substantial advantages that no other competitor can provide.

**C-SDP is a unique and innovative solution, which enables operators to bring satellite IP connectivity to their customers without investing energy and money.**

**What level of support do you provide to your hub and teleport operators?**

Our solution is provided as Platform as a Service (PaaS) to minimise the CapEx and all configuration and maintenance costs for the hub and teleport operators. SatADSL provides full support to operators as part of our services.

**What challenges do you face when doing business in Africa?**

The main challenges we face in Africa are the economic and political instabilities. Fortunately, we can mitigate these risks thanks to the fact that we work with more than 35 countries.

The other challenges are logistical costs and astonishingly high custom duties; in some countries, the regulations for satellite services considerably complicate our mission to bridge the digital divide in remote areas. ☺



Photo: SatADSL

Michel Dothey, co-Founder & CCO of SatADSL.



# A New Era for the Satellite Connectivity Business with SatADSL's Cloud Satellite Service Solution

SatADSL provides connectivity to companies, NGO's Operators & Telco's

ENJOY A CUSTOMISED, RELIABLE AND COST EFFECTIVE IP SOLUTION VIA SATELLITE



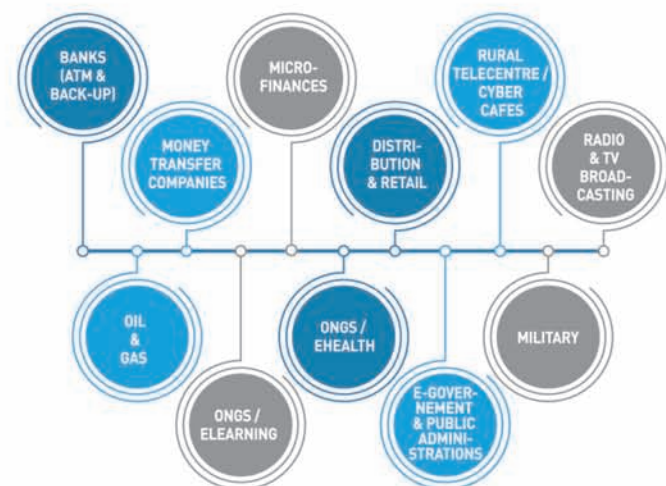
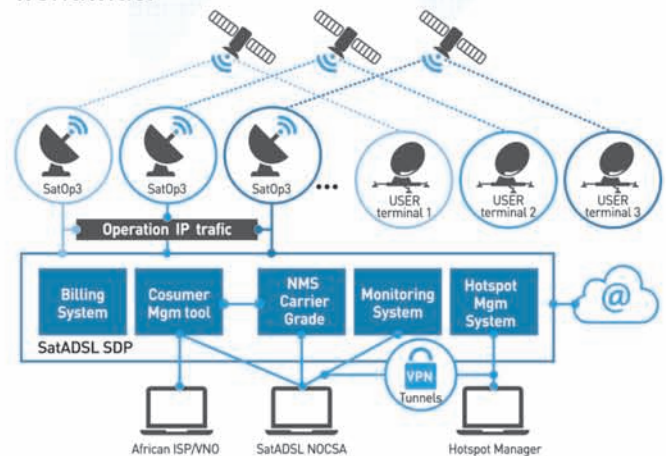
## COMPANY PROFILE

SatADSL is an innovative Satellite Service Provider offering **satellite networking solutions** to banks, microfinances, broadcasters, NGOs, Governments, ISPs, telecom operators and other companies active in Africa and Middle East, Latin America, Europe & central Asia in remote areas or where terrestrial communications are not reliable. SatADSL already installed more than 3,000 VSAT in more than 45 countries.

The **specificity** of SatADSL is to offer tailor-made solutions based on customer's specific requirements and flexible service plans that meet customer budget. SatADSL provides VSAT networking solutions directly to the most demanding End Users.



SatADSL covers Africa, Middle-East, Europe, Central Asia and Latin America with 10 satellites in Ku-, Ka- and C-Band. Currently, SatADSL counts more than 75 partners worldwide.





# Five reasons why ESCOs are the future for African telecom tower power

The single biggest challenge to being able to offer stable and reliable mobile phone services in Africa is power. Or more precisely, the lack of reliable power at telecoms tower sites. Carita Tissari da Costa, sales director, Flexenclosure reports.

The GSMA reports that Africa will need tens of thousands of new telecom towers in the next couple of years. (Photo: dvrcan/adobestock)



**H**UNDREDS OF THOUSANDS of towers across the continent are located in areas without access to reliable electricity grids – or indeed, any electricity grid at all – and they typically have to be powered by diesel generators 24/7. And as the networks expand into ever more rural areas, the problem is getting worse as Africa is the only region in the world where the population is growing faster than the rate of electrification.

This power challenge has vexed mobile network operators (MNO's) for years as well as, more recently, the Towercos which have been acquiring towers from MNOs. Managing the supply of reliable power is not a traditional core business competency of either of these two

groups, so just as the MNO's divestment of towers to the Towercos came of a desire to refocus on their core telecommunications service offerings, that same desire to focus is now driving the next evolution in the industry's dynamics – the rise of the Energy Service Companies (ESCOs).

**Approximately 50 per cent of all telecom towers in Africa will have implemented outsourced power in the coming five years.**

The growth of this new ecosystem of MNOs, Towercos and ESCOs is not only being driven by companies' desire to focus though. It's being enabled by a new generation of hybrid power technologies – systems that have been specifically designed from the ground up to operate reliably in even the harshest of African environments and over the lifetime required for an ESCO's business model to make good business sense. The result is a set of very compelling reasons why outsourcing power requirements to an ESCO should be a no-brainer to MNOs and Towercos alike.

## **1. Significant OPEX Savings**

With an average single-tenant telecom tower site powered 24/7 by a generator consuming



about 28,000 litres of diesel per annum, it's not hard to see how site power costs can account for 30-60 per cent of the total operating costs of an MNO or a Tower Company. Implementing the latest generation of hybrid power systems though, such as Flexenclosure's eSite x10, can significantly reduce OPEX by reducing diesel consumption by 70 per cent or more. And these savings can increase further if the power loads are reduced, there is intermittent grid power available and/or solar energy can be harvested.

And OPEX savings are not just made on the cost of diesel. By outsourcing power to an ESCO, the MNO or Towerco no longer has to worry about generator maintenance, spare parts, or the cost of an operations team on standby 24/7 to manage power failures, site break-ins, fuel theft, etc.

## 2. Freed-up CAPEX

According to the GSMA, Africa will need tens of thousands of new towers in the next couple of years, yet CAPEX budgets keep tightening as mobile markets become more competitive and much of Africa struggles with economic downturn and forex issues. When a telecom tower site is powered 24/7 by a generator, that generator will run for 8,760 hours per year and will need replacing every three years, not to mention replacement costs of other legacy power equipment.

