Issue 1 2016
Édition 1 2016

# Communications Africa Afrique

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*Bell Labs initiates debate on the transformation of economies and societies with The Future X Network*

## Base Stations
**Reducing operational costs with UMTS**

## Broadcasting
**How free-to-air satellite platform services work**

## Technologies
**Des télécommunications d'urgence et la gestion des catastrophes**

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# CONTENTS



## FEATURES



## A note from the Editor

THIS ISSUE OF Communications Africa/Afrique offers insights into terrestrial fibre connectivity, managed services for corporate communications, and work towards increasing network resilience. It assesses, also, UMTS technologies, in relation to operational costs. It analyses the coverage and capacity challenges faced by operators. This issue also addresses thermal imaging functionality for smartphones and tablets, delivered by app developers. Read, too, of developments in satellite broadcasting, with respect to the provision of free-to-air platform services provision.

## Une note du rédacteur

CETTE ÉDITION DE Communications Africa/Afrique compris des articles sur le TIC, l'équipment, et le film. Il y a un article sur le deuxième Forum mondial de l'UIT sur les télécommunications d'urgence, et le rôle des télécommunications d'urgence dans la gestion des catastrophes. Il y a un article sur la croissance des importations mondial de l'information et des communications ralentit à bas depuis cinq ans. Il y a un article sur l''Institut français de Madagascar et la préservation du patrimoine Cinémathèque Africain.

## ARTICLES




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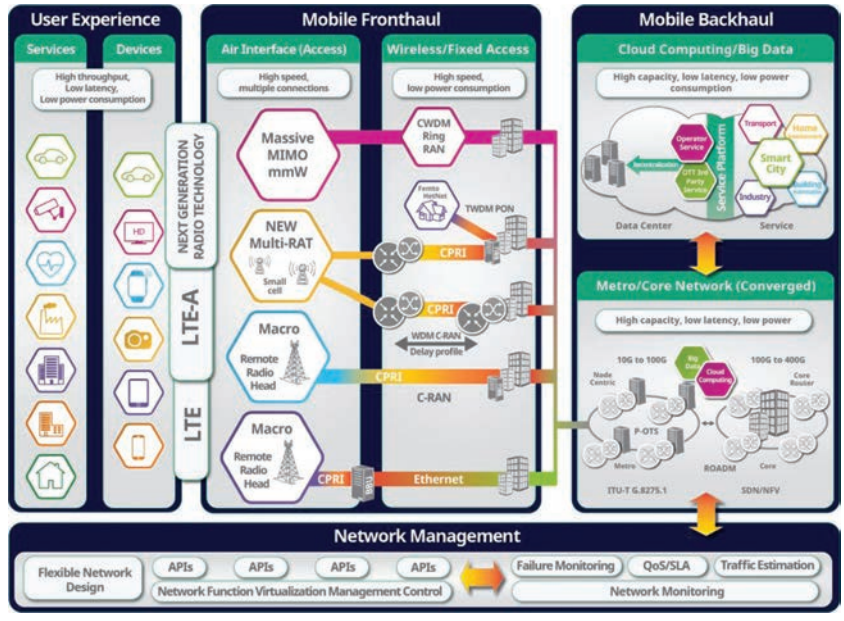
## Anritsu showcases latest test and measurement developments for a connected future

AT MOBILE WORLD Congress (MWC) 2016 in Barcelona, Spain, **Anritsu** is demonstrating a range of key product and technologies in its test and measurement offering that support the latest 3GPP and IoT technology developments and network deployments; in particular, the company will be focusing on some of the emerging test and measurement issues within 5G, LTE-A Pro, Connected Home and M2M device testing.




Anritsu addresses test and measurements of the new 5G air interface R&D

## ACE stretches cable from Sao Tomé & Principe to Cape Town

**ORANGE**, TOGETHER WITH the other members of the **ACE** consortium, have begun work on the second phase of the Africa Coast to Europe (ACE) submarine cable system, extending the cable system to 17,000km with potential or actual high-speed access available to 25 countres; today, nearly 12,000km of fibre optic cable are already used to connect 18 countries - France, Portugal, the Canary Islands (Spain), Mauritania, Senegal, Gambia, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Benin, Ghana, Nigeria, Equatorial Guinea, Gabon, and São Tomé & Príncipe - with two landlocked countries, Mali and Niger, connected via a terrestrial extension.

## Huawei makes MWC a force for behind digital transformation across all industry sectors

GUIDED BY THE vision of Building a Better Connected World, **Huawei** is committed to driving business and industry advancement through technology innovation, fostering a robust industry ecosystem through open collaboration, and helping global carriers and enterprise customers achieve agile innovation, rapid transformation and business success in the digital era; at MWC 2016, Huawei's senior executives and technology experts are sharing the company's vision and growth strategies for 2016, and unveiling new products in key technology areas such as wireless, IoT, and a range of vertical industry solutions.

## Study shows increasing security risks to payment data and mobile payment methods

WITH ACCEPTANCE OF mobile and other new forms of payments expected to double in the next two years, a global study shows a critical need for organisations to improve their payment data security practices; this is according to a recent survey of more than 3,700 IT security practitioners from more than a dozen major industry sectors independently conducted by the **Ponemon Institute** on behalf of digital security specialist **Gemalto**.

## City of Cape Town works with ADVA FSP 3000 CloudConnect for 400G metro network trial

**ADVA OPTICAL NETWORKING** and the **City of Cape Town** in South Africa have successfully transmitted data rates of up to 400Gbit/s across Cape Town's metro transport network; the trial combined existing ADVA FSP 3000 infrastructure and the latest CloudConnect 400Gbit/s technology to connect the townships of Nyanga and Mitchells Plain.

## FREQUENTIS and ND SatCom collaborate on ATM-grade voice communication

CONTROL CENTRE SYSTEMS supplier **Frequentis** has deepened a partnership with satellite communication systems integrator **ND SatCom** for IP-based ATM-grade voice communication over satellite networks; both companies committed to expanding their partnership to deliver highest voice quality through to dynamic delay compensation, resulting in a high availability solution that will serve all future customers in compliance to the standards of the **International Civil Aviation Organization (ICAO)**.

## CTO celebrates 115 years of communications industry collaboration, support ad leadership

ACTIVITIES TO MARK the 115th anniversary of the **Commonwealth Telecommunications Organisation (CTO)** in 2016 include an anniversary launch ceremony attended by over 120 member country representatives, diplomats, industry executives and journalists; speaking of the organisation's role today, Secretary-General Sharma noted, "The CTO is working closely with the Commonwealth Secretariat to advocate for ICT access for all, and helps governments and the private sector to utilise telecommunications as means of connection and inclusion."

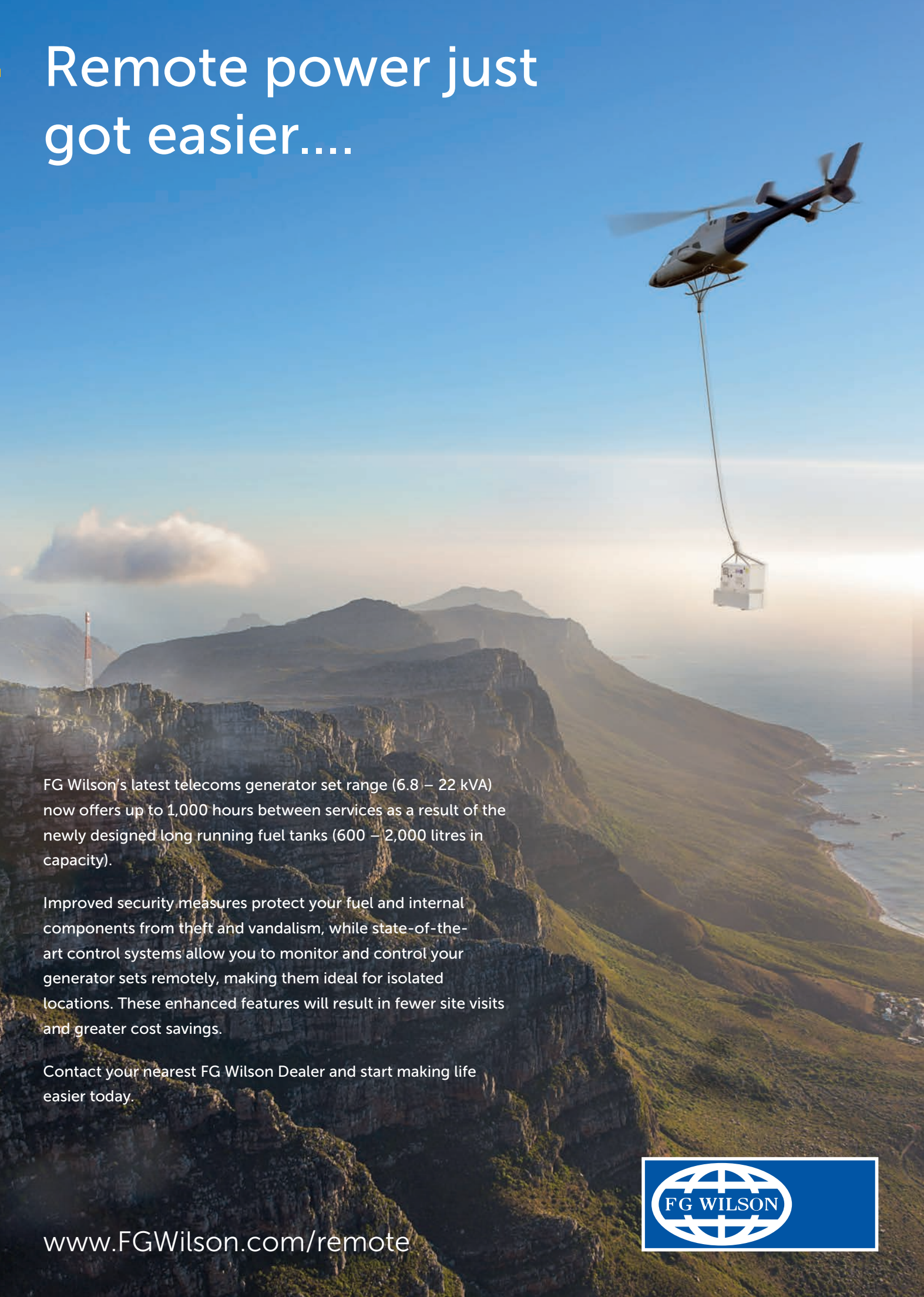
## The MMIX at MWC

REFLECTING THE EXPLODING demand for mobile content globally, The MMIX at Moble World Congress encompasses a four-day programme that includes the full-day MMIX Summit sponsored by **MixRadio**, and keynote and track sessions in the MWC conference; the MMIX Summit kicks off with a keynote from Scott Mirer, vice president, device partner ecosystem at **Netflix** and features sessions examining subjects such as the future of film, TV and broadcast, as well as developments in digital music, mobile games, social video and mobile media - with executive speakers from key connnectivity corporates including **CNN**, **Getty Images**, **Google**, **Next Games**, **Rovio**, **Sony Mobile Communications**, **Telefónica-Movistar+**, **Telenor**, **Viacom International Media Networks** and **Warner Music Group**.

## Connected Women speak on imcreasing inclusivity at Mobile World Congress

SEVERAL PROGRAMMES AND events focused on increasing diversity and driving inclusion in mobile communications at Mobile World Congress 2016, ranging from 'Accelerating Digital and Financial Inclusion for Women' to 'Women Leadership Accelerating the Digital Age' to 'Connected Women in Technology'; launched in 2010 as a **Global Development Alliance**, a partnership with **USAID**, **DFAT**, **GSMA** and **Visa**, GSMA Connected Women works with mobile network operators and their partners to take action to reduce the gender gap in connectivity and improve access to mobile money services by overcoming barriers to women's ownership and use of mobile phones.

# Remote power just got easier....



FG Wilson's latest telecoms generator set range (6.8 – 22 kVA) now offers up to 1,000 hours between services as a result of the newly designed long running fuel tanks (600 – 2,000 litres in capacity).

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## Exterity showcases integrated digital signage and IP video at ISE 2016

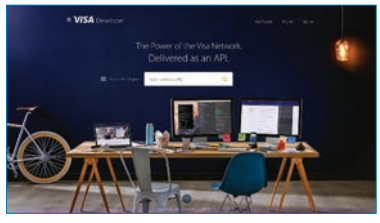
ENTERPRISE IP VIDEO solutions provider **Exterity** has demonstrated ArtioSign, which combines digital signage with IP video, at the recently-held 2016 edition of ISE in Amsterdam, The Netherlands; ArtioSign enables businesses to stream TV and video alongside live news updates and tailored messages to strengthen their communications.

## AG mobile introduces its devices to Nigeria's mobile market

AFRICAN MOBILE TECHNOLOGY brand **AG Mobile** has launched in Nigeria; recognised as one of the continent's first ODM (original design manufacturer), it was the first South African brand to release its own mobile device in 2007.

## A network of new digital experiences opens with the launch of Visa Developer

**VISA INC** HAS has launched Visa Developer, an open platform that will drive innovation in payments and commerce, allowing software application developers to have open access to payments technology, products and services by Visa; the new platform is designed to help financial institutions, merchants, and technology companies meet the demands of consumers and merchants, who increasingly rely on connected devices to shop, pay and get paid.



The Visa Developer homepage

## Millicom set to sell its Tigo DRC mobile network operation to Orange

TELECOM AND MEDIA company **Millicom** has signed an agreement for the sale of its Tigo business in the Democratic Republic of Congo (DRC) to **Orange SA,** subject to regulatory approvals; Mauricio Ramos, CEO of Millicom, said, "Proceeds from the sale will strengthen our balance sheet allowing us to reinvest in our existing Latin American and African markets, improving earnings and cash flow and reducing leverage."

## Growing industrial sector cybersecurity concerns fuel growth for PAS

SOFTWARE SOLUTIONS COMPANY **PAS** generated record-breaking growth across its business units in 2015, with its cybersecurity business unit growing the fastest, returning a 48 per cent increase in orders year over year; Eddie Habibi, PAS founder and CEO, said, "With the number of cyber incidents on the rise, industrial companies depend on PAS solutions to detect unauthorised activity deep within the proprietary control systems, which IT-based tools fail to identify."

## MTN Zambia Launches AMAVIP service in partnership with Kirusa

TELECOMMUNICATIONS COMPANY **MTN** Zambia has launched a social service in partnership with **Kirusa,** specialist in voice and social media solutions for mobile users; Kirusa's AMAVIP service gives celebrities and their fans an opportunity to interact with each other in a more personal way, by record and access voice blogs anytime and anywhere.

## Report suggests business applications will drive augmented reality and wearable technology

WHILE MUCH OF the hype around augmented reality (AR) and wearable devices has been focused on consumer technology, a report from **Beecham Research** entitled 'Augmented Reality and Wearable Technology – an operational tool for the enterprise' suggests that it will be business applications that drive growth over the next five years; the report points to manufacturing, logistics, healthcare and retail as some of the most dynamic markets, where AR offers a new way for people to interact with information hands-free, to provide a greater depth of control and access to knowledge.

## Intracom Telecom presents innovative solutions for 'Smarter Connected Societies' at MWC

TELECOMMUNICATION SYSTEMS AND solutions vendor **Intracom Telecom** presents a range of new products and solutions at Mobile World Congress 2016 in the areas of wireless access & transmission, telco software and IoT enabling solutions, as well as cloud solutions with emphasis on ehealth, all serving and powering the smart, connected city; more specifically, Intracom Telecom is presenting its newest Streetnode millimetre-wave product as a gigabit-to-the-home solution, emphasising the convenience of installation of wireless terminals on the rooftops of served subscribers, so ISPs can expand their access network down to remote residences and provide the highest quality of end-user experience by operating in the license exempt spectrum.

## Facebook Helps West African businesses connect with customers

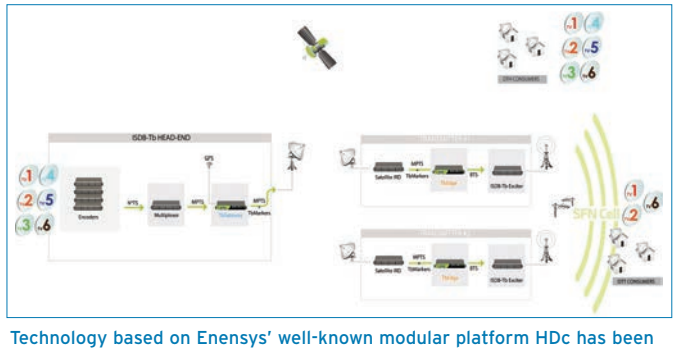
SOCIAL NETWORK **FACEBOOK** recently hosted a roundtable with enterprises from Ghana and Nigeria as part of its effort to support entrepreneurship in West Africa, focussing on how Facebook can help small businesses reach exactly the right customers; Nunu Ntshingila, head of Africa for Facebook, said, "As more and more people turn to smartphones and the web to discover and connect with businesses, Facebook is the best platform for African SMEs to promote their brands."

## Friend MTS launches automated IPTV anti-piracy service at CABSAT 2016

CONTENT AND PLATFORM security specialist **Friend MTS** is once again ramping up the fight against video piracy with the launch at CABSAT 2016 of Viper, the first technology-led anti-piracy solution specifically designed to tackle the growing threat from illegal IPTV set top boxes; Friend MTS CEO Jonathan Friend said, "Viper will finally enable operators and broadcasters across the globe to effectively fight this increasing threat and work towards shutting it down for good."

## Enensys ready to launch new DTT solutions for broadcast industry at NAB

DIGITAL TV TRANSMISSION systems manufacturer **Enensys** Technologies is introducing equipment for a new DTT transmission standard; as with its DVB successes, Enensys' initial products – a ROUTE server, the ATSC3.0 Scheduler and an ATSC3.0 modulator – sit between encoding and transmission, and broadcasters can use them to deliver live streams directly from an encoder outputting DASH segments, while managing the ATSC3.0 physical parameters: MultiPLP allocation, SFN synchronisation, and so on.


Technology based on Enensys' well-known modular platform HDc has been developed to comply with the new DTT standard, allowing broadcasters and network operators to take advantage of the benefits provided by it

## L'expérience proposée aux participants du Mobile World Congress

LA **GSMA** A lancé son programme MWC Tours, offrant une série de visites guidées pour répondre aux besoins spécifiques des différents publics du Mobile World Congress 2016; conduits par des experts, les tours donneront un aperçu de grands axes prioritaires du secteur comme la 5G, l'IdO, les médias, le commerce de détail et la sécurité, avec des visites virtuelles basées sur webinaire.

## Deux nouveaux cours de Mooc Lab Inria sur des bases de données relationnelles et des villes intelligentes

DEUX ANS APRÈS avoir créé ses premiers MOOCs (Massive Open Online Courses), **Inria** a publié un premier retour d'expérience et annonce l'ouverture de deux nouveaux cours; le premier est dédié à une meilleure compréhension des bases de données relationnelles, le second portera sur des défis technologiques et sociétaux des villes intelligentes.

## xriveSavers offrira un service de récupération de données pour les clients de Kingston Technology

SPÉCIALISTE EN LA récupération de données, de l'eDiscovery et des solutions d'investigation numérique, **DriveSavers** a annoncé un partenariat élargi avec **Kingston Technology Company** dans le cadre de son programme de satisfaction de la clientèle KingstonCare; le partenariat offre désormais un service étendu de récupération des données pour les entreprises basées en Europe, au Moyen-Orient et en Afrique (EMEA), et est spécialement conçu pour certains disques SSD de classe entreprise.

