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for digital transition

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Meshed transport infrastructure for more efficient operations

Satellite
African access to broadband Internet with AMOS-6

Réseau
Un nouveau co-processeur optique ultra rapide et économique

Atul Madan, Mahindra Comviva, in digital services

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FEATURES: ● Internet ● Mobile ● Infrastructure
REGULAR REPORTS: ● Bulletin - Agenda ● Solutions

More than global.
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CONTENTS

A note from the Editor

This issue of Communications Africa/Afrique analyses planning and optimising radio access networks, the emergence of digital data centres, meshed transport networks for sustainable operations, and the integration of operations into CEM frameworks. This issue appraises satellite infrastructure, including high throughput satellite technology and access to broadband Internet. With respect to content management and broadcasting, herein are reports on publishers of and platform providers for digital content, and why the next edition of NAB showcases innovations in IP architectures. On commerce and economy, this issue offers an overview of enterprise technology and digital advertising.

Main Cover Image:
Shutterstock/Monkey Business Images
Inset: Mahindra Comviva

Une note du rédacteur

DANS CE NUMÉRO de Communications Afrique/Afrique, il y a un article sur un nouveau co-processeur optique ultra rapide et économe en énergie. Il y a aussi un article sur le site de SUNREF, le label finance verte de l'AFD, qui représent les opportunités de la transition écologique.

Cyber security spending in oil and gas to reach US$1.9bn by 2018

Published by **Bloomberg,** the Middle East Cyber Security Landscape indicates that worldwide spending on cyber security for oil and gas infrastructure will reach US$1.9bn by 2018; however, with 70 per cent of regional IT decision makers lacking complete confidence in their company's cyber security policies and capabilities to defend them against emerging threats, there remains a concern that companies in the Middle East may not be prepared to combat the diversifying threats in the region.

ZTE wins GTI award for outstanding contribution on innovative solution and application

Telecommunications, enterprise and consumer technology solutions provider **ZTE Corporation** has been presented with the 'outstanding contribution on innovative solution and application 2015' award at the Global TD-LTE Initiative (GTI) ceremony held recently in Barcelona, Spain, during Mobile Wold Congress; ZTE won the award for its innovative "comprehensive uplink enhancement solution" as well as outstanding contributions to promoting the development of the time-division long term evolution (TD-LTE) industry.

Telecom Italia Sparkle Sicily Hub expands reach by adding MENA Cable Landing Station in Mazara

The international services arm of **Telecom Italia Group,** TI Sparkle's latest data centre in Palermo has expanded its reach by including MENA Cable's landing station in Mazara, Sicily; located closer than any other European peering point to North Africa, the Mediterranean and the Middle East, TI Sparkle's Sicily Hub is served by Seabone, TI Sparkle's Tier 1-grade Global IP Transit service, while its open and resilient configuration supports carriers and ISPs that want to enhance the redundancy of their networks.

RR Media merges with SES Platform Services to provide media solutions globally

Audio-visual content provider **SES Platform Services GmbH (SES PS)** has reached an agreement with global digital media services provider **RR Media** to merge operations; the new, stand-alone media services provider offers highly optimised content management and distribution solutions that utilise the combined network of SES PS and RR Media exploiting their multiple satellite positions as well as a large fibre network and the Internet, in order to maximise audience reach and add monetisation capabilities.

Elitecore showcases monetising capabilities for all IP networks at MWC 2016

BSS, packet core and carrier Wi-Fi solutions provider **Elitecore Technologies** showcased its monetisation capabilities for all IP networks at the Mobile World Congress 2016 in Barcelona, Spain; Dhaval Vora, VP Product Management, Elitecore Technologies says, "At a time when operators are under tremendous pressure to launch next generation services to maintain high customer experience, improve ARPU and increase subscriber base, Elitecore gives service providers a significant data monetisation advantage, through its network agnostic platform, which can be seamlessly integrated in a multi-vendor, multiple IT scenario with various mobile core components resulting in reduced time-to-market for new offerings and enabling operators to monetise their next-generation services more effectively faster than the competition."

Orange and Google work to increase access to mobile internet services across Africa and the Middle East

Communications services provider **Orange** has formed a new partnership with Google to bring the best of mobile internet across its full African and Middle Eastern footprint, combining the strength of Orange's mobile network and mobile expertise with Google's mobile applications, offering customers the best of both partners in terms of access and content through an all-inclusive digital communication package; "As the first pan-Africa and Middle East mobile partnership with Google on this scale, we are able to bring direct value to our customers by offering the best access and services to ensure they get the most out of the mobile internet," said Yves Maitre, executive vice president of connected objects and partnerships at Orange.

WIOCC establishes remote peering internet exchange services

Capacity provider **WIOCC** has established remote peering internet exchange points (IXPs) in Virginia (Equinix Ashburn), New York (NYIIX), Amsterdam (AMS-IX) and Frankfurt (DE-CIX), giving its customers enhanced access to the global internet while also enhancing WIOCC's network connectivity redundancy.

"WIOCC is a truly customer-focussed organisation, committed to providing enhanced products and services to meet our customers' evolving needs. By establishing these IXPs, we have made it even easier for our customers to do business around the world," explained WIOCC COO Ryan Sher.

WIOCC now has direct connection to over 1,100 more networks through Equinix's Ashburn Virginia Internet Exchange, an additional 700 networks on AMS-IX (Amsterdam Internet Exchange), over 650 on DE-CIX (Deutscher Commercial Internet Exchange in Frankfurt) and more than 160 on NYIIX (New York International Internet eXchange).

"These IXPs make even more bandwidth available to WIOCC's international carrier and ISP customers, who can also now access a wider pool of content providers and services that rely on high-speed, low-cost connectivity," said WIOCC's Ryan Sher.

WIOCC's IP network
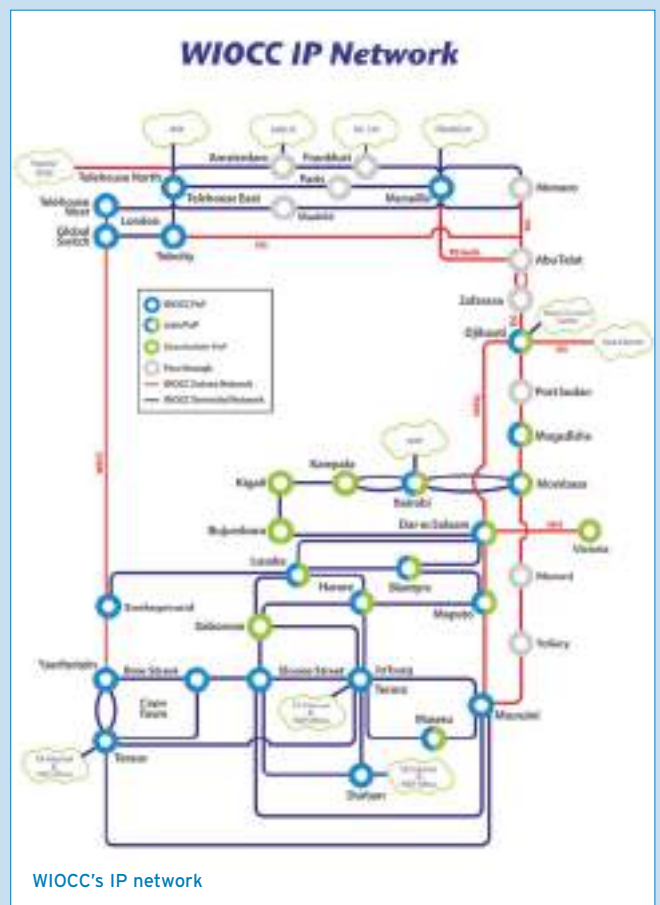
Remote power just got easier....

FG Wilson's latest generator set range (6.8 – 22 kVA) now offers up to 1,000 hours between services as a result of the Perkins approved extended service option, including automatic lube oil top up system, and double fuel filter housing.

The newly designed long running fuel tanks offer up to 2,000 litres in capacity and improved security measures protect your fuel and internal components from theft and vandalism. State-of-the-art control systems allow you to monitor and control your generator sets remotely, making them ideal for isolated locations. These enhanced features will result in fewer site visits and greater cost savings.

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Le câble sous-marin très haut-débit SEA-ME-WE 5 atterrit à la Seyne-sur-Mer

LE CÂBLE SOUS-MARIN SEA-ME-WE 5 (South East Asia-Middle East-Western Europe 5), dont la mise en service est prévue au deuxième semestre 2016, a atterri en France à la Seyne-sur-Mer pour être connecté à la station de câble sous-marin **Orange** de Toulon; long de 20 000 km, le câble SEA-ME-WE 5 vient renforcer l'axe Europe-Asie en offrant des capacités supplémentaires mais aussi en garantissant la protection des flux voix et données des autres câbles.

Le premier prix réellement Ouest africain pour les technologies et sociétés de téléphonie mobile

SOUTENU PAR **MOBILE West Africa (MWA), AppsAfrica.com** et **Mobile Ecosystem Forum (MEF),** le West Africa Mobile Awards (WAMAS) aura lieu le 21 Avril à Lagos, au Nigeria, en présence d'un public de pairs industriels, juges respectés, sponsors, médias et de partenaires et ce pour une soirée de célébration et de networking; les prix récompensent les marques mondiales, start-ups dynamiques, et les individus visionnaires qui façonnent le contenu mobile et le commerce en Afrique de l'Ouest. Les inscriptions sont gratuites et retenues dans 10 catégories afin d'assurer une chance pour tous.

Progrès dans l'élaboration de la norme 5G pour les IMT-2020

L'INSTANCE DE L'**UIT** qui s'occupe d'élaborer des systèmes de Télécommunications mobiles internationales (IMT), à savoir le Groupe de travail 5D de l'UIT-R, se réunit à Beijing (République populaire de Chine) pour faire avancer les travaux sur les IMT-2020 – la norme qui s'applique aux systèmes mobiles 5G; "Le développement des IMT-2020 s'accélère et le GT 5D de l'UIT-R joue un rôle clé dans les questions de normalisation internationale et d'attribution de spectre pour la 5G," a dit M. Liu Lihua, Vice-Ministre au Ministère de l'industrie et des technologies de l'information (MIIT) de la République populaire de Chine.

L'UIT réaffirme sa détermination à agir efficacement et rapidement dans les situations d'urgence

LA JOURNÉE MONDIALE de la radio, qui a célébré le 13 février, a mis en avant le rôle de la radio pour gérer les catastrophes et faciliter le retour à la normale; "Il est vital de collaborer et de partager les expériences afin de faciliter la planification préalable aux niveaux national et régional et l'**UIT** est résolument déterminée à faciliter l'organisation rapide et efficace d'opérations de secours en cas d'urgence," a déclaré le Secrétaire général de l'UIT Houlin Zhao.

Le Secrétaire général de l'UIT Houlin Zhao

Orange présente ses innovations au MWC

AU MOBILE WORLD Congress 2016, **Orange** a été conçu autour de piliers correspondant chacun à un thème:

Technologie
En partenariat avec **Cisco** et **Nokia**, Orange fait la démonstration d'un réseau virtualisé parfaitement fonctionnel.
Orange, Akamao et HPE font la démonstration du premier CDN Virtualisé Orchestré par NFV.
Proposer un réseau plus écologique avec une antenne 5G qui peut potentiellement consommer 100 fois moins d'énergie.
Maintenance prédictive grâce à des capteurs basés sur la technologie LoRa et les offres Datavenue, Live Objects et Flexible Data.

Travail
Orange Partner dévoile Orange Developer, son nouveau programme d'API et sa plateforme pour développeurs.
La pépinière Orange Fabs présente les derniers succès issus de ses partenariats avec des startups.

Care
La solution de compteurs intelligents d'Orange Energy aide les entreprises de services publics à augmenter leur chiffre d'affaires.
#303 My Store – un nouveau service USSD d'Orange qui permet à des services dynamiques d'être déployés en quelques minutes.

Giesecke & Devrient: fournisseur de solutions complètes pour les dispositifs portables connectés

APRÈS AVOIR FOURNI une technologie de paiement pour les bracelets intelligents comme le bracelet chinois « JiePay » ou pour les montres intelligentes telles que la « Swatch Bellamy », ainsi que la connectivité pour la « Samsung Gear S2 », **Giesecke & Devrient** est devenu l'un des acteurs principaux sur le marché des dispositifs portables intelligents.

Pour Stefan Auerbach, directeur du secteur d'activité « Mobile Security » du groupe, « les objets intelligents vont très vite connaître un essor considérable dans le monde connecté. G&D a fait ses preuves dans ce domaine avec son expertise en matière de sécurité. Pour les dispositifs portables tels que les montres, les bracelets connectés (fitness/bien-être) ou d'autres accessoires, les fonctions de paiement sont intégrées de manière standard

et nous espérons que cette tendance s'étendra aux autres appareils. La sécurité des applications de paiement est d'une importance capitale. La protection des données et de la vie privée est indispensable pour que ces applications soient adoptées sur le marché et surtout par les consommateurs. »

Selon l'**International Data Corporation (IDC)**, les ventes relatives aux dispositifs portables atteindront un total de 215 millions d'unités en 2019 sur le marché mondial. Le marché des dispositifs pour poignets tels que les montres et les bracelets est le secteur le plus populaire parmi les dispositifs portables et passera de 65 millions d'unités vendues en 2015 à 124 millions en 2019. Il est très probable que la prochaine vague de dispositifs portables prendra en charge le paiement sécurisé, des mécanismes

d'identification pratiques et sécurisés, les fonctions de transit via des technologies sans contact NFC ou Bluetooth Low Energy (BLE), ainsi que le téléchargement d'applications mobiles. La connexion sans faille entre le dispositif portable intelligent et le téléphone portable du consommateur permet à ce dernier d'avoir accès à son compte en banque et d'effectuer des virements et autres services de gestion de compte à distance. Plusieurs dispositifs portables fourniront également des données biométriques, ce qui permettra, entre autres, de faire la distinction entre le porteur légitime et une autre personne. Plus tard, de nombreux dispositifs portables intelligents pourraient être vendus avec des cartes SIM embarquées activables depuis un smartphone, permettant ainsi la connectivité autonome.

The tech at MWC to connect African companies

VIRTUALISED SOLUTIONS AND services and new operational models have the potential to transform African mobile network operations.

Vendors and operators around the world took centre-stage at the 2016 edition of Mobile World Congress to showcase equipment, software and services designed to deliver virtual reality, Internet of Things (IoT) capabilities, connected city solutions and 5G networks. Many of the 90,000 visitors to the event were inspired by sophisticated telecommunications engineering for advanced network environments.

However, there was another focus at MWC 2016. Ongoing concerns around the need to connect the unconnected were once again brought to the fore thanks to the unceasing interest of Mark Zuckerberg.

Corporate goals for connected communities
Speaking to a packed audience, Zuckerberg was keen to stress that his personal involvement, internet.org and Facebook's Free Basics programme aren't about making money but about getting people online. He emphasised that Facebook didn't start out as a company for making profits, but sometimes, a for-profit company is a good way to change the world. He also chastised the industry for its focus on 5G which he said is about providing really fast Internet to rich people and to things. He implored the industry to finish what it had started and concentrate on getting everyone in the world online.