From a tower operator's perspective, this budget (and effort) would be far better spent expanding network coverage, rolling out revenue-generating services or on customer acquisition activities – and by outsourcing power to an ESCO, that's exactly what they can do with the freed-up CAPEX.

## 3. Reduced Carbon Emissions

All respectable organizations across the globe today are looking at ways of reducing their carbon footprint. And with an average single-tenant telecom tower site with a 2kW power load running 24/7 on diesel generators producing over 75kg of CO<sub>2</sub> emissions per year, tower operators have very big footprints. By implementing the latest hybrid power technology – such as the pioneering eSite x10 – annual carbon emissions for the same site can be brought down to below 20kg per site.

That's a significant drop with equally significant benefits to the environment and to a tower operator's corporate social responsibility aspirations. And as before, lower power loads, partial grid availability and/or solar energy can further reduce a site's carbon emissions.

**When a telecom tower site is powered 24/7 by a generator, that generator will run for 8,760 hours per year and will need replacing every three years.**

## 4. Outsourced Risk and Reduced Operational Complexity

Managing power at telecom tower sites is prone to risks related to both the generation and the delivery of power to the active telecom equipment. By outsourcing all responsibility for power generation and delivery, a tower operator can effectively unburden themselves from all the complexities and distractions that power comes with, even at those sites that are connected to an electricity grid.



Carita Tissari da Costa, sales director, Flexenclosure. (Photo: Flexenclosure)

A Power Purchasing Agreement (PPA) with an ESCO will detail agreed SLAs and KPIs, with penalties for non-performance. The result of signing up to such a "power-as-a-service" contract would be the tower operator's moving from having to manage the operational power complexities for all its sites to simply managing an insurance policy of sorts on its outsourced power risks.

## 5. Unloaded Legacy Power Equipment

For tower operators – whether MNOs or Towercos – historic investment in telecom tower power equipment can be a significant obstacle when trying to justify investing in newer power technologies now, given it's not core to their business focus. ESCOs don't have this issue though. Their investment strategy will be to implement the latest hybrid power systems offering the most reliable long-term performance, so it makes absolute sense for tower operators to unload their legacy equipment and pass the power baton to ESCOs to run with.

The general consensus in the industry is that approximately 50 per cent of all telecom towers in Africa will have implemented outsourced power in the coming five years. Whatever the actual number, it is clear that outsourcing power to a specialist ESCO will have far-reaching benefits. It will release MNOs and Towercos from the burden of managing inefficient and unreliable legacy power equipment. It will create a new industry segment within the larger telecommunications ecosystem, thus increasing employment opportunities and skills levels. It will have significant environmental benefits.

And most importantly, it will support the "connection of the unconnected" – the quest to bring mobile telephony and online access to the hundreds of millions of people across Africa who still remain beyond the reach of networks today. ☺



Africa will need tens of thousands of new towers in the next couple of years. (Photo: Pixabay)

# Creating a mobile future

As mobile connectivity is transforming the lives of billions of people across the world, and the technology infrastructure path in Africa paved for 5G, Mobile World Congress 2018 is set to unveil more exciting offerings from the world's top mobile industry leaders.

**A**S THE WHOLE world is entering into the new era of technological advancements, mobile phones have become one of the most crucial components of daily performance. According to the industry experts, the mobile industry will bring billions of people and things online by 2030, helping to deliver the SDGs, while enabling immersive experiences that will enrich lives through education, healthcare, agriculture and much more.

In order to provide a landscape to the world's top smartphone giants to assemble, collaborate and exhibit their latest offerings, GSMA is going to organise Mobile World Congress (MWC) at Fira Gran Via in Barcelona from 26 February – 1 March 2018.

## Best in the Industry

Over all four days of MWC, the most prominent companies in the industry will showcase the newest technologies and most innovative products. With an exhibition spanning nine halls, this year will feature more than 2,300 companies across 100,000 sq m of space.

Smartphone giants Samsung, LG, Sony and Huawei will exhibit their latest offerings at MWC 2018. In addition, the event will also include the newcomers such as Xiaomi and Nokia to unveil their new products. Apart from them, some of the most distinguished and innovative companies to exhibit their product during MWC are **China Mobile, Deloitte, Deutsche Telekom, Ericsson, Essential, Facebook, Fujitsu, Google, IBM, Intel, Lenovo, NTT DOCOMO, Ooredoo, Oracle, Orange, SK Telecom, Toyota, Verizon, Vivo and Vodafone.**

The attendees will be able to access to more than 30 programmes developed by leading players from across the mobile ecosystem. In addition, the Women4Tech Summit will examine a range of topics, from equality and career development to mentoring and education, from entrepreneurship to communication.

**MWC will assemble all the mobile network, smartphone, tablet and gadget industry leaders to showcase their latest products**



Photograph: GSMA

MWC 2018 is set to provide opportunities to the industry leaders for networking and business growth.

## What to expect

**Samsung** has announced to launch Galaxy S9 and S9+ during MWC. Chinese manufacturer Xiaomi is expected to unveil Mi MIX 2S at MWC. HMD Global is considered to launch two **Nokia** devices, Nokia 9 and Nokia 6. South Korean tech-giant LG is expected to introduce LG G7 which features a six-inch bezel-less OLED display.

As the IoT and 5G come to the fore, businesses and lives grow increasingly dependent on connectivity, with service assurance becoming more important and more complex than ever before. NETSCOUT will discuss these challenges as well as the opportunities this environment creates during the event.

**Cobham Wireless**, provider of digital Distributed Antenna Systems (DAS), will be showcasing a variety of demos at the show, including new 5G dual connectivity capabilities and NB-IoT use cases and demonstrate how its flagship product, idDAS, delivers the coverage and capacity to connect the smart cities of the

future. The company will also discuss how networks can be validated to comply with 3GPP 5G standards, and reveal which operators have made significant progress in this area.

**Blue Danube Systems** aims to discuss how Massive MIMO systems can be deployed in current LTE networks, supporting multiple frequency bands, setting the stage for the roll-out of 5G. Mimosa, leader in the provision of 5G fixed wireless technology, aims to discuss why major players such as **AT&T, Verizon** and Google have committed to fixed wireless to drive their communications strategies in 2018.

**Infobip**, a leading CPaaS provider, will discuss how mobile messaging is driving customer engagement and brand communications for service providers and the enterprise. BICS, wholesale carrier provider of global connectivity and interoperability solutions, will discuss how the explosion of data roaming worldwide, mounting security threats and the surging momentum for 5G and the IoT will impact connectivity and communications services going forward. ©



IoT is starting to gain traction in Africa.

# Making IoT a reality in Africa

Mohamed Kante, head of solutions and business development for North and West Africa at Nokia discusses how IoT is improving quality of life and business sustainability in the continent.