## Ammeon s'associe à Mirantis pour déployer Mirantis OpenStack en EMEA

L'UN DES PRINCIPAUX intégrateurs de systèmes pour le secteur des télécommunications dans la région Europe Moyen-Orient Afrique (EMEA), **Ammeon** s'est associé à **Mirantis**, l'entreprise pure-player OpenStack, en vue de livrer Mirantis OpenStack dans toute la région EMEA; Fred Jones, diercteur général d'Ammeon, a déclaré à ce propos : « L'adoption OpenStack connaît un essor fulgurant auprès des entreprises de télécommunications dans la région EMEA, et Mirantis est sans conteste en pointe de la technologie. »

## Orange, partenaire de la 6ème édition de MyFrenchFilmFestival.com, en Europe et en Afrique

A L'OCCASION DE la 6ème édition, et pour la deuxième année consécutive, **Orange** s'est associé avec UniFrance en renouvelant son partenariat avec le 1er festival mondial de cinéma français en ligne «MyFrenchFilmFestival.com »; l'engagement d'Orange dans le cinéma se traduit ainsi par sa présence à toutes les étapes de la vie des films, depuis la coproduction jusqu'à la sortie en salles et la distribution en numérique sur tous les écrans via son offre de vidéo à la demande qui continue d'innover et propose depuis 2014 des films à l'achat.

## Une étude des Bell Labs annonce jusqu'à 40 % de réduction de coûts d'exploitation

LES **BELL LABS**, l'unité de recherche d'**Alcatel-Lucent**, révèlent dans une étude que les fournisseurs de services de communications peuvent diminuer jusqu'à 40 % leurs coûts d'exploitation en « virtualisant » dans le cloud les fonctions complexes déployées sur les passerelles résidentielles; Enrique Hernandez-Valencia, directeur des Bell Labs et l'un des auteurs du rapport, a déclaré : « S'il est indispensable de réduire les coûts pour maintenir une croissance rentable, disposer d'une architecture de passerelle résidentielle virtualisée est une condition requise pour permettre aux fournisseurs de services de prolonger le réseau domestique dans le cloud de façon harmonieuse. »

## Des partenaires du monde entier se réunissent à Davos pour connecter ceux qui ne le sont pas encore

UN NOUVEAU PARTENARIAT mondial, ayant pour ambition de connecter 1,5 milliard de personnes supplémentaires, a été mis au point dans le cadre d'une séance spéciale de la **Commission des Nations Unies** "Le large bande au service du développement durable", tenue au Forum économique mondial de Davos; cette séance s'inscrivait dans le cadre des efforts déployés par la Commission pour créer une dynamique et demander aux dirigeants mondiaux de faire figurer la connectivité large bande en tête de leurs priorités.

## L'Internet des objets pourrait être la 'clé' qui transformera les pays en développement

DANS UN NOUVEAU rapport publié par l'**UIT** et par le géant des réseaux **Cisco**, l'Internet des objets (IoT) est décrit comme ouvrant, à l'échelle mondiale, d'immenses possibilités de développement susceptibles d'améliorer la vie de millions d'habitants de la planète et d'accélérer spectaculairement les progrès sur la voie de la réalisation des Objectifs de développement durable fixés par les **Nations Unies**.

Le rapport "Harnessing the Internet of Things for Global Development" (Mettre l'Internet des objets au service du développement dans le monde) décrit comment l'IoT pourrait radicalement changer les choses dans des domaines comme la prestation de soins de santé et l'éducation à l'échelle locale, ce qui transformerait en profondeur les communautés à une échéance qui aurait encore été inimaginable il y a seulement quelques années.

La thèse de ce rapport conjoint est que la demande soutenue de technologies IoT a entraîné la création de toute une série de dispositifs IoT facilement accessibles, bon marché et adaptables aux pays en développement, offrant ainsi un moyen optimal de galvaniser la croissance dans les économies émergentes et d'améliorer sensiblement la qualité de vie des habitants – moyennant un investissement minimal.

Par Internet des objets, on entend, dans les grandes lignes, le nombre croissant de dispositifs qui sont connectés à l'Internet et peuvent communiquer avec d'autres dispositifs, bien souvent sans intervention humaine.

Le rapport conjoint UIT/Cisco souligne qu'indéniablement, l'Internet des objets a d'ores et déjà des conséquences importantes dans les domaines de la santé, de l'éducation et des programmes visant à améliorer les moyens d'existence (par exemple la productivité agricole) dans les pays en développement. Il cite trois grands facteurs qui pourraient, avec un appui, aboutir à créer une 'révolution de l'Internet des objets' dans ces pays:

**Accessibilité:** Les dispositifs IoT sont déjà couramment employés, bon marché et facilement remplaçables sur les marchés des pays en développement. Les infrastructures de base nécessaires (Wi-Fi, cybercafés, etc.) existent déjà dans de nombreux pays en développement, et la connectivité mobile de base est pratiquement universelle.

**Accessibilité financière:** Les coûts de la recherche-développement dans le domaine de l'Internet des objets continuent à être absorbés par la forte demande sur les marchés des pays développés, et les légers ajustements apportés aux dispositifs IoT pour les pays en développement ne coûtent pas grand-chose.

**Capacité d'adaptation:** Les dispositifs IoT sont conçus pour être adaptables. Nombre d'entre eux offrent déjà des fonctions 'plug & play' très simples, sans qu'il soit besoin de faire appel à des techniciens expérimentés.

# Events/Événements 2016

| | | | |
|---|---|---|---|
| **FEBRUARY/FÉVRIER** | | | |
| 2-3 | **Next Generation Optical Networking Africa** | Cape Town, South Africa | africa.nextgenerationoptical.com |
| 17-18 | **eCommerce Africa** | Cape Town, South Africa | www.ecommerce-africa.com |
| 22-25 | **Mobile World Congress** | Barcelona, Spain | www.mobileworldcongress.com |
| **MARCH/MARS** | | | |
| 1-2 | **Cards & Payments Africa** | Johannesburg, South Africa | www.terrapinn.com |
| 8-10 | **CABSAT** | Dubai, UAE | www.cabsat.com |
| 14-15 | **Oil and Gas Telecommunications** | London, UK | www.smi-online.co.uk |
| 15-16 | **Big Data and Smart City (ICBDSC)** | Muscat, Oman | www.mec.edu.om |
| 15-17 | **Design of Reliable Communication Networks (DRCN)** | Paris, France | drcn2016.lip6.fr |
| 20-24 | **Optical Fiber Communication (OFC)** | Anaheim, USA | www.ofcconference.org |
| **APRIL/AVRIL** | | | |
| 3-6 | **IEEE Wireless Communications and Networking (WCNC)** | Doha, Qatar | wcnc2016.ieee-wcnc.org |
| 10-15 | **IEEE Computer Communications (INFOCOM)** | San Francisco, USA | infocom2016.ieee-infocom.org |
| 11-12 | **Cloud MENA** | Dubai, UAE | mena.cloudworldseries.com |
| 11-15 | **MVNOs World Congress** | Amsterdam, The Netherlands | mvnosworldcongress.com |
| 13-14 | **AITEC Southern Africa ICT** | Maputo, Mozambique | aitecafrica.com |
| 25-29 | **IEEE/IFIP Network Operations and Management** | Isttanbul, Turkey | noms2016.ieee-noms.org |
| **MAY/MAI** | | | |
| 2-6 | **WSIS** | Geneva, Switzerland | www.itu.int |
| 11 | **WorldDAB Automotive** | Brussels, Belgium | www.worlddab.org |
| 11-13 | **Networks, Computers and Communications** | Hammamet, Tunisia | www.isncc-conf.org |
| 11-14 | **ITU Global Symposium for Regulators (GSR)** | Sharm el-Sheikh, Egypt | www.itu.int |
| 23-27 | **IEEE Communications** | Kuala Lumpur, Malaysia | icc2016.ieee-icc.org |

## Egypt to host ITU's 2016 Global Symposium for Regulators

THE **UNITED NATIONS** agency for information and communication technologies, **ITU** is working with the **National Telecom Regulatory Authority of Egypt (NTRA)** to host the 2016 Global Symposium for Regulators (GSR) in Sharm el-Sheikh, Egypt, from 11 to 14 May 2016. Organised by ITU and hosted by the Government of Egypt, the event will welcome world-class speakers with a dynamic programme focused around the hot topics challenging today's ICT regulators.

"ITU's Global Symposium for Regulators has quickly grown into the world's pre-eminent gathering of the global ICT regulatory community," said ITU secretary-general Houlin Zhao. "A transparent, best-practice regulatory framework is indispensable to the growth of new ICT markets and services. The GSR offers a unique opportunity for regulators to engage in a dialogue around priorities and concerns directly with industry leaders, to showcase their successes, and to learn from the experiences of other policy-makers tackling similar challenges. This is what makes GSR a must-attend event for the global ICT policy-making community."

The director of ITU's Telecommunication Development Bureau, Brahima Sanou, expressed his thanks to the Government of Egypt and to the National Telecommunication Authority of Egypt (NTRA) for having offered to host GSR-16.

He said, "I am impressed with the event venue and the facilities, as well as the dedication of the host country team who are doing their utmost to stage a successful GSR and ensure a memorable and safe visit for all GSR-16 participants."

Mustafa Abdul Wahid, acting Chairman of the NTRA, signing the agreement on behalf of the Government of Egypt, commented, "This Host Agreement is a confirmation of the good cooperation and long relationship between the NTRA and ITU. The NTRA looks forward to implementing more projects with ITU."

A series of GSR pre-events will take place on 11 May, including a Thematic Pre-Conference 'Global Dialogue on Digital Financial Inclusion' held with the support of the Bill and Melinda Gates Foundation and in collaboration with other partners. A Regional Regulatory Associations Meeting and a private-sector Chief Regulatory Officers Meeting will also be held on 11 May. The theme for GSR-16 is Be Empowered, Be Included: Building Blocks for Smart Societies in a Connected World.

May 12 and 13 will host the sessions of the Global Regulators-Industry Dialogue (GRID), which are open to regulators, policy makers and members of ITU's Development Sector. On 14 May, there will be two parallel tracks, a Regulators' track, open only to regulators and policy makers, and an Industry track, open to ITU-D sector members. The final closing ceremony will be open to all participants.

GSR-16 allows regulators, policy makers, industry leaders and other key ICT stakeholders to share their views, engage in interactive discussions and identify best practices moving forward, not only in the ICT/telecommunications sector, but also in terms of how ICT/telecommunications interacts with other regulation in today's increasingly interconnected and collaborative ICT-based environment.

## Augmented network intelligence in a new human framework

CAN THE NETWORK of the future be defined today? **Bell Labs** president Marcus Weldon and his team come closest to approaching an understanding of the technologies and architectures in place and in prospect, and their service to human existence, in The Future X Networks (http://www.bell-labs.com/our-research/future-x-book/#).

The book is organised around numerous themes, each of which addresses core aspects of daily lives. Through Mr Weldon and his fellow authors, Bell Labs offers insights into network performance and efficiency, augmented intelligence and automation, technological developments and universal connectivity, and the commercial and social benefits to emerging and established markets of "Future X Network" deployments.


### A new network, a new world

This is the first book that Bell Labs has published. "We thought it was about time the industry had a better dialogue about the future," Mr Weldon said. He seeks to open up an agnostic debate on the possibilities of a technological revolution that will fundamentally change society. No products are mentioned; it is vendor-free. It is a book for discussion, not a book with answers. "There are lots of things here that are highly speculative," Mr Weldon said.

### Interconnectedness, interdependence

Collectively, Bell Labs senses a new era, defined by automation, in which technologists are developing the capacity to transform economy and eventually society. It may be revolutionary. It may be eventually defined as a revolutionary point in human history. This is to be an era of digital interfaces and data analysis. Of automation, Mr Weldon said, "This is not going to be an era of Big Data. It is going to be an era of small knowledge."

The Automation Age follows the Information Age, the last industrial revolution, in which commerce has been transformed by connectivity and new ways of sharing experiences and products. This extends now into contextual automated experiences and new forms of user-generated content. Everything becomes connected over time, and it is over this period of time that economies and societies are transformed. Individuals and institutions become increasingly interconnected and interdependent.

## Bell Labs initiates debate on the transformation of economies and societies with The Future X Network

### Responses, projections

Latency is going to be a key driver of development of new network architectures. Application processing times and network resources must maintain satisfactory balances in order to add value to services. Latency matters, particularly as applications and networks become more sophisticated, whether service providers are handling special cases such as financial trading or general cases such as gaming. The network has to be scaled with a massively distributed cloud, in order to deliver sufficient response times. Latency impacts bandwidth. TCP throughput relies on a balance between TCP window size and round-trip latency.

Mr Weldon observed, "Edge clouds for latency and bandwidth are going to be the new key paradigm."

Edge cloud and access technology are critical components in enabling the transformation to new digital realities. They will allow for huge amounts of data processing and ubiquitous connectivity, serving increasingly automated and self-aware economies. As Mr Weldon observed at the 2015 edition of Mobile World Congress, the objective of new technological deployment is to create or save time, so that more can be achieved. Time is the true unit of value in the digital world.

Regardless of how else the new era is defined, the ability to create or save time with new network technologies - with "Future X Network" deployments - is a key defining factor in the new Automated Age addressed by Marcus Weldon and Bell Labs.

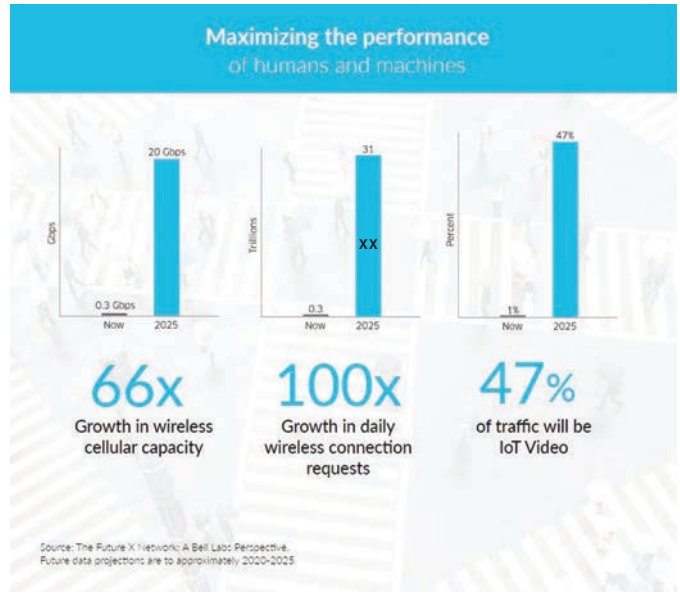
### Enterprise revolutions

Most of the revolution will happen in healthcare, transportation, education and governmental entities and activities. These areas above all are more disconnected than others, and thus more in need of change, and proportionately more open to change than mature service sector operations and enterprises. The implication in this projection is that assets will be converged and consolidated to deliver more transformation at local levels. In such scenarios, the cloud must be the edge cloud, closer to the site of development. These edge clouds must have very low latency and high performance, serving the core or metro cloud, in a new form of architecture optimised around energy.

There will be a new sort of alliance between global and local services, driven by economic or cost imperatives, driven by the sheer volume of data management and associated infrastructure requirements. Mr Weldon traces this development via the development of computing from the mainframe world through interactive and dedicated processing to deep cloud networks and now edge cloud technologies and contextualised network access and utilisation.

Massive device scaling in the cloud and improvements in software and signalling solutions and energy management make the edge cloud possible and viable. Near-field virtualisation (NFV) and software-defined networking (SDN) complement the edge cloud and operate through new IT architectures to deliver cost-efficiencies, performance and personalisation. And, interestingly, everything becomes part of a corporate virtual private network (VPN), where everything is, as Mr Weldon put it, "instrumented and controlled". Imagine a logical conclusion beyond current capabilities, in which all things - organic and artificial - may be tracked and analysed, made more productive and more valuable.

Describing the possibilities and probabilities of the Future X Network, Marcus Weldon observed, "We are in a new capacity world of machines...and we need to build a brand new network.



## Eutelsat and Camusat set out to serve MNOs

Satellite operator **Eutelsat Communications** and telecom infrastructure specialist **Camusat** are working in partnership to enhance turnkey connectivity solutions for mobile operators in Sub-Saharan Africa. The two entities aim to drive further the growth of mobile communications in sub-Saharan Africa, and particularly in under-developed remote rural areas - where over half of Africa's population lives. In the vast territories yet to be covered, terrestrial infrastructure would require heavy investment over several years to link unconnected communities to mobile networks.

(L-R) Michel Azibert, Eutelsat's deputy CEO and commercial & development director, and Richard Thomas, Camusat CEO

### A dynamic partnership

Eutelsat can deliver satellite coverage of all African territories. Camusat provides expertise in telecom infrastructure deployment - including building, providing electrical power and maintaining towers for mobile telephony networks.

Michel Azibert, Eutelsat's commercial and development director, said, "This partnership marks a new step in our collaboration with Africa's mobile telephony operators. In addition to regular lease of satellite capacity to support network development, our new partnership with Camusat equips us to offer solutions covering the entire communication chain with maximum flexibility and irrespective of location."

Camusat CEO Richard Thomas added, "This new partnership with Eutelsat in a tremendously dynamic market represents a future growth driver from which our mobile operator clients will be able to derive maximum benefit by extending the limits of their markets. This agreement will ensure connectivity for communities who have remained beyond reach of mobile networks."

## AdaptiveMobile boosts MTN revenue control

**MOBILE NETWORK SECURITY specialist AdaptiveMobile, which works with 22 mobile operators across 18 countries, is promoting the success of its Grey Route Controls solution, which identifies, mitigates and protects against mobile security threats and shields operators from financial exploitation.**

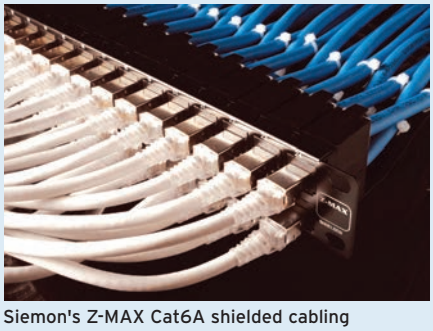
**Operators in the region are using the solution to identify and shut down grey route traffic and recapture millions of dollars in revenue each month. Tangible benefits they are seeing include a significant decrease in the volume of customer complaints and billable time handling concerns. In addition the insight gained through the software is enabling MNOs to identify new revenue streams in vertical markets as well as gain market share over competitors.**

## Siemon supplies West Africa with data centre cabling solutions

NETWORK INFRASTRUCTURE SPECIALIST **Siemon** has installed cabling solutions in the 3,500m² **MainOne** data centre located just outside of Lagos, Nigeria. The 600-rack facility is the largest co-location facility of its kind in West Africa and delivers consistent high-level performance, data storage and data security to support leading businesses from across the region.

MainOne is the only data centre in West Africa built to Uptime Institute Tier III specification, which guarantees 99.98 per cent availability and means no more than 1.6 hours of downtime per year. Fully compliant with the TIA 942 data centre standard, Siemon"s high bandwidth cabling systems ensure that MainOne has the most solid and future proof cabling infrastructure foundation to support its growing customer base.