Of course, this is an admirable goal with internet.org clearly making a difference in parts of Africa. However, many operators remain somewhat suspicious of Facebook's motives and rightly so as it continues to push OTT apps.

However, the telecoms giant continues to try and build bridges launching its Telecom Infra Project (TIP), which unites various IT and comms companies around the goal of sharing information about designing cellular networks to reduce the cost of bringing data to underserved areas.

Support for deployment
African Mobile Network (AMN) was one of the launch companies for TIP which of course fits in with its mission of building new base stations with the goal of connecting nearly 40mn Africans in more than 10 countries. However, the list of supporting companies was notable for not including a number of companies which have developed equipment which is already being used to build networks in rural Africa including World Telecom Labs (WTL), Gilat Satcom and Nuran Wireless. Insiders speculated that TIP had been rushed through without a proper analysis of the vendors which are already active in providing connectivity in rural Africa.

Indeed, World Telecom Labs used the show to talk about its rural deployment with AMOTEL, Tanzania's first licensed MVNO, bringing voice and data to remote rural villages close to Lake Tanganyika in the Katavi Region of Tanzania.

Meanwhile, Mike Cassidy from Google's Project Loon said that its plans to build cell towers in the sky using balloons which are 20km high are progressing well with pilots in India, Brazil, Sri Lanka and Indonesia. During a panel discussion, he commented that operators view the balloons as a cost saving rather than a cost and are delighted at the prospect of having an alternative to BTS powered by diesel gensets.

Studying the state of connectivity
At the show Facebook also took the opportunity to launch State of Connectivity 2015: A Report on Global Internet Access, its second annual study about the current state of global internet connectivity. According to the report, at the end of 2015, estimates showed that 3.2bn people were online up from three billion in 2014. However, globally 4.1bn people were still not Internet users in 2015.

Again, the report contained no great surprises to those working in

Facebook founder Mark Zuckerburg speaking at Mobile World Congress 2016

Africa. The four key barriers to connectivity identified were:
- Availability – the absence of infrastructure to provide services where people live.
- Affordability – high costs of services and personal devices relative to people's incomes.
- Relevance – shortage of relevant local content online in the languages people speak.
- Readiness – lack of literacy, digital skills, awareness and understanding of the Internet, or cultural acceptance.

Commitments to connections
Meanwhile show organisers, the GSMA launched its Connected Women Commitment Initiative, aimed at connecting millions more women in low- and middle-income countries by 2020. GSMA research estimates there are 200mn fewer women than men who own a mobile phone in low- and middle-income countries And that even when women do own a mobile device, they are far less likely to use it for more sophisticated services, such as mobile Internet and mobile money, and therefore miss out on key socio-economic opportunities. No African operators have yet signed up to the initiative.

Other vendors with interesting offerings in Africa who were exhibiting at the show this year included MTN's strategic IT partner Tecnotree, whose CTO Timo Ahomaki was discussing how the company is developing convergent billing and customer care solutions specifically for Africa - recognising that in most countries pre-paid will continue to dominate in the near future. Elsewhere, Sergio Silvestre, global CMO from Portugal's Wedo explained revenue assurance, mediation, billing and CRM systems deployed within Africa, as well as noting that the company is also helping operators to control their infrastructure assets.

As ever, MWC proved to be an inspiring place for vendors and operators to share ideas and outline the latest technological innovations, and Africa was a central focus. The GSMA next offers a dedicated focus on Africa at the Mobile 360 event in Tanzania from 26-28 July (www.mobile360series.com/africa).

Events/Événements 2016

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
16-21	**NAB**	Las Vegas, USA	www.nabshow.com
25-29	**IEEE/IFIP Network Operations and Management**	Istanbul, 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
24-25	**IOTAS**	Johannesburg, South Africa	www.iotafricasummit.net

JUNE/JUIN

22-24	**Convergence World Africa**	Nairobi, Kenya	www.convergenceafricaworld.com
28-30	**5G World**	London, United Kingdom	5gworldevent.com

Facebook strengthens ties with Nigerian businesses at Social Media Week in Lagos

GLOBAL SOCIAL MEDIA entity **Facebook** has recently highlighted its commitment to Nigerian content partners and developers with a full calendar of workshops, masterclasses and events at Social Media Week in Lagos, a week-long conference representing an ideal opportunity for Facebook to showcase its commitment to local partners as well as share its latest best practices with Nigerian content companies and developers.

Social Media Week Lagos provided the ideas, trends, insights and inspiration to help people and businesses understand how to achieve more in a hyper-connected world. The event featured a central stage for keynotes and panels, multiple rooms for workshops, masterclasses and presentations, and an area dedicated to co-working, networking and interactive installations. The principal mission was to help people and organisations connect through collaboration, learning and the sharing of ideas and information. Emeka Afigbo, product partnerships manager at Facebook, said, "With 16mn people in Nigeria visiting Facebook each month, we are constantly looking for ways to deepen our partnerships in the country. Social Media Week in Lagos was a perfect opportunity for us to spend time with the Nigerian developer and content community to share expertise and get feedback to shape our strategy going forward."

As a strategic product partnerships manager

for Internet.org, a Facebook-led initiative with the goal of bringing internet access and the benefits of connectivity to the two-thirds of the world that doesn't have them, Emeka Afigbo works with different content partners and developers in Europe, Middle East and Africa as part of Internet.org's drive to bring relevant content online in a sustainable manner in parts of these regions where relevant content on the internet is a challenge. At Social Media Week, Mr Afigbo also said, "We were inspired by the innovative thinking that we saw from the Nigerian partner community, and look forward to working with them to deliver rich, personalised services and solutions for people and businesses in West Africa. Nigeria's agencies, people, and businesses are ahead of the curve in using mobile-first solutions to connect."

Highlights of the week included: A Media Partnerships Masterclass; The Instawalk Walking Photo Tour – The Africa You Don't See; a Women in Tech: Nigeria Chapter; a Masterclass on The Internet of Me – making connections, building community and sharing your voice presented with She Leads Africa and a Facebook media breakfast.

The week culminated with a Developer Day and Codelab, at which Facebook experts worked with top Nigerian developers on growth hacking and the design of social apps using the Facebook platform.

Developers were given advice about how to increase their consumer base and engagement using tools such Facebook Social Graph, Analytics for Apps and other APIs. The programme included a heavy focus on mobile development, especially on the Android platform.

Facebook also updated the Nigerian market about the progress of Free Basics, a programme that brings relevant basic internet services without data charges to people in growing countries. It has added a number of new partners to the Free Basics ecosystem, including the SmartBusiness web site (http://Change-Corp.com/apps/smartbusiness), which helps people obtain the information needed to launch and run businesses using any web-enabled phone or computer.
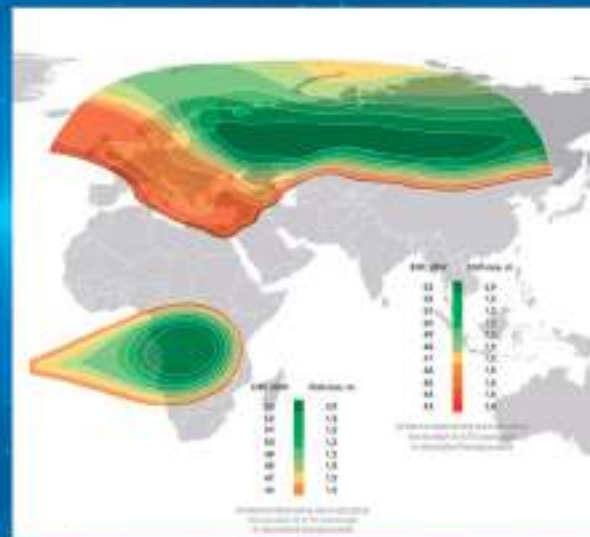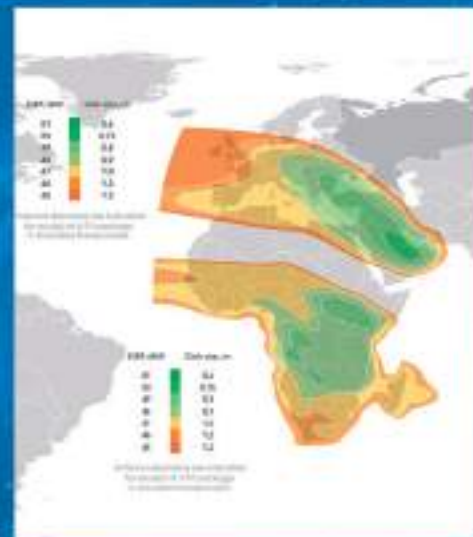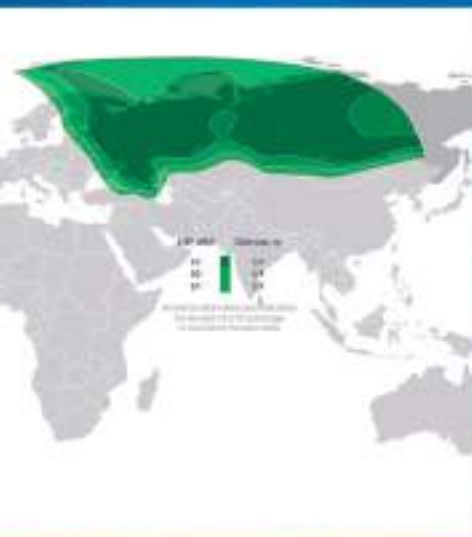
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YAMAL-402

YAMAL-202

www.gazprom-spacesystems.ru

YAMAL-402

ORBITAL POSITION 55E

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Building Africa's biggest data centre

IN A BUILD comprising 17,500sqm, **Teraco**, Africa's only vendor neutral data centre, will be adding to its existing colocation facility and creating Africa's largest data centre.

The build is not just an extension of services and white space, but a milestone for Teraco and the African data centre industry. Gys Geyser, head of operations at Teraco, said, "In this expansion of our footprint, we are achieving what few companies have; building the largest data centre in Africa in accordance with modern international standards."

The build brings the total size of the Isando facility to 9000sqm of white space and 18,500sqm of utility space. He says that the volume of data centre space is directly related to the power feed negotiated with the local council. Gys Geyser said, "We now have a total of 16MVA of power, which will ensure that we can adequately power the all the data centres, as well as ensure that they are properly cooled and maintained."

Initially launched seven years ago, Teraco has quickly established itself as the leader in terms of data centre operations in Africa. Gys Geyser said, "We have seen an increase in demand based on the number of local and international cloud, content and network providers coming into Africa, as well as from existing clients. Teraco has also seen growth in the ICT sector, particularly from within the managed service provider segment."

With an estimated 18-month build time, Teraco's new site should be operational towards the end of 2016. He says that there are some unique elements included in this build such as the approach to cooling.

Gys Geyser said, "Teraco has implemented a Dynamic Free Cooling system. We have taken what has worked in our previous deployments and applied the latest technology and best practices. Additional support services have been added, such as a water supply system to ensure that

Teraco is Africa's only vendor neutral data centre

our environment can operate independently from council for a period of time, guaranteeing uptime and availability. Aiming for a low power usage effectiveness (PUE) rating, the new cooling systems will definitely assist Teraco to achieve greater efficiencies."

After completing an Environmental Impact Assessment, Teraco was granted permission to store 210 000 litres of diesel on site. This is a significant achievement and will enable Teraco to run all the data centres for a minimum period of 40 hours at maximum load, again guaranteeing uptime.

Gys Geyser said, "The overall design and build of the new data centre is focused on achieving international data centre design, build and operating standards but with our clients' current and future needs in mind."

NETIA's new products at CABSAT

At CABSAT 2016, **NETIA** exhibited with its parent company, **Globecast**, showcasing the full NETIA Media Assist digital audio software suite, which includes radio automation (production, newsroom, scheduling, and playout modules), media asset management, and workflow management solutions. NETIA highlighted new product features that enhance the flexibility and reliability of multichannel FM radio and Web radio playout and new capabilities that enrich multimedia production, as well as mobile and remote production workflows. The company also demonstrated its ability to integrate complex production ecosystems and simplify the publishing of content and data to the second screen.

AirPlayList 2.0 Module for NETIA Media Assis

Fully integrated into the NETIA Media Assist software suite, the AirPlayList 2.0 module facilitates automated playout of multiple radio channels simultaneously and with guaranteed redundancy. Recognised with a Best of Show Award at IBC2015, the module makes it easier than ever to launch and maintain new Web radio services. It provides targeted encoding of audio streams for CDNs such as Shoutcast and Icecast.

SSL offers fully-networked broadcast audio

AUDIO TECHNOLOGY SUPPLIER **Solid State Logic** introduces System T at NAB 2016. Designed from the ground up to provide the power to handle large-scale productions in a

A range of System T control interfaces can be connected anywhere on the network

'multi-platform delivery' driven future, System T is a new fully networked broadcast audio production environment. A range of hardware and software control interfaces can be placed anywhere on a network with up to three consoles or control interfaces accessing a single or fully mirrored redundant pair of processor 'Engines'. Multiple processor engines can be used on a single network. Control interfaces and processing resource can be re-configured to suit daily requirements. Routing and I/O is Dante based with System T featuring Dante HC (High channel) connectivity. SSL's expanding Network I/O range puts SSL audio quality Stageboxes and interfaces wherever they are required in a facility. With Dante exceeding the 500 product landmark, System T has plug-and-play discoverability and interoperability as central principles. System T features a wealth of innovation in technology and conceptual design and delivers the versatility to create previously impossible system configurations and to handle future expansion.

Antony David, managing director of Solid State Logic, commented, "Since our IBC preview System T has gained significant attention worldwide. With the first production units due to ship in April, NAB is a pivotal moment for a technology platform at the beginning of its life. The versatile and forward-thinking approach to broadcast audio production within System T enables broadcasters to plan for the future, and adapt in the future."

Global Xpress tops Inmarsat's Satellite agenda

INMARSAT HIGHLIGHTED ITS latest technologies and services, including the benefits of its cutting edge Global Xpress (GX) worldwide constellation, at Satellite 2016, the largest global forum for satellite communications.

The past 12-months have been a strategically important period for the FTSE-100 satellite communications company. Last year, Inmarsat launched the final two satellites required to complete global coverage for the GX constellation. Global 'switch-on' of the Ka-band service was achieved in December 2015, enabling Inmarsat to be the only company able to deliver high-speed, high-volume broadband services, seamlessly across the world.

During 2016, market-specific, GX-powered services will continue to be rolled-out and the company aims to have achieved an annual revenue run-rate for GX of $500 million by the end of 2020, the fifth anniversary of the introduction of globally available commercial GX services. Last week, Inmarsat confirmed the intention to launch its fourth GX satellite, Inmarsat-5 F4 ('I-5 F4'), in the latter part of 2016.

At the end of last year, Inmarsat also confirmed its long-term commitment to delivering advanced L-band services with the announcement that Airbus will build the first two satellites in its sixth generation, Inmarsat-6 constellation.

The first Airbus-built, dual-payload satellites, featuring both L-band and Ka-band, represent a step change in the capabilities and capacity of Inmarsat's L-band services and will be capable of supporting a new generation of more advanced services. The Ka-band co-payload adds depth to the global breadth of the unique capabilities of the GX constellation, and will deliver incremental revenue opportunities for the minimum 15-year design life of the satellite.