**A**LTHOUGH THE INTERNET of Things (IoT) is still in the early stages in Africa, it is starting to gain traction in Africa across different verticals. The maturity level varies between different markets, with some in the exploring phase and others with much more concrete IoT plans. As the maturity level increases, the ecosystem will follow suite. This will be a natural evolution when innovation is fostered and the different stakeholders are involved from the public and private sectors and the academic community. “Nokia is already fully engaged with several African cities and service providers on the specific requirements in their unique markets. We have been investing in building an ecosystem of partners focusing on developing innovative IoT applications and performing technology and market trials. When we engage with customers in Africa, we provide them access to the extensive Nokia IoT ecosystem of partners,” says Kante.

“Most of the interest in IoT is focused on smart cities, public safety, connected automotive and digital health,” says Kante. “This is understandable as these verticals solve challenges that people in Africa face, so IoT-based solutions addressing them would be of huge value. As deployment takes off in these industries, others will quickly follow especially if the economies of scale support such expansion.”

## But how do CSPs in the region take advantage of the opportunity?

Nokia can help communications service providers (CSPs) and other players to enter or grow in IoT. For example, the Nokia worldwide IoT network grid (WING) provides a managed service and related IoT infrastructure as a



Mohamed Kante, head of solutions and business development for North and West Africa at Nokia . (Photo: Nokia)

service for CSPs. It includes support for market entry, provisioning, device management, operations, security, a central helpdesk and billing for all connected applications. WING can be provided as a white label managed-service model, enabling operators to offer the service to their enterprise customers under their own brand. “In addition to delivering a one-stop IoT services model that includes infrastructure such as a Core grid and CMP as a service, Nokia also provides CSPs with the services needed to assess the IoT opportunities in specific markets, as well as go-to-market consultancy services to make it easier to capture new revenue streams quickly and efficiently.”

**Most of the interest in IoT is focused on smart cities, public safety, connected automotive and digital health.**

“This puts us in a unique position to be the trusted partner for our customers in this journey. Nokia has all the building blocks for complete IoT end-to-end multi-technology solutions whether it is over a fixed or mobile network. The Nokia WING business model also includes IMPACT IoT platform as a service. It is a scalable, horizontal, and multi-tenant IoT platform that forms a secure, standards-based platform on which CSPs can build and scale IoT services. IMPACT enables cities and operators to securely host IoT applications from multiple agencies in addition to their own applications. So, when deployment starts in one of the lead mentioned industries, the solution can scale to support other industries and the service providers will have improved economics with every newly added solution.”

Nokia has been very active in discussing different possible use cases within these verticals to improve people’s lives and enhance the safety, and the economic and environmental sustainability in Africa. “Nokia’s video analytics application, for example, utilises advanced machine learning algorithms by Nokia Bell Labs for crowd and traffic management, which helps with public safety, while smart lighting and fleet management applications enhance the sustainability of natural and business or city resources. Finally, applications like smart parking achieve multiple goals in terms of making people work and live smarter by eliminating time waste, generating new revenue opportunities for businesses and cities, and reducing traffic, pollution, and fuel waste. Our goal is to enable cities and operators in Africa to provide their customers with applications that enhance the quality of their lives, and enhance their environment and business sustainability while making them safer,” says Mohamed Kante.

# The role of small cells in densification

Africa is set for a major densification programme driven by a surge in city data traffic. Small cells and HetNets will be the buzzwords of this new infrastructure model. Sue Monahan, CEO, Small Cell Forum, explains why.

**D**ENSIFICATION – ADDING MORE cell sites to increase the amount of available capacity in a cellular network – is now a common and important element of many mobile network operators' (MNOs') plans, whether they are still expanding 3G and 4G, or looking ahead to 5G. The term applies to indoor and enterprise locations – often the biggest driver of data traffic and of premium services – as well as the classic network-on-a-lamppost.

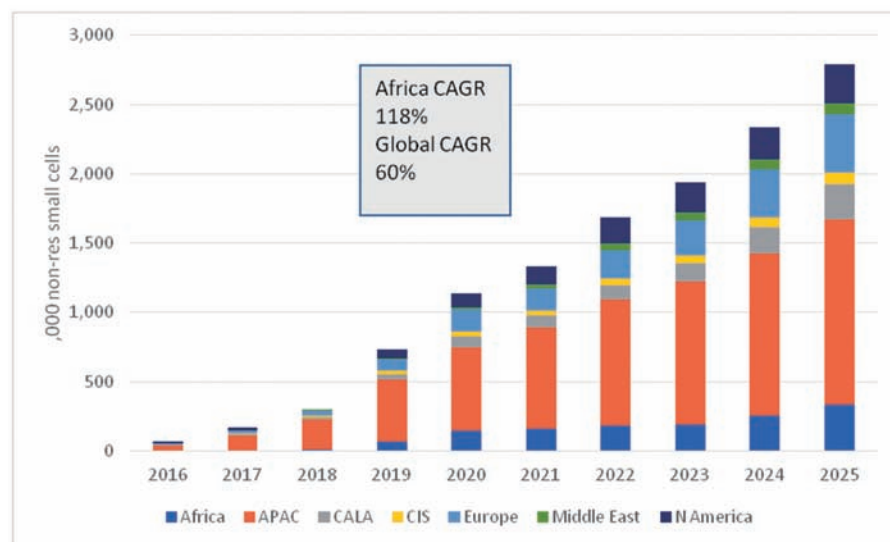
However, while 5G will be inherently based around small cells and increased use of higher spectrum bands, in Africa few MNOs will have the commercial need to be in the first wave of 5G deployers. For many, the priorities will be to enhance 3G and 4G capacity and coverage, while keeping capital and operating costs well under control, in a region where many markets have burgeoning mobile data usage levels, but low and stagnant ARPUs.

To achieve reduction in total cost of ownership, while densifying the network to increase capacity and boost coverage, will require new architectures. Small cells will be central to this, but they will need to be implemented within heterogeneous networks (HetNets), in which they will interwork seamlessly with macro and legacy networks, and any combination of cell domains, base station form factors and spectrum bands.

## Minimising the cost of ownership of networks is critical to MNOs in emerging markets

Early trials and deployments of small cells were heavily focused on developed markets such as the USA and South Korea. However, in many cases, the impact of the new architecture can be even more transformative for operators in emerging economies, as they seek to address rapidly growing levels of traffic, especially in urban and enterprise areas. In the Middle East and Africa region, Cisco (in its Cisco Visual Networking Index) predicts that mobile data traffic will rise from 610,000 TB/month in 2016 to 7.37m TB/month in 2021.

In a survey conducted in the fourth quarter of 2017 for Small Cell Forum, global MNOs were



Forecast deployment of non-residential small cells (,000s of units) by region 2016-2025. Source: Rethink Technology Research/SCF forecasts

asked to name their main business drivers for densification and the deployment of non-residential small cells. In the Middle East and Africa region, two-thirds of MNOs were implementing small cells or planned to do so within four years. The most-cited driver was reduced cost of delivering data, placed in the top two by 74 per cent; this was followed by increased urban capacity to improve quality of service (67 per cent).