"To successfully establish a facility of this scale, it was crucial to select top quality products from best-in-class suppliers," commented Gbenga Adegbiji, head of capital projects at MainOne. "We needed to specify products that would fully support applications today and well into the future to allow for growth and expansion, and we chose Siemon to enable us to achieve these important objectives."


Siemon's Z-MAX Cat6A shielded cabling

Siemon and its certified installed partner, Lagos based DBH Solutions, collaborated on the process of designing the cabling infrastructure, which comprises the high performance XGLO fibre optic solution with OS2 singlemode and OM3 multimode fibre, and the Z-MAX end-to-end Category 6A shielded copper cabling system.

Ideal for next generation backbone applications, XGLO exceeds all ANSI/TIA/EIA and ISO/IEC insertion loss and return loss requirements to provide MainOne with 10Gb/s performance and beyond. Meanwhile, the Z-MAX shielded system combines consistent best-in-class performance with security and robust noise immunity to easily support 10Gb/s. It also provides the highest margins on all performance requirements for Category 6A/Class EA, including critical alien crosstalk parameters.

A combined total of more than 2,400 XGLO optical fibre links, using 1,200 pairs of OM3 and 1,200 pairs of OS2, were installed for the backbone infrastructure, which connects every cabinet to Cisco Nexus 7000 series core switches located in each of the two main network rooms. Z-MAX was used to connect servers and work area outlets to access switches and, given the challenging schedule, it provided significant advantages in terms of product handling and ease of installation.


XGLO fibre jumpers and pigtails from Siemon

"We are confident that with the high performance Siemon cabling solutions we have deployed in our state-of-the-art facility, we will be able to provide quality and reliable services to our customers," said Funke Opeke, CEO at MainOne.

Steven Foster, managing director at Siemon EMEA, observed, "The availability of high performance data centre facilities in West Africa is critical to its ability to achieve future growth and profitability. MainOne is setting the standard in this region and we are pleased that our technology is playing a critical role in supporting the development of the digital economy in this rapidly developing part of the world."

## AfricaOnline Ghana uses Radwin Network

PART OF **GONDWANA International Networks (GIN), AfricaOnline Ghana Ltd** is rolling out its new Radwin Network in Accra, the capital city of the West African country, offering superior reliable high speed broadband for its corporate clients, based around a symmetrical fixed wireless broadband infrastructure.

The company has confirmed that it has plans to extend the service to peri-urban areas in the next phase of deployment as well as to cities like Kumasi, Takoradi and Tamale where radio connectivity is already present.

Kwadwo Ohemeng Asumaning, MD of AfricaOnline Ghana, commented, "We believe that our long-term presence in Ghana, serving major key corporates and SMEs gives us the experience and competencies to better understand the needs of our customers and recommend appropriate solutions to their requirements."

## MATRIXX Software and Vlocity launch digital industry cloud solution for telcos

TELECOMMUNICATIONS SOLUTIONS SPECIALIST **MATRIXX Software** and industry cloud apps company **Vlocity** have formed a strategic partnership and launched Go Digital, a cloud-based solution that helps communications and digital service providers (DSPs) deliver a differentiated customer experience and grow revenue from video and music streaming, roaming passes, lifestyle applications and more. Built for agility, the MATRIXX-Vlocity solution can be launched in less than three months.

Consumers' service expectations are increasingly shaped by their experiences with digital companies like Amazon, FitBit and Uber, which provide consumers personalized service, adapt to their changing needs, and put them in control. Go Digital is based on the Salesforce platform and combines Vlocity Communications Industry Cloud apps and the MATRIXX Digital Commerce platform.

With Go Digital communications customers can define their own experience: they can easily try, buy and manage digital services such as video and music streaming, track their usage in real-time, receive smart alerts which allow one-click purchasing of top-ups, share selected balances with friends, add roaming passes on-the-fly and consume services in bite size chunks to better match their needs. Further, they receive a consistent service experience, regardless of device or channel of engagement.

Go Digital includes a virtual "control centre" allowing the customer to manage all of their digital services. Service providers deploying Go Digital can offer an elegant, one-click customer experience, with multiple payment options for additional mobile services.

MATRIXX and Vlocity combine decades of experience in digital strategy, eCommerce, CRM and communications industry-specific cloud apps to help communication providers transform their customer experience. Go Digital delivers a 'new and improved' customer acquisition-to-cash solution that can be deployed in less than three months. It utilises **Salesforce** cloud infrastructure, a common data model, and does not require complex integration to existing IT infrastructure. The solution is immediately available for leading telcos, with Swisscom, Telstra and Sky Italia among the first to have access.

Dave Labuda, founder, CEO and CTO of MATRIXX Software, said, "Legacy platforms are preventing service providers from executing on their digital agendas. MATRIXX and Vlocity have developed a new solution to meet the aggressive go-to-market strategies of telcos addressing digital disruption head on."

David Schmaier, CEO and founder of Vlocity, said, "The MATRIXX and Vlocity partnership brings a unique combination of technology and transformation assets to telcos wishing to engage their customers in dynamic, digital ways. The Go Digital solution creates a significant new revenue opportunity for communications providers, one that can be rapidly deployed in any carrier or DSP."

## Bharti Airtel Africa improves customer engagement with IMImobile service

TELECOMMUNICATIONS SERVICE PROVIDER **Bharti Airtel Africa** has introduced innovative consumer services for merchants and content providers across the continent, working with **IMImobile**.

The new Airtel Tap2Bill service innovation enables content providers and merchants to utilise Airtel's billing infrastructure to charge and bill their customers. The service will be available via a secure portal that will help content providers and merchants grow their business across Africa, without the need to invest in costly billing and payment capabilities.

Airtel Africa chief executive officer Christian de Faria said, "We are very pleased to announce this new customer payment innovation to the market. It will support the growth of content services and enable content producers and merchants across Africa to share and benefit from Airtel's scale, market and technology."

**"Ensuring the constant growth of choice and variety of mobile services is key across Africa and Airtel recognise that they are in a unique position to help content providers and merchants." - Jay Patel, chief executive officer, IMImobile**

Airtel Africa has worked with IMImobile since 2011 on mobile service provision and innovation.

IMImobile chief executive officer Jay Patel commented, "Ensuring the constant growth of choice and variety of mobile services is key across Africa and Airtel recognise that they are in a unique position to help content providers and merchants."

## MTN connects enterprises and informal merchants with digital payments and services solution

**MULTINATIONAL CORPORATIONS, PARTICULARLY in the fast moving consumer goods (FMCG) sector, and informal merchants can now benefit from reduced costs, increased security and greater efficiencies around payments, following an initiative by MTN's business and switching house for a cashless payment solution.**

**"Around 70 per cent of informal merchants in Africa are not able to make and receive electronic payments, and therefore recognise the value of inclusive payment solutions." - Debbie Minnaar, general manager: products and services, group enterprise business unit, MTN**

**"This solution is aligned with MTN's efforts to deliver digital services to our multinational clientele, while at the same time serving the underserved," said Debbie Minnaar, general manager: products and services, group enterprise business unit at MTN.**

**"We estimate that around 70 per cent of informal merchants in Africa are not able to make and receive electronic payments, and therefore recognise the value of inclusive payment solutions. This switching payment solution will enable MTN to increase the economic participation of informal cash only merchants in Africa while allowing users to safely transact in a digital space, to benefit both FMCGs and consumers."**

## Tanzanian MVNO Amotel selects WTL to establish network connections

**WORLD TELECOM LABS (WTL)** has been appointed by **Mkulima African Telecom Company Limited (MTC-Amotel)** to bring voice and data connectivity to remote rural villages close to Lake Tanganyika in Katavi, in Tanzania. Services will be established later in other villages in Kigoma, Njombe and Kilimanjaro.

In June 2015 Amotel became the first licensed mobile virtual network operator (MVNO) in Tanzania. The company has since entered a business agreement to operate as an MVNO through national telco **Tanzania Telecommunications Company Limited (TTCL)**. Amotel will now deploy WTL's new Vivada (Village Voice and Data) system to build low OPEX, low CAPEX networks in three villages that are not currently covered by any kind of network, as part of a proof of concept project with finance from the Universal Communications Service Access Fund (UCSAF).

Professor Robert Mabele, board chairman of MTC-Amotel, said, "We know that connectivity in rural areas leads to economic development and improvements in the quality of life. Amotel is a company which takes its responsibilities very seriously and we are determined to make a difference. We evaluated a number of rural systems and WTL's Vivada was consistently top across our scoring criteria. The build has already started and we are extremely impressed with the experience and enthusiasm of the WTL team."

### Delivering voice and data to villages

Vivada provides everything an operator needs to deploy cost-effective and sustainable GSM and data networks in rural areas. It runs on less than 200W which can be supplied by solar with battery back-up.

Vivada recognises that multiple revenue streams will ensure a sustainable business model. It can deliver services to all types of pre and post-paid customers with varying telecoms budgets including GSM for every type of handset; WiFi connectivity for smartphones, tablets, laptops and PCs – and connectivity to cybercafés and hotspot call cabins.

Vivada includes a micro GSM base station, WiFi routers and modems, backhaul integration, billing software, VoIP switches and an SMS server.

Traffic from the village is validated by WTL's real-time charging system and voice calls are then converted into VoIP and compressed using WTL's award-winning VoIP SBC which uses patented technology to minimise the amount of backhaul bandwidth required. Calls are transferred to a hub in Dar es Salaam where a WTL switch routes it onwards.

## BICS launches dynamic IPoS solution in Africa

**GLOBAL WHOLESALE CARRIER for voice, mobile data and capacity services, BICS has launched RouteFlex, an automated business continuity and optimisation solution that has been developed to address the need for enhanced connectivity in Africa. The satellite solution enables operators to manage QoE and secure an optimal traffic balance.**

**RouteFlex provides an intelligent and cost-efficient IP over Satellite (IPoSAT) back-up solution, supported by an SDN (Software Defined Network) which enables operators to handle high volumes of IP data across satellite by applying end-to-end differential treatment to different types of aggregated data flows during peaks or outages.**

## Tigo Tanzania makes a million on Facebook

EAST AFRICAN OPERATOR **Tigo Tanzania** has accumulated a million followers on **Facebook**, the highest such figure in Tanzania, effectively reinforcing Tigo's position as a leading digital lifestyle enterprise in the country.

Tigo's Facebook page was created in June 2011 and has grown to become an ideal platform for interaction for its customers, where they learn about the company's new products and services and latest innovations. In a recent Tanzania Leadership Awards ceremony, acknowledging Tanzania's best organisations and individuals, Tigo won two trophies - for 'The Hall of Fame in Brand Excellence' and 'The Best use of Social Media in Marketing'.

The upsurge in the use of social media in Tanzania has spurred the use of Facebook in the country in recent years. According to analysts at marketing company Socialbakers, Tanzania currently has 4,144,040 Facebook users. So, as Tigo general manager Diego Gutierrez said recently, these numbers effectively meant Tigo has nearly a quarter of the total Facebook users in the country. Mr Gutierrez commented, "Our platform on Facebook and our official twitter handle (Tigo_TZ) have become essential tools for us to listen and learn from our growing technology-savvy customers and the public in general. We are proud to have reached this milestone and thank our customers for their evangelistic loyalty to us. Tigo Tanzania will continue to cater for its customers' digital needs and offer even richer and more interactive digital content."

### Increasing community engagement in Kiswahili

The interest in Tigo Facebook followers was buoyed by the launch, in 2014, of Facebook in Kiswahili, Tanzania's national language. Tigo customers are able to access Facebook in both English and Kiswahili through their mobile phones without incurring additional data charges. Tanzania has over 130 ethnic groups that constitute its 45mn population, over 80 per cent of whom speak fluent Kiswahili in addition to other local dialects. Spoken by 120-150mn people globally, Kiswahili is the national language in both Tanzania and Kenya and it is also gaining ground in Uganda, Rwanda and Burundi. Being the lingua franca in much of Southeast Africa, Kiswahili has been adopted has one of the working languages of The African Union (AU) and of the East African Community (EAC).

## Anritsu launches software solutions to support manufacturing tests ofIoT and M2M devices

COMMUNICATIONS SOLUTIONS SPECIALIST **Anritsu Corporation** has introduced three new measurements software packages expanding the functions of the Universal Wireless Test Set MT8870A to support manufacturing tests of IoT/M2M applications. With these new releases, Anritsu has added support for 802.11p, Bluetooth DLE, and Z-Wave to its measurement software product line for the MT8870A, covering a frequency range from 10MHz to 6GHz.

The rapid expansion of the IoT/M2M applications market is increasing the need for wireless testing of communications terminals and modules. The majority of these products support both mobile wireless systems, such as LTE and W-CDMA, as well as short-range 802.11a/b/g/n/ac and Bluetooth in one unit, requiring a fast, all-in-one, test set for measuring multiple wireless systems.

Universal Wireless Test Set MT8870A now offers support for 802.11p, Bluetooth DLE and Z-Wave, covering a frequency range from 10 MHz to 6 GHz

The Universal Wireless Test Set MT8870A has been specifically designed for the high volume manufacturing test of all common cellular and short range wireless technologies. An MT8870A instrument mainframe can contain up to four TRX test modules MU887000A/01A each capable of independent control by an external PC. Each module has an integrated vector signal generator (VSG) and vector signal analyser (VSA) to perform both transmitter and receiver RF tests.

## Ooredoo opts for GoSwiff for mPOS

COMMUNICATIONS COMPANY **OOREDOO Group** has selected mobile payments and marketing solutions provider GoSwiff as its partner for the implementation of its international mobile point of sale (mPOS) platform.

The partnership will cover nine markets covering Algeria, Indonesia, Iraq, Kuwait, Myanmar, Maldives, Oman, Qatar and Tunisia. It will include recruiting merchants to the platform, from large corporates to micro-merchants.

GoSwiff is providing an integrated multi-payment solution including mPOS, mobile money and airtime top-up for Ooredoo's merchant clients. GoSwiff also provides value added services including merchant reward programmes, to encourage a greater volume of transactions, and consumer loyalty tools to enable Ooredoo to better engage with its customers.

## RAD gains MEF Carrier Ethernet 2.0 Certification with MiNID

THE AWARD-WINNING MINID developed by **RAD**, part of its Service Assured Access (SAA) solution portfolio for communications service providers, has become the first miniature network interface device (NID) to receive MEF CE 2.0 certification.

RAD's SAA solutions for mobile, business and wholesale service providers are designed to improve the way they compete: service agility to minimise time to revenue, complete visibility of network performance for greater operational efficiency and better QoE to reduce churn.

With this certification, operators can now instantly upgrade their infrastructure to support premium Carrier Ethernet 2.0 certified offerings for business, mobile backhaul and wholesale services without expensive investments in network forklifts.

"This certification is yet another milestone for RAD's innovative technology and further positions the field-programmable, patented MiNID as the leading product of its kind in the market," said Ulik Broida, vice president of marketing and business development at RAD. Together with RAD's central-site performance monitoring controller and RADview management system, MiNID provides a powerful performance monitoring (PM) overlay, which enables operators to run full-scale Carrier Ethernet and IP service activation and online diagnostics over any network, even one featuring a mixed assortment of equipment from various vendors.

**"What makes MiNID unique is that it easily adds powerful PM capabilities to any existing device. This, together with its versatility in enabling CE 2.0 network upgrades and simplicity, make it extremely attractive to service providers." - Ulik Broida, vice president of marketing and business development, RA**

"What makes MiNID unique is that it easily adds powerful PM capabilities to any existing device," Broida explained. "This, together with its versatility in enabling CE 2.0 network upgrades and simplicity, make it extremely attractive to service providers."

Regardless of the application for which it is used, MiNID, by re-using existing hosting equipment, reduces CapEx by doing away with box-size demarcation devices, which is also a major advantage when additional shelf-space is limited or already unavailable Moreover, MiNID reduces OpEx by eliminating installation, power and maintenance costs.

## Nokia/ALU merger creates comettitve advanntage from scale and execution

SCALE AND EXECUTION have become critical success factors as telecom industry is disrupted by the advent of new paradigms such as software defined networking (SDN) and network functions virtualisation (NFV), with vendors seeking to either arrange a buy-out or partner, as witnessed by the recent **Cisco/Ericsson** alliance. So, to the **Nokia** acquisition of **Alcatel-Lucent**, and Nokia's de-facto control of Alcatel-Lucent after its EUR15.6bn (US$17bn) all-share offer.

The NOK/ALU merger has been discussed as a possibility since the days of Nokia Siemens Network (NSN), given the companies' geographic revenue breakdown synergies and the mostly complementary nature of their product portfolios. This possibility of a combination of the two companies started getting more attention since the Mobile World Congress of 2014, when rumors were circulated that execs had been meeting each other over some tapas in Barcelona to explore such an option.

Nokia's strides on margin and cash flow, coupled with Alcatel-Lucent's successful execution of its SHIFT plan, have enabled the dream to become a reality. But before that, Nokia had to earn all regulatory approvals, first from the US and finally last October from France. The negotiations at the highest level (between Nokia's CEO Rajeev Suri and France's Minister of Economy, Industry and Digital Affairs Emmanuel Macron) proved to be quite challenging and Nokia had to agree to several caveats required by the French government, such as placing ALU's French facilities at the forefront of key future technology research programmes in the new entity. Moreover, Nokia also has to keep backing a number of French government technology initiatives that Alcatel-Lucent is currently engaged in, such as the 'Industry of the Future' programme, the funding of academic tuition and the placement of leading technology experts at the French facilities.

*Source: Frost & Sullivan*

## MYCOM OSI showcases new product capabilities and solutions at AfricaCom

**AN INDEPENDENT PROVIDER of next generation service assurance, automation/orchestration and analytics solutions, MYCOM OSI attended the most recent AfricaCom, Africa's biggest technology event, in November 2015 to showcase its solutions to the continent's communications service providers (CSPs).**

**The AfricaCom conference and expo was attended by an estimated 10,000 players in the African digital world, with 350 influential speakers and more than 375 telecom solution providers participating. The 2015 event was its 18th edition and was themed around 'Innovation, Transformation & Leadership for Digital Africa'.**

**MYCOM OSI was formed in 2014 by merger of telecom industry service assurance software providers MYCOM and OSI. MYCOM's expertise in network performance management, and OSI's experience in fault management, served both entities in the development of aervice management capabilities. Today, MYCOM OSI provides deep telecom expertise and solutions in areas fundamental to network and service quality, the primary contributor to customer experience, loyalty and churn.**

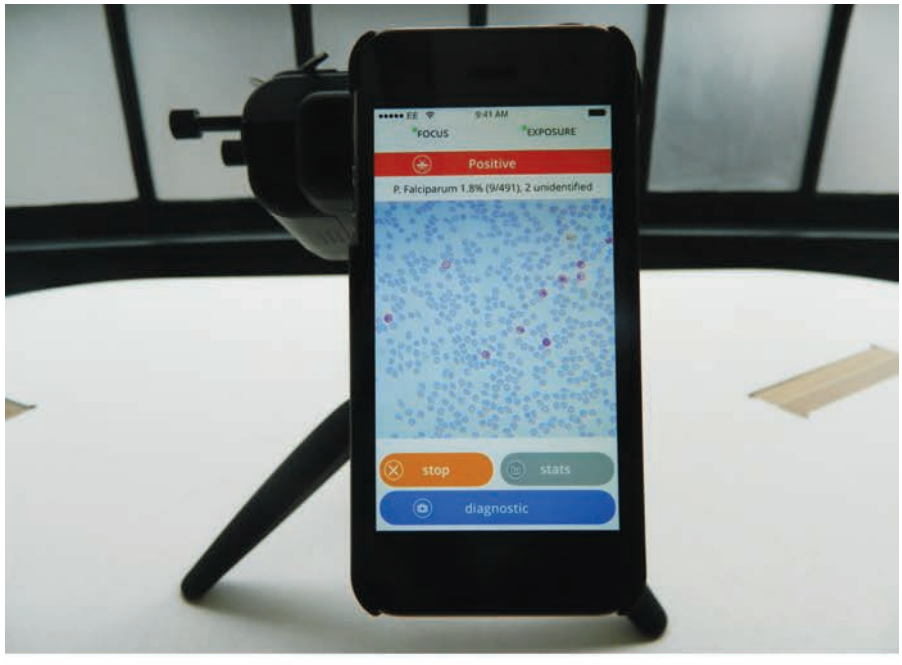
**The executive team at MYCOM OSI highlighted how the company's service assurance platform has helped tier 1 CSPs optimise their network and service quality whilst reducing operational and capital expenditure and customer churn. In addition, at AfricaCom 2015 MYCOM OSI talked about its business in Africa and the appeal of its solutions.**

**At AfricaCom, the company also offered insights into 5G technologies, its quality of service (QoS)-driven NFV Orchestration solution, its networks analytics and network automation/orchestration solutions, and its solutions for multi-domain network performance, fault management, and service management.**

## Attacking malaria with an app

IT IS POSSIBLE now to gain automatic diagnosis of malaria on an iPhone. **xRapid** is the first commercially available mobile application that has the functionality to diagnose a major disease quickly and accurately. \xRapid utilises a \portable microscope and a pattern recognition algorithm to identify the malaria parasite quickly, accurately and at a lower cost than other current methods. With an App Store release and distribution underway, xRapid heralds a new direction in disease case management and mobile health as an industry.