Rupert Pearce, CEO of Inmarsat, said, "This year is a very important year for Inmarsat as we roll out services following the global 'switch-on' of Global Xpress. This is a technology which is operational now and we expect to make a significant market impact in the next five years. We are also continuing to invest in the future and the I-6 satellite will provide our customers with further cutting edge capacity and capability."

SEA-ME-WE-5 submarine cable system arrives in Djibouti

DJIBOUTI TELECOM HAS completed the landing of the SEA-ME-WE-5 submarine cable system in Haramous, achieving its primary goal of turning Djibouti into a major regional and global hub for telecommunication. The inauguration ceremony took place in the presence of His Excellency Mr Ismaïl Omar Guelleh, President of the Republic of Djibouti and the Minister of Communications, Posts and Telecommunications, Mr Ali Hassan Bahdon.

SEA-ME-WE 5 has a total length of 20,000 km and connects 17 countries across South-East Asia, the Middle East and Western Europe, including France, Saudi Arabia, India and Malaysia.

The cable is designed to provide broadband communications with a capacity of 24 terabytes per second. The system is based on a new generation of DWDM technology and can support a throughput optical channel of 100 gigabytes. This capacity will enable the provision of Internet TV, high definition video and other broadband services.

Construction work on SE-ME-WE 5 commenced in September 2014, supported by an international consortium of 17 major telecommunications operators.

SEA-ME-WE 5 will become one of the keystones of the various submarine cable systems that already pass through Djibouti, such as EASSy, EIG, SEA-ME-W3, Djibouti-Aden and Seacom. In February 2015, Djibouti Telecom hosted the AAE-1 submarine cable connecting Asia, Africa and Europe.

The new cable will play an important role in strengthening the inter-connectivity of Djibouti's regional partners in Europe and the Far East. In addition, SEA-ME-WE 5 will be connected to Djibouti's data centre, enabling all operators to have their own Internet point of presence (PoP).

The SE-ME-WE 5 submarine cable is funded by a consortium of three banks: the **French Development Agency (AFD), the Islamic Development Bank (IDB),** and the **Djibouti BCI–BRED.**

In 2012, Djibouti Telecom initiated the development of all these submarine cable projects in order to acquire the latest generation technology.

Airtel, Tigo and Vodacom agree on mobile money interoperability

CUSTOMERS AT **AIRTEL**, Tigo and Vodacom can now seamlessly send and receive money across networks, thanks to an agreement among three of Tanzania's leading telecom operators.

With Vodacom joining Tigo, Airtel and Zantel's existing partnership, today Tanzania becomes the first African market with full interoperability for mobile money peer to peer (P2P) transfers.

In 2014, Tigo, Airtel and Zantel announced a pioneering interoperability agreement. Since then, their customers have enjoyed interoperability between their mobile money accounts, which has accounted for an increase of 3.5 times the value of total off-network transactions. After announcing it would join the partnership last year, Vodacom has now implemented the deal.

Now customers using Airtel Money, Tigo Pesa and M-Pesa can conveniently send and receive funds directly to and from mobile wallets of the three providers using the same P2P tariffs.

Interoperability has been enabled by secure technical integration of the Airtel Money, Tigo Pesa and M-Pesa platforms, and aligned customer service, settlement and compliance processes between the three organisations. This will ensure that customers' funds are just as safe as always.

With over 16mn mobile financial users in Tanzania transacting the equivalent of over 50 per cent of Tanzania's GDP each month, the interoperability structured by Airtel, Tigo and Vodacom offers great benefits to both the mobile financial services market and the consumer.

Speaking in Dar es Salaam, Ian Ferrao, Vodacom Tanzania's managing director said, "This is a great evolution of the mobile money service in Tanzania and a first of its kind in the world. Vodacom is committed to creating a cashless society and through this partnership our customers can enjoy more flexible payment options and fully participate in the formal financial ecosystem. Such innovation truly speaks to financial inclusion as it helps draw more cash into the formal financial system and helps improve our customers' lives by simplifying transactions and adding speed and convenience to their daily routine."

EFF and UNESCO debate tech for learning

AN IMPORTANT GLOBAL debate was held during the recent UNESCO Mobile Learning Week in Paris, France, on the pros and cons of mobile technology in relation to life-long learning.

The 17th Education Fast Forward (EFF) Global Debate entitled Innovation and Quality: Two sides of same coin?, was chaired by Education World Forum programme director Gavin Dykes.

Speakers included Jim Knight, The Rt Hon the Lord Knight of Weymouth; Mike Sharples, professor of educational technology at The Open University in the UK; Maria Soledad Ramirez Montoya, professor and researcher at the School of Education, Humanities and Social Sciences Tecnológico de Monterrey; and Thomas M Philips, Associate Professor at UCLA.

The latest news on mobile learning was discussed with an aim to better understand the educational promises, limitations and risks of new ICT tools and pedagogies. Expert panelists examined some of the ways technology is fostering innovation throughout the education sector: at the level of systems, schools, classrooms and individuals. The panel also debated how innovations in mobile technology can best transform pedagogy.

Eutelsat opts for all-electric satellite for Africa, from Space Systems Loral

SATELLITE OPERATOR EUTELSAT Communications has entrusted Space Systems Loral (SSL) with the manufacture of a high-power broadcast satellite to serve markets in Africa, Europe, Middle East and Turkey.

Called Eutelsat 7C, the new satellite will be located at Eutelsat's 7° East position that already broadcasts over 370 channels and is one of Eutelsat's fastest-growing video neighbourhoods, serving anchor clients that include Digiturk, Turkey's leading pay-TV platform, as well as the rapidly expanding Azam TV, Montage and Muvi TV platforms in sub-Saharan Africa.

Eutelsat 7C is the fifth all-electric satellite ordered by Eutelsat, enabling the company to take advantage of reduced launch mass while retaining payload performance. Based on the SSL 1300 platform, it is the third satellite built for Eutelsat by SSL (following Eutelsat 25B and Eutelsat 65 West A, launched in March 2016 by Ariane).

Eutelsat 7C follows Eutelsat 65 West A (pictured), launched in March 2016 (Photo: Space Systems/Loral)

An enhanced two-satellite constellation

To be launched in third quarter 2018, and equipped with 44 operational Ku-band transponders, the new satellite will be copositioned with Eutelsat 7B, releasing Eutelsat 7A to another orbital location. This improved two-satellite constellation will enable Eutelsat to optimise resources across both satellites, with enhanced coverage flexibility and connectivity set to take the 7° East neighbourhood to a new level. By almost doubling capacity over sub-Saharan Africa, from 22 to 42 transponders, it will also make room for several hundred additional digital channels to support the region's fast expanding TV market.

Rodolphe Belmer, Eutelsat CEO, said, "With Eutelsat 7C, we are leveraging advanced technologies to improve synergies across two high-power copositioned satellites. In raising the bar at the 7° East neighbourhood we will be able to increase our support for clients in fast-growing video markets. We look forward to collaborating with SSL on another innovative programme."

Eutelsat 7C will also be equipped with a beam providing enhanced capacity for government services over Europe, the Middle East and Central Asia, and a beam that can be steered to cover any region visible from 7° East.

Smile Tanzania launches world-first in 4G

EAST AFRICAN MOBILE network operator Smile Communications Tanzania has introduced two 4G LTE innovations to its customers in Tanzania - SmileVoice and SmileUnlimited.

Smile is the first operator in East Africa to offer its customers Voice over LTE (VoLTE) services, giving them access to the fast growing Global standard for voice and video calling.

SmileVoice comes in two forms; using a world-first downloadable free mobile app that affords customers with Android and Apple iPhone devices the ability to make SuperClear voice calls over Smile's 4G LTE network, or through the use of a VoLTE-capable handset (such as the latest Samsung devices) plus a Smile SIM card.

SmileUnlimited offers customers 30 days of unlimited access to Smile's SuperFast 4G LTE mobile broadband service.

Eric Behner, country manager, Smile Tanzania, said, "Smile is the first mobile operator in East Africa to develop and introduce Voice over LTE, plus a world first to develop and introduce a free Voice over LTE mobile application that enables all our customers in Tanzania, with Android and iPhone devices, to experience high-quality voice calls over Smile's network.

"We are committed to improving the quality of voice and data services in Tanzania, and with SmileVoice our customers can call anyone locally and internationally, just like on any other mobile," added Behner.

AfricaXP selects Babeleye for pan-African pay TV and SVOD services

MULTILINGUAL VIDEO CONTENT Multilingual video content metadata platfted by AfricaXP to manage rich EPG metadata of its linear channels distributed to two of AfricaXP's customers. Babeleye will provide management and distribution of programming information to top TV platforms Zuku and WatchAfrica, which offers a premium subscription video-on-demand (SVOD) service. AfricaXP delivers a catalogue of African content channels via a cloud-based content delivery platform directly to broadcasters across sub-Saharan Africa and beyond.

AfricaXP had to streamline the distribution of channel programming information to partners. The Babeleye solution enables AfricaXP to easily and instantly feed ready-to-use rich metadata into their partners' electronic programme guides (EPG) and eliminate the error-prone manual preparation of data.

Hamid Ouddane, CEO of Babeleye, observed, "AfricaXP specialises in selecting, acquiring and developing the right titles for the African market, with content produced across the continent as well as internationally. Their cloud-based platform powers content delivery for a variety of pay TV, VOD and broadcast TV services. By implementing Babeleye metadata solutions, AfricaXP can more efficiently include rich programme descriptions, multilingual EPG information, and more, thus increasing its programmes' exposure and presence on partners' TV platforms," said .

African Rainbow Capital buys into Metrofibre Networx

UBUNTU-BOTHO INVESTMENTS (UBI) subsidiary African Rainbow Capital (ARC) has acquired an 18.14 per cent shareholding in managed open access fibre network and broadband fibre provider Metrofibre Networx.

Steve Booysen, executive chairman and CEO at Metrofibre Networx, said, "Metrofibre is a growing business with an excellent customer base and an unrivalled quality network that is continuing to expand into key areas throughout Gauteng."

Metrofibre Networks owns Carrier Ethernet 2.0 (CE 2.0) open access fibre network

"We believe that through our new partnership with African Rainbow Capital and the capital injection their investment into our business provides we will be able to further grow and expand our network and service offerings. It also enables us to continually innovate and invest in these stated network expansion plans," added Booysen.

Metrofibre Networx owns and manages South Africa's first globally-compliant Carrier Ethernet 2.0 (CE 2.0) open access fibre network. Apart from providing Layer 2 services to over 60 ISP's and international Telcos Metrofibre provides a host of voice and data connectivity products in the enterprise space.

Orange présente une plateforme expérimentale multi-constructeurs de réseaux à la demande en mode virtualisé

POUR RÉPONDRE À une demande de réseaux plus rapides, plus intelligents et plus flexibles, **Orange** a dévoilé une nouvelle plateforme expérimentale, preuve de concept d'un réseau mobile avancé, afin de démontrer comment les fonctions d'un réseau à la demande peuvent être conçues et déployées dans un environnement virtualisé grâce à des solutions émanant de plusieurs constructeurs. Cette plateforme a été conçue en collaboration avec Cisco et Nokia et a présentée à l'occasion du Mobile World Congress 2016. Orange a démontré comment il peut proposer des fonctionnalités avancées de virtualisation des fonctions réseau (NFV – Network Function Virtualisation) et de SDN (Software-Defined Networking) avec des résultats prometteurs en termes de temps de déploiement des services et de simplification des infrastructures réseaux et de leur exploitation. Cette technologie serait particulièrement utile, par exemple, pour les clients professionnels qui doivent gérer l'accès internet sécurisé de travailleurs nomades. Gérer son propre réseau privé virtuel (Virtual Private Network) avec une passerelle d'accès privée est un exercice généralement chronophage et représente un défi pour la plupart des petites et moyennes entreprises. La démonstration faite aujourd'hui montre comment, grâce à la flexibilité du NFV et du SDN, le cloud et la virtualisation peuvent être à l'origine de nouvelles solutions pour les entreprises en leur permettant de s'affranchir de longues démarches de mise en place et de coûts de gestion importants.

« Cette démonstration est issue d'une étroite collaboration entre **Cisco**, **Nokia** et Orange. Elle prouve que nous pouvons exploiter les fonctionnalités avancées du NFV et du SDN afin d'accélérer le déploiement de services et de proposer une potentielle optimisation des coûts, tout en améliorant la flexibilité. De notre point de vue, l'interopérabilité est un facteur clé de succès. Nous espérons que cette démonstration va inciter le reste de l'industrie à s'orienter vers plus d'interopérabilité, » a commenté Alain Maloberti, vice-président responsable d'Orange Labs Networks. Du côté du réseau, les fonctionnalités du NFV et du SDN sont exploitées pour le déploiement dynamique d'un cœur de réseau EPC (Evolved Packet Core) dédié en mode virtualisé, avec une haute-disponibilité et une évolutivité à la demande. Plus précisément, la démonstration a permis de confirmer certains bénéfices :

¦ Les infrastructures virtualisées qui intègrent des composants issus de plusieurs fabricants sont pratiques. Dans le cas présent, le projet réunit la nouvelle Ultra Service Platform de Cisco (avec un EPC virtualisé, son gestionnaire de VNF et les fonctions NSO d'approvisionnement des services de Cisco), l'infrastructure CloudBand de Nokia intégrant Nuage Networks Virtualized Service Platform et Nokia CloudBand Network Director.

¦ Les solutions virtualisées peuvent fonctionner de manière simplifiée grâce à l'automatisation et à l'orchestration. Les avantages de ce fonctionnement simplifié sont :

- Un déploiement plus rapide et à la demande de services de bout-en-bout dans un environnement distribué, de Points de Présence de nouvelle génération
- Des solutions de haute-disponibilité et de géo-redondance permettant une continuité de service bout-en-bout
- Une évolutivité à la demande, rendue possible grâce à l'ajout de ressources de manière dynamique, permettant de répondre aux demandes de fonctionnalités des clients (« élasticité »).

De meilleurs critères pour le choix des technologies d'interface radioélectrique 5G

L'INSTANCE DE L'**UIT** qui s'occupe d'élaborer des systèmes de Télécommunications mobiles internationales (IMT), à savoir le Groupe de travail 5D de l'UIT-R, se réunit à Beijing (République populaire de Chine) pour faire avancer les travaux sur les IMT-2020 – la norme qui s'applique aux systèmes mobiles 5G.

Il s'agit là de la première réunion du Groupe de travail 5D de l'UIT-R après la Conférence mondiale des radiocommunications de 2015 (CMR-15), qui a décidé d'identifier et d'harmoniser les fréquences radioélectriques requises pour l'exploitation des systèmes IMT dans les bandes de fréquences au-dessous de 6 GHz. La CMR-15 a par ailleurs demandé à l'UIT-R d'examiner l'utilisation potentielle de bandes de fréquences supplémentaires au-dessus de 6 GHz pour les IMT, études dont les résultats seront examinés par la prochaine CMR en 2019.

L'UIT continue à collaborer étroitement avec les administrations, les opérateurs de réseau, les équipementiers et les organismes nationaux et régionaux de normalisation pour inclure les activités de recherche-développement sur la 5G dans la norme mondiale IMT-2020 pour les communications mobiles large bande.