This indicates that, although the mobile capacity crunch is often perceived to be a developed world problem, in central urban areas MNOs in emerging economies can face greater challenges. Demand for data is often rising more quickly than in other regions, especially where wireless networks are the primary method of accessing internet and media services. However, there is often less infrastructure available to support this, in terms of backhaul, sites or spectrum. Meanwhile, low ARPUs and regulatory policies may restrict the operator's options to build out new capacity in a profitable way.

Pressure on mobile capacity is certainly not universal in African markets but, to an even greater degree than in other regions, it tends to be concentrated in certain usage hot zones, such as downtown areas or business parks. That makes it economically essential to be able to target capacity precisely where it is needed, rather than building a level of macro

layer capacity, which would be excessive in many areas.

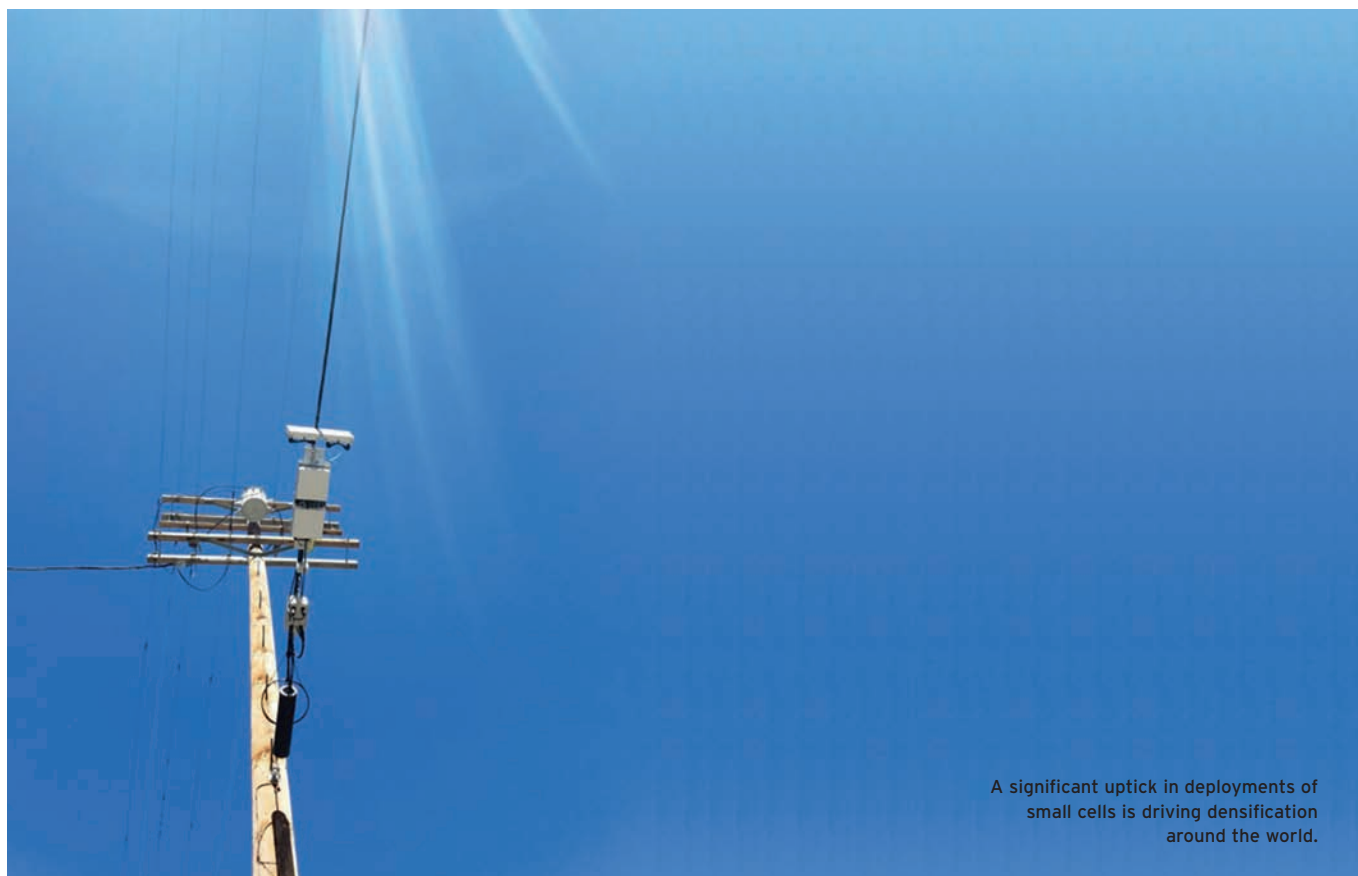
Minimising the cost of ownership of networks is critical to MNOs in emerging markets, and while the introduction of higher-quality mobile broadband services can boost ARPU, there is still an urgent need to keep costs down. Where dense capacity is required, it is more cost-effective to add small cells than macro sectors.

Shortage of spectrum, or slow processes to allocate new frequencies, are a factor in some African markets, but in those same countries, MNOs may have access to high frequency spectrum, some of it originally allocated for fixed wireless and WiMAX (e.g. in 3.5 GHz and 2.5 GHz). These high bands are challenging for macro coverage but can be harnessed very effectively by small cells, to add capacity in dense areas.

Other trends which are driving densification around the world include:

- A significant recent uptick in deployments of small cells, driven primarily by the enterprise market from 2016, which is improving economies of scale.
- Rising interest among national and city governments in the socio-economic benefits of dense mobile broadband networks, especially to support smart city projects. This is resulting in concerted efforts by many stakeholders to lower major barriers to





Photograph: Ericsson

A significant uptick in deployments of small cells is driving densification around the world.

urban densification, such as slow processes to secure sites and permits.

- Operators are coming to the end of 3G/4G macro layer coverage roll-outs, typically in low frequency bands, and shifting their investments to boosting capacity using higher bands, above 2 GHz, to support rising levels of 4G usage and new services such as enhanced video. These high frequency bands are well suited to small cells and drive their adoption. Indeed, some operators and vendors are already conducting tests and trials in even higher frequency bands including millimetre and centimetre wave.
- Another important trend in the spectrum is interest in shared, unlicensed and dynamically accessed spectrum for cellular networks, which can reduce costs for MNOs and also allow other service providers to enter the mobile landscape. For instance, there have been pilots of networks in white spaces spectrum in several African markets. LTE-unlicensed and LTE-LAA (licensed assisted access), plus LTE-LWA and Qualcomm's MulteFire, all support different

ways of extending the cellular technology's reach into the 5 GHz unlicensed band. Because of its range and power limitations, 5 GHz is inherently a densification band, whether that is achieved with cellular or Wi-Fi access points, or an integrated mixture.