Malaria is a truly global disease. Not only do 3.2bn people live under the threat of contracting it, it is often fatal to children under five and is a major contributor to poverty. Malaria has also been a big topic in the news in 2015. The rise of drug resistant strains in South East Asia has been a constant concern. On a more positive note however, we have seen the progress the world has made against malaria in line with the Millennium Development Goals. Added to this, a Nobel prize for Tu Youyou, the Chinese researcher who invented the most effective and widely used treatment for malaria, shows increasing recognition of the need to tackle the disease on a global scale.




### Methods to fight malaria

xRapid is looking to disrupt the current methods of testing by creating a stronger solution. Testing is vitally important in malaria case management as it links the challenges of treatment, drug resistance and vaccine research. Treating malaria patients early and avoiding the over prescription of drugs relies heavily on testing, whilst the efficacy of a vaccine can only be qualified through screening programmes.

Testing for malaria needs to be fast, accurate and cheap. The problem with current methods is that they can either be slow, expensive and time consuming or inaccurate and unstable. xRapid brings together the strengths of current methods while avoiding the flaws; it provides speed, accuracy and accessibility in its method and a lower cost per test than anything else on the market. Add this to all of the smart potential of mobile phone applications and users begin to see a very competitive product.

Improving diagnostic testing is an important breakthrough in the management of any disease. However, there is potential for xRapid beyond individual results and even beyond testing for malaria alone. The retention of information that smartphone technology allows makes for a powerful disease mapping tool, and if apps like xRapid are used widely the data collected could contribute towards predicting future outbreaks. The pattern recognition method also has the potential to spot other diseases.

xRapid CEO and co-founder said, “This is just the beginning; we are already working on expanding xRapid to test and diagnose other diseases from tuberculosis to Lyme disease. Right now we are very excited to be the first iPhone app to diagnose a major disease like malaria.

Half of the global population is at risk, and we are very proud to be doing our part in improving the lives of those affected. The mHealth revolution is starting to help people all over the world.”

## Autour de TIC et des stratégies visant à atténuer les conséquences des catastrophes naturelles

LES PLUS DE 500 participants de 70 pays assistant au 2ème Forum mondial **UIT** sur les télécommunications d'urgence: Sauver des vies (GET-2016, Koweït, 26-28 janvier) ont mis en avant l'importance des TIC dans l'alerte avancée et les secours en cas de catastrophe, avec le lancement, à l'échelle mondiale, de deux nouvelles initiatives majeures, à savoir le Réseau UIT de volontaires pour les télécommunications d'urgence et le Fonds mondial pour une intervention rapide en cas d'urgence.

Les participants au Forum GET-2016, qui se tenait au Regency Hotel de Koweït, ont débattu de l'évolution de la situation et des dernières innovations technologiques, des mécanismes de financement, des études de cas par pays, des difficultés rencontrées pour déployer les TIC dans les zones frappées par des catastrophes, des questions liées aux changements climatiques et du rôle du secteur privé et d'autres parties prenantes non étatiques. Ce Forum a également été le cadre d'une série d'expositions proposant des solutions pour une utilisation optimale des TIC en situation d'urgence.

Les TIC jouent un rôle déterminant dans la réduction des risques de catastrophe. Au paragraphe 33 du Cadre d'action de Sendai pour la réduction des risques de catastrophe, il est souligné à quel point il est nécessaire, non seulement d'investir dans les systèmes d'alerte avancée, la prévention des risques, les communications d'urgence, les technologies sociales et les systèmes de télécommunication permettant de surveiller les risques, mais aussi de développer, d'entretenir et de renforcer ces systèmes. Ce texte souligne aussi la nécessité d'améliorer la résilience des nouvelles infrastructures TIC.

"Ce Forum a été un grand succès", a affirmé le Secrétaire général de l'UIT Houlin Zhao. "Chaque jour ou presque, une catastrophe se produit dans le monde. Le nombre élevé de participants témoigne de notre volonté commune d'unir nos forces pour contribuer à atténuer les effets des catastrophes."

Les documents finals adoptés par le Forum GET-2016 offrent des orientations stratégiques à la communauté internationale comme aux différents pays et auront pour effet de mieux faire connaître le rôle que les différentes entités pourraient jouer pour faire des télécommunications/TIC l'un des pivots de la gestion des catastrophes et de l'atténuation de leurs effets.

"Les participants à ce Forum ont adopté des stratégies concrètes qui renforcent nos capacités d'intervention en situation d'urgence," a déclaré le Président du Forum GET-2016, Salim Alozainah, Président-Directeur général de la **Communication and Information Technology Regulatory Authority (CITRA)** en présentant le rapport final du Forum.

"Nous sommes tous réunis ici au Koweït pour exploiter au mieux l'immense potentiel des télécommunications et des TIC, qui permettent de sauver des vies lorsque survient une catastrophe", a dit Brahima Sanou. "Ce Forum a permis de nouer des partenariats qui seront essentiels pour concrétiser nos ambitions."

S'exprimant à l'occasion du lancement du Réseau UIT de volontaires pour les télécommunications d'urgence et du Fonds mondial pour une intervention rapide en cas d'urgence, M. Sanou a invité toutes les parties prenantes à contribuer aux initiatives qui permettent de sauver des vies.

Siaosi Sovaleni, Premier Ministre adjoint des Tonga, a déclaré ce qui suit: "Tous les participants au Forum ont convenu que les TIC étaient l'une des clés de la gestion des catastrophes. Ils ont en outre mis en lumière la nécessité d'adopter une approche multipartite et ont manifesté leur appui sans faille aux initiatives lancées par l'UIT, qui aideront grandement les pays à renforcer leurs capacités et fourniront des ressources accessibles pour atténuer les effets des catastrophes naturelles et sauver des vies."

## Orange va acquérir deux filiales d'Airtel au Burkina Faso et en Sierra Leone

**ORANGE** ET **BHARTI Airtel International (Netherlands) BV (Airtel)** ont signé un accord portant sur l'acquisition par Orange des filiales d'Airtel au Burkina Faso et en Sierra Leone.

Orange va acquérir 100% des actions des deux sociétés. Le chiffre d'affaires consolidé des deux sociétés est d'environ 275 millions d'euros. Orange réalisera ces opérations en partenariat avec ses filiales en Côte d'ivoire et au Sénégal.

Le montant de la transaction pour Orange sera construit sur un multiple de 7,9 fois l'Ebitda de ces deux filiales d'Airtel à la fin de leur exercice annuel au 31 mars 2016. La finalisation de ces transactions reste soumise à l'approbation des autorités compétentes.

Ces acquisitions s'inscrivent dans le cadre de la stratégie de développement international d'Orange, qui vise à accélérer sa croissance en pénétrant de nouveaux marchés émergents à fort potentiel.

A travers ces opérations, Orange va renforcer ses positions en Afrique en ajoutant deux pays à sa couverture et en augmentant sa base clients mobile de près de 5,5 millions de clients. Confirmant sa stratégie offensive sur ses marchés, Orange marque une nouvelle étape de sa croissance et couvrira 20 pays en Afrique en 2016.

Ces acquisitions font suite à l'accord initial signé entre Airtel et Orange en juillet 2015 concernant l'acquisition potentielle des opérations d'Airtel au Burkina Faso, Sierra Leone, Tchad et Congo Brazzaville. Les accords portant sur des acquisitions potentielles dans les deux pays restants sont arrivés à échéance.

Les conseillers pour ces transactions sont Lazard et la Société Générale pour Orange, et Arma Partners LLP pour Airtel.

Présent dans 28 pays, Orange servait 263 millions de clients dans le monde au 30 septembre 2015, dont 200 millions de clients du mobile et 18 millions de clients haut débit fixe. Orange est également l'un des leaders mondiaux des services de télécommunications aux entreprises multinationales sous la marque Orange Business Services.

## Une nouvelle plate-forme mondiale pour faciliter la création de villes intelligentes et durables

LA PREMIÈRE COMMUNAUTÉ mondiale en ligne des villes intelligentes, lancé récemment, vise à aider les acteurs de la ville à créer des villes intelligentes et durables. Cette nouvelle communauté cherche à identifier les principaux "points faibles" du développement urbain.

Le lancement de cette plate-forme communautaire s'inscrit dans la dynamique préparatoire du premier Forum mondial sur les villes intelligentes, qui sera organisé par la **CEI,** en partenariat avec l'**ISO** et l'**UIT,** à Singapour le 13 juillet 2016, en même temps et au même endroit que le Sommet mondial des villes www.worldcitiessummit.com.cg et la Semaine internationale de l'eau www.siww.com.sg.

"La création de villes intelligentes et durables est devenue l'un des grands thèmes qui préoccupent aussi bien les administrations dans le monde entier que les institutions des Nations Unies", a déclaré Houlin Zhao, Secrétaire général de l'UIT. "La prise en compte du potentiel des villes intelligentes va de pair avec la prise de conscience suivante: introduire des éléments d'intelligence dans une ville existante, ou encore créer à partir de rien une ville intelligente, est une tâche complexe qui nécessite de renforcer la coopération et d'harmoniser la prise de décision entre les différents acteurs de la ville et les organismes internationaux de normalisation tels que l'UIT, la CEI et l'ISO".

D'ici 2050, selon les estimations, 66% de la population mondiale vivra en zone urbaine. Pour les municipalités, le défi est d'envergure: il leur faut fournir à ces habitants des ressources de base (denrées alimentaires et eau salubres et ressources énergétiques en suffisance), tout en assurant une durabilité globale sur les plans économique, social et environnemental. Les villes doivent s'efforcer d'améliorer considérablement l'efficacité de leur fonctionnement et de leur utilisation des ressources.

"In the information security field, CIOs are focusing on maximising their budgets without compromising security. This is driving a move towards the next generation firewall, which does its job efficiently, while the cost justification is perfect. Within networks, we can expect enterprises to look more closely at traffic filtering and move away from applying everything to everything."

**- Perry Hutton**
*regional director for Africa,* ***Fortinet***

"While CIOs and security professionals may feel safe with large investments in firewalls, virus detection and other perimeter defenses, the on-the-ground reality is that today's hackers continue to get better at their jobs and will easily get around these protections through a virtual side-door without ever being spotted. There are so many basic vulnerabilities that organisations need to address, and because of this it is increasingly important for companies to lock-down internal access controls and protect the data from inside."

**- David Gibson**
*VP of strategy and market development,*
***Varonis***

"Digital financial services have expanded rapidly in recent years, especially in Sub-Saharan Africa, extending financial services to many rural and low-income communities that were previously excluded. The challenge now is to make sure products and services are improved to meet the specific needs of new customers."

**- David Crush**
*programme manager for the Partnership for Financial Inclusion,* ***IFC***

"In 2014, South Africa had an Internet penetration rate of about 40 per cent. There is a significant growth but it tends to be concentrated in the 'golden' cities like Cape Town, Johannesburg, Durban and East London. Mobile technology has been a game changer: people have at least a mobile phone even in the most remote rural areas, but we need to go beyond using it as a replacement for a fixed line and develop e-services. Our target (Government) is to achieve 100 per cent broadband penetration by 2020 as well as transforming 70 per cent of all front-line service to e-Service by 2019."

**- Hon Prof Hlengiwe Mkhize**
*Deputy Minister, Department of Telecommunications and Postal Services,*
***Republic of South Africa***

"We are at the crossroads of a huge change in communications networks, with the advent of 5G Wireless and cloud networking underway. Operators and enterprises alike will see their networks challenged by massive increases in traffic."

**- Marcus Weldon**
*CTO, Alcatel-Lucent; president,* ***Bell Labs***

"Africa offers a great potential for growth, as satellite communication connects previously isolated communities in the region more efficiently and cost-effectively than before. Gilat is well-placed to drive rural broadband solutions in Africa, and become the best partner to the new HTS providers who plan to deploy their services across the continent."

**- Dov Baharav**
interim CEO and chairman of the board,
**Gilat Satellite Networks Ltd**

# Utiliser les TIC pour sauver des vies

Le deuxième Forum mondial de l'UIT sur les télécommunications d'urgence, et le rôle des télécommunications d'urgence dans la gestion des catastrophes

LE DEUXIÈME FORUM mondial sur les télécommunications d'urgence (GET-2016, Koweït, 26-28 janvier) accueillit des dirigeants des secteurs public et privé, des universitaires, ainsi que des représentants d'organisations non gouvernementales et d'institutions des Nations Unies.

**Des objectifs de développement**

Ce Forum est l'occasion, pour les décideurs et les autres participants, de débattre et d'adopter des stratégies concrètes pour définir comment les technologies de l'information et de la communication peuvent contribuer à la mise en oeuvre de la Déclaration et du Cadre d'Action de Sendai pour la réduction des risques de catastrophes pour la période 2015-2030, à la réalisation des objectifs énoncés dans le Programme de développement durable à l'horizon 2030 et à l'atténuation des effets des changements climatiques, conformément à l'Accord de Paris adopté par la Conférence sur les changements climatiques réunie en décembre 2015.

"Tout l'intérêt de ce Forum est de rassembler en un même lieu des leaders d'opinion pour trouver comment mobiliser les nouvelles technologies, non seulement pour sauver des vies, mais pour améliorer la vie quotidienne de tous", a déclaré le Secrétaire général de l'UIT Houlin Zhao. "L'UIT va poursuivre sa mission, qui consiste à fournir en temps utile aux collectivités frappées par une catastrophe, aux équipes de premiers secours, aux pouvoirs publics, et aux entités s'occupant de gestion des catastrophes, des moyens de communication fiables et adaptés."

**Des actions humanitaires**

Organisé par l'UIT, l'institution spécialisée des Nations Unies pour les télécommunications et les TIC, ce Forum est accueilli par le Gouvernement du Koweït. Il réunit des délégués du monde entier: ministres, régulateurs des TIC, responsables de la gestion des catastrophes sur le plan national, chercheurs, entreprises du secteur privé, Nations Unies et ONG.

"C'est une grande fierté pour l'Etat du Koweït d'accueillir cette important événement", a affirmé Sheikh Mohammad Abdullah Al-Mubarak al-Sabah, Ministre d'Etat pour les Affaires du Cabinet et Ministre par intérim de l'Electricité et de l'Eau du Koweït. "L'Emir du Koweït s'est vu remettre en 2014 un Prix décerné par les Nations Unies en récompense de l'action humanitaire de son pays, et je suis très heureux que ce Forum se tienne alors même que nous fêtons le 10ème anniversaire du couronnement de notre Emir."

Le programme du Forum comprendra toute une série de débats axés sur les nouvelles tendances et les innovations technologiques, les mécanismes de financement, les études de cas, les difficultés rencontrées pour déployer des moyens de télécommunication/TIC après une catastrophe, les questions liées aux changements climatiques et le rôle du secteur privé et d'autres partenaires non étatiques.

"Ce Forum de trois jours offre une occasion exceptionnelle d'examiner de près le rôle des télécommunications/TIC au service de l'atténuation des effets des catastrophes et des secours en cas de catastrophe", a dit Brahima Sanou, Directeur du Bureau de développement des télécommunications de l'UIT. "Nous voulons, au cours de ce Forum, lancer des programmes concrets qui changeront les modalités du déploiement et de l'utilisation des ressources de télécommunication/TIC au service de la gestion des catastrophes, en particulier pendant la phase d'intervention."

La Forum compris une table ronde ministérielle sur l'amélioration de la planification préalable et l'efficacité des secours dans l'optique du développement durable, ainsi que d'un Dialogue entre hautes personnalités sur le thème des questions technologiques, réglementaires et opérationnelles.

Une série d'expositions présentant des solutions et des utilisations concrètes des TIC en situation d'urgence a été inaugurée au cours d'une cérémonie spéciale.

L'ouverture officielle du Forum a été précédée, le 25 janvier, de deux manifestations préalables centrées, l'une sur la Convention de Tampere, et l'autre sur le rôle des TIC dans la réduction des risques de catastrophe.

**Le Forum**

Les plus de 500 participants de 70 pays assistant au 2ème Forum mondial UIT sur les télécommunications d'urgence: Sauver des vies ont mis en avant l'importance des TIC dans l'alerte avancée et les secours en cas de catastrophe, avec le lancement, à l'échelle mondiale, de deux nouvelles initiatives majeures, à savoir le Réseau UIT de volontaires pour les télécommunications d'urgence et le Fonds mondial pour une intervention rapide en cas d'urgence.

Les participants au Forum GET-2016, qui se tenait au Regency Hotel de Koweït, ont débattu de l'évolution de la situation et des dernières innovations technologiques, des mécanismes de financement, des études de cas par pays, des difficultés rencontrées pour déployer les TIC dans les zones frappées par des catastrophes, des questions liées aux changements climatiques et du rôle du secteur privé et d'autres parties prenantes non étatiques.

Ce Forum a également été le cadre d'une série d'expositions proposant des solutions pour une utilisation optimale des TIC en situation d'urgence.

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# The trend towards contiguous networks

How terrestrial fibre connectivity is taking off on the back of subsea cable growth and new funding

THE RISE IN the number of undersea cable projects in sub-Saharan Africa over the past few years is providing a real boost for the continent's many terrestrial fibre projects. In December 2015, Liquid Sea, an offshore subsidiary of Liquid Telecom, announced that it is to lay new subsea cable off Africa's eastern coastline. The project will run some 10,000km from South Africa to the Middle East. It is designed to enable a reliable and affordable international connectivity service to both coastal and landlocked countries in Eastern, Central and Southern Africa.

**Understanding the growth trend**

Liquid Telecom already has a substantial communications technology presence in Africa and it hosts the continent's largest single contiguous network. Communications Africa/Afrique interviewed Liquid Telecom, as well as a number of companies active in the sector, to assess their understanding of the growth trend. Liquid Telecom expects that Africa's terrestrial fibre sector is set to undergo record breaking growth in 2016. A company spokesperson said, "In addition to the sea cable, Liquid Telecom is laying 100km of new fibre every week."