"Après que la Conférence mondiale des radiocommunications réunie fin 2015 a décidé d'attribuer des fréquences additionnelles aux services mobiles, l'UIT poursuit sa collaboration étroite avec les pouvoirs publics et l'industrie du mobile dans le monde en vue de concrétiser rapidement les promesses des IMT 2020", a déclaré le Secrétaire général de l'UIT Houlin Zhao. "Les étapes futures du déploiement de la technologie mobile 5G ont pour but de créer un nouveau type de connectivité entre les personnes et les objets dans une environnement placé sous le signe de l'intelligence et des connexions en réseau et qui englobe les mégadonnées, les applications, les systèmes de transport et les centres urbains."

Cette collaboration réussie entre les membres de l'UIT a rassemblé un grand nombre de participants et d'experts déterminés à faire progresser les travaux sur les IMT-2020 et la coordination de la normalisation internationale des systèmes 5G.

Semaine de l'apprentissage mobile 2016 : la technologie au service de la qualité de l'éducation

LES STRATÉGIES ET les pratiques qui permettent d'utiliser au mieux les technologies mobiles dans l'éducation sont au cœur de la Semaine de l'apprentissage mobile 2016 en mars.

Cet événement de cinq jours a réuni des experts de la technologie, des représentants de gouvernements, des spécialistes de l'éducation, des chefs de projets, des chercheurs et des représentants du secteur industriel venus du monde entier.

Selon des chiffres des **Nations Unies,** on recense six milliards d'abonnements au téléphone mobile dans le monde pour sept milliards d'habitants, avec un accès croissant à Internet. Les améliorations techniques des téléphones et le développement de contenus d'apprentissage dynamiques ont largement accru le potentiel éducatif des technologies de l'information et de la communication, notamment dans les zones où les manuels sont rares et l'accès à l'école difficile.

La technologie mobile s'avère particulièrement pertinente au regard des objectifs en matière d'éducation contenus dans l'Agenda de développement durable adopté par les Nations Unies en 2015. L'objectif n°4 vise à : « assurer l'accès de tous à une éducation de qualité, sur un pied d'égalité, et promouvoir les possibilités d'apprentissage tout au long de la vie ». Cet objectif souligne également le rôle que peuvent jouer les technologies de l'information et de la communication pour renforcer les systèmes éducatifs et favoriser un apprentissage de qualité.

« La technologie ne cesse d'évoluer. Dans ce contexte, la Semaine de l'apprentissage mobile permet aux spécialistes de l'éducation et aux experts en technologie de partager leurs vues et de dresser un état des lieux des meilleures pratiques qui existent en termes d'apprentissage. La Semaine de l'apprentissage mobile est un échange d'information dynamique et une opportunité pour les pays et les individus d'apprendre les uns des autres », a déclaré Mark West, qui coordonne cet événement.

❝ L'espace de messagerie s'est agrandi de manière spectaculaire, et pourtant les gens, au final, désirent un moyen rapide et facile de communiquer entre eux. Le nouveau Yahoo Messenger a été conçu avant tout pour répondre à ces besoins. Ce n'est là que le début de ce qui va suivre.

-Jeff Bonforte
vice-président senior des produits de communication et de l'ingénierie, Yahoo

Le tout nouveau Yahoo Messenger pour appareils mobiles et le Web, et dans Yahoo Mail sur ordinateur de bureau

❝ Avec Eutelsat 7C, nous nous appuyons sur des technologies de pointe pour tirer au maximum parti des synergies entre deux satellites placés à la même position, à 7° Est. En passant à la vitesse supérieure à ce pôle audiovisuel, nous pourrons intensifier l'accompagnement que nous apportons à nos clients sur les marchés à forte croissance de la vidéo. Ce projet constitue par ailleurs l'occasion d'entamer une nouvelle collaboration avec SSL sur un programme satellitaire innovant.

-Rodolphe Belmer
directeur général, Eutelsat

❝ Nous devons être en mesure de détecter les menaces à grande échelle, en utilisant à la fois une télémétrie légère et la détection d'anomalies pour dépister des signes précoces de corruption, puis de pouvoir appliquer une protection à grande échelle. Ce ne sont pas seulement les appareils des consommateurs qui sont à risque. Les domaines automobiles et industriels doivent s'assurer que la sécurité est un facteur essentiel - nous ne croyons pas que ceci sera résolu à partir des approches actuelles envers la sécurité, surtout lorsqu'il est question de systèmes traditionnels.

-Ciaran Bradley
directeur technologique, AdaptiveMobile

❝ Grâce à notre équipe Mobile for Development, la GSMA possède des antécédents éprouvés d'offre de solutions mobiles qui améliorent la qualité de vie à grande échelle, dans des domaines critiques comme l'argent mobile, la santé et la nutrition, l'agriculture, les services publics et plus encore.

-Mats Granryd
directeur général, GSMA

❝ Le taux moyen de pénétration des portables en Afrique sub-saharienne est d'environ 70 pour cent et est en augmentation rapide. Les banques africaines qui réussissent à créer des expériences innovantes sur portables auront la part du lion sur un marché sous-exploité.

-Gerhard Oosthuizen
directeur de l'information, Entersekt

"Video conferencing is gaining popularity in the enterprise space. It used to be that only large corporates could afford to take advantage of the multiple functions – not just from a virtual meeting point of view, but also to share documents, computer-displayed information, and whiteboards."

- Bennie Strydom
chief sales officer, Integr8

"Many of our mobile money partners are thinking creatively about building a broad ecosystem of mobile money as a local payments platform. Cash is increasingly becoming obsolete as emerging markets sprint ahead in the adoption of mobile payments."

- Alix Murphy
senior mobile analyst, WorldRemit

"Mobility will transform how African businesses interact with employees, suppliers, customers and other stakeholders. This ranges from mobile marketing, advertising and e-commerce for consumers to mobilising business applications such as the enterprise resource planning solutions."

- Ivan Epstein
president, Sage International; chairman, Sage Foundation

"Operators need a way to continuously ensure that their networks are correctly configured to deliver the best possible performance. But without accurate baseline information on their existing configuration, operators face a tough challenge to properly optimise their networks, and also to plan their future network strategy. With no accurate way to validate how their network is configured, operators risk losing revenue and delivering a poor customer experience."

- Atul Jain
chief executive officer, TEOCO

"Customer profiling and the number and complexity of legacy billing systems are the biggest issues to contend with. Three years ago, operators told us the exact same thing, along with problems around cost and integration of separate BSS/OSS, and yet it seems not much progress has been made to rectify this."

- Timo Ahomäki
chief technology officer, Tecnotree

"Subscribers around the world are being tracked through sophisticated attacks to the SS7 network. The increasing levels of complexity of these attacks should be of concern to operator networks; simplistic STP screening is no longer sufficient to counteract this level of attack sophistication and safeguard the mobile subscriber."

- Brian Collins
chief executive officer, AdaptiveMobile

"If we are serious about achieving universal access by 2020, we need to condense almost 30 years worth of work into the next five years. Immediate, collaborative action is required - let's work together to build open and competitive markets that can drive prices down to two per cent or less of monthly incomes, while creating innovative public access programmes."

- Sonia Jorge
executive director, A4AI

Digital transformation with advanced OSS

How TEOCO has worked with IHS Towers to plan more reliable and efficient network operations

NETWORK ANALYTICS AND optimisation solutions provider TEOCO works with more than 100 fixed and mobile operators worldwide. Operators use TEOCO's assurance and analytics solutions plus its expertise in big data and real-time monitoring, to analyse and optimise the performance of their networks faster and more effectively, run their businesses more profitably, and deliver an improved quality of service and customer experience to their subscribers.

At 2016 Mobile World Congress, TEOCO's experts talked through the latest trends and challenges facing African operators in planning and optimising their radio access networks. The company currently serves a range of African operators including a recent network sharing deal with the largest infrastructure provider in Africa, IHS Towers, which owns and operates more than 23,100 towers and guarantees 99.9 per cent network uptime reliability.

ASSET planning for more efficient mobile network operations

TEOCO has been working with IHS Towers. IHS is the largest mobile telecommunications infrastructure provider in Africa, Europe and the Middle East. It provides services across the full tower value chain – co-location on owned towers, deployment and managed services. Today, IHS has operations in Nigeria, Cameroon, Côte d'Ivoire, Zambia and Rwanda. It currently owns and operates over 23,100 towers in Africa.

IHS deployed TEOCO's ASSET tool for radio network planning to enable more efficient and effective tower-sharing agreements among its multiple African mobile operator customers.

Using ASSET, IHS has merged sites for a number of operators in order to reduce CAPEX and OPEX, while maintaining and guaranteeing quality of service for customers.

The most recent release, ASSET 9.0, 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.

"Tower sharing agreements deliver significant value to MNOs and significantly reduce OPEX and CAPEX tied to owning physical infrastructure," said William Saad, co-founder and chief operating officer of IHS.

"By partnering with TEOCO and by leveraging its ASSET tool we are able to safeguard and extend the inherent benefits of tower sharing by ensuring our MNO customers derive maximum possible benefit from our infrastructure."

"IHS Towers is set to play a key role in advancing connectivity and digital inclusion across Africa," said Atul Jain, CEO, TEOCO. "By using ASSET, IHS Towers and its MNO customers can scale to meet the growing demand for mobile broadband across the continent and also deliver a superior, differentiated quality of experience to mobile subscribers." ✆

How Nokia helps operators work in the cloud

NOKIA NETWORKS INCREASINGLY works with network operators to focus on practical ways to rapidly set up high quality subscriber services with extremely low costs. In particular, The Nokia OSS Office for Telco Cloud solution charts an operator's best path for transforming its network and service operation centers for the telco cloud; from high level strategy to processes, tools and use cases. It is a comprehensive service that allows operators to define and validate their telco cloud strategy and deployment plans, define the best tools and processes for OSS, create value-based business cases, and support operator build-up of processes, tools and skills.

Telco cloud is expanding the human possibilities of technology to match a world of unpredictable traffic patterns and a continuous stream of new apps and services. It provides unlimited network capacity to manage unpredictable data growth and offer a superior customer experience.

Mobile operators face many challenges and have exciting new opportunities to build profitability. Demand continues to grow, requiring new network capacity, while traffic patterns are increasingly unpredictable. At the same time, providing a great network experience and implementing new services quickly are vital to drive up revenue. Telco cloud helps address all these opportunities.

Within its Telco Cloud Solutions potfolio, Nokia's AirFrame Data Center Solution will run any cloud-based application with ease

Differentiating new network needs

The emergence of digital data centres means communications service providers must be ready to deliver more

The digital era has revolutionised the way businesses operate, with disruptive technologies such as Social, Mobile, Analytics and Cloud leading the way. In addition, we are seeing the emergence of machine learning, the growing Internet of Things (IoT) and rapid adoption of open source solutions. This evolution has dramatically altered the IT requirements within the enterprise, and not only in terms of underlying technology. Consumers of IT today are savvier than ever, and no longer wish to follow lengthy procurement cycles in order to leverage new technology. The need for agile, flexible provisioning and a new culture of IT buying customers has driven significant change in the way modern data centres are designed, located and consumed. Digital data centres are key to supporting a successful business, both now and in the future. Organisations need to evaluate their service provider to ensure they can deliver and continue to meet evolving business requirements.

The changing data centre
Data lies at the heart of everything that has come to be known as 'digital'. As a result, one of the consequences of the accelerated growth and adoption of digital technologies is a host of new demands placed on the data centre. The reality is that traditional application architectures are simply no longer flexible enough to adapt to the velocity, volume and variety of data generated today. Furthermore, the IoT has driven a move toward decentralised data centres, with an emphasis on moving toward cloud-based models. Borderless enterprises have emerged, and thus data security has had to evolve to adapt to these changes. The speed at which data is generated today, as well as the explosive growth in the amount of data, is putting pressure on data centre networks. In addition, there is a new focus on price versus performance, and while organisations are still willing to pay a premium for differentiated services, the level of the premium is decreasing.

In order to continue to meet business needs, the new data centre ecosystem needs to respond to the conditions dictated by a digital world. There must be a renewed focus on the speed of deployment, availability, flexibility, scalability, agility, maintainability, security and affordability. Organisations should evaluate their data centre provider to ensure it can adapt to and deliver on these changing requirements. There are several key parameters for such an evaluation, including a flexible approach, innovative offerings, the multiplier effect, and new age expertise.

A flexible approach
Changing technology, and the resultant changes to business environments, requires a far more flexible approach from service providers. The goal is for service providers to make their services as easy to understand, and easy to consume, as possible. One means to achieve this is to provide a 'catalogue' of services from which enterprises can pick and choose those that they require. In addition, it is essential for providers to have a service model that is flexible enough to allow for unplanned requirements and for the rapid deployment of new technologies according to changing business requirements. Service contracts should not be rigid, but rather responsive to business needs.

Innovative offerings
Furthermore, enterprise technology needs to support two different functions. Firstly, it needs to enable the business to run, and secondly it should support the constant and continually changing path to transformation. Data centres that operate on traditional architectures are able to cater to the first requirement of enabling the business to run, however, they are lacking in the agility that is critical to support continuous transformation.

Service providers should offer next-generation data centre architecture that goes beyond IT infrastructure geared toward supporting traditional workloads. In addition, the data centre should provide a business- and solution-centric view. Workloads and underlying infrastructure should be designed for hyper-scalability, required business performance, resiliency and service continuity. Data centres should also have innovation hubs tasked with the creation of standard and purpose-built service components, supported by enterprise architects and business analysts who are able to understand the needs of the enterprise.

Milind Halepath, general manager and global head of datacentre practice, global infrastructure services (GIS), Wipro

The multiplier effect
Service providers should have partners operating across geographies, with access to cross-functional specialists, platform professionals and domain experts. This enables a data centre provider to tailor solutions to the needs of an enterprise and draw on the capabilities of emerging niche players. Enterprises can thus leverage a cost effective, open-standards based brokerage approach to services. The data centre provider should offer the management tools that bring systems together and deliver enhanced value and return on investment.

New age expertise
The needs of the enterprise have changed, and are also often variable. They may include the ability to leverage cloud-based environments, wireless solutions, software-defined data centres, and support for development operations in provisioning IT services. The goal of the service provider is to support the business in the drive toward service agility and reduced time to market of new products and services or extensions to the existing portfolio into new markets. This calls for expertise beyond the traditional data centre related skills, including networking, application management and storage. In addition, elements such as API integration, micro services, programmable IT, policy definitions and orchestration are all becoming relevant skills for future data centre requirements. ✆

Milind Halepath, general manager and global head of datacentre practice, global infrastructure services (GIS), Wipro

The case for hardware-accelerated SMP

How meshed transport networks can recover from multiple local and network-wide failures at lower costs

NETWORKS MUST BE resilient against multiple failures — single-failure protection is no longer sufficient for protecting enterprise customers in today's network-based economy. The challenge is that planning for multi-failure scenarios is simply too costly using legacy optical network technologies in the face of rising traffic across fibres that can be carrying several Terabits of capacity. The pricing pressures faced by service provider business models demand a new approach to resilience.

The ideal resilience technology for modern transport networks should offer three fundamental capabilities:

- Multi-failure recovery for better survivability
- Fast recovery within 50ms for deterministic performance
- Intelligent sharing of backup resources for better economics

These three capabilities are now available in a single technology: hardware-accelerated Shared Mesh Protection (SMP), which lets service providers create tiered protection plans, which could help generate additional revenue for a minimum investment in protection capacity.