- One essential enabler of dense small cell deployments will be support for multi-operator and neutral host networks, to offset the cost and complexity of rolling out multiple per-MNO networks in the same locations.

In general, small cells will cease to be a relatively niche, tactical solution to network holes, and become the central foundation for the HetNet as operators chase ever-higher levels of capacity.

As that happens, a far wider variety of small cell form factors will be required, including virtualized clusters, ultra-low-power cells and higher-powered metrocells. Development of new architectures that will enable high levels of density is not only being done by traditional wireless players. Architectures which rely on large numbers of small cells, operating with extremely low cost and power, and connected in meshes to virtualised basebands, are being proposed by various non-traditional organizations, including Facebook with its Terragraph concept design, which creates a dense mesh using 60 GHz unlicensed spectrum, and WiGig (the WiFi-like technology for the 60 GHz band).

Another of Facebook's attempts to shake

up attitudes to RAN design, OpenCellular, is also focused on small cells. It consists of a shoebox-sized chassis for a wireless access point or a full network-in-a-box. It can be powered by solar, DC, power over Ethernet or batteries. It runs open source software and is designed to be mass-produced by low-cost vendors.

Both these are examples of small cell designs which are being targeted heavily at emerging economies, to support both affordable densification and rural access.

Of course, barriers remain, including access to sites, backhaul and power in all the desired locations and the need for simpler, repeatable deployment processes (and eventually automated, plug-and-play access points).

But the rising need for mobile data capacity that is affordable, and clearly targeted at the areas of greatest usage, will give Africa's MNOs the incentive to work with their suppliers and regulators to lower the barriers. This is clear in a forecast which Rethink Technology Research produced for Small Cell Forum, based on a survey of about 100 global MNOs about their densification roadmaps. As the figure shows, between 2016 and 2025, Africa will have the highest growth rate in deployment of non-residential small cells at 118 per cent, and that investment will transform the business model and consumer experience in many markets. ☺

To find out more about Small Cell Forum visit [www.smallcellforum.org](http://www.smallcellforum.org)

**Early trials and deployments of small cells were heavily focused on developed markets such as the USA and South Korea.**

# Les TIC et l'apprentissage

Les technologies de l'information et de la communication (TIC) ont transformé l'Afrique, et c'est dans le secteur de l'éducation que cet impact est le plus profond.



**Google a annoncé l'an dernier qu'il allait consacrer 50 millions de dollars américains à une initiative africaine en matière d'éducation, dans le cadre d'une série de projets visant à utiliser la technologie pour promouvoir la transformation de l'éducation en Afrique.**

**L**A 12<sup>E</sup> ÉDITION de la conférence eLearning Africa a eu lieu à Maurice en septembre 2017. Composée de plusieurs centaines de délégués venus de toute l'Afrique et du reste du monde, ainsi que de nombreux exposants, la communauté de l'eLearning a eu la chance d'assister à une conférence à la fois dynamique, divertissante et instructive.

Organisée sur trois jours par Integrated Communications Worldwide Events (ICWE) GmbH, société berlinoise spécialiste des événements, la conférence a accueilli d'éminentes personnalités, issues du secteur de l'éducation et de la technologie.

ICWE a obtenu le soutien du gouvernement mauricien, qui sponsorisait l'événement en partenariat avec l'UNESCO. Le Smart Learning Institute (institut de pédagogie affilié à l'université normale de Pékin) comptait également parmi les principaux sponsors.

L'Union africaine souhaite créer « un continent transformé », et la technologie occupe une place centrale dans le programme radical que l'organisation a

développé dans le cadre de sa Vision 2063. L'UA est aussi convaincue que c'est dans le domaine de l'éducation et de la formation que la technologie peut avoir l'impact le plus déterminant pour la croissance durable de l'Afrique.

L'Allemagne a également joué un rôle de premier plan lors de la conférence eLearning Africa : Günter Nooke, ancien membre du Bundestag et représentant spécial d'Angela Merkel, a pris la parole lors de la première séance plénière de l'événement, qui reste aujourd'hui la plus grande conférence africaine consacrée à l'apprentissage et à la formation assistés par ordinateur.

Il a réaffirmé l'intérêt et le soutien de l'Allemagne pour le développement de l'apprentissage numérique comme solution d'avenir pour l'Afrique – et pour l'éducation des réfugiés, qui selon M. Nooke, est « l'un des problèmes les plus pressants qu'il nous faut résoudre au niveau international ». C'est un point fondamental autour duquel s'articule la politique africaine du gouvernement Merkel.

Nooke a annoncé aux délégués que le Ministère fédéral allemand pour la coopération et le

développement économique (BMZ) avait lancé sa propre stratégie pour intégrer de façon systématique les TIC dans ses programmes coopératifs de développement, débloquant près de 100 millions € pour le financement de projets numériques au sein de l'initiative Afrique Numérique.

Merkel a depuis longtemps la conviction que la technologie a un rôle crucial à jouer dans les projets d'aide au développement pour l'Afrique axés sur l'éducation, et Nooke a cité plusieurs exemples illustrant les efforts de l'Allemagne pour soutenir l'introduction de l'éducation numérique en Afrique. Il a notamment mentionné les programmes TIC lancés pour améliorer la formation des enseignants dans les régions rurales du Mozambique et du Malawi, et l'utilisation des TIC pour améliorer l'accessibilité et la qualité de l'éducation pour les réfugiés.

Nooke a ensuite insisté sur l'importance de la coopération avec le secteur privé, indispensable au succès du programme numérique de l'Allemagne. La participation du secteur privé est déjà engagée



dans le Partenariat stratégique « Afrique numérique » de l'Allemagne, et dans son programme « Make IT », créé pour soutenir les start-ups et les entrepreneurs de l'industrie technologique.

Nooke a souligné l'importance des partenariats avec les start-ups numériques, citant la récente collaboration avec l'entreprise de logiciels SAP dans le cadre de l'Africa Code Week pour illustrer son argument. L'événement Africa Code Week avait pour but de promouvoir l'alphabétisation numérique et la maîtrise du codage informatique chez les enfants et la jeunesse africaines.

Il a rappelé à son public que les compétences numériques et l'accès aux technologies sont deux priorités essentielles aux yeux du gouvernement allemand, puis a évoqué l'initiative eSkills4Girls, lancée pour promouvoir la participation, l'éducation et l'emploi des femmes et des filles dans le monde du numérique.

Afin de poursuivre le travail, le BMZ a récemment rejoint le Partenariat mondial pour l'égalité des sexes à l'ère numérique (EQUALS), une initiative impliquant de nombreux acteurs visant à accélérer le progrès mondial sur la représentation égale des hommes et des femmes dans le secteur numérique.