Leading figures at MainOne - the leading provider of innovative telecom services and network solutions in West Africa – concurred. Funke Opeke, chief executive officer of MainOne, and MainOne's marketing operations supervisor Temitope Osunrinde point to a number of new developments in the sub-region, which combined, make it second only to South Africa. The company affirmed, "We see more engaging and relevant use of technology by Africans. And we haven't yet scratched the surface."

**Most of the developments in municipally-driven metro fibre – with the exception of South Africa - have been confined to Africa's capital cities**

MainOne believes that the increase in terrestrial fibre and other connective technologies will have significant benefits across all areas of the digital economy. The company told Communications Africa/Afrique, "The increased roll out of fibre infrastructure across Africa also assists in Data Centre developments since it allows companies host their systems off premises. Financial Services organisations have contributed significantly to this growth, particularly in terms of rise in adoption of banking services, especially mobile, social and internet banking."

**Investing in fibre**

Nearly double the numbers of terrestrial fibre projects in Africa were announced, as of December 2015 compared with full year 2014. New projects, comprising over 22,000km of fibre and over US$730mn of investment, were launched in 19 African countries. Indeed, virtually every country on the continent has embarked on national fibre backbone projects, spurred by the development of undersea cables. And this wave of investment is triggering investment in metropolitan fibre networks including fibre to the home (FTTH).

At least ten FTTH projects were either commenced or announced last year. These include:

- Cote d'Ivoire, where FTTH is to be expanded in the capital city, Abidjan, under the 'Kouzin Distributor' franchise.
- Kenya, where Liquid Telecom will spend US$13.7mn to complete the FTTH projects that the former owners of the company Kenya Data Network (KDN) had started.
- Rwanda, where Liquid Telecom is investing more than US$35mn in laying Rwanda's first FTTH network.
- By the end of 2016, FTTH is expected to reach 15,000 homes in the following geographies:

## SEA-ME-WE 5 completes shore end in TI Sparkle's Sicilian landing station

INTERNATIONAL SUBMARINE CABLE system SEA-ME-WE 5 has completed its shore end at Telecom Italia Sparkle's landing station in Catania, Sicily.

With a design capacity set at 24 Terabit per second on 3 fibre pairs deployed for a total length of 20,000 km, the new cable system will provide lowest latency connectivity through 17 countries - Singapore, Malaysia, Indonesia, Myanmar, Bangladesh, Sri Lanka, Pakistan, Qatar, Oman, UAE, Yemen, Djibouti, Saudi Arabia, Egypt, Turkey, France and Italy - offering an additional network layer of diversity and resilience for the heavily loaded Asia to Europe route.

Telecom Italia Sparkle SpA is the wholly owned subsidiary of Telecom Italia Group with the mission to develop and consolidate the Italian telco's international services business. As a leading global carrier and through a global backbone of around 570.000km of fibre, TI Sparkle offers a full range of IP, data, cloud, data centre, mobile data and voice solutions to fixed and mobile operators, Internet service providers, media and content providers and to multinational enterprises. Its sales force is active worldwide and distributed over 39 countries.

TI Sparkle's connectivity solutions out of Sicily on SEA-ME-WE 5 will be available through its next generation data centre in Palermo Sicily Hub, an open and complete service marketplace interconnected with all international cables landing in Sicily, where customers can also peer directly with content providers or publicly through DE-CIX. SEA-ME-WE 5 is the first cable in the Europe-to-Asia route to provide advanced connectivity solutions on a POP-to-POP basis from open telehouses in Europe - such as TI Sparkle Sicily Hub - as well as in Singapore, in a decisive effort to effectively address today's demand for IP and capacity services.

With its participation in the SEA-ME-WE 5 consortium, TI Sparkle has secured its leadership in the fast growing Asia to Middle East and Europe route, enhancing its proposition with a diversified and low latency route to and from Asia.

And with the recent opening of the Sicily Hub, located in Palermo, Sparkle is further strengthening its role as leading European hub in the Mediterranean.

**South Africa**

In Cape Town MTN commenced its first FTTH deployments outside Gauteng at the end of last year. Thousands of homes are now being connected in the Western Cape

In Johannesburg, residents of the suburb of Blairgowrie voted last year in favour of telecommunications start-up Vumatel rolling out FTTH broadband in their neighbourhood. Vumatel has already rolled out fibre to other suburbs in the city

In Durban MTN launched FTTH in KwaZulu-Natal last October. The FTTH project connects about 439 homes to MTN's high speed fibre network and is said to deliver Internet speeds of up to 100 Mbps

Zambia is host to a Liquid Telecom's FTTH project launched last year that now delivers fast broadband speeds of up to 100Mbps to around 8,000 homes and businesses in the capital, Lusaka

**Zimbabwe**

In Victoria Falls the Fibroniks service is now offered by ZOL Zimbabwe - part of The Liquid Telecom Group. Superfast 100mbps broadband is now available to homes and businesses in Victoria Falls

In Harare, TelOne has now connected 9,500 homes on fibre

Meanwhile, in Ghana, Google will by the end of 2016 have finished laying a 1,000km fibre network in Accra as part of its landmark initiative, 'Project Link'. This project is aimed at providing increased metro fibre in Africa to provide greater broadband access. When it goes live, Accra will become Google's second African super fast broadband city after Kampala, Uganda. Project Link, unlike 'Google Fiber' which sells high-speed Internet directly to consumers in a handful of US cities, sells broadband capacity to other Internet service providers and mobile carriers.

At present, most of the developments in municipally-driven metro fibre – with the exception of South Africa - have been confined to Africa's capital cities. But last year saw the spread of metro fibre outside of the capital cities and into secondary cities. An example is Liquid Telecom's fibre investments in Kilifi, Kenya. Unsurprisingly, South Africa leads the way in providing broadband access outside of the capital. Metropolitan fibre networks in Cape Town, Johannesburg, Tshwane and Ethekwini dwarf those seen elsewhere on the continent.

**Funding for fibre networks**

On the technology and investment supply side, China dominates sub-Saharan Africa's terrestrial fibre network. One way or another, it is involved in at least nine of the fibre projects announced for Africa. Huawei, the Shenzen based global information and communications technology (ICT) solutions provider, and China Telecom are the contractors for six of these. They include: 520km in the Republic of Congo (Huawei); 4,000km in Guinea (Huawei); 3,000km in Senegal (Huawei); 400km in Sierra Leone (Huawei); 200km in Togo (Huawei); and 428km in Malawi (China Telecom). In addition, China's EximBank, the Chinese government and China International Telecommunication Construction Corporation (CITCC) are investing in a further three projects totalling 3,875km of fibre.

Yet despite these very real advances, connectivity remains a major issue. It is estimated that fewer than 16 per cent of Africans have access to the Internet, compared with 63 per cent of Europeans and 79 per cent of North Americans. In addition, the price for bandwidth in Africa is much higher than elsewhere.

Researcher Les Cottrell estimates that while a university in Germany might pay about US$4,000 per month for 1 gigabit per second of bandwidth, a school in Kenya can expect to pay US$200,000 for the same service. That said, Africa is at last starting to feel the real impact of fibre infrastructure - and with it for the first time comes the promise of a genuine, world class high-speed internet service on the continent. ✆

*Nnamdi Anyadike*

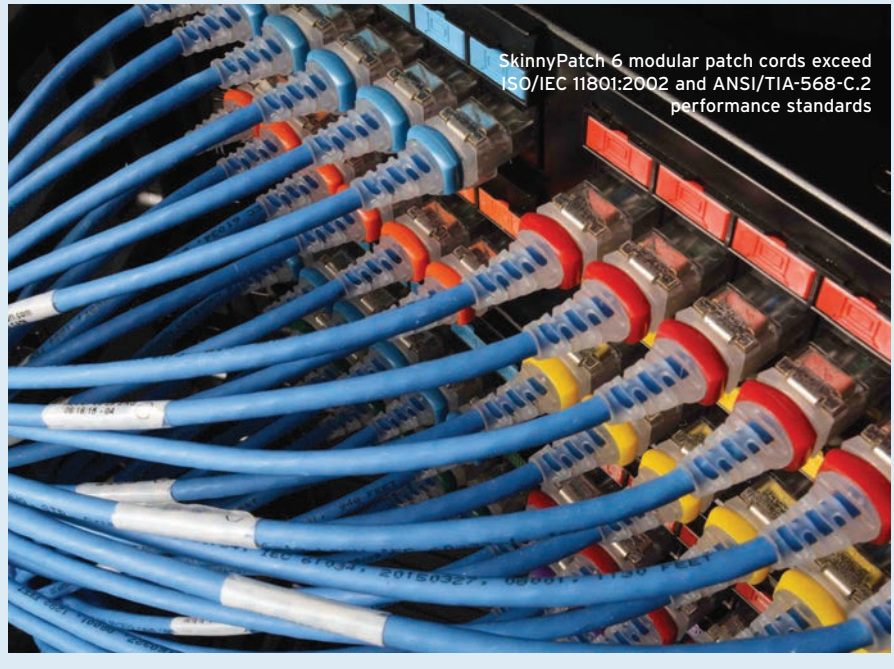
## Siemon's new SkinnyPatch modular patch cords

NETWORK INFRASTRUCTURE SPECIALIST Siemon has launched new SkinnyPatch 6 modular patch cords in Africa, delivering category 6 performance with a reduced diameter for improved pathway fill, airflow and increased flexibility in high density patching areas.

With a 28 AWG stranded copper construction that enables a smaller cable diameter of just 4.0 mm (0.16 inches), SkinnyPatch 6 modular patch cords offer a significantly tighter bend radius for easier cable routing and enhanced cable management to facilitate moves, adds and changes in tight spaces. The overall smaller diameter provides pathway savings in racks and cabinets whilst maximising airflow for improved equipment reliability.

"Whilst the use of 28 AWG patch cords requires users to be aware of slightly shorter channel reach, airflow is much more of a concern than length in today's data centres and telecommunications spaces where high density patching areas are commonplace," said Stefan Naude, technical manager Africa at Siemon.

"Our new SkinnyPatch 6 modular patch cords provide the same exceptional category 6 performance that our customers have come to expect from Siemon, whilst offering them a smaller diameter to improve airflow, accessibility, routing and space savings in these tighter spaces."



SkinnyPatch 6 modular patch cords exceed ISO/IEC 11801:2002 and ANSI/TIA-568-C.2 performance standards

SkinnyPatch 6 modular patch cords exceed ISO/IEC 11801:2002 and ANSI/TIA-568-C.2 performance standards as confirmed by Intertek, an independent third party test lab. SkinnyPatch 6 plug technology features Siemon's patented cross pair isolator for exceptional NEXT performance and innovative 360-degree crimp for excellent plug-to-cable strain relief.

# How high linearity helps support restoration services

Managed services for part of a high-quality corporate communications portfolio serving varied vertical sectors

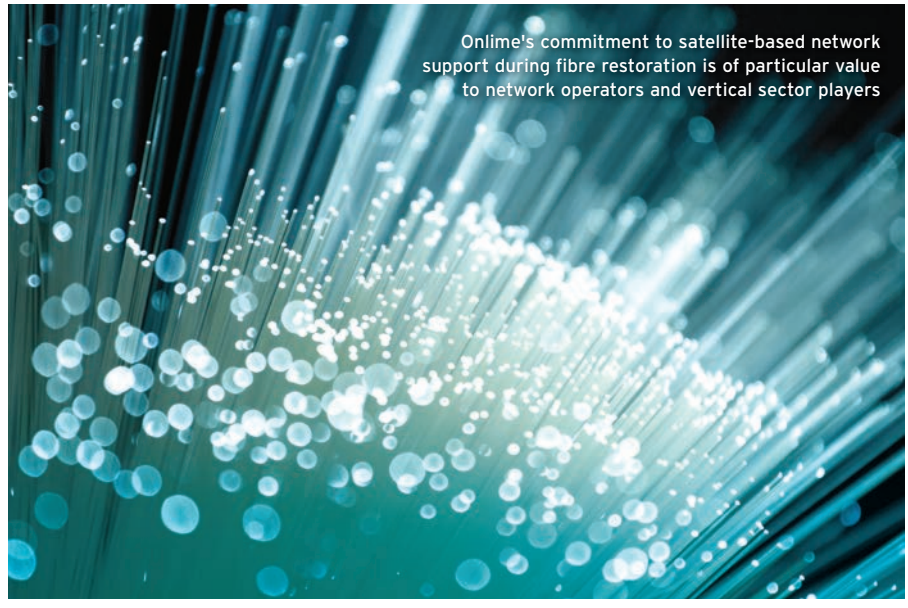
A DIVERSIFIED COMMUNICATIONS ENTERPRISE, the Onlime Group invests heavily in network facility solutions and corporate infrastructure. Onlime's core commitment is to the provision of high quality, secure and reliable business communications across a multiplicity of vertical sectors - including mining, enterprise, government, military, oil & gas, banking, and non-governmental organisations.

Onlime's extensive satellite reach - across Europe, Africa, the Middle East and Central Asia through the Caribbean and South America - is complemented by dedicated access to a growing network of fibre links. The underlying philosophy is one of being 'closer to the customer' with a dedicated team of professionals. African enterprises,, in particular, benefit from contact with Onlime's offices in Sierra Leone, Angola, DR Congo, Uganda, and South Africa. Outside the continent, the group's technical hub in Germany is a fully-manned disaster recovery facility with a help desk running 24/7 to enable business continuity at all times.

Onlime's high power C-band modular HPA from General Dynamics SatCom Technologies, for example, provides substantial uplink capacity on MEASAT's AfricaSat-1a satelliteswith high reliability and switchless redundancy - DVB-S2X READY. The high-power ModuMAX amplifier is installed on the 15m C-band antenna, making it the most reliable uplink on AfricaSat-1a satellite, thanks to the largest uplink antenna looking at this satellite and the latest technology powerful amplifier.

The new HPA allows for a switchless redundancy, configurable RF output power and extremely low MTTR using interchangeable RF plug-in modules. High linearity makes it ideal for fibre restoration services, in particular, using a higher spectral efficiency supported by DVB-S2X.

Paul Ziegler, Onlime CEO said, "Our Enterprise clients rely on us to deliver their business critical connectivity and our new investment adds extensive uplink capacity to our growing data services business across Africa. C-band has always been used where reliability is paramount and we are pleased to deploy cutting edge technology and introduce new higher levels of reliability and quality of service for our customers."



Onlime's commitment to satellite-based network support during fibre restoration is of particular value to network operators and vertical sector players

**Each network is unique, and each network needs a complete plan based on any individual system; however, it is also necessary to have trusted partners in the restoration process**

### Faster fibre restoration services

Onlime's commitment to satellite-based network support during fibre restoration is of particular value to network operators and vertical sector players. Fibre optic systems enable high bandwidth, long-distance capabilities and their continual operation and security is of paramount importance. Fibre carries data with minimal signal degradation and optimal reliability, and often carry the most critical data, applicable to utility network monitoring and control, surveillance CCTV systems, traffic control systems, and airport monitoring and security, and many other highly-sensitive scenarios. Sooner or later, fibre-based systems need to be restored, and the impact of restoration must be minimised. Each network is unique, and each network needs a complete plan based on any individual system. However, it is also necessary to have trusted partners in the restoration process. For fibre networks, a back-up solution is critical to securing continuing communications. Fibre restoration via satellite is ideal to ensure security and Onlime can provides a cost-effective solution. The group offers an end-to-end fully-managed service with MPLS circuits if required, which includes 24/7 monitoring, monthly reporting and service level agreements guaranteeing availability.

Backhaul is a particular concern. Amongst the biggest obstacles to extending access to network communications is the cost and practicality of constructing a seemingly endless array of towers and base stations to enable backhaul. Onlime works with partners such as iDirect to enable high-capacity point-to-point links for Internet service provision by mobile operators, ISPs and other forms of to enterprise with high data requirements.

Cellular providers, in particular, can benefit from the cost-effective backhaul capability provided by iDirect's IP-based D-TDMA hub, which allows carriers to share network capacity across multiple locations, allocating bandwidth on demand to maximise efficiency. iDirect's enables cost-savings and cost-efffective quality network operation. By exploiting the efficiencies of an IP-based platform and iDirect's shared topology, operators can reduce operating expenses and expand network reach. ✆

# Moving towards more intelligent transport networks

How to dramatically boost network resilience with hardware-accelerated shared mesh protection

FIBRE CUTS HURT businesses and hurt the economy — and the increasing number of natural disasters and manmade fibre cuts has made it increasingly vital for rapid recovery, often within 50 milliseconds, so that services are not interrupted. Understanding how important fibre networks are to their customers, service providers are moving towards mesh-based transport networks to provide more backup path options, including standards-based Shared Mesh Protection. These technologies leverage an intelligent GMPLS control plane so a meshed transport network can recover from multiple local and network-wide failures while lowering costs by avoiding the need to dedicate backup bandwidth for every active circuit.

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### Increasing network resiliency

Outages aren't mere inconveniences. The loss of connectivity can cause significant losses to businesses and communities because nearly every business process is now completely intertwined with network connectivity.

As bandwidth continues to grow at staggering rates, estimated at 40 per cent growth year-over-year globally, a single outage of just 50 minutes in a year drops network availability down to four nines, or 99.99 per cent. Whatever the reason for network outages, it falls to the service provider to fix the problems. In this effort there are generally two approaches:

- Protection. This must occur within 50ms of the failure (the accepted "gold standard" for rapid recovery). In order to achieve this rapid response, network operators typically pre-computed a failover path for protection circuits. Protection capacity may be dedicated, or it may be switched. However, there are quite stringent limitations for traditional switched protection protocols in terms of topology and scalability, and there may also be limitations on protecting against multiple failures.
- Restoration. In a restoration operation, the fault is detected, a new path is computed, and connections are taken down from the working path and reestablished on the backup path. Restoration is common in packet networks, and while it may be comparatively slow (typically measured in seconds to minutes), it allows protection capacity to be shared, and will almost always find a way through as long as a backup path exists. Restoration is also possible at the digital transport layer, where the performance can improve from hundreds of milliseconds to a few seconds — falling far short of the sub-50ms failure recovery requirement.