The SMP protocol is fundamentally a proactive approach for network protection, decoupling time-critical tasks from longer timescale, heavier processing GMPLS control plane route computation. SMP protection activation protocol is designed to be lightweight, enabling it to be implemented in hardware, supporting thousands of services and providing fast recovery.

Comparison of resilience capabilities in major network technologies

The ITU-T is working on two documents: G.SMP (G.808.3) and G.ODUSMP. The former protocol aims to standardise the technology-independent portions of SMP, while the latter aims to standardise it for the digital OTN layer. The protocols cover message encoding, signaling, activation and other functions necessary to achieve SMP. Meanwhile, the IETF is working on two drafts to standardise the application of SMP across digital circuit and packet network.

The SMP protocol is fundamentally a proactive approach for network protection. It decouples time-critical tasks like protection activation from longer timescale, heavier processing GMPLS control plane route computation. The SMP protection activation protocol is designed to be lightweight, and this is a key characteristic that enables it to be implemented in hardware, supporting thousands of services and providing fast recovery.

How it works and the importance of hardware acceleration

While long haul transmission is rapidly moving to coherent 100 Gb/s and 500 Gb/s super-channel technology, service demands are still predominantly made up of extremely large numbers of gigabit Ethernet and 10GbE. With the move to 100G and 8 Tb/s of capacity per fibre, a single fibre cut could affect many thousands of services. Customers plan to use backbone transport platforms for more than a decade and require them to be built ground up to handle multi-terabit scale at a highly granular service level while providing unmatched bandwidth efficiency and resilience.

This new design allows SMP to be implemented using dedicated hardware acceleration processors that support sub-50ms recovery of thousands of services simultaneously, even in the face of multiple fibre cuts.

One player in this market, Infinera, implements SMP technology on its DTN-X transport platform using its FastSMP processor. FastSMP, which is built into every board ever shipped by Infinera, implements a massively parallel pipelined architecture supporting networks with thousands of nodes, with multiple hops and recovering from multi-terabit fibre capacity failure. The failure scenarios are handled at a highly granular level (i.e. per service).

Not surprisingly, the orchestration of high numbers of service demands with a sophisticated protection hierarchy has to be supported within a powerful planning system. The first step for SMP is, therefore, to use Network Planning System (NPS) software to pre-calculate multi-failure scenarios, and then to populate the hardware tables

contained in the FastSMP processor. This is the key to ensuring the sub-50ms end-to-end protection capability.

Once a failure occurs, the FastSMP processor will ensure protection activates in less than 50ms. At the same time, the failure notification prompts GMPLS intelligence in each node to start recalculating backup paths in real time, and then continuously updates both the hardware tables across the network and the NPS if required. Thus, the three key components, NPS, the FastSMP processor, and the GMPLS control plane, are always in sync.

Monetising the technology
Hardware-accelerated SMP may be employed in fully meshed and partially meshed transport networks, which include, but are not limited to, long-haul and metro networks. Depending on the degree of inter-connection between network nodes, SMP protection can significantly improve network resource utilisation, as compared with alternative protection mechanisms. A study by ACG Research shows savings of 33 per cent can be achieved using SMP instead of 1+1 protection.

SMP affords an opportunity to offer a variety of new protection tiers. For example, some carriers are starting to examine different service tiers, such as

- Premier: survivable with "hitless" performance of two network failures with highest priority
- Elite: survivable with "hitless" performance of one network failure; best effort restoration for additional network failures
- Protected: survivable with "hitless" performance of one network failure
- Restorable: best effort restoration for any network failures
- Unprotected: not survivable after a
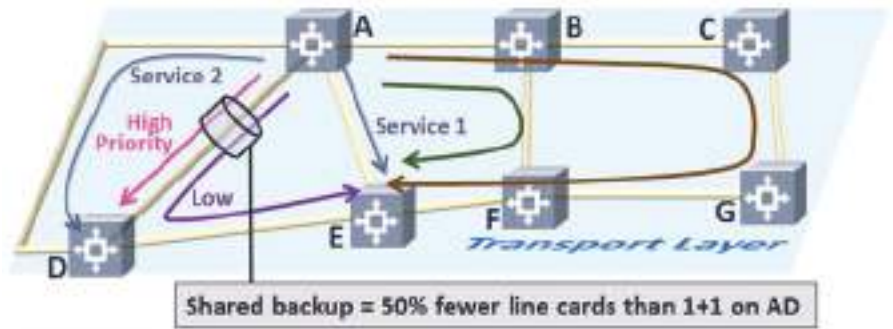
1+1 Dedicated Protection vs. SMP

Infinera SMP components, with NPS, FastSMP processor and GMPLS control plain

network failure, but not pre-emptible
- Best effort: lowest priority and pre-emptible by higher priority services

At a minimum, SMP can provide a carrier a more competitive posture in the marketplace, enabling them to acquire and retain key customer revenue streams.

Enhanced performance
With the interconnectedness of business operations and network reliability

intersecting with an increasing number of natural and man-made threats to fibre networks, service providers need to take advantage of new protection capabilities afforded by network intelligence, hardware innovation and mesh network topologies. Hardware-accelerated SMP combines three foundation resilience capabilities into a single technology:

- Enhanced availability: automatic multi-failure network-wide backup via network intelligence
- Deterministic performance: sub 50ms recovery via dedicated hardware
- Lower capital costs and operations: shared backups via cost-effective transport layer

Thanks to hardware-accelerated SMP, service providers can continue to offer stringent SLAs to their customers for protected services, and even create a hierarchy of protection classes that will provide vital service differentiation and additional revenue opportunities. It can also prevent retired pensioners who have never heard of the Internet from knocking off web services for millions by simply breaking a piece of underground glass fibre. ✆

Geoff Bennett, director solutions and technology, Infinera

Hardware-accelerated Shared Mesh Protection (SMP) may be employed in fully meshed and partially meshed transport networks.
These include, but are not limited to, long-haul and metro networks.
Depending on the degree of inter-connection between network nodes, SMP protection can significantly improve network resource utilisation, as compared with alternative protection mechanisms.
Savings of 33 per cent can be achieved using SMP instead of 1+1 protection.

Turning Big Data into Smart Data

The transition to an increasingly smart world, in which everything is integrated into CEM frameworks, presents numerous challenges and opportunities

ACCORDING TO THE GSMA, Sub-Saharan Africa is projected to have more than 400mn smartphone connections by 2020. Despite high data costs currently acting as barrier to adoption, rising smartphone penetration and the ongoing roll out of LTE networks men it is increasingly likely that the African mobile broadband landscape will emulate what has happened in Europe and the USA. The smartphone market will achieve saturation and mobile data services will become increasingly commoditised.

Many African countries are becoming 'mobile-first markets' - countries where smartphones are the default means for subscribers to access digital services. Operators in these countries are well-positioned to enhance the mobile experience through services such as video-on-demand (VOD) and mobile banking services. As it stands, the driver for this is purely economic. However, if African operators don't begin to embrace a customer-centric approach, in line with this digital transformation, they could quickly find themselves irrelevant - especially as global and local digital service providers (DSPs) like Netflix and iROKOtv begin building market share.

More data, more problems?

As the smartphone evolves into the remote control for a person's life, the growth in services and networks used will cause big data to explode in scale. This presents both opportunities and challenges for CSPs transitioning into a digital world.

One challenge is the scope of big data itself. Smartphone-generated big data has the potential to deliver an unprecedented level of detail into user behaviour – geolocation, browsing patterns and mobile commerce behaviour and channel preferences. Yet while operators have more data to understand their subscribers, all too often this data is collected and then sits in a data lake which goes stagnant. To deliver real business value, big data needs to be efficiently and effectively used. This leads us to the second challenge: extracting value. The bigger the data lake, the harder it is to extract value – especially without the right tools.

Smarter data, smarter CEM

With the roll-out of digital services, African operators need to be equipped to use big data to understand customer context in real-time - what they're doing, where, how and what they've just finished doing. This means understanding what the customer is experiencing at all touch points (from network to self-service), and using this information in real-time, to deliver a better customer experience. Only then will they be able to compete with the likes of Netflix, who have built this approach into their business model.

This renewed focus on the customer has seen some global CSPs invest in customer experience management (CEM). But to drive effective CEM, CSPs need the right data: otherwise it's a bit like buying a sports car and not having the petrol to put in it. The data sets need to be "right-sized" - transforming the raw collected data into "smart data" – providing instantaneously useful, holistic views of the customer plus context. This smart data is also available for action in minutes rather than months. Only through having this end-to-end holistic customer view, can CEM drive real-time personalised offers, thus helping increase customer satisfaction.

> **"With the roll-out of digital services, African operators need to be equipped to use big data to understand customer context in real-time - what they're doing, where, how and what they've just finished doing."**

One use case of smarter CEM is enhanced customer care. Frustration is often caused when a customer is experiencing poor quality of experience (QoE) while streaming a video – flagged through network probes. If self-care is driven by smart data and analytics the CSP can have automated rules set up to trigger personalised actions. This can help alleviate frustration and at least let the customer know that the operator does actually care. For example, a customer with a high value score and a high churn propensity score may be offered free data, or a 2 month pass for free Spotify premium.

In order to enable this new approach to getting value from big data, CSPs are looking to big data preparation to collect, prepare and manage data from many different sources, and make it available to a wide range of systems that use this data – ranging from data management systems to operational systems. Big data preparation can manage the massive volume and increased velocity of data that digital transformation is driving, and enable CSPs to provide the foundation for smarter CEM.

Given the emerging nature of Africa's mobile market, CSPs still have time to get ahead. Through implementing tools like big data preparation, CSPs can begin to deliver the best experience possible and get an increased share of their customers' digital spend. ✆

Martin Morgan, VP of marketing, Openet

Yahsat and IEC Telecom Group commit to extended satellite data coverage

UAE-based satellite operator Yahsat has signed a Memorandum of Understanding (MoU) to explore the possibility of new joint opportunities with existing partner, IEC Telecom Group (IEC Telecom) in Africa. The agreement comes ahead of Yahsat taking delivery of its third satellite, Al Yah 3.

Al Yah3 is set to launch in 2017 (IMAGE: Yahsat)

The launch of Al Yah 3 in Q1 of 2017 will see the entry of the company's satellite broadband product, YahClick, into 18 new African markets; almost tripling its existing presence across the continent covering 60 per cent of Africa's population.

Yahsat and IEC Telecom's excellent standards of infrastructure and advanced data security gateway will ensure the highest levels of security for customers' sensitive data. Commenting on the MoU, David Murphy, Yahsat's chief commercial officer, said, "We will look at potential ways to build on our long and valued history with IEC Telecom, which dates back to the pre-launch of our second satellite, Y1B in 2012."

L'incubation d'un projet de startup

Autour d'un nouveau co-processeur optique ultra rapide et économe en énergie pour le big data

L'ambition est de construire des co-processeurs optiques qui peuvent accélérer les algorithmes d'Intelligence Artificielle sur de très grandes masses de données, à moindre consommation énergétique. La technologie developpée est issue des laboratoires de l'ESPCI et de l'Ecole Normale Supérieure. La start-up est LightOn, qui est incubée par Agoranov. Il propose une alternative aux processeurs génériques (CPU) (1) et co-processeurs spécialisés (GPU) (2) habituellement utilisés dans l'analyse des données de très grande taille (big data). Leur technologie brevetée (3) repose sur le développement d'appareils basés sur le contrôle de la propagation de la lumière qui pourraient être utilisés comme co-processeurs ultra-rapides pour le traitement des données.

Agoranov accompagne votre projet de création d'entreprise innovante en vous offrant un environnement sécurisé et convivial et en facilitant votre accès aux compétences, outils et infrastructures indispensables au succès et à la croissance de votre entreprise.

Les inventeurs

Le projet LigthOn a été développé par six inventeurs, dont deux enseignants-chercheurs de l'UPMC, membres du laboratoire Kastler-Brossel (UPMC/CNRS/ENS/Collège de France) et du laboratoire de physique statistique (ENS/CNRS/UPMC), ainsi qu'un enseignant-chercheur de l'université Paris-Diderot, membre de l'Institut Langevin (ESPCI/Université Paris Diderot/UPMC/CNRS/Inserm). Il est le fruit d'une longue collaboration interdisciplinaire entre les co-inventeurs dans le domaine du traitement optique de données.

La solution

La solution proposée par LightOn vise à exploiter un nouveau type d'algorithmes, qui se développent rapidement depuis quelques années, basés sur les projections aléatoires des données. "Mélanger" les données de façon contrôlée et reproductible permet de faire ressortir l'information pertinente, c'est-à-dire de garder la structure intrinsèque des données en s'affranchissant de leur grande

> **Le facteur limitant actuellement l'adoption rapide de tels algorithmes est le calcul de ces projections aléatoires : la solution apportée par LightOn consiste a réaliser cette opération de manière optique sans calcul numérique et de façon presque instantanée, avec une dépense marginale d'énergie**

variabilité et, par exemple, utiliser le résultat de ces projections aléatoires comme entrée d'algorithmes très simples de classification. Le facteur limitant actuellement l'adoption rapide de tels algorithmes est le calcul de ces projections aléatoires : la solution apportée par LightOn consiste a réaliser cette opération de manière optique sans calcul numérique et de façon presque instantanée, avec une dépense marginale d'énergie. Cette technologie peut être implémentée sur des tailles de données impossibles à traiter de manière conventionnelle avec les co-processeurs graphiques GPU les plus performants.

La technologie

La technologie LightOn apporte donc potentiellement une alternative aux processeurs génériques (CPU) et co-processeurs spécialisés (GPU) pour répondre à la croissance exponentielle du volume de données. De par sa faible consommation électrique par rapport aux solutions basées sur CPU/GPU (quelques Watts seulement contre plusieurs dizaines voire centaines de Watts), cette technologie permettrait également aux algorithmes d'apprentissage statistique de traiter des données de très grande taille (par exemple en génomique ou pour des objets communicants), tout en permettant de pallier l'explosion des dépenses énergétiques liées

au traitement de ces données. Enfin, la technologie LightOn pourrait également apporter une solution aux problèmes très actuels de la sécurité et de l'anonymisation des données.

Le projet

Ce projet repose sur une longue collaboration interdisciplinaire entre les co-inventeurs dans le domaine du traitement optique de données :

Sylvain Gigan, professeur à l'UPMC au Laboratoire Kastler-Brossel (UPMC/CNRS/ENS/Collège de France) est spécialiste de l'optique en milieux complexes, Laurent Daudet, professeur à l'université Paris Diderot à Institut Langevin (ESPCI/Paris Diderot/UPMC/CNRS/INSERM) spécialiste de traitement du signal, Florent Krzakala, professeur à l'UPMC au Laboratoire de physique statistique (ENS/CNRS/UPMC) spécialiste de physique statistique appliquée à l'algorithmique et Igor Carron, chercheur et consultant indépendant spécialiste de Machine Learning.