Suite à la séance plénière d'ouverture de la conférence, les délégués avaient un choix difficile à faire, puisque plusieurs séances parallèles traitant des divers aspects de l'éducation et de la technologie leur étaient proposées.

Parmi les deux débats les plus intéressants, le premier était consacré à la coopération



Gunter Nooke, représentant spécial d'Angela Merkel pour l'Afrique à eLearning Africa à Maurice.

Photograph: ICWE

internationale pour l'infoéthique, la paix, la justice et l'efficacité des institutions, ainsi qu'à la concrétisation du 16e objectif de développement durable (SDG16 : promouvoir des sociétés pacifiques et cohésives pour le développement durable, garantir à tous l'accès à la justice et mettre en place des institutions efficaces, responsables et inclusives à tous les niveaux).

La seconde séance concernait la coopération internationale sur l'éducation et l'inclusion numérique, et la nécessité de « n'oublier personne ».

Lors du débat consacré à l'infoéthique, les discussions ont souligné le fait que l'Afrique faisaient face aux mêmes problèmes que le reste du monde, et notamment : les difficultés relatives au contrôle du cyberspace pour prévenir l'extrémisme violent et les dangers des fausses informations, des discours de haine, de la diffamation, du racisme, de la pornographie et autres manifestations indésirables, que ce soit sur le web grand public ou sur le plus subversif dark web.

La seconde séance, elle aussi présentée sous forme de débat, était consacrée au rôle des TIC pour l'amélioration de la qualité de vie des personnes handicapées, pour l'autonomie des femmes et des filles (5e objectif de développement durable : parvenir à l'égalité des sexes), et a également traité des opportunités

offertes par l'apprentissage en ligne en faveur d'une éducation de qualité pour tous.

Ces deux discussions ont abordé la majorité des questions (mais pas toutes, loin s'en faut) auxquelles le secteur des TIC africain est confronté en matière d'éducation et de formation. Cependant, l'événement final de la conférence a fait l'objet d'un débat important, initié par la motion suivante : « Cette assemblée estime que les initiatives grandioses de la Silicon Valley prennent rarement en compte les contextes locaux et ne sont pas ce dont l'Afrique a besoin. »

La récente annonce de Google, qui s'engage à consacrer 50 millions de dollars à une initiative pour l'éducation en Afrique, s'ajoute à une série de projets élaborés par diverses organisations internationales et axés sur l'utilisation de la technologie pour promouvoir la transformation de l'éducation africaine et ainsi stimuler les économies locales.

Mais certaines initiatives ont été lourdement critiquées. Par exemple, le projet « Un ordinateur portable pour chaque enfant », qui avait pour objectif de fournir des ordinateurs portables à chaque enfant du Kenya en partenariat avec le gouvernement du pays, a mal été accueilli parce qu'il privilégiait le matériel plutôt que les infrastructures de communication.

Les principaux intervenants dans ce débat étaient Dr Daniel Wagner, professeur de pédagogie à l'université de Pennsylvanie et directeur du programme international du développement de l'éducation, Dr Bitange Ndemo, ancien secrétaire permanent du département kényan pour l'éducation et maître de conférences sur l'entrepreneuriat et les méthodologies de recherche à l'université de Nairobi; Steve Vosloo, spécialiste de l'apprentissage mobile, et responsable de projet en chef pour l'UNESCO, et enfin Alice Barlow-Zambodla du réseau sud-africain e/merge Africa Network.

Le débat, très animé, a abouti à une conclusion peut-être inattendue. Les questions et les commentaires du public étaient recueillis par l'ancien parlementaire britannique Dr Harold Elletson, à l'origine du débat eLearning Africa, et par S.E. l'Ambassadeur Keshwar Jankee, ambassadeur de Maurice en Allemagne.

En dépit du fait que les intervenants, tous utilisateurs de technologie, soient pour la plupart favorables aux efforts des entreprises de Silicon Valley pour contribuer à la transformation positive de l'Afrique, la motion a été approuvée. Il sera particulièrement intéressant de voir si Silicon Valley en tient compte à l'avenir. ☺

Stephen Williams

**La session «info-éthique» a montré que l'Afrique est aux prises avec des problèmes mondiaux, tout comme le reste du monde.**

# Innovating communications for a 'connected world'

Shifts and fluctuations occur in every sector, with political, economic, and social factors all guiding peaks and troughs, positive and negative. The telecoms industry throughout 2017 has been testament to this.

**D**IGITAL TRANSFORMATION ACROSS all areas of society and business has had huge repercussions for telcos: OTT apps are replacing traditional voice and SMS in consumer and enterprise markets, causing revenues from traditional services to tumble. In addition, with the EU's abolition of roaming charges this year, operators have come under increasing pressure to find new revenue streams. As a result, the industry is at an inflection point and whilst it's inevitable that some will flounder, through harnessing global digitalisation, service providers can flourish. Daniel Kurgan, CEO, BICS, forecasts the main issues which will shape the telecoms industry in 2018. Rather than 'trends', these predictions signify opportunities for long-term growth throughout the next 12 months and beyond.

**Out with the old, in with the new: The decline in legacy services will continue, meaning operators must adopt new approaches underpinned by a 'connected world' mindset**

The decline in traditional voice services, long feared in the telecoms industry, has gradually become the reality. Whilst consumers and businesses seem to be using more communications services, more often, the time and money spent on traditional means of communicating is declining. 2017, like no other, has been a year in which we've seen OTT communications players come to the fore. WhatsApp, Facebook Messenger, Skype, WeChat, and a vast array of others can now offer more attractive, feature-rich, enhanced services, often for a lower cost and at more convenience than provided by traditional voice and SMS.

In light of this, 2018 must be the year in which operators and telcos change tack. Instead of doing battle with the digital players, we'll witness a growing number of incumbents collaborating, consolidating, and adopting a more forward-looking 'connected world' vision. By providing and managing critical mobile infrastructure, telcos will continue to stay relevant in the communications ecosystem in the future, so long as they adapt accordingly.

This means moving to virtualised infrastructure and offering services and



Daniel Kurgan, CEO of BICS.

solutions which recognise mobile as the beating heart of communication and interaction. Looking beyond mobile telephony, we'll see a rise in the number of traditional industry players experimenting with digital service offerings, and adapting their business models to the diverse needs of the global market. The IoT, storage, healthcare, smart cities, chatbots, data analytics, 4K content: operators will move into diverse sectors, to deliver new solutions and engaging experiences.

**M&A megadeals and small-scale consolidation will be progressed, announced and completed**

As we head into the New Year, many in the industry will be asking: will 2018 match the rampant M&A activity of the past 12 months?

M&A megadeals will continue into 2018, with the IoT in particular driving telco interest in

**Continued hype around driverless cars will also drive M&A activity between the telco and automotive industries.**

companies in a variety of vertical sectors. We should expect more deals involving chipset and semiconductor manufacturers, as those in the wider telco industry look to capitalise on IoT growth.