### Strengthening resilience

Today, the above approaches are realised using the below resilience techniques:

- SONET/SDH: 1+1 and Sub-Network Connection Protection (SNCP) uses dedicated protection bandwidth to provide guaranteed sub-50ms protection for all payload types (SONET/SDH, Ethernet, SAN, video). This protection is used in the transport networks of many carriers today. This type of protection meets the sub-50ms objective, but does not offer protection against multiple failures. The way protection is implemented normally means that the excess network capacity cannot be shared by other services, thus, increasing costs.
- Digital OTN/GMPLS: Software Mesh Restoration is provided by newer intelligent optical cross-connect switches as an alternative to using dedicated bandwidth for protection. When a failure occurs, these devices use intelligent control planes to reroute the affected services using software-based tables that use unallocated bandwidth in the network. Since all unallocated bandwidth is available as a shared pool of restoration bandwidth, this mechanism is typically 20-35 per cent more efficient in terms of network resources as compared to dedicated protection bandwidth. In addition, because GMPLS mesh restoration dynamically reroutes a failed service based on available bandwidth, this procedure can be repeated in the case of multiple failures in the network. However, the multi-stage, software-only approach can take seconds to recover and overall restoration time will increase with the complexity of the network topology, the number of links, and the number of restorable connections.
- Packet IP/MPLS: Fast Re-Route (FRR) is a router-based protection used in data-centric networks. Like GMPLS mesh restoration, MPLS FRR uses shared protection bandwidth for network efficiency and can recover from multiple failures. One of the goals for MPLS has always been to offer enhanced resilience compared to connectionless IP networks. MPLS FRR (sometimes referred to as MPLS Local Protection) allows a Label Switch Router (LSR) the possibility to react within 50ms with a local detour once it detects a fault on the working path. MPLS FRR uses pre-computed Label Switched Paths (LSP) and label values, so all that has to be done is that an LSR uses a new label and directs the traffic out of a different port. MPLS FRR allows an arbitrary topology to be used and is a shared protection technique. The drawbacks with MPLS FRR are that sub-50ms operation is not fully deterministic because it is only local and once the failure occurs, the entire network may need to re-converge taking several seconds or minutes, and that it makes use of additional expensive IP/MPLS router ports to achieve resilience. ✆

*Geoff Bennett director solutions and technology, Infinera*

# The nodes of a popular network

An overview of UMTS technologies, which connect the continent at relatively low energy usage and operational costs

MOBILE TELECOMMNICATIONS NETWORK base stations are the nodes of any mobile system, the points of signal intersection and the points from which signalling branches out. Base stations provide coverage over a closely-defined area, operating at very low transmission strengths, ranging from 10 to 50 Watt.

Areas covered by base stations are not all the same size, varying from a few hundred metres in city centres to several kilometres in rural areas. Often, universal mobile telecommunications system (UMTS) networks cover markedly small distances as UMTS uses very low transmission power. UMTS specifies the universal terrestrial radio access network (UTRAN), which is composed of multiple base stations, possibly operating different air interface standards and at differing frequencies.

There are less than 60 UMTS networks in Africa at present, but they are spread around the continent. The most notable operating enterprises include airtel Africa, Etisalat, MTN, Ooredoo, Orange and Tigo. airtel provides UMTS services in Burkina Faso, Chad, Ghana, Kenya, Madagascar, Nigeria, Rwanda, Sierra Leone, the Seychelles, Tanzania,, Uganda and Zambia. Etisalat works in Egypt and Nigeria. MTN operates with UMTS technology in Ghana, Guinea, Nigeria, South Africa, Sudan Uganda and Zambia. Ooredoo has deployed UMTS nnetworks in Algeria and Tunisia. Orange provides UMTS services in Guinea, Kenya, Madagascar, Reunion, and Tunisia. Tigo works with UMTS in Ghana and Tanzania.

### RNCs and Node Bs for UMTS

Operators working with UMTS technology will need radio network controllers (RNCs) to manage the UTRAN. The RNC enables resource management, a measue of mobility management and encryption.

The basic core network UMTS architecture is in fact based on GSM/GPRS network standards - although all equipment has to be modified for UMTS operation. As mentioned, air interface access is provided by the UTRAN. And where other networks based on the GSM 3G standard rely on base transceiver stations to connect communications equipment, UMTS networks utilse Node Bs, which are also managed with RNCs. In African networks, as with all networks other than in China, node Bs utilise wideband code division multiple access (WCDMA) air interface technology. A key point too note is that Node Bs and UMTTS devices require much less power than their GSM equivalents to operate effectively.

Network base stations are the nodes of any mobile system, the points of signal intersection and the points from which signalling branches out

A UMTS Node B site comprises an antenna mast, an antenna, and a cabinet containing optional equipment such as power amplifiers, signal processors and batteries. Typical deployment entails a set of NodeBs assigned to a single RNC. Node B equipment manufacturers ad software deveopers include Ericsson, Huawei, and Nokia Corporation (the entity resulting from the merger of Alcatel-Lucent and Nokia Networks). Notable portfolios include Huawei's SingleRAN products for mobile network operators, which allows GSM networks to offer GSM simultaneously with UMTS or indeed long-term evolution (LTE) services. The product also aims to prepare operators for future evolution of technology. ✆

## NEC and Intel collaborate in mobile base station virtualisation

NETWORK TECHNOLOGIES INTEGRATOR NEC Corporation is collaborating with Intel Corporation to develop the 'Cloud-Radio Access Network (Cloud-RAN) solution' for virtualising the functions of mobile base stations. Both companies will start a joint proof of concept trial from early 2016 to verify the capabilities of the Cloud-RAN solution.

Mobile base stations are comprised of a digital unit (DU) that handles data processing and a radio unit (RU) that sends and receives radio waves. The Cloud-RAN solution separates the DU functions from mobile base stations, and enables the functions to be run on general-purpose servers equipped with Intel's multi-core processors. This makes it possible to centralize the DU functions, allowing for multiple units of the RU to be centrally controlled from one general-purpose server.

The solution improves the communication performance of mobile base stations through more precise control of radio interference between the RUs, while cutting down on power and space consumption by consolidating the DU hardware. This in turn contributes to a reduction in the total cost of ownership (TCO) of base station equipment.

"We have been working with Intel on the virtualization of mobile core networks and customer premises equipment (CPE) and are very pleased to extend our collaboration in network functions virtualisation (NFV) to mobile base stations," said Nozomu Watanabe, general manager, mobile radio access network division, NEC Corporation. "Looking forward, NEC will further strengthen its relationship with Intel for the advancement of NFV, which is the core technology supporting 5G and other forms of next generation wireless communication."

# Autour des exportations et des importations

La croissance des importations mondial de l'information et des communications ralentit à bas depuis cinq ans

LES IMPORTATIONS MONDIALES de technologies de l'information et des communications (TIC) les marchandises n'a augmenté que de 1% en 2014, la dernière année pour laquelle des chiffres sont disponibles, le taux le plus bas de croissance par rapport aux cinq années précédentes, les données de la CNUCED nouvellement libérés montrer. Les pays en développement et les pays passant d'une économie planifiée à une économie de marché, représentaient plus de la moitié (57%) du total des importations mondiales, qui ont atteint une valeur de $ 2,1 trillions.

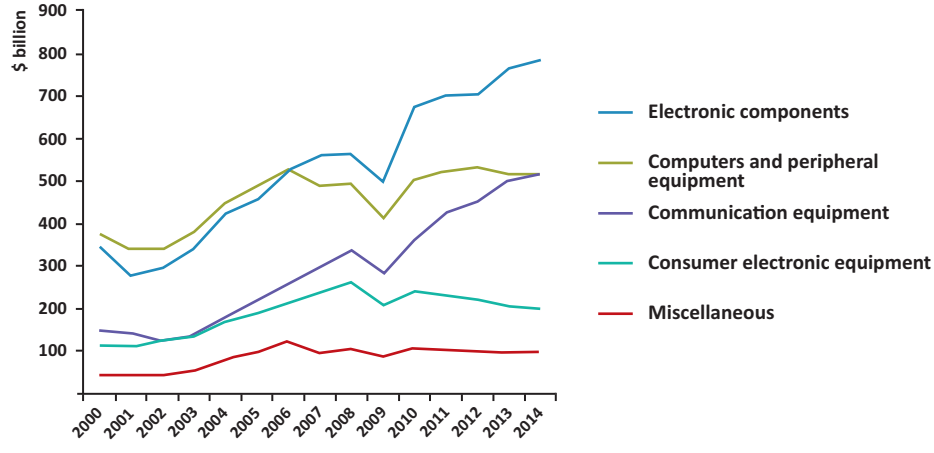



**Tableau 1. Top 10 des économies en termes de biens de TIC exportations et des importations, millions $ et une croissance annuelle**

| **Les importations de biens de TIC** | | | |
|---|---|---|---|
| **Top 10 des économies** | **2014** | **2012-2013** | **2013-2014** |
| Chine | 386184 | 13% | -4% |
| Etats-Unis d'Amerique | 306422 | 1% | 3% |
| Hong Kong | 261396 | 7% | 9% |
| l'Allemagne | 94065 | -4% | 8% |
| Japon | 91486 | 0% | 1% |
| Singapour | 89668 | 4% | -3% |
| Pays-Bas | 65550 | 5% | 3% |
| Mexique | 65349 | 7% | 0% |
| République de Corée | 59996 | 6% | 11% |
| Royaume-Uni | 54272 | 3% | 5% |
| **Les exportations de biens des TIC** | | | |
| **Top 10 des économies** | **2014** | **2012-2013** | **2013-2014** |
| Chine | 607581 | 9% | 0% |
| Hong Kong | 238467 | 7% | 7% |
| Etats-Unis d'Amerique | 145225 | 0% | 4% |
| Singapour | 122726 | 6% | 0% |
| **Province chinoise** | | | |
| de Taiwan | 116814 | 5% | 11% |
| République de Corée | 113410 | 14% | 6% |
| l'Allemagne | 67718 | -1% | 8% |
| Malaisie | 67263 | 2% | 4% |
| Mexique | 63653 | -1% | 3% |
| Pays-Bas | 61837 | 4% | 5% |

Source: UNCTADstat, stats.unctad.org/ict3ict4.
Note: Y compris les réexportations et le commerce entre les Etats membres de l'Union européenne (commerce intra-UE)

### Des secteurs électroniques

Les importations mondiales de matériel de communication et composants électroniques ont été les deux seuls secteurs qui ont augmenté légèrement en 2014 - en hausse de 3% et 2% respectivement - par rapport à l'année précédente. Les importations mondiales d'électronique grand public, quant à lui, a poursuivi une baisse de quatre ans, la chute de 4% en 2014, tandis que les ordinateurs et les importations de matériel périphériques étaient à plat. En conséquence, les importations de matériel de communication correspondaient à celles d'ordinateurs et d'équipements périphériques, chacun avec une valeur globale estimée à 520 milliards $.

En 2014, les exportations et les importations de biens de TIC chinois sont venus à une halte, après de nombreuses années de croissance. Parmi le Top 10 des importateurs de biens de TIC, la Chine et Singapour étaient les seules économies avec la baisse des taux en 2014, en baisse de 4% et 3% respectivement. En revanche, les importations ont fortement augmenté dans la République de Corée (11%), Hong Kong, la Chine (+ 9%) et en Allemagne (+ 8%). Du côté des exportations, la croissance a été nulle pour les biens des TIC de la Chine, mais Taiwan et de Hong Kong, la Chine a maintenu des taux de croissance significatifs.

### Des économies

Les économies les plus fortes baisses de biens des TIC importations en 2014 comprenaient: l'Ukraine (en baisse de 34%), l'Argentine (en baisse de 23%), le Paraguay (en baisse de 18%), la Biélorussie (en baisse de 18%), le Chili (en baisse de 17%), le Kazakhstan ( en baisse de 15%) et la Hongrie (en baisse de 13%). Les plus fortes hausses dans les exportations de biens des TIC ont été notées pour la Fédération de Russie (jusqu'à 80%), de Philippines (40%), en Lettonie (+ 30%), l'Afrique du Sud (jusqu'à 25%), en Pologne (+ 21%), la Finlande (jusqu'à 13%) et l'Australie (+ 12%). Au total, les biens des TIC représentaient 12% des importations mondiales de marchandises en 2014. Cette proportion variait entre 44% pour Hong Kong, Chine, environ 20 à 24% en Chine, en Malaisie, aux Philippines et à Singapour et moins de 1% en Afghanistan et Mauritanie. ✆

Un ensemble de données complet pour 2000-2014 sur le commerce des produits des TIC peut être consulté gratuitement à http://stats.unctad.org/ict3ict4. Les données pour 123 pays sont disponibles, y compris par partenaire commercial et par type de bien échangé. Dans le cadre du Partenariat sur la mesure des TIC pour le développement, la section analyse des TIC de la CNUCED publie des données pour plusieurs indicateurs de base liés à l'économie de l'information. Cette série de données reflète la définition de biens des TIC de l'OCDE et est basé sur la base de données COMTRADE des Nations Unies.

# Testing times for advanced networks

The challenges faced by mobile network operators as they work to deliver improved coverage and capacity

There are many common challenges as mobile network operators work to deliver improved coverage and capacity over 3G, 3G+ and now LTE

BEING SLOW IS not always a disadvantage – as the proverbial tortoise will confirm vis a vis the proverbial hare. So, when it comes to mobile network improvement and expansion in Africa, which has progressed at a relative 'tortoise pace' compared to the 'hare-racing' pace of progress in other parts of the world, it's a slow progress that has, nonetheless, not done African operators too much harm. It has, for one, enabled them to make use of the latest, 'tried-and-tested-elsewhere' infrastructure technologies in their roll-outs: from intelligent multi-sector / multi-band antennas supporting high and low bands on the same system -- 3G at 900MHz, LTE at 1800MHz, LTE 800MHz or LTE 2.6GHz – to the latest in base station technologies. Indeed, some of Africa's networks are often as advanced as more developed regions' at time of rolling out. But that's not to say they don't face other, similar challenges, faced by everyone else. Such is the case when it comes to interference issues, including the ubiquitously occurring, Passive Intermodulation, or PIM. No technology is immune from this issue, which is often caused by the most seemingly insignificant of equipment failures, such as simple as a rusty connecter, or sand ingress into what should have been a tight connection. Such a simple defect can seriously degrade the quality of service (QoS) of an entire network.

So, whether in the heart of Africa or elsewhere, what network operators need to do in the face of almost guaranteed PIM effects that will occur at some stage within their network, is to invest in PIM analyzers in order to optimise their networks, regularly. Such investment will deliver ROI within a matter of months, if not weeks. Whereas poor network performance due to an undetected PIM source will lead directly in lost revenue.

That's why mobile operators need to have an effective PIM strategy, particularly as MNOs increasingly share the latest RF infrastructure at the cell site. Such a strategy, involving analysers and test procedures, will negate the effects and PIM issues and MNOs will be able to prevent this interference from causing QoS issues on their networks and deliver good customer experience with one end result being continued subscriber loyalty.

Whilst PIM has always existed, now that more spread-spectrum technologies, such as LTE are being rolled out in Africa, it's an issue that can no longer be avoided and it's one that is likely to occur with greater frequency. So, the way forward for operators is having a PIM strategy that will minimise its impact by looking carefully at such things as the hardware within the RF path, with network components and the quality of the installation high on the list of priority items to be checked.

## Dangers of no PIM strategy

In order to maintain highest throughput, any interference such as PIM will affect the modulation scheme and compromise the network's maximum transmission rates, thus reducing data throughput, which in the case of LTE would be disastrous. Indeed, by allowing an LTE network to sustain the effects of PIM without implementing an effective strategy can increase Bit Error Rate (BER). In the case of LTE high-data-throughput expectations, this will result in data packets being interrupted and then requiring re-send requests, with the re-sent data then reducing available bandwidth for other subscriber services.

With a higher BER detected, more dropped calls and increased noise levels, these will be the first indicators of PIM problems at the base station. Depending on the degree of PIM distortion, subscribers will see slower data rates with their smartphones and tablets. With more serious cases, calls may be dropped and in extreme scenarios, PIM distortion can render the base station receiver inoperable; it will no longer be able to receive meaningful signals. Modern PIM analysers measure intermodulation with continuous 2x20W signals and can detect all PIM issues in the system. Such analysers have the capability, not only to measure levels of PIM, but also to pinpoint relatively quickly where the cause is located, thereby allowing technicians to deliver a quick fix of any base station.

## Sharing sites, sharing problems

When it comes to site sharing mentioned

earlier, the probability of PIM is significantly increased. The more frequencies and technologies combined on the same RF infrastructure, the greater the probability there will be of performance impacts caused by PIM. Intermodulation actually occurs when two or more signals are combined; the proximity of many different spectrums and more channels in band, can increase the statistical likelihood of PIM. However, site sharing can also be seen as an opportunity to improve PIM performance on legacy equipment by taking the opportunity of upgrading the quality of components and installation.

One effect of PIM is to degrade the base station receiver, which results in handsets being unable to communicate to the base station properly. PIM affects the uplink. What that means for the subscriber is that while he/she may have 5 'bars' of signal strength on the phone showing, signifying good downlink quality, they will nonetheless be unable to make calls, or their calls will often drop out. In such a case, the base station should be able to detect dropped call rates and uplink power levels and, by using a good field PIM tester/analyser, cable and antenna checks can be made and PIM levels confirmed. Such analysers are marketed from the likes of AWT Global, Anritsu, CCI Products EMEA, Kaelus and Rohde & Schwarz. Using such PIM analysers, a field team typically connects to the RF infrastructure at the point where it would connect to the radio head. Two high power tones (43 dBm per carrier as specified by IEC 62037) are typically injected at frequencies in the transmit/downlink band and the IM3 power is detected in the receive/uplink band. Most operators specify an acceptable IM3 level of -97 dBm (-150 dBc), though more stringent acceptance levels are expected showing a 3-dB improvement on those figures.

**Detecting PIM**

To find out the PIM performance of components, cables, connectors or antennas, using a PIM analyser, which conforms to IEC62037, to measure readings, is necessary. When PIM can be down to something as simple as dust or sand in a connector, (or even a rusty nail!), these must be absolutely free of dust or other alien bodies and blowing connectors with compressed, moisture-free air and wiping them with alcohol goes a long way to solving the PIM issues of such a component. But as RF cables at base stations and in-building installations are typically assembled in the field, the greatest care has to be taken when assembling them. When it comes to testing them for PIM, static and dynamic PIM measurements have to be performed at every segment of the installation. If the results after the measurements are satisfactory, the RF segment has to be sealed. When taking PIM measurements at a site, however, it can actually prove very difficult to distinguish PIM energy generated as a result of internally transmitted carrier signals from external interference signals coming from outside the antenna. PIM testing is intended to be performed within a site's transmission line path from the radio to the antenna. When antenna manufacturers test antennas for PIM performance, measurements are taken in an anechoic chamber, where the presence of external interference signals is not possible. In the field, however, external interference signals can often be construed as PIM signals, because they occasionally fall within the up-link receive band and they can come from sources such as adjacent cell sites, old TV transmitters, or the presence of metallic structures near the site. Adjacent cell site or TV transmitter interference can be identified using a spectrum analyser and comparing spectrum responses between sectors.


With PIM, environmental challenges present themselves frequently

**Two test forces come together**

Having mentioned CCI and R&S as two players in this area it is worth noting that they teamed up earlier this year in the fight against PIM in order to provide a comprehensive LTE installation and maintenance test solution including PIM test. The development is aimed at improving LTE base station installation and maintenance using complementary solutions from R&S and CCI that combine cable and antenna measurement with PIM test.

The two aim to provide operators and test services providers with a comprehensive solution for base station installation and maintenance including PIM testing. The approach is to combine the RF VSWR, cable loss, distance-to-fault and power measurement capabilities of the R&S ZVH handheld cable and antenna tester, with the PIM test capabilities of the CCI PIMPro Tower Series PIM analyser. This 'marriage' is largely spurred on by the march of LTE, including across Africa (where both companies have activities). In a statement, the companies said that the migration of cellular networks to LTE and LTE-Advanced, the adoption of new features such as MIMO, beamforming and Het Nets, all bring benefits to network operators as they build capacity to address expanding subscriber demand for bandwidth. However, these same features contribute to complexity in the RAN and increased vulnerability of the network to base station faults, such as poor antenna isolation, component faults and PIM. All these will degrade network performance and impair subscriber QoS. They said that the challenge facing field service teams is to ensure efficient, fault-free installation of cell sites and rapid troubleshooting if faults develop.