Ensemble, et avec l'aide d'Alaa Saade, doctorant de l'ENS, et d'Angélique Drémeau, post-doctorante au CNRS, ils ont exploré la manière dont l'optique des milieux complexes pouvait bénéficier des techniques de traitement du signal. Ils ont montré que l'optique pouvait permettre de réaliser de manière simple une opération de calcul pour l'apprentissage statistique particulièrement laborieuse à implémenter in silico : le mélange aléatoire, idée à la base du projet de valorisation. ✆

Notes:

1 Les processeurs génériques (CPU) désignent l'unité de traitement ou microprocesseur principal d'un ordinateur.

2 Un co-processeur GPU est un circuit intégré d'une carte graphique qui assure les fonctions d'affichage des ordinateurs notamment.

3 Brevet EP 15305165, Digital-data mixing apparatus and digital-data processing system, déposé le 4 février 2015 aux noms, de la Fondation Paris Sciences et Lettres, de l'ESPCI INNOV, de l'université Paris Diderot - Paris 7, du CNRS, et de M. Igor Carron.

New satellite horizons and applications

HTS technology promises great potential for broadband satcoms, with connectivity possibilities for applications from which carriers stand to make seriously viable service-delivery business cases
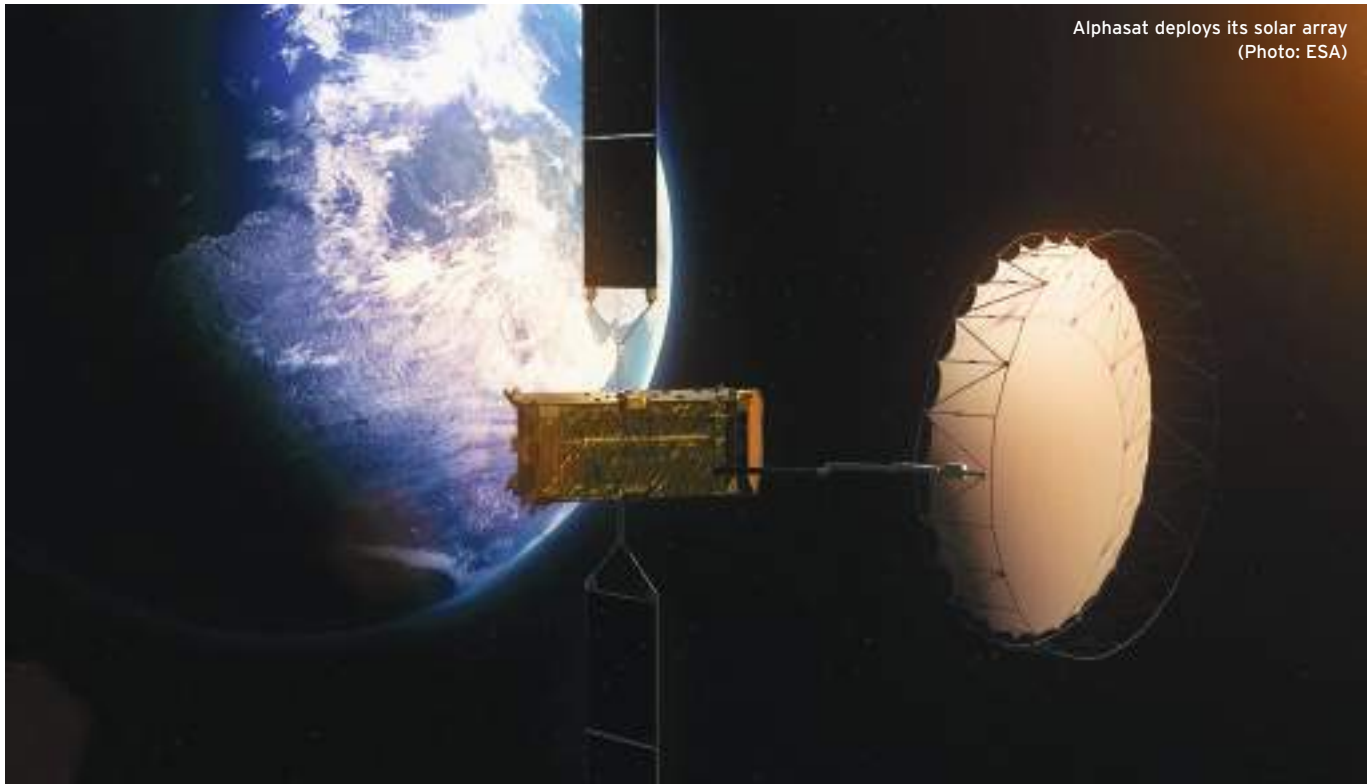
Alphasat deploys its solar array
(Photo: ESA)

WITH THE LIKES of Gilat and iDirect sharing enthusiasm for high throughput satellite (HTS) technology, it's hard to ignore this evolution in satellite connectivity that will make it harder for operators to shy away from delivering personal mobile communications and wireless broadband services to any region, whether urban, semi-urban or remote rural. Too expensive has all too often been the cry and communities have been left straddling a digital divide that has left pretty much a billion people unconnected around the world. Millions of these remain in Africa, but if the trends in connectivity continue, more and more in remote village and enterprise communities will find themselves with voice and data connectivity before too long.

Euroconsult analysts have been looking at many of these trends and come up with several reports in this area. One such report, 'High Throughput Satellites: On Course for New Horizons', discussed satellite operators' "varying investment strategies" – and

continuing reluctance – but gave a comprehensive view on how these evolving strategies aligned with end-user requirements and trends in seven vertical markets: Consumer Broadband, Civil Government & Enterprise Networks, Cellular Backhaul & Trunking, Commercial Maritime, Commercial Aviation, Milsatcom and Video Services.

The report stressed how HTS proliferated during 2014 and is expected to accelerate in the coming years with more than 100 projected new HTS system (payload and satellite) launches slated over the next decade.

Indeed, Euroconsult said that the total HTS capacity supply is projected to nearly triple over the next three years from 600 Gbps in 2014 to 1,720 Gbps in 2017, as a result of the extensive investments made by satellite operators. The analys house said that the 'vast majority of today's available HTS capacity supply is in Ka-band, although Ku-band has recently seen increased adoption from operators such as Telesat, SES and Eutelsat, while Intelsat plans to include C-band spot beams on IS-33e and IS-35e'. They also

indicated that Ka-band HTS should remain the dominant frequency band in all vertical markets in terms of capacity usage. That said, Ku-band HTS capacity usage is projected to accelerate from 2017, according to Euroconsult, to reach around 150 Gbps by 2023, largely driven by professional user markets, which often have high reliability and availability requirements.

According to the company, the influx of HTS capacity and global expansion of coverage footprints should unlock growth opportunities in all major market verticals and geographic regions, including Africa. Consequently, global capacity usage on HTS systems is expected to grow from 107Gbps in 2014 to reach just over 1,300Gbps in 2023, a CAGR of more than 30% over the period.

Satellite connectivity's maternal side

Having completed its installation phase, an Inmarsat-led project that, through the delivery of reliable, space-based internet connectivity services, is said will revolutionise e-commerce and maternity services in remote communities

across Kenya and Nigeria, is ready to be rolled out.

Digital Frontiers is the name of the initiative, which forms part of the UK Space Agency's £32 million, two-year International Partnership Space Programme. Inmarsat is a central partner, working alongside the Mobile Alliance for Maternal Action (MAMA), and other organisations such as the Equity Bank Group. Inmarsat was awarded funding for projects in growth areas of East and West Africa, where at present, basic digital services such as a resilient data communication infrastructure or local mapping, are not available for many due to both economic and geographic factors.

Inmarsat will deploy its most advanced L-band communications satellite, Alphasat, to support the initial projects in Kenya and Nigeria. This will deliver data connectivity to demonstrate how social or economic benefit can be brought to currently unconnected areas with no communications. And in delivering such valuable services operators will be shown the viability and sustainability of making efforts in directions which had previously been unprofitable for them.

Inmarsat has provided connectivity to enable financial services, welfare and other content access to more than 200 locations in Kenya, in partnership with the Equity Bank Group, where each site has a BGAN internet connectivity terminal. These are pre-loaded with educational materials and apps covering agriculture, business, weather and other subject areas.

The company is partnering with MAMA in Nigeria, to deliver maternal and child health services to 50 remote, rural communities under the umbrella of the MAMA Connect Project. The satellite network updates the content of an onsite system that starts life pre-loaded with MAMA's evidence-based, culturally-sensitive health information. The network provides real-time connectivity for new and current information to be delivered in a timely fashion and also enables online interaction for pregnant women and new mothers.

Telemedicine satellite connectivity

There is a temptation to avoid mentioning the same company more than once in a feature of this kind but Inmarsat's recent work in delivering telemedicine connectivity to remote communities in Benin, including more than 1,000 children dispersed across the community warrants the space. The company, in conjunction with Safe Triage and SOS Children's Village Benin, has helped provide medical services using on-loan BGAN terminals and a BGAN Link GEO service at no cost, to connect local co-workers of SOS Children's Villages with specialists at an urban hospital for the sharing of medical data and diagnostic support.

Designed specifically for users working in remote areas that require high monthly volumes of always-on standard IP data for sustained periods of operation, BGAN Link is Inmarsat's broadband data service, which operates over Inmarsat's I-4 network.

The telemedicine kit, used in Benin, Safe Triage, records a range of medical data, which is transmitted, in real-time, to doctors who can access the information via a shared server for remote monitoring and follow-up. This increases the range of diagnostic and treatment options and opportunities available to patients in even the most isolated of remote, rural clinics. David Morgan, medical director at STS, said at the time that, "Allowing access to high level medical care is a fundamental human right so frequently denied. Telemedicine redresses this problem and is a real game changer not only for Benin but other areas in the world where medical provision is in short supply or unavailable."

More than 180 eHealth consultations were conducted in the first month of the programme, during which 16 medical conditions requiring hospitalisation were identified.

If ever an application of satellite connectivity were needed to underline the importance of all communities being connected this is surely it. ✆

Tim Guest

Ariane 5 at launch and the BGAN kit that connects users to services (Photo: ESA-CNES-Arianespace / Optique Vidéo du CSG)

New satellite services to rural regions

How the development of access to broadband Internet is enhanced by the introduction and operation of the new AMOS-6 satellite

AFRICA, PARTICULARLY SUB-SAHARAN Africa, offers spectacular potential for Spacecom and our AMOS satellites. With years of experience in Africa, our satellites have provided a mix of customers from ISPs, broadband internet service providers, broadcasters, telecom providers, multi-national enterprises, governments and more with an array of services.

A new focus
Today, Africa is advancing technologically and as cellular networks and Internet broadband build out into Africa's far flung regions, the continent will remain a great frontier with immense growth potential. Spacecom is currently planning to position multiple satellites to service Sub-Saharan Africa. The first of these is AMOS-6, scheduled to be launched to the 4W prime orbital position later in 2016. AMOS-6 was built with Africa in mind. Our focus on Africa also led to us to increase our staffing – both sales and technology – to work closely with our African partners.

This new satellite to be positioned will be co-positioned with AMOS-3 and AMOS-2, and ultimately replace the latter. AMOS-6 will be larger than both of its cohorts combined and will include new technologies such as High Throughput Satellite (HTS) Ka-band spot beams to enable service providers to offer improved broadband internet access to their customers.

The great news for AMOS-6 is that we have already partnered with Facebook to provide Internet Broadband services to the continent. Facebook's Internet.org will provide broadband access to reaches the masses with excellent user experience. Together we will bring connectivity to Sub Saharan Africa with the AMOS-6's Ka-band capacity. This new initiative to leverage satellite technologies will increase the number of African citizens online to relieve pent-up demand for connectivity from the many users in Africa beyond range of fixed and mobile terrestrial networks. AMOS-6 will be the satellite backbone for this major operation. The strength of AMOS-6's HTS beams aimed at Sub-Saharan Africa will ensure that this strategic goal is met and exceeded. Our partnership with Facebook is an excellent

Amir Carmeli, SVP sales West Africa & France, Spacecom: operator of AMOS satellite fleet

vehicle for Spacecom to serve African communities by enabling them to receive fast, reliable broadband internet. We believe this venture is the quickest method to unlock and expand the continent's latent growth.

New technologies, new markets
In addition, AMOS-6's 39 Ku-band segments will provide a wide array of services. With cross-beam and cross-services capabilities, the satellite will serve an important role as a communications carrier between Europe, the Middle East and Africa. Fitted with numerous

new technologies, the new satellite will open more new markets including those in Western Europe and Ka-band spot-beams for broadband access.

Spacecom's AMOS-6 HTS technologies will enable our partners, DTH and broadband service providers, to integrate broadband services for non-linear content with broadcast services for linear content. One advantage HTS brings is that it makes the provision of broadband faster and less expensive than terrestrial rollout. The farther businesses and households are located from the city centers, the more prohibitive costs of terrestrial technologies become. With HTS platforms, high speed broadband becomes a reality whether for residential customer, as in North America or Europe, or to providing broadband connections for a town or village in Africa.

Spacecom is in a superb position to enable Africa to realise its own potential. Satellite is a quick and effective way to bring a larger percentage of African businesses and citizens online with broadband access. This is especially important in rural and hard to reach far-flung areas. According to the World Bank, every 10 per cent of broadband penetration increases developing countries' per capita GDP growth by 1.38 per cent. This means that more satellite services, especially broadband, boost overall economic expansion. We at Spacecom see our mission to push Africa to further realise its full potential.

Together with local, national and regional service providers, we will enable better connectivity to customers in various Sub-Saharan Africa communities. Our customers include ISPs, broadcasters, telecom providers, multi-national enterprises, governments and others. Obviously, it should be noted that each country or region offers a very different business climates vary. Thus we need to operate differently in each country and there is no one template for every country. Our local and regional partners best understand the conditions in which they operate and therefore we adjust our operating standards to fit each and every single country. ✐

Amir Carmeli, senior VP sales West Africa & France, Spacecom: operator of AMOS satellite fleet

Digital content space and the problem of plenty

Challenges to publishers and platform providers in pushing digital content to the continent's connected consumers

IT WOULD BE a bit of an understatement to say that the digital content market has grown by leaps and bounds over the years. Indeed, it may be more fitting to say that the digital content landscape has evolved over a period of time.

Now, let's examine both statements-first, a few hard facts and figures. According to the good folks over at Juniper Research, the digital content market was pegged at just under US$99bn in 2014 and will increase to nearly US$155bn in 2019, an average annual increase of 9.4 per cent. This magic number, according to the research firm, will be largely achieved by the gaming segment, although the content sector with the strongest growth over the forecast period will be e-publishing.

Now, moving onto the oldest and arguably, the best loved component of the digital content space-music. As per Juniper, revenue generated from streamed services will be partially offset by a significant decline in ringback tone revenues, particularly in the Far East and China.

Next, over-the-top (OTT) players are expected to root for and push video-based content. In other words, players like Netflix will continue to expand their footprint across various markets. And, needless to say, these players will focus on enhancing the amount of original content they offer to end users. Going a step further, OTTs are also expected to begin to bid for sporting rights in the longer term, thereby making them even more attractive propositions to customers.

The need of the hour is to create a 'marketplace' to cross the chasm between content publishers and customers.