Continued hype around driverless cars will also drive M&A activity between the telco and automotive industries. Connected cars will rely on ultra low-latency, high-reliability connectivity; something telcos are able to provide and manage, with potentially huge returns.

It's not only the big firms with the big bucks who'll be floating and confirming partnership deals next year. We'll also witness consolidation between smaller players looking for a way to enhance offerings, expand assets and stay relevant in the digital economy.

**Significant CPaaS will drive A2P traffic volumes and allow MNOs to monetise a range of services**

2018 will be the year that CPaaS (Communications Platforms-as-a-Service) really takes off. Adopting CPaaS will allow developers to easily and cost-effectively integrate real-time communications services into their offering, using the existing infrastructure and expertise of the provider. We'll see the benefits initially in customer care, with businesses from airlines and healthcare providers, to banks and retailers, adopting CPaaS to enhance customer engagement, using cloud-managed voice, video calling, or SMS. Without the need for extensive and expensive hardware purchases and back-end system development, businesses can go to market faster than ever with new services, to the benefit of consumer and enterprise.

We identified this trend a couple of years ago, and made significant progress this year by completing our acquisition of CPaaS company TeleSign.

**CPaaS services that will drive A2P volumes, together with the increased usage of 2FA**

While enhancing engagement via voice and video calling is a natural progression which aligns with a more digitally-connected future, SMS has often been overlooked. But despite P2P messaging services declining, 2018 will see the surprise (for some) return of the humble SMS for A2P communications. The





# Bringing connectivity to remote areas with TV white space technology

The adoption of TVWS technology aims to see communities in remote parts of Africa better connected, while supporting the delivery of a wide range of socio-economic services, such as improving learning through access to the Internet in schools. *Communications Africa* explores how the deployment of TVWS is one step nearer towards solving the connectivity gap.



TVWS projects are operational around the globe, including Africa. (Photo: adobestock)

**T** VWS SOLUTIONS ARE suited to delivering broadband services to underserved populations to support a broad range of commercial, education and government applications. Microsoft's White Space technology is an example of this, offering wireless networking over the old television bands, higher throughput, low power usage and greater penetration into buildings. This has been successfully rolled out in the US and Singapore and is being tested in Kenya, Tanzania, South Africa and the Philippines.

**TVWS projects are operational around the globe, including Africa, to deliver connectivity to those that have been hardest to reach.**

Kalpak Gude, President of the Dynamic Spectrum Alliance, says creating a new era of communication everywhere, for everyone, will require a blend of technologies and of business plans. Access to spectrum is

essential to both deliver the connectivity as well as the throughput and capacity. The only realistic way to make this spectrum available is through aggressive sharing. Old methods of spectrum clearing and exclusive licensing will not free up the necessary spectrum, and will in fact drive the very scarcity that is essential to eliminate. Incumbent users of spectrum are no longer easy to remove, as their services are valuable and even critical to established user bases. Efforts to remove these incumbents have generally already taken years to achieve only disappointing results. Television White Space (TVWS) technology has the ability to use shared spectrum to help solve the connectivity gap that exists in virtually all countries around the world, regardless of the level of development. TVWS projects are operational around the globe, including Africa, to deliver connectivity to those that have been hardest to reach. TVWS is enabled using dynamic spectrum access technology that allows sharing of television broadcast spectrum with wireless broadband in areas where the spectrum is not used. Both services co-exist, spectrum efficiency is increased, and value to the people is increased greatly.

According to Kalpak, dynamic sharing

technology will also be used in urban areas to increase available throughput and capacity. The U.S. FCC is using the technology to unlock 150 MHz of spectrum in the 3.5 GHz (Citizens Broadband Radio Services (CBRS)) band to provide broadband around the country. This model provides the potential to move society beyond spectrum scarcity. CBRS allows protection of incumbent services while still enabling both licensed and unlicensed/lightly-licensed (e.g., Wi-Fi) use to provide the most cost effective and efficient path to deliver services to end-users and devices. Dynamic sharing also enables mobile carriers to gain access to significantly more spectrum, while also allowing network investment from new edge players that will help to build the next generation networks.

The future of communications will need to solve both the connectivity and coverage issues, both of which require access to substantially more spectrum. The exclusive licensing models of the past are counterproductive to solving this problem. Fortunately, dynamic sharing technology and regulatory models are available to move industry towards spectrum abundance to allow next generation networks to flourish. ©



## Qualcomm and Chinese manufacturers announce "5G Pioneer" initiative

THROUGH THE "5G Pioneer" Initiative, Qualcomm Technologies expects that it will be able to provide Chinese manufacturers with the platform they need to launch premium tier and global 5G commercial devices. The firm revealed that it will be working with some of the leading Chinese manufacturers to explore new mobile applications and experiences enabled by 5G, while also focusing on other transformative technologies - such as Artificial Intelligence (AI) and the Internet of Things (IoT), to continue to drive technological evolution and industry transformation worldwide.

"5G will bring massive new opportunities to the mobile industry, and we are excited to work with these manufacturers on this 5G Pioneer Initiative," said Cristiano Amon, president, Qualcomm Incorporated. "Qualcomm Technologies has close relationships within China's mobile and semiconductor ecosystem, and we'll continue to work with this ecosystem to drive innovation as we move from the 3G/4G era to the 5G era," added Amon.

"Lenovo started 5G technology research as well as productization since the global communications industry began the 5G standard-setting process, and we have been working closely with Qualcomm Technologies in both aspects," said Yuanqing Yang, chairman and chief executive officer, Lenovo. "We hope to make our personal life and work smarter, and enable intelligent transformation across multiple industries through our concerted efforts."

## Quika launches high-speed satellite Internet service

QUIKA HAS ANNOUNCED it has created the world's first free high-speed satellite Internet service for consumers in developing countries. The company provides high-speed, low latency Ka-band Internet using high-throughput satellites, in a bid to solve the challenges to internet adoption, such as lack of infrastructure and affordability.

"3.9bn people (53 per cent of the world's population) are still offline. The majority of these people, live in rural areas and are often poor. The main reasons for people not using the internet are inequalities in relation to income and education, as well as the lack of infrastructure, relevant online content and services, plus relatively high costs of access and usage," said Alan Afrasiab, founder and chairman of Quika and CEO of Talia Limited

"While numerous initiatives have been implemented to bring unconnected communities online, a significant amount of people still remain unconnected. With Quika, we hope to accelerate Internet adoption around the world and



Alan Afrasiab, founder Quika, CEO Talia Limited.

transform societies for the better."

Quika Free revealed that the service is available to all individuals and businesses and will launch in Q2 of 2018 across Africa and the Middle East before rolling out to other developing countries.