R&S claims that the R&S ZVH handheld cable and antenna tester is adapted specifically to this application and features 'fast and accurate' distance-to-fault, one-port cable loss and antenna matching measurements. Complementing its capabilities is the CCI PIM Pro, which provides lightweight and rugged full power PIM testing and is said to be 'ideally suited' for LTE networks, of which there are a growing abundance in Africa. ✆

*Tim Guest*

# How devices can detect heat

FLIR's thermal imaging accessory adds functionality to smartphones and tablets, and offers new opportunities to iOS and Android app developers

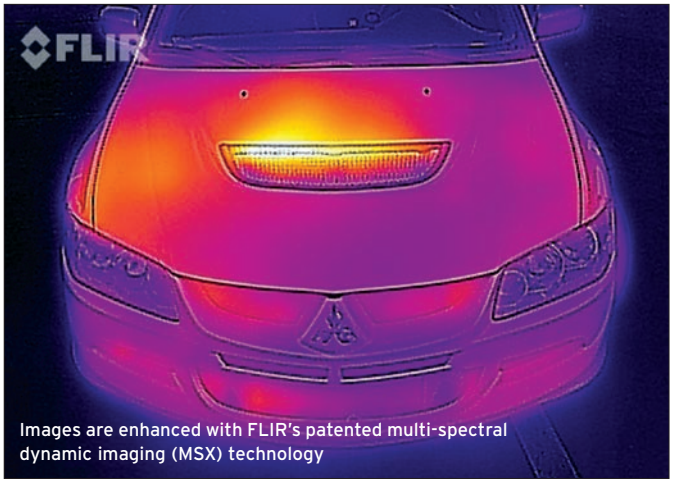
FLIR SYSTEMS' NEXT generation FLIR ONE thermal imager is now available for purchase worldwide. With versions for both iOS and Android device platforms, the versatile and pocket-sized FLIR ONE transforms a mobile device into a powerful thermal imager that sees heat and accurately measures temperature. Providing users with the incredible ability to see temperature variations smaller than a tenth of a degree, the technology enables a host of practical applications, from identifying energy inefficiencies and water leaks in a home, to enabling safe and enjoyable outdoor exploration.

The new FLIR ONE utilises either a micro-USB connector for Android devices or a Lightning connector for iOS devices to offer a compact accessory that easily connects to a smartphone or tablet. The FLIR ONE is powered by an internal battery and utilises FLIR's latest generation Lepton thermal camera core, which features four times the resolution of the previous version. Images are further enhanced with FLIR's patented multi-spectral dynamic imaging (MSX) technology, which embosses the edge details from FLIR ONE's visible camera onto the thermal image producing high fidelity images.

FLIR also announced that it will release an updated iOS software development kit (SDK) and a new Android SDK to enable developers to build and launch creative apps for both mobile device platforms. Two new programmes will support the app developer community and end users of the FLIR ONE products:

The "FLIR Certified Developer" programme offers developers training in thermal imaging technology and the use of FLIR ONE developer tools.

The "FLIR Approved Application" programme offers developers publicity through FLIR marketing programmes and the "FLIR Approved" distinction.



Images are enhanced with FLIR's patented multi-spectral dynamic imaging (MSX) technology

"Last year, we successfully introduced the world to the FLIR ONE, the world's first thermal imaging accessory for a smartphone. This next generation FLIR ONE builds on this success by offering higher performance, broader compatibility, and a compelling value proposition," said Andy Teich, President and CEO of FLIR Systems. "And with the launch of our new application developer support programmes, we expect to see new applications and use cases emerge for this new FLIR ONE platform."

FLIR ONE transforms a mobile device into a powerful thermal imager

### A new world of app creation

FLIR ONE can help isolate places of possible warm or cold air leaks to optimise your home's energy efficiency; identify wet areas and potential leaks in ceilings, walls and floors before mold starts, and spot overloaded electrical connections at the source. The FLIR ONE App universe is expanding, too. Apps include: Comfort Tracker for conducting simple and accurate insulation audits on a property by utilisation of the FLIR ONE; the FLIR ONE Thermometer, which aligns the cross hair into a zone to measure to display temperature in the LCD screen; Thermal Sentry, which utilises the FLIR ONE in order to create the functionality of a thermal motion detection sentry; the FieldLens Thermal FLIR ONE professional construction job management tool, which uses thermal imaging to identify various jobsite problems and team collaboration tools to manage repair processes; and the Thermal Monitor utility app, which monitors 3D print jobs and protects them from temperature failure using thermal imaging, sending warnings to operator when boundary conditions are exceeded. ✆

# Power for telecoms


FG WILSON HAS announced a new range of generator sets, specifically for the company's telecommunications customers.

Following consultation with operators, tower companies and hybrid manufacturers, the new range delivers reliable power for extended running periods of up to six months between service and fuel replenishment intervals.

To minimise site visits, 600, 1,000, or 2,000-litre fuel tanks and an extended service interval option can reduce operating costs for the generator set by up to 50 per cent.

Using market-leading control modules, including built-in mains sensing and changeover systems, the generator sets are designed to be easily and quickly deployed.

Complete with the latest Deep Sea

controllers, the new FG Wilson Telecom range can be tailored to meet all technical requirements, from configurable alarms and protections, to remote monitoring, control and preventative maintenance.

Plug-and-play options allow upgrading on site when required. With security in mind, the range conceals all fuel pipework and fuel filling connection protecting against fuel theft and optional security features include lockable door latches and GPS tracking devices. With a new range of acoustic enclosures at different sound attenuation levels, the range is suitable for all applications and locations. And when a generator set needs to be moved to a new location, its modular designed enclosures can easily be upgraded to ensure it meets all local noise regulations.

Customers now have the choice of two reliable products at different price points.

The new range has also undergone rigorous validation testing to ensure it is built to run for many years. The new range comes with class-leading aftermarket support from 370 FG Wilson dealers spread across 150 countries, all fully trained in technical, maintenance and service support, with ready stock of parts and supported by a 59,500m2 parts facility, carrying more than 11,500 product lines and dispatching over three million genuine parts per year. ✆

## Electronics feeds key broadcasting industry trends in the run-up to 2020

COMMUNICATIONS AFRICA READERS who have attended NAB, IBC or their national broadcast trade shows in recent years will be well aware of the ongoing push for higher television display quality. This began nearly four decades ago when, in 1967, the Science & Technology Research Laboratories of Japan's state broadcaster, NHK, proposed a major upgrade from the 525-line NTSC system.

### Bigger and better display screens

One of the most useful indicators of broadcast industry progress is the Consumer Electronics Show held each January in Las Vegas, in the USA. This is where the television display manufacturers exhibit their latest prototypes. Starting prices tend to be high, even astronomic, with Sharp currently quoting around US$133,000 for its 85 inch Super-Hi-Vision display. Samsung exhibited one-piece Super Hi-Vision displays in a range of sizes plus what it claims is the world's largest, with a diagonal screen size of 170 inches. The latter is a combination of several screen panels though the joins are reported only to be visible at very close viewing range.

OLED remains a promising display technology, not least for its inherently wide dynamic range. LG demonstrated at CES 2016 65 inch and 77 inch OLEDs, described by one enthusiastic reporter as "impossibly thin".

An essential requirement for every modern 4K consumer television display is the ability to upscale incoming live video or files to match the screen resolution. This makes the device equally useful for viewing content from other media such as SD cards, USB memory chips or directly connected digital disc drives. This feature will obviously also be included Super-Hi-Vision screens.

### IP networking

IP-based video and audio networking has attracted strong attention at broadcast industry conferences over the past three to four years, including proposals designs for complete production facilities based on IP signal routing. BBC Research & Development presented at paper at IBC 2015 describing a live ultra-high definition outside broadcast made using end-to-end IP for the duration of the 2014 Commonwealth Games in Glasgow. Live video and audio were delivered from three games venues to a public exhibition at the Glasgow Science Centre and broadcast via the department's trial of UHD distribution. This provided a test of a live production distributed and synchronised wherever it was needed for viewing and broadcast distribution.

### Virtual devices

The transition from dedicated hardware tools to software-based virtual devices continues in just about every category of broadcast-related product, fuelled by continuing advances in the power and processing speed of desktop computers. Many operators nevertheless still prefer to use traditional tactile control surfaces, however, particularly when working on a live show. A notable example introduced in 2015 was the latest vision switcher in the EVS DYVI series which is based on enterprise-grade IT elements. Capable of handling HD or UHD, it allows switching and control to be performed from any location via an IP link.

Alternatives to traditional capital investment became increasingly evident during 2015. Examples are the CloudAir broadcast channel branding and playout software announced at IBC by PlayBox Technology. Available either on a standard licensing or software-as-a-service basis, CloudAir is designed for start-up ventures, established television channels and anyone who wants to deliver content, from a single event to a full-scale television channel. Tata Communications announced during the same show that it had chosen CloudAir to support a new cloud-based broadcast playout service.

### Resolutions for the future

A key question for 2016 is whether Super Hi-Vision products will become available sufficiently quickly to overshadow UHD in the same way that 1080-line high definition overshadowed 720p. Maybe it will prove academic. Television is becoming increasingly resolution-independent, particularly for viewers using small-screen portable viewing devices. As ever, the main driver will be affordability. Plus, as ever, informative and entertaining programmes.

*David Kirk*

# Working for West African audiences

A year of free-to-air platform services provison to markets dominated by terrestrial channels

AS WEST AND Central Africa experience unprecedented levels of economic and developmental growth, the region is increasingly viewed as dynamic and exciting for media services entities and broadcasters. Demand for high-quality services is likely to grow. However, the market is dominated by terrestrial access. While the move to digital has been on the agenda for some time, the transition is yet to gain momentum.

SES has sought to play a key role in establishing satellite television in the region. SES Platform Services marked the beginning of 2015 by setting up an independent English-language TV platform with turnaround services. The platform, which is delivered via the SES Astra satellite on the orbital position of 28.2°E, is geared towards English-language channels for West African countries, as well as international channels hoping to branch out across the continent. SES Platform Services was responsible for the entire development of the platform from planning to realisation.

### Access to West Africa

A year on from its launch, the platform continues to offer many benefits for TV broadcasters. It provides access to the West African market for new channels, while well-known and established channels, which have so far mostly been broadcast via terrestrial infrastructure, can use the platform to reach new audiences in an affordable way and open up new business opportunities. Other broadcast services can be flexibly added, meaning the platform is always attuned to the needs of SES Platform Services' customers. Channels using the platform include the popular Sunshine TV, MoneyMartTV and Joy News ventures.

The platform is based on SES Platform Services remote media platform, a DVB platform which re-multiplexes the incoming IP or L-band signal and can encode them if required. It models the signal as an L-band signal and subsequently sends it to the uplink. In terms of equipment, the remote media platform consists of standard racks, fitted with high-end IRDs and multiplexers, which can also re-encode, if required. There is also a modulator which sends the final signal to the transmitting antennas. The multi-viewer monitoring system features automatic error detection and alarm functions which are analysed in a master control room in Munich, Germany. Each of the two technical set-ups have a total capacity of between 26 and 30 standard definition channels in MPEG 4.

**SES manages its services to West Africa at teleports in Ghana and Nigeria. The K-Net facility in Accra is used by Multi TV, a popular free-to-air platform operating ten channels on the SES Astra 2F satellite. The Computer Warehouse Group facility in Lagos is well-established for operations across West, East and Central Africa.**

ASTRA 2F delivers next generation broadcast, VSAT and broadband services in Europe, Middle East and Africa, and carries Ku- and Ka-band payloads at the prime orbital location of 28.2 / 28.5°E

### Positioned on two teleports

SES manages its services to West Africa at teleports in Ghana and Nigeria. The K-Net facility in Accra is used by Multi TV, a popular free-to-air platform operating ten channels on the SES Astra 2F satellite. The Computer Warehouse Group facility in Lagos is well-established for operations across West, East and Central Africa. The Ghanaian teleport has a connection speed of 2 Mbit/s, while the one in Lagos runs at 10 Mbit/s via VPN. These connection speeds can support configuration, monitoring and maintenance of the West African platform directly from the SES Platform Services playout network operations centre in Munich.

### Building a business platform

SES Platform Services has been busy in the year since it lanuched the West African platform. In June 2015 it unveiled a new service, FluidMedia, which allows all companies producing or distributing video content to convert their content easily and conveniently, as well as deliver it to Internet or video on demand (VOD) platforms. In July it enabled a shopping channel called pearl.tv to begin broadcasting in ultra high definition (UHD) via satellite and the Internet. Also in July 2015 StarTimes, the fastest-growing digital TV operator in Africa, began distributing TV channels for its direct-to-home (DTH) subscribers across Sub-Saharan Africa via SES Platform Services' broadcast facility in Germany. In September SES and an American venture called Fashion One Television LLC launched the world's first global Ultra HD channel, Fashion One 4K. Also in September 2015 SES Platform Services showcased Liquid VOD, a new solution for video-on-demand services (VoD) via satellite. The same month it launched the Lucid online video platform (OVP), a solution comprising all the building blocks a customer would need to launch an online video offering, from setting up an Internet-TV channel to on-demand services. And then in October SES Platform Services revealed a comprehensive range of services for Insight, a European ultra-HD channel run by Television Entertainment Reality Network (TERN). ✆

# SkyVision.

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# Les professionnelles du cinéma en Afrique

L'Institut français poursuit son soutien à la préservation du patrimoine Cinémathèque Africain en collaboration avec la région Ile-de-France et L'Institut français de Madagascar

L'INSTITUT FRANÇAIS, À travers la Cinémathèque Afrique, poursuit son soutien à la préservation du patrimoine cinématographique africain. Un cycle consacré à Madagascar : « Cinéma Malagasy – Kolosary » est présenté le 13 novembre 2015 à l'Institut français de Madagascar à l'occasion de « Cinéma Afrika 2.0 », les rencontres professionnelles sur le cinéma en Afrique et dans l'Océan Indien à l'heure du numérique, en préfiguration du lancement du cycle à Paris en 2016.

Initié par la Cinémathèque Afrique de l'Institut français, « Cinéma Malagasy – Kolosary » propose 11 films de 10 réalisateurs en version multilingue (version originale malgache, sous-titré français et anglais), disponibles sur 5 DVD pour une diffusion non commerciale à l'international.

**la qualité du cinéma**

Ce cycle permettra de révéler la qualité des films de patrimoine restaurés à partir du fonds de la Cinémathèque Afrique mais aussi d'assurer la promotion du cinéma malgache d'aujourd'hui avec des films récents de la nouvelle génération de cinéastes.

Des fictions, un documentaire et des courts-métrages de fiction et d'animation nous montreront la richesse de la création cinématographique d'hier et d'aujourd'hui à Madagascar de 1972 à nos jours.

Pour ce travail de collaboration Nord/Sud, la Cinémathèque Afrique de l'Institut français a confié les travaux de restauration et de numérisation à l'association Fl@h pour qu'ils soient réalisés à Madagascar. L'Institut Français de Madagascar et l'association Rencontres du Film Court de Madagascar ont mené sur place les travaux d'édition et ont participé à la conception du programme.

Ce projet a été initié en 2013, dans le cadre de la convention de partenariat entre l'Institut français et la région Île-de-France, qui avait déjà permis en 2009 la réalisation du coffret Femmes d'Afrique, 3 films du patrimoine du fonds de la Cinémathèque Afrique restaurés et numérisés.

**La Cinémathèque Afrique conserve l'une des collections les plus complètes de films africains au monde; elle dispose des droits de diffusion non commerciaux qu'elle met à la disposition des organismes à vocation culturelle, sociale ou éducative en France et à l'international**

**L'Institut français et la Cinémathèque Afrique**

Opérateur du ministère des Affaires étrangères et du Développement international, au service de la diplomatie culturelle, l'Institut français est aujourd'hui une marque unique en France et dans 96 pays. Il assure la promotion à l'étranger des artistes, des idées, des œuvres et des industries, tout en favorisant les échanges artistiques et le dialogue des cultures.

Créée en 1961, la Cinémathèque Afrique conserve l'une des collections les plus complètes de films africains au monde : gérant plus de 1,600 titres dont les 10,000 copies existent sur différents supports : 16 mm, 35mm, Béta SP, DVD, Blu Ray et DCP. Elle dispose des droits de diffusion non commerciaux pour 700 films (courts et longs métrages de fiction, animation, documentaires) qu'elle met à la disposition des organismes à vocation culturelle, sociale ou éducative en France et à l'international. À travers la réalisation de rétrospectives et d'hommages ou de cycles thématiques, la Cinémathèque Afrique contribue à la sauvegarde du patrimoine africain. S'appuyant sur un vaste réseau de partenaires, elle demeure l'acteur majeur de la diffusion internationale du cinéma africain tant pour les œuvres de patrimoine que pour la création contemporaine, dans plus de 110 pays. ✆

## Le monde Arabe en grand format numérique

L'INSTITUT FRANÇAIS, EN partenariat avec la Netscouade et Courrier international, a réalisé son premier web-documentaire sur les jeunesses engagées du monde arabe. Ce grand format numérique donne la parole à d'anciens participants du programme SafirLab. Il est diffusé en avant-première à la Gaîté Lyrique, en novembre 2015.

Réalisé par l'Institut français, en partenariat avec la Netscouade et Courrier international, « Tamkin, les jeunesses engagées du monde arabe » est un grand format consacré au courage de celles et ceux qui se mobilisent et entreprennent.

À la suite des soulèvements démocratiques qui ont parcouru l'Afrique du Nord et le Moyen-Orient depuis 2010, les participants de ce web-documentaire ont décidé de devenir des acteurs de ce changement. À l'initiative de projets ambitieux dans le domaine de la santé, du droit des femmes et des minorités, de l'éducation, du développement durable, qu'ils représentent le nouveau visage des sociétés civiles arabes.

C'est au travers de leur engagement concret que ces jeunes femmes et hommes présentent au grand public leurs points de vue, leurs inquiétudes et leurs espoirs pour leur pays. Le web-documentaire permet également de suivre le devenir des projets qu'ils ont initiés, à travers un format numérique innovant.

Témoins et acteurs des transformations de leurs sociétés, les jeunes dont ce documentaire fait le portrait ont aussi en commun d'avoir participé au programme « SafirLab, le laboratoire du changement » que l'Institut français et Canal France International (CFI) pilotent conjointement depuis 2012. Ce programme a accompagné une centaine de porteurs de projets des sociétés civiles d'Égypte, de Jordanie, de Libye, du Maroc, de Tunisie et du Yémen grâce à un suivi personnalisé de leurs projets, alternant conférences plénières, tutorat individualisé et rencontres professionnelles.

## An increasingly agile product portfolio for Africa, on show at MWC

A SPECIALIST SUPPLIER of integrated revenue and customer management solutionsto communications service providers, **Elitecore Technologies** attends 2016 Mobile World Congress (MWC) with its product portfoolio inceasingly geared towards African territories.