Industry evolution

Now to tackle the other bit. So far, we've established the fact that the progress made by the digital content industry is nothing short of magnificent. But how has this industry evolved? Well, two major trends come to mind immediately. First, across the digital arena, there has been a gradual transition from the pay-per-download model to subscription. The best example of this shift is in the mobile
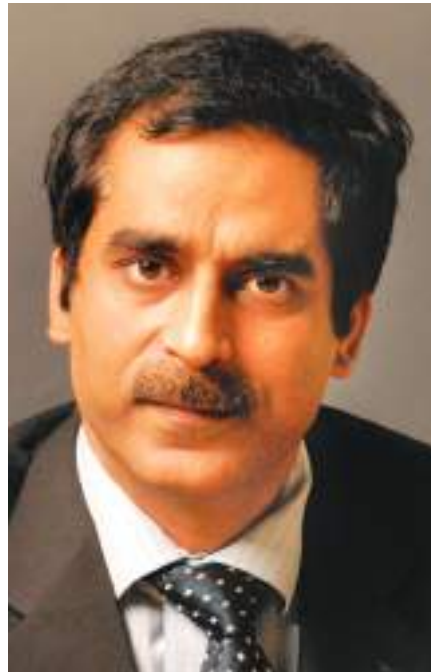
Atul Madan, senior vice president & head of digital services, Mahindra Comviva

space, where the overwhelming majority of applications (99 per cent, in fact) are now free at the point of download.

Therefore, the majority of application-based revenues (pegged at 88 per cent in 2014) can be traced back to freemium applications, via a combination of one-off purchases for additional items made in-application or through subscriptions. Moreover, there is also a shift from "downloading" to "streaming", which will continue to become more significant, as network operators enhance the coverage of their 4G networks.

In other words (and I cannot overemphasise this), we are living in a world of 24/7 connectivity, where every customer accesses content on their own terms and on the device of their choice. In a nutshell, the way that content is accessed, monetised and delivered has changed significantly. Naturally, this has implications for all stakeholders of this industry and these players are scrambling to ensure they don't get taken by surprise.

Monetising content

So, what are the challenges facing these stakeholders? Well, first and foremost, content

monetisation and payments. Of course, this issue is as old as the hills, but one not likely to dissipate anytime soon. In a nutshell, monetisation and payments are a key focus for companies. The issue is compounded by the fact that a considerable proportion of the world's population is 'unbanked', which implies that service providers ought to find alternative methods for consumers to make payments. Now, a number of options, such as carrier billing, subscriptions and pay-per-video or pay-per-download have been closely examined, but, while all three have their merits, my guess is, this debate will continue for some time to come.

Next up is content discovery and distribution, another oft-debated subject. Now, there is little doubt that there is a surfeit of content up for grabs today. But, the question is (and remains), how does one ensure the subscriber is able to easily discover these offerings? Of course, let's not forget that the content market is very fragmented, which makes it harder for distribution channels to access the right content. Consider the disparity-leading players in the content industry can afford to create dedicated channels for content distribution, but it isn't that simple for small-time artists and independent content creators. How do these players ensure their offerings find their way to the right audience? How do they make money from this? Needless to say, this, in turn, cascades into the age-old issue of piracy.

The new ecosystem

So, while I have outlined the evolution, trends and the various challenges facing the digital content market, the intention wasn't to paint a bleak picture. I would like to conclude by providing an idea of what can be done. And here it is - net, net, the need of the hour is to create a 'marketplace' or a platform to cross the chasm between content publishers and customers. This platform should ideally permit publishers to push all kinds of digital content directly to the customer. In other words, a holistic platform to address a customer's every digital-related need; whilst eliminating (or at least mitigating) the issue of content discovery and delivery can go a long way in simplifying the overall ecosystem. Well, we hope so. ℭ

An ever-increasing focus on IP systems

The innovations introduced at the 2016 National Association of Broadcasters (NAB) Show, held in the USA from 18 - 21 April

AMONG THE MANY memorable quotes attributed to former US Secretary of State Henry Kissinger is the line: "I thought I was paranoid until I realised they really were out to get me."

The annual NAB Show induces a similar state of mind in any reporter trying to explore its 1,700 or so exhibition booths. When I first began attending NAB back in 1985, some of the most seasoned hacks preferred to settle in the NAB bar and wait for the stories to come to them. That approach failed two or three years later when the bar was demolished to make way for a coffee shop.

Another approach is to solicit permission to ascend the roof-level catwalk above the Central Hall. This is useful for determining which booths have the biggest crowds, then climb back down the ladder to find out what is attracting them. Crowd-following continues to be a worthwhile technique for anyone exploring major exhibitions; lonely booth staff staring at their shoelaces are probably on a lean year.

Gabriel Janko, sales director, Octopus, demonstrates the Octopus app

The industry life-saver, 4K ultra high definition, faces imminent and serious competition from 8K

Systems and infrastructure

This year, paranoia will be felt not just by the NAB Show reporters but by the majority of exhibitors. The industry life-saver, 4K ultra high definition, faces imminent and serious competition from 8K. Add in the ever-increasing focus on IP-based broadcast system infrastructure and you have the basis for a very exciting event.

Crystal Vision will be showing what it claims is the industry's most forward-looking frame system. Vision 3 is a new 3U frame suitable both for SDI video and audio as well as future video-over-IP and 4K products. SDI chroma and linear keyer cards, up and down converters, synchronisers, embedders, video and audio delays and audio converters will all be available at launch. Up to 20 cards can be housed in the frame. The company will be discussing its forthcoming SMPTE 2022-based IP gateway products which are protocol agnostic, Crystal Vision's software-based approach making it easy to configure them for other agreed protocols.

Ikegami will demonstrate its new UHK-430 4K/HD portable camera. This employs three newly-developed 4K-native 2/3 inch CMOS sensors and is equipped with a B4 bayonet mount compatible with 2/3 inch HD lenses. An optional SE-U430 expander accommodates large studio or OB lenses. Two piece construction allows the UHK-430's sensor and lens head to be detached as a compact unit for easy deployment on a support devices such as long-reach manually-controlled camera poles. In this mode, the head can be operated up to 50 metres from the camera body. "The UHK-430 is one of the most important additions to our product range in recent years," commented Masanori Kondo, president of Ikegami Europe. "It allows very high quality UHD and wide dynamic range production while at the same time interfacing easily with current HD systems. A high frame-rate option will be particularly appreciated by OB production companies as it provides easy access to slow-motion effects both for sports and stage-event coverage."

Signals and screens

Leader Instruments will show two new options for its LV7390 rasteriser. These comprise full 4K signal measurement capability plus a plug-in digital audio module providing up to 16 channels of de-embedded SDI audio which can be viewed on screen and output as discrete AES3 feeds. Video Engineer controls are provided for use in camera setup during shading. The integral Leader CINELITE feature allows the user to measure luminance levels at up to three different points in a scene. CINEZONE uses false colours to indicate luminance levels in a scene and is particularly suited to green-screen chroma-key virtual-set

alignment. Leader will also introduce its LV 5480 SD/HD/3G SDI multi-format waveform monitor. This can be upgraded at any time to a full featured 4K monitor with compliance for digital cinema (4096 x 2160) or broadcast UHD (3840 x 2160) based on 3G dual link, 3G quad link and HD quad link. Options include High Dynamic Range (HDR) measurement, 12G-SDI connectivity and support for IP protocols.

NTP Technology will exhibit (on the Sanken/plus24 booth) the latest version of the DAD AX32 audio processor which is designed for use in audio recording and post-production. The AX32 comes as standard with an interface for Avid Pro Tools and eight AES/EBU and MADI inputs and outputs. It can optionally be fitted with a Dante IP audio interface and two optical MADI interfaces. New Version 2 firmware for the AX32 provides support for MADI and AES3 I/O cards. In addition, new DADman v.5.0 control software will enable direct control of the AX32 using NTP Technology's existing Pro | Mon and new Cue | Mix functionality as well as allowing control via the Avid Eucon protocol. The internal signal capacity of the AX32 has been increased to 128 input/output channels per card slot. In addition, the internal matrix now has an enhanced capacity of 1,500 x 1,500 non-blocking crosspoints allowing routing and splitting of signal in any combination.

Social media are now treated with the same importance as a traditional news feed or a programme rundown

Octopus Newsroom will show its version 8 software featuring a new dashboard GUI which brings together every assignment, notification and update. Until now, newsroom solutions have treated social media as an add-on feature. With Octopus 8, Twitter, Facebook and Instagram are fully integrated into the newsroom. Social media are now treated with the same importance as a traditional news feed or a programme rundown. Also making its first NAB appearance is the Octopus Mobile App which offers journalists full news production capabilities on tablets and mobile phones running Apple iOS or Google Android. Reporters and editors working remotely gain instant access to all wires, rundowns and assignments. They can also edit stories within a rundown, preview prompter text as well as create wires and reports in the field.

Osprey Video will exhibit its new Talon G1 hardware-based two-channel streaming contribution encoder, the first in a comprehensive lineup of hardware encoding solutions. Operating in MBR Streamer mode, the Talon G1 inputs a single channel. Users can choose one source from 3G HD/SD-SDI, HDMI, or

CVBS (composite) inputs, then stream up to three destinations in multiple resolutions and bit rates. The encoder supports frame alignment for RTMP MBR streaming. Output formats include RTMP, RTP, and UDP, and users can save to a .TS file in resolutions up to 1080p60.

PlayBox Technology will introduce its CloudAir platform. Available on a software-as-a-service basis, this is claimed to allow a new television channel in any standard from SD to UHD to be set up in matter of seconds according to PlayBox Technology President Don Ash. "It is designed for anyone who wants to broadcast TV content, be it on a real-time 24/7 basis, a catch-up facility, the red button element of a reality show or a short-running series such as a sports event. It can also be deployed as the basis of a highly secure disaster recovery system. CloudAir is able to provide true playout with graphics on any enterprise-class blade, rack or tower server. Once CloudAir is installed, no auxiliary hardware is required at all."

There is an ever-increasing focus on IP-based broadcast system infrastructure.

Ross will show a new Acuity production switcher with integrated IP 10 Gb/s I/O capabilities. This provides a direct connection into the Evertz IP routing environment. Acuity IP I/O is compatible with the Evertz ASPEN and SMPTE 2022-6 encapsulation standards for media integration within IP networks and with the Evertz Magnum control system. Acuity with

ASPEN I/O will be showing in the ASPEN Community booth. Also on show will be the XPression Trackless Studio which allows users to achieve virtual camera moves, use multiple cameras, perform transitions, add live inputs, trigger real-time 3D graphics, recall clips or still images, and create macros for complex events. It uses stationary physical cameras instead of encoded camera heads or optical tracking systems. Camera movement is handled by virtual cameras inside the XPression scene.

Utah Scientific will introduce a new family of IP gateway input and output cards that provide two-way conversion of SDI video signals and SMPTE-2022 signals over a 10G Ethernet connection. The new range works with all Utah-400 Series 2 enterprise routers and also plugs directly into a stand-alone 2RU chassis. The new offerings are covered by a 10-year warranty and no-fee customer support.

Vidcheck will demonstrate Version 7 of Vidchecker, available as a free upgrade to existing customers possessing current Vidcheck software maintenance contracts, and to Vidcheck OnDemand license holders. New features include automatic video segment detection, advanced validation of IMF metadata and essence, plus a new audio correction algorithm which provides transparent adjustment of abnormally high audio peaks. Also making their world-first appearance are new automated correction options for Vidchecker. These give customers the ability to add a wide range of file-correction capabilities into Vidchecker or Vidchecker-post rather than having to select an entirely separate application. ©

Ovum speaks on the second digital revolution

Enterprise technology and digital advertising spending to rise as traditional connectivity spend declines

THE NEXT PHASE of digital transformation impacts industries across the board. All industries will be affected by this revolution. More verticals and processes will be impacted and automated by digitalisation, and these effects will be felt across value chains, supply chains, consumption and monetisation.

The 'Second Digital Revolution', according to analysts at Ovum, examines the digital economy and its key players over the decade to 2025. Ovum predicts that this equates to a US$4.8 trillion global opportunity in 2025 – up 29 per cent from 2015 - for technology companies. These are the digital enablers, including IT vendors like IBM and SAP and communications service providers (CSPs) like Orange, as well as technology giants Google, Apple and Microsoft. Such entities will supply the technology and connectivity making this organisational transformation possible. And it is enterprise technology that will take the largest market share.

Digital enablers set to dominate

Ovum forecasts that digital enablers will benefit the most from the evolution of the digital economy. It defines such entities as enablers in a SMART economy, based around the evolution of Services, Management, Applications, Relationships, and Technology. SMART players enable customers and third parties to access and distribute applications and content. Embedded in many digital enablement segments and with significant breadth of reach, they'll be able to capture a significant proportion of the total value. Today's internet platform providers (such as Apple, Google, Facebook, Amazon, Microsoft) are most likely to assume these roles, but new challengers are likely to evolve from the internet or media segments.

Steven Hartley, practice leader, service provider and markets at Ovum, said, "Driven by cost-effective connectivity, greater computing capacity and improvements in technology such as analytics and artificial intelligence, the second wave of the digital revolution is on its way and its impact will be felt across all industries.

"The first digital revolution (1995-2015)

New economic challengers are likely to evolve from the internet or media segments
(Photo: Shutterstock/Matthias G Ziegler)

impacted key processes and consumer-facing sectors such as media and retail. However, the second will impact a far greater range of processes and industries across the enterprise space, thereby expanding the opportunity to support their transformation – albeit with less direct consumer impact than before.

"Those players providing technology, connectivity and services to the Digital Economy will have a huge opportunity to facilitate this transformation."

Critical challenges

Success for digital enablers, defined either by growth into new opportunities or even simply survival, depends on several factors - including, critically, prioritising customers and continuous innovation. Those organisations that win out will be those working differently. Still, the core attributes of a successful venture includes collaboration with competitors, partners and suppliers. Digital enablers must also put the consumer at the heart of decision-making processes. Such companies must consistently innovate, too, and they must build scale and reach.

Steven Hartley explained, "Increased competition, attracted by revenue growth and facilitated by more open ecosystems, will mean that organisations must place the needs of customers at the heart of their decisions and processes. Innovation, partnerships, scale, agility and service bundling will all be vital to support this new outlook on the market."

The global structure of financial activity underpinning market success, Ovum finds, will change. Ovum's analysts predict that enterprise technology spending will claim 32 per cent of the total digital enablement market in 2025, almost doubling to more than US$1.5 trillion by 2025. Consequently, competition in this space is set to intensify as CSPs, Internet platform providers, and network enablers move in. Moreover, communications and broadband connectivity will account for a sizable 28 per cent share, too - albeit with spending declining by eight per cent overall by 2025. And Ovum also examines digital advertising, which is expected to grow fastest, from US$166bn in 2015 to US$385bn by 2025 - although it will account for just eight per cent of total spending in 2025. ✐

Une plateforme dédiée à la finance verte

Le site de SUNREF, le label finance verte de l'AFD, est en ligne, représent les opportunités de la transition écologique

L'AFD MET À la disposition de ses partenaires et des acteurs de la finance verte un site Internet dédié. Il a lancé le site SUNREF (Sustainable Use of Natural Resources and Energy Finance) est le label finance verte de l'AFD. Dans un contexte de transition énergétique et environnementale, SUNREF aide les acteurs privés des pays du Sud à saisir les opportunités de cette transition à travers une approche innovante et encourage les banques locales à la financer. A ce jour, 42 projets SUNREF ont été déployés avec succès depuis 2006, en partenariat avec 70 banques locales, dans près de 30 pays d'intervention, pour un montant total engagé de plus de 2,5 milliards d'euros de prêts accordés par l'AFD, dont 1,2 milliard déjà versé.