## More than 30,000 registered users in Kenya have signed up to e-health platform

MYDAWA HAS BECOME a huge hit, enabling consumers to conveniently purchase authentic medicines and wellness products was launched in March 2017.

Speaking during an update on the growth of the platform, MYDAWA managing director Tony Wood explained that the steady rise in users was as a result of rising healthcare costs, an increased awareness from the customer and negative patient experiences reported in Kenya.

"MYDAWA is proud to be a formidable force in disrupting Kenya's healthcare industry through innovation. The company is anchored on privacy, convenience and guaranteed quality as part of its promise to service delivery," said Wood.

The MYDAWA solution is beneficial to consumers as they gain the advantage of having increased transparency, convenience and affordability. MYDAWA presents a unique mechanism that gives back control to the consumer. Once a prescription has been uploaded online, the consumer can use the mechanism to check the authenticity of products. Consumers receive value for money since products sold at the platform are 40 per cent below the market price for MYDAWA products, whilst 3rd party



Tony Wood, managing director, MYDAWA, at Sankara Hotel during the MYDAWA launch.

products are sold at a 20 per cent cheaper rate.

Wood also highlighted the need for healthcare operators to continue to embrace disruption in the industry to become more efficient, to lower costs, increase accessibility to healthcare and provide the best possible care to patients. Consumers are now more informed and empowered, thanks to technology such as the Internet and MYDAWA enables the consumer to access healthcare products through its platform without compromising on quality and affordability.

MYDAWA is a platform that allows consumers in Kenya to purchase medicines and wellness products.



Photo: MYDAWA

## Le module sans fil Gemalto LTE-M obtient la certification AT & T

LE FOURNISSEUR DE sécurité numérique Gemalto a obtenu la certification AT & T pour son module IoT (Internet of Things / Internet des Objets) Cinterion LTE-M, élargissant les possibilités de connectivité cellulaire pour les solutions IoT. Le module Gemalto consomme peu d'énergie et la bande passante optimisée pour l'IoT doit permettre une utilisation particulièrement efficace des réseaux 4G déjà en place. Il convient pour les solutions IoT avec des besoins en énergie réduits et qui ne demandent pas un débit de données élevé telles que les compteurs intelligents, la localisation d'actifs, la surveillance et le contrôle à distance, les solutions de santé, les systèmes de sécurité, les points de vente (PDV) et les applications de villes intelligentes. Les premiers programmes pilotes ont été mis en place en janvier, avec une accélération du déploiement attendue au premier trimestre de 2018.

Selon Gemalto, la conception du module Cinterion EMS31 LTE-M repose sur les radiofréquences (RF) flexibles qui prennent en charge l'utilisation évolutive multi-bandes et multi-technologies. À l'avenir, 10 bandes de fréquences LTE supplémentaires permettront une couverture mondiale. Cela supprime le besoin de

plusieurs variantes pour un déploiement mondial simplifié et une mise sur le marché très rapide. Le module de Gemalto partage une empreinte commune avec d'autres modules industriels de Cinterion, offrant une migration transparente aux solutions 2G, 3G et 4G existantes.

La mise en œuvre du protocole de sécurité de la couche transport TLS (Transport Layer Security) accélère l'échange numérique sécurisé au niveau du module, générant des économies d'énergie supplémentaires, souligne la société. De plus, la technologie propriétaire permet une activation et un arrêt 15 fois plus rapides que les systèmes traditionnels. Cette fonctionnalité unique de Gemalto améliore la réactivité, minimise les problèmes de latence et réduit considérablement la consommation d'énergie, ce qui permet de prolonger la durée de vie des batteries des applications sensibles à l'alimentation telles que les systèmes de suivi et repérage.

Le module peut être personnalisé grâce à la technologie SIM intégrée (eSIM) pour soutenir facilement le regroupement de l'offre de connectivité IoT. L'association de deux composants permet de réduire la taille des modules et le coût total de possession tout en

simplifiant le développement et la logistique et en renforçant la sécurité et la résistance aux intrusions. Les réseaux étendus à basse consommation (LPWAN - Low-Power Wide-Area Network) croissent à un taux annuel composé de 206 % et les réseaux LTE-M sont en cours de déploiement dans le monde entier », commente Sam Lucero, analyste principal pour l'IoT chez IHS Markit. « L'EMS31 LTE-M de Gemalto est bien placé pour être un leader dans la catégorie, supportant une multitude de cas d'utilisation mobile IoT à faible bande passante. »

« Le module robuste sans fil LTE M de Cinterion associe la longévité, la fiabilité et l'omniprésence de la connectivité cellulaire LTE à l'efficacité et l'économie des technologies des réseaux étendus à basse consommation LPWAN - précisément ce dont la plupart des nouvelles solutions IoT ont besoin », commente Andreas Haegle, Vice-Président Senior des produits IoT de Gemalto. « Ensemble, AT & T et Gemalto révolutionnent les possibilités cellulaires pour l'IoT, permettant aux systèmes d'actifs connectés, aux maisons et aux villes intelligentes de se connecter instantanément et de rester connectés en toute sécurité durant la longue durée de vie des appareils IoT. »

## New tech will challenge how businesses sell themselves

NEW TECHNOLOGY IS expected to challenge how businesses sell themselves, as digital marketing experts warn this will be a consequence of the rise in AI and smart technology adoption. Digital marketing firm Fat Media has revealed that growing smart tech, blockers, AI and dynamic pricing are all challenging how businesses are promoting their products and services.

Alexei Lee, head of social and PR at Fat Media says Amazon's voice activated assistant Alexa is a basic example, as it has led to consumers continuing to become ever more comfortable with aspects of their choice set being outsourced to machines. According to him, this layer of assisted decision-making will make it increasingly hard for businesses to ensure their products are part of that choice set, for instance, the most popular will always be presented first. This will mean businesses will have to rely even more heavily on advertising spend with the technology giants like Google and Amazon to push their product to the right audience.

He also firmly believes that the "Internet of Things" is also set to pick

up pace, meaning businesses will need to place more emphasis on environmental factors that influence a customer's decision-making process. For example, do people shop differently using smart technology in the car? Are they likely to ask their fridge to order a take-away? Or will they only do it whilst ordering a movie on Amazon Video?

According to Adebayo Sani, CEO of Oracle Nigeria, AI is rising in popularity across Nigeria and will cement its place in enterprises by the end of 2018. "With IDC projecting the country's ICT market to grow to \$10bn in 2018; Nigeria is fast emerging as the hotbed of technological innovation in Africa, and we are working with customers that sit right on the edge of this potential. In a market defined by growth, development and change, Oracle Nigeria has focused on redefining the capabilities of cloud, the potential of technology and the relevance of innovation." He continued, "From the ubiquity of next-generation cloud to the reliability of blockchain, we continue to invest in solutions and services that will help bring transformational change for our customers."

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