### Portfolio and product development aligned with African telcos' revenue channels

In recent years, African telecommunication markets have undergone substantial transformations. Transformation today means fulfilling the growing demand for digital services and innovation with data connectivity over fixed, mobile, and Wi-Fi data networks. Elitecore has a deep presence in the African market and has worked with leading African network operators to enable innovative next-generation services resulting in enhanced customer experience. Mobile voice services have dominated operator revenues across the Africa - but, looking at new trends of accelerated growth in mobile data revenues, data will soon overtake voice revenues. Moreover, the growing potential of 4G/ LTE and Wi-Fi hotspot networks in that region have turned focus to data monetisation and assurance of delivering seamless high-speed data connectivity, either as standalone services or in convergence with existing mobile services for bouquet of use cases. Elitecore meets CSPs' requirements by working with them to meet their O/BSS goals. Driven by its in-house product development and R&D and partner network, Elitecore caters to the growing demand of mobile broadband, 3G and greenfield LTE and WiMAX-to-LTE roll-outs through its integrated revenue and customer management platform (IRCM), which includes converged billing, integrated policy and charging, big data analytics, 360 omni channel customer care, provisioning, and single product catalogue. Elitecore is also aligned to the rising demand of hotspot Wi-Fi and mobile data offload in Africa through its modular and flexible Wi-Fi service management platform (SMP) and monetisation solution, which suppport aims at realising the carrier Wi-Fi model efficiently. In fact, a leading network equipment provider (NEP) to select Elitecore's Wi-Fi Service Management Platform (SMP) for its SP Wi-Fi projects which are operational across 10 countries in Africa (Gabon, Niger, Nigeria, Burkina Faso, Tanzania, Congo, DRC, Zambia, Ghana and Morocco). Elitecore SMP enabled the operator to extend data services through a network of Wi-Fi hotspots. The platform allows walk-in users through voucher based Wi-Fi access at hotspots like cafes, airports, lounges, universities. The vouchers can be purchased online using payment gateways on the move using their own currency via online banking options and/or mobile money.

### Operators' need to become more agile in an increasingly digitised marketplace

Today's increasingly connected users have access to unique and innovative digital experience which is driving the need for the CSPs to keep upgrading and engage the customers in a satisfying experience. Digital experience involves quickly finding the right information online, compare multiple packages, make online purchases, get instant and automated delivery, real time contextual offers to the relevant end user on which they can act immediately, share plan and usage experiences, use self-care or self-provisioning solutions and self-configurable services and devices. Elitecore helps CSPs to cater to these demands of the users, as it becomes a mandate for operators to make their ecosystem faster, leaner and agile to keep themselves ahead in the race. They have to be able to package services for convenience and then deliver an experience that is quick and efficient at a cost that users are willing to pay. Within the network there is the requirement to accelerate the planning, roll-out, integration and optimisation of new and existing networks. That increases both the technological and organisational complexity from planning to provisioning. They should offer and go from idea to implementation via an automated, seamless process. It is possible to roll-out and create service features in minutes that users will be able to see on their smart devices.

### Increasingly flexible and responsive to network events

Digitisation goes beyond the convergence of networks and services and involves changes in ways operators interact with their customers, use analytical intelligence adapting to cloud solutions and reinventing business processes while keeping customers at the center of its universe. With an aim to offer real-time digitisation services operators require a platform that enables to quickly launch services with faster time to market. Elitecore offers a pre-integrated, modular and flexible next-generation O/BSS platform that easily addresses the operator's migration, transformation and new services launch requirements leading to reduction in deployment time, reduction in TCO, faster plan roll-out, reduction in hardware and storage and lesser cost of operations.

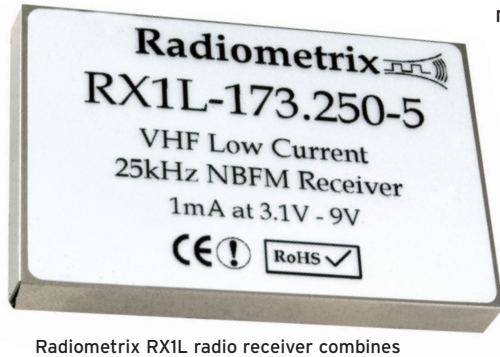
Elitecore's association with the telcos in that region and its expertise in enabling BSS, packet core and Wi-Fi solutions along with its professional and managed services has empowered its operator clients to realise rapid service innovation and network excellence over competitors. As an end-to-end solution provider, Elitecore leverages over 15 years of organisational expertise in delivering OSS & BSS solutions, solution design, consulting, and systems integration to deliver comprehensive solutions for African network operators and their customers.

## Radiometrix telemetry radio receiver combines 'always-on' convenience with long battery life

LOW POWER RADIO pioneer **Radiometrix** has delivered a boost for designers of solar or battery-powered telemetry systems with a new high-sensitivity narrowband receiver that can be kept 'always on' without drawing excessive power.

The Radiometrix RX1L's low operating current of just 1mA allows the system to remain constantly ready to receive data such as remote sensor information or software updates, eliminating any software overhead or latency associated with a wake-up procedure.

The receiver is easy to design-in thanks to its standard footprint and pin-out, and compact dimensions of 59mm x 38mm x 7mm. In addition, the wide supply-voltage range of 3.1V to 9V DC allows direct connection to various standard battery voltages or logic rails such as 3.3V or 5V. The module is also fully shielded against external interference, and is compliant with the ETSI EN 300 220-2 (radio) and EN 301 489-3 (EMC) standards.




Radiometrix RX1L radio receiver combines 'always-on' convenience with long battery life

Whether the application is data logging, industrial telemetry, smart-building control, security or fire-safety sensing, or an automotive device, Radiometrix' 10mW TX1 or 300mW HX1 transmitter is the ideal partner to the low-power RX1L receiver. Packaged as an easy-to-use 7-pin SIL device, the HX1 integrates a 300mW RF amplifier for a usable range of over 3km, taking advantage of the receiver's high sensitivity.

## Comprion's EMVCo L1 analog test solution

SYSTEMS MANUFACTURER **COMPRION** has enhanced its EMVCo portfolio by offering an EMVCo PICC analog test solution for mobile phone approval according to EMVCo standards. EMVCo facilitates global interoperability and acceptance of secure payment transactions. The solution consists of the conformance test system UT✣ platform, a Kawasaki robot in a safety cell and additional EMVCo test equipment, such as antennas. The new test system, for which qualification will start in December 2015, was introduced at CARTES 2015. The UT✣ platform simulates a POS terminal in order to test a bank card or a cell phone used for mobile payments. The integrated robot positions the card or mobile phone with high precision and repeatability as required by EMVCo.

With an execution time of approximately 1.5 hours for the EMVCo Type A tests, the new system is the most efficient test solution. Swantje Missfeldt, EMVCo product manager at Comprion, said, "We are very proud of the speed considering the high number of positions, repetitions and the necessary calculations as well as measurements."

The highly automated system works very accurately thanks to a six-axis Kawasaki robot that is able to position the mobile phone or bank card at all angles imaginable. Missfeldt commented, "The Comprion solution is the only one with an integrated oscilloscope, saving extra hardware and calibration costs."

The Comprion EMVCo solution is the result of the increasing convergence of the telecommunication and banking industries driven by the growing mobile payment deployments. Handset manufacturers that want to enable mobile payment services on their devices need to prove – also as part of the GSMA TS.27 NFC Handset Test Book requirements – that they conform to EMVCo standards. Otherwise, their devices will not be approved for the market. Missfeldt explained, "As many of our customers, such as handset- and chip manufacturers as well test laboratories, already use the Comprion conformance test system UT✣ platform for GCF and NFC Forum mobile phone type approval, we have been asked to also offer the new EMVCo tests on the same system – in the known high quality."

Comprion's EMVCo L1 analog test solution

## TEOCO's Mentor 9.4 further automates radio access network optimisation

**TEOCO**, PROVIDER OF engineering, assurance and analytics solutions to communications service providers (CSPs), has released the latest version of its Mentor suite for network optimisation, Mentor 9.4.

The new version of Mentor features the provision of enhanced LTE optimisation capabilities and includes new features that answer the growing demand from operators for more automation in complex multi-vendor and multi-technology networks. Mentor 9.4 also integrates with TEOCO's other market-leading engineering solutions for improved small cell planning and performance optimisation. Among its new features, Mentor 9.4 enables network elements to automatically send performance alarm notifications according to user-defined network performance thresholds.

### Improving network performance

The new threshold-crossing alarms (TCA) module enables an operator to identify and examine cells with KPI values that violate pre-defined rules. In this way, the operator can focus on the problematic cells in its network. The rich threshold-crossing rules can be defined via the web interface of TEOCO's TrafficGuard, a component of TEOCO's Helix suite. Engineers can better anticipate and take action more quickly to resolve network performance issues before subscribers' quality of experience suffers.

Another new feature is the integration of the new Mentor 9.4 offering with TEOCO's purpose-built automatic small cell planning solution, ASSET Design. The combination of automatic cell planning (ACP) and radio access networks (RAN) optimisation further streamlines the use of accurate geo-located measurements for better small cell planning plus general optimisation to boost network performance.

The Mentor suite of tools also uniquely integrates RAN analytics and optimisation over a single platform to assist radio engineers in their daily tasks across 2G, 3G and 4G networks. In addition, Mentor 9.4 now includes enhanced and far-reaching multi-technology and multi-vendor support, allowing operators to use it regardless of the infrastructure in their network. Mentor 9.4's flexibility and interoperability also includes support for the new multi-vendor MRO format for exporting network data.

Daniel Ramirez, director of RAN Products at TEOCO, said, "Mentor 9.4 is the latest addition to the suite of Mentor releases that have come to offer smarter RAN Management to operators globally.

"With its new automation and integration capabilities, plus enhanced multi-vendor and multi-technology support, Mentor delivers on its promise to lower total costs of ownership (TCOs) for operators while boosting the efficiency of their networks."

### A market-leading ASSET

TEOCO, towards the end of 2015, was awarded a contract to deploy its ASSET tool by **IHS Towers**, the largest mobile telecommunications infrastructure provider in Africa, Europe and the Middle East. IHS Towers is Africa's leading mobile infrastructure provider, owning and operating more than 23,100 towers and guaranteeing 99.9 per cent network uptime reliability to a range of African mobile network operators (MNOs). IHS will leverage the full capabilities of ASSET, TEOCO's market-leading network planning tool, to enable more efficient and effective tower-sharing agreements among its multiple African mobile operator customers. Using ASSET, IHS will merge sites for a number of operators in order to reduce CAPEX and OPEX, while maintaining and guaranteeing quality of service for customers.

ASSET is TEOCO's radio network planning tool. The most recent release is ASSET 9.0, which is a complete solution for planning all parts of the radio network while fully integrating with the wider OSS/BSS eco-system. It supports all radio technologies, including Wi-Fi, and is capable of analyzing large data sets presented from more than 750,000 cells across Africa. These consist of a wide range of radio technologies, multiple carriers and complex antenna systems.

## SGL improves control, recovery and capacity with FlashNet

THE FLASHNET CONTENT management system, exhibited at CABSAT 2016 by content archive and storage management solutions provider **SGL**, delivers highly evolved and efficient archives to broadcasters throughout the Middle East, including: AD Media, MBC, Qatar TV, Al Baghdadia, Al Aan, Al Kass and many others. SGL's open system architecture provides broadcasters, post production facilities, and news/sport organisations with reliable, scalable solutions with substantial cost and workflow benefits.

AT CABSAT, SGL highlights and discusses the following solutions:

The latest version of FlashNet, which includes a number of new features that provide broadcasters and content owners with greater flexibility when managing their archives. Customers will now be able to allocate a pre-defined number of drives within their library for a specific role such as archiving Avid jobs only, or restoring/archiving material at a certain time of day. This allows larger broadcasters with multiple drives to further improve operational procedures.

FlashNet archive control, updated to provide support for Avid Web Services and Sony Optical Disc Archive (ODA). Whilst the fully implemented Avid Interplay Archive provides a seamless user experience, smaller work groups may require a paired down version. SGL's support for Avid Web Services means that customers can use the archive capabilities that they currently require but can deploy Avid Integrated Archive at any time in the future without the need to re-archive any content. SGL's integration with Sony ODA opens up a world of workflow possibilities, from disaster recovery solutions to management of archive material over disparate geographic areas. With SGL's experience of managing multiple storage devices within production, news and sport, Sony's Optical Disc Archive can sit anywhere within a workflow, not simply as an 'end of process' archive.

Disaster recovery (DR) workflows enabled by FlashNet's uniquely scalable architecture meaning that valuable assets are protected, automatically, whatever the scope of DR requirements. Rules-based implementations provide fully-automated data duplication across multiple storage layers and locations. FlashNet enables multi-site operations to mirror and synchronise data, across the globe. If one site becomes inoperative, it can be rebuilt entirely from data that has been replicated to other sites. FlashNet is also fully integrated with Aspera allowing broadcasters and content owners to transfer media to the cloud at a guaranteed speed, providing alternative storage and disaster recovery workflows.

Support for LTO-7 specifications, for tape cartridge native storage capacity of over 6TB, more than twice the compressed capacity of the previous generation, and tape drive data transfer rates of up to 750Mits/second for over 2.7 terabytes of storage performance an hour per drive. As with previous generations, LTO-7 drives will provide backward compatibility with the ability to read and write LTO generation 6 cartridges and read LTO generation 5 cartridges, helping to preserve media investments and ease implementation.

## Sliide Airtime launches Africa's first lock screen content delivery platform

NIGERIA IS THE launch market for a new service developed by **Sliide Airtime.** The service provides users with a new and innovative way to access content from their mobiles and simultaneously earn free airtime.

Nigerian users will be able to download the Android app from the Google Play Store or directly from sliideairtime.ng from March 2016. After entering information about their age and interests (for example: business, celebrity, football, style, music), users will receive personalised content when unlocking their phone, including news and stories handpicked from media sources both in and beyond Nigeria, and updated 24/7/365. They will also see a selection of branded content delivered through a partnership with **Twinpine**, the largest mobile advertising network in Africa.

Sliide Airtime users will receive free airtime simply by having the app on their phone. Additional airtime can be earned by completing in-app offers and, for a limited time, users will be able to earn 100N for every friend they sign up. Sliide Airtime users simply give their friends their unique promotional code (given to each person upon registration), and they will both earn 100N when the friend joins.

Sliide Airtime is a privately-held technology company with offices in Lagos and London. Its content delivery platform is changing the way people interact with their phones by subsidising their airtime.

The team brings years of experience in the mobile, software, and advertising industries, along with a company-wide entrepreneurial spirit that spurs innovation and disruption.

Sliide Airtime's founder and CEO Corbyn Munnik was born in South Africa and grew up in Botswana where his family still lives. Corbyn said, "Sliide Airtime is a new and innovative way of funding mobile Internet access in countries where data charges are high.

"In Nigeria it will help overcome the problem of expensive data and gives advertisers a smart new way of targeting and reaching consumers with customised content."

Sliide Airtime also enables mobile operators to integrate the app within new devices and establish their own content streams, thus providing a new mobile advertising revenue stream.

### The Nigerian market

According to the **GSMA's** 'Digital Inclusion and the Role of Mobile in Nigeria' report published in October 2015, mobile connectivity in the country now reaches more than 83mn unique subscribers, or 45 per cent of Nigeria's population. However "Affordability is a concern for many Nigerians, particularly those with lower incomes. The cost of using a mobile phone represents around five per cent of personal income in Nigeria, which significantly exceeds the cost in many other developing countries."

'Africa Market Outlook', published by research company **Ovum** in November 2015, says that "Nigeria has the largest mobile market on the continent in terms of subscriptions with 139.3 million subscriptions at the end of 2014."

The team at Sliide believes that with services like WhatsApp, Facebook, Instagram, Twitter and Eskimi all growing in popularity in Nigeria, there is an increasing need to find new ways to help Nigerians pay for internet access. The Sliide Airtime service gives consumers the ability to earn free airtime, whilst also keeping up-to-date with all their favourite news and gist. Adrian Wood, the former CEO of MTN Nigeria, is on the board of Sliide Airtime. He said, "Accessing the internet from a mobile device is expensive for many Nigerians. The Sliide Airtime app provides them with a straightforward way to subsidise their surfing and get access to content that they not only find useful, but is carefully targeted and non-intrusive."

Prior to the Nigerian launch, the Sliide Airtime app was extensively tested in the UK where the company received financial backing from a number of organisations including **UK Trade and Investment (UKTI)** and **Draper Dark Flow** (a Silicon Valley venture capital fund for African startups) established by Tim Draper, whose venture successes include Skype, Baidu, and Hotmail.

## Lumia 550, le smartphone Windows 10 utile et rapide

LE MICROSOFT LUMIA 550 est un smartphone 4G accessible offrant le meilleur de l'expérience Windows 10 pour encore plus de productivité. Il équipé de Windows 10 et de ses innovations, synchronisé au PC de son utilisateur via One Drive, il est pensé pour faire les choses vite et bien grâce à Cortana, Edge ou encore le multitâches.

Avec Windows 10, une nouvelle ère s'est ouverte, où profiter du meilleur de la technologie sur des écrans de toutes tailles est plus que jamais une réalité. Les nouveaux Lumias permettent aux utilisateurs de libérer leur potentiel pour accomplir toujours plus, naturellement. Toutes les innovations de Windows 10 accessibles sur des smartphones à la pointe de la technologie, pour encore plus de productivité.

Le Lumia 550 est le compagnon idéal d'un PC ou d'une tablette Windows 10. Les applications Microsoft Office s'adaptent à son écran HD de 4,7 pouces et permettent de consulter, créer et éditer des documents en toute mobilité. Avec Cortana, être prêt et organisé en permanence devient naturel grâce à ses rappels délivrés au bon moment, au bon endroit, sur tous les appareils Windows 10.

Avec sa connexion internet 4G ultra rapide combinée à la puissance du processeur quad-core Qualcomm Snapdragon et de 1Go RAM, le Lumia 550 offre le meilleur de Microsoft aux utilisateurs à la recherche du meilleur prix sans faire de compromis sur la qualité et l'innovation.

Le Microsoft Lumia 550

## Entrepreneur Club, pour les start-ups d'Afrique et du Moyen-Orient

ORANGE LANCE ENTREPRENEUR Club, un nouvel espace d'information en français et en anglais dédié aux créateurs d'entreprises d'Afrique et du Moyen-Orient.

Le site renseigne les entrepreneurs et les met en relation avec les différents dispositifs d'Orange qui soutiennent l'entrepreneuriat. Entrepreneur club propose également des informations pratiques et des outils nécessaires à la création d'entreprise.

Les entrepreneurs d'Afrique et du Moyen-Orient contribuent au développement et au rayonnement de leurs pays. Orange collabore avec eux au quotidien en leur fournissant des accès data et voix de qualité. Orange soutient aussi petites et moyennes entreprises de la région dans le cadre de sa politique de responsabilité sociale d'entreprise, par exemple à travers le Prix Orange de l'entrepreneur social en Afrique ou encore en travaillant avec de nombreux incubateurs locaux (CTIC au Sénégal, CIPMEN au Niger, etc.).

Entrepreneur Club redirige l'entrepreneur vers les dispositifs de l'écosystème adaptés à sa situation. L'entrepreneur trouve ainsi des informations pertinentes sur de nombreux aspects de son métier : environnement légal, fiches pédagogiques, bonnes pratiques, astuces, témoignages vidéo, etc.

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## The African Coast to Europe (ACE): a 17,000 km long broadband optical submarine cable between Africa and Europe

### Phase one project

3 segments in service:
- France - Senegal,
- Senegal - Côte d'Ivoire
- Côte d'Ivoire - Sao Tome & Principe

14 countries connected on the coast,
2 landlocked countries

### Phase two project

Phase2, under construction or planned:

- Extension from Sao Tome & Principe - South Africa
- Canary Islands - Benin - Nigeria to be operational May 2015
- Republic of Cameroon - Democratic Republic of Congo - Angola - Namibia


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ACE

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