L'objectif du programme SUNREF est de faciliter l'accès à une énergie durable abordable pour garantir le développement d'une économie sobre en carbone et de participer à l'atténuation des causes du changement climatique. Ce site se veut être une plateforme pour échanger, partager et agir, tout en constituant un écosystème autour de la finance verte par la diffusion de connaissances et une mise en réseau des acteurs du secteur. Il permettra également de présenter l'information sur les projets et les partenaires de ce programme innovant.

Saisir les opportunités de la finance verte

La transition vers un modèle plus vert constitue un important potentiel de développement économique. Grâce à la croissance verte, de nombreuses opportunités se présentent au secteur privé dans les domaines de la maîtrise de l'énergie, la gestion durable des ressources naturelles et la protection de l'environnement. Dans les pays du Sud, le financement de cette croissance verte représente un défi majeur auquel l'AFD apporte, grâce au programme SUNREF, sa contribution, en partenariat avec les acteurs de la finance verte (banques, entreprises, pouvoirs publics, bailleurs...).

Une ligne de financement vert destinée au secteur privé

SUNREF aide les acteurs privés des pays du Sud à saisir les opportunités de la transition écologique et encourage les banques locales à la financer, selon des conditions financières

Le site de SUNREF, une plateforme dédiée à la finance verte, www.sunref.org

adaptées. Cette offre innovante permet ainsi au secteur privé un meilleur accès au financement bancaire, pour acquérir des équipements de meilleure qualité, et ainsi de faire des économies et d'accroître sa compétitivité grâce à une meilleure gestion de l'énergie et une prise en compte de l'environnement.

SUNREF offre de plus à ses partenaires une approche intégrée visant à renforcer les capacités de l'ensemble des acteurs grâce à un programme d'assistance technique dont le rôle est de soutenir et d'amplifier le marché du financement des investissements verts : accompagnement des banques dans le financement du projet ; et appui aux entreprises dans la mise en œuvre de stratégies pour un usage optimisé de l'énergie et des ressources naturelles.

Le site Internet de SUNREF

L'AFD met à la disposition des acteurs de la finance verte (banques, entreprises, bailleurs, pouvoirs publics) une plateforme dédiée pour collecter, diffuser et capitaliser sur de meilleures pratiques.

Le site de SUNREF se positionne ainsi comme un écosystème autour de la finance verte offrant aux acteurs du secteur de nouvelles opportunités pour mettre en œuvre des approches innovantes et efficaces sur le plan opérationnel.

Enfin, ce site Internet apporte un éclairage complémentaire sur les projets déployés en matière de finance verte par l'AFD, les investissements verts réalisés, que ce soit en Afrique, en Océan Indien, en Amérique Latine, en Asie ou en Méditerranée, l'approche innovante de SUNREF et ses avantages, ses partenaires, et les types de financements éligibles.

SUNREF a pour objectif de fédérer les efforts de l'ensemble des acteurs pour faciliter le passage à l'échelle essentiel pour relever les défis écologiques. ℗

Area Monitor sélectif en fréquence selon la recommandation UIT-T K.83

Station de mesure de Narda Safety Test Solutions pour la surveillance de champs électromagnétiques dans des bandes de fréquence programmables

NARDA SAFETY TEST Solutions a lancé sur le marché l'AMS-8061, un nouveau mesureur de champs EMF de terrain sélectif. La station de mesure autonome surveille les champs électromagnétiques allant de 100 kHz à 6 GHz sur 20 bandes de fréquence paramétrables. Cela permet de mesurer et d'enregistrer séparément les niveaux de champs liés aux differents services tel que le GSM, UMTS, LTE, FM , TETRA DAB et DVB-T. La mesure s'effectue conformément à la réglementation UIT-T K.83 « Surveillance des niveaux des champs électromagnétiques ».

Narda est un société internationale spécialisée dans les appareils de mesure dédiés à évaluer et tester la sécurité dans lesdomaines des radiofréquences et de la compatibilité électromagnétique. La gamme des appareils pour évaluer la sécurité dans les champs de radiofréquences va des mesureurs à large bande et à fréquence sélective aux écrans pour la surveillance globale d'un secteur en passant par des moniteurs portables destinés à la sécurité personnelle.

L'Area Monitor AMS-8061 est adapté aux applications en extérieur et par tout temps

Alimenté par cellules solaires et accumulateurs, le nouveau moniteur garantit des mesures sans interruption sur une période pratiquement illimitée

Distribués sous le nom de marque PMM, Narda Safety Test Solutions propose des appareils pour mesurer la compatibilité électromagnétique d'appareils (EMC). Pour tester la sécurité dans les champs de radiofréquences, Narda propose des analyseurs et des mesureurs de sources radio. Comptent parmi les prestations de l'entreprise, le suivi, l'étalonnage et les cours de formation.

L'entreprise gère son système de management selon les normes ISO 9001/2008 et ISO/IEC 17025.

Des interventions mobiles

Le nouveau moniteur de terrain, de type AMS-8061, travaille de manière autonome. Alimenté par cellules solaires et accumulateurs, il garantit des mesures sans interruption sur une période pratiquement illimitée. L'appareil stocke les données de mesure en mémoire , p. ex. à l'intervalle de temps régulier de six minutes, sur une période de 30 jours s. Ces données sont ensuite accessibles en mode local via Ethernet, USB ou RS232, ou téléchargeables sur carte SD ou transmissibles à distance via un modem mobile. L'appareil transmet aussi sa position sous forme de coordonnées GPS parallèlement aux données de mesure, ce qui simplifie les interventions mobiles. En cas de dépassement des seuils limites ou de perturbations, l'appareil envoie automatiquement un message SMS pour signaler les anomalies.

Les antennes intégrées de l'Area Monitor couvrent la bande de fréquence de 100 kHz à 6 GHz. Un analyseur de spectre interne sélectionne et mesure les différentes plages de fréquence et les regroupe dans les bandes de fréquence programmées par l'utilisateur.

De cette manière, l'appareil permet de procéder aux mesures sélectives conformément aux dispositions du chapitre 7 de la réglementation UIT-T K.83. De plus, l'appareil grâce à son port Ethernet, peut être intégré à des applications web, et le logiciel complémentaire sur PC simplifie l'analyse et la documentation des résultats obtenus.

Avec son boîtier robuste et résistant aux intempéries, l'Area Monitor AMS-8061 est parfaitement adapté aux applications en extérieur et par tout temps. ✆

Cloud-based control and configuration with IMPACT

WITH THE RAPID adoption of the Internet of Things (IoT) and machine-to-machine (M2M) ecosystems taking place across the globe, enterprises need cloud-based solutions. With the potential scale of solutions required by M2M device management platforms in order to control, configure, and manage the various devices in a given M2M ecosystem effectively, enterprises need to embrace the cloud. Such platforms must be scalable to effectively manage the sheer volume of IoT devices connected to the Internet, and the benefits of infinite horizontal scalability and on-demand provisioning of services are right in line with the requirements of the M2M space. With a reported 94 per cent of all businesses seeing a return on their IoT and M2M investments, enterprise M2M adoption rates will likely continue to rise.

Scalability and reach

Management software must be available at all times to orchestrate mission-critical M2M interactions. Traditional, on-premise solutions may buckle under intense workloads and demands, but cloud-based device management can always scale to expectations and/or requirements, supporting hundreds of millions of endpoints on one server.

In terms of reach, cloud computing software-as-a-service (SaaS) is accessible anywhere, while on-premise solutions may require extensive configuration and security adjustments to allow for ubiquitous access. SaaS means the remote management, monitoring and configuration of M2M devices is easier than ever and accessible through a Web-based user interface. Most contemporary cloud-based solutions also feature RESTful APIs for easy integration with other tools, creating a best-in-breed M2M device-management framework.

Data-driven analysis

Traditional database technologies simply cannot manage and process the amount of data created by and shared between M2M and IoT devices with traditional database technologies, such as relational database management systems (RDBMS). With 90 per cent of IoT data set to be hosted on cloud service provider platforms before the end of thsi decade, big data solutions — powered by underlying cloud infrastructures — are critical for storing, analysing and serving M2M data.

Cloud based M2M management platform enables service providers to test and scale solutions and also prepare for future growth of IoT devices and the data collected from them.

M2M communications management can be much more effective with off-premise infrastructure

Mformation makes an IMPACT on M2M
Developed by **Mformation,** an M2M device management solution called IMPACT (Intelligent Management Platform for All Connected Things) enables enterprises to capitalise on increasingly connected economic growth and support the billions of new devices emerging in the global marketplace. It enables cloud M2M management of any device, across any application.

Increasingly, seamless mobile connectivity is becoming a way of life, an acccepted 'norm'. Today's expectations in business necessitate real-time, convenience-driven automation. This is why Mformation has made an IMPACT.

Tedial brings MAM Evolution to CABSAT

MAM TECHNOLOGY SOLUTIONS specialist **Tedial** has showcased its multi award-winning Evolution, an enhanced version of its Media IT platform, for the first time in the Middle East at CABSAT 2016.

Tedial Evolution provides international broadcasters and global media companies with the next-generation in MAM and business driven media workflows. It enables an end-to-end business media platform marrying media preparation and logistics into a complete supply chain. This provides customers with scalable tools that cost-effectively allow them to increase their media throughput in line with the unprecedented speed at which media consumption is increasing year-on-year. Tedial Evolution is designed to reinforce a collaborative working environment and drive workflows for linear, VOD and OTT services.

As well as showcasing Tedial Evolution the company will be highlighting its implementation of the IMF schema within its MAM and workflow systems, as well as the AMWA FIMS AS-11 specifications. Tedial supports the SPMTE MXF, BXF and AXF standards and the BPMN 2.0 Notation standard for enhanced interoperability.

"We're very excited to bring Tedial Evolution to CABSAT 2016," explains Esther Mesas, Tedial's Chief Sales & Marketing Officer. "Media companies are moving forward with new-generation MAM technology, which allows them to execute global operations and be competitive. Tedial Evolution delivers the advanced features and high performance that they require to drive their current and future business growth and guarantee the profitability of their operations."
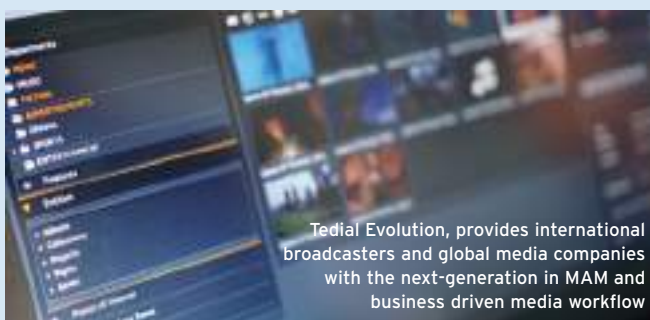
Tedial Evolution, provides international broadcasters and global media companies with the next-generation in MAM and business driven media workflow

Anritsu makes 1Gb/s LTE-A throughput with Qualcomm Snapdragon X16 LTE modem

TEST AND MEASUREMENT solutions provider **Anritsu** has successfully demonstrated peak throughput for an LTE-Advanced (LTE-A) device and network simulator using 3x Carrier Aggregation (3CA) and 4x4 MIMO with 256QAM modulation. Utilizing devices featuring the new Qualcomm® Snapdragon™ X16 LTE modem, a product of Qualcomm Technologies, Inc. a subsidiary of Qualcomm Incorporated, and the Anritsu MD8430A LTE Simulator, Anritsu is able to successfully show support for stable IP-layer data rates of up to 1 GBit/s in the downlink. The solution was demonstrated at 2016 Mobile World Congress in Barcelona, Spain.

Application-layer demonstration featuring MD8430A LTE simulator uses 10 simultaneous 100 Mb/s data streams to achieve peak throughput

Utilising newly introduced capability enables a single MD8430A to simulate three contiguous LTE baseband cells on a single RF carrier. With two MD8430A simulators in a "master/slave" combination we can offer more aggregated carriers with higher-order MIMO than other solutions on the market. Cells can be placed in any licensed or unlicensed band using newly introduced RF capability to cover 350 MHz to 6 GHz.

Intervate's dynamic intranet service - for fast, agile, flexible deployments

T-SYSTEMS COMPANY **INTERVATE** has launched its new Intranet as a Service offering, delivered via the **Microsoft** SharePoint Online public cloud platform. The offering, built on agile principles, delivers a componentised Intranet solution that can be deployed quickly and easily as a standard framework, and can also be fully customised according to customer requirements. In addition, it offers a 'pay as you use' model that makes Intranets an affordable option for all sizes of enterprise.

For customers, the Intranet as a Service offering delivers numerous benefits

"Intranets are by no means a new concept, but over the years they have become increasingly static and out-dated. However, new requirements for increased collaboration, centralised information sharing and corporate social hubs have seen the reinvention of the Intranet into a dynamic portal for information access, networking and improved productivity.

These benefits have typically only been available to the large corporate though, and often at significant capital cost and time investment," said Peter Reid, SharePoint solutions head at Intervate.

"Intervate's Intranet as a Service offering opens up this market to the Small to Medium Enterprise, while still catering perfectly to traditional large enterprise customers. With a basket of components and services for organisations to choose from, including standard features and customisation, it shortens the time to deploy and increases agility and flexibility. As with all cloud services, it also turns a capital expense into a predictable monthly operational cost, and because customers choose only what they need or want, it is also highly cost effective, ideal for customers of all sizes."

As SharePoint solutions experts, Intervate has many years of experience in building tailored Intranet solutions for customers, based on the principles of agile development. This ensures that solutions delivered are fully flexible and continue to meet customer needs even as they change over time and the development cycle.

Utilising the components and services developed for numerous customers over the years, Intervate has created a full Intranet portal based on a generic platform. This is the starting point for a tailored solution, into which various components can be implemented and then customised according to the needs of the client.

A component catalogue and a services catalogue guide customers as to their choices and selections, which in turn influences the monthly fee.

Not only is this ideal for all company sizes, it also lends itself perfectly to the deployment of new Intranets as well as migrations and upgrades.

"We have worked closely with Microsoft to ensure the highest levels of governance. This not only improves cost effectiveness and ease of delivery, but also fully complies with all relevant data privacy and protection legislation...In addition, many of the components were originally developed for heavily regulated industries such as mining and finance, and the structures therefore have stringent governance built in from the ground up," Reid said.

Egypt to host regulatory symposium

TAKING PLACE FROM 11-14 May 2016 at the Red Sea resort of Sharm el-Sheikh at the invitation of the **Government of Egypt,** the **International Telecommunication Union (ITU)** Global Symposium for Regulators (GSR-16) will welcome world-class speakers with a dynamic programme focused around the theme of 'Be Empowered, Be Included: Building Blocks for Smart Societies in a Connected World'. The symposium will be chaired by Mostafa Abd El-Wahed, Acting Chairman of the **National Telecommunication Regulatory Authority of Egypt (NTRA).** This programme includes discussions around:

- Artificial intelligence, smart sensors & smart network.
- Digital financial inclusion.
- The regulatory road towards the 'Internet of Things' and M2M.
- New digital platforms – empowering or enslaving?
- Privacy, trust and cybersecurity.
- Strategies to encouraging digital entrepreneurship.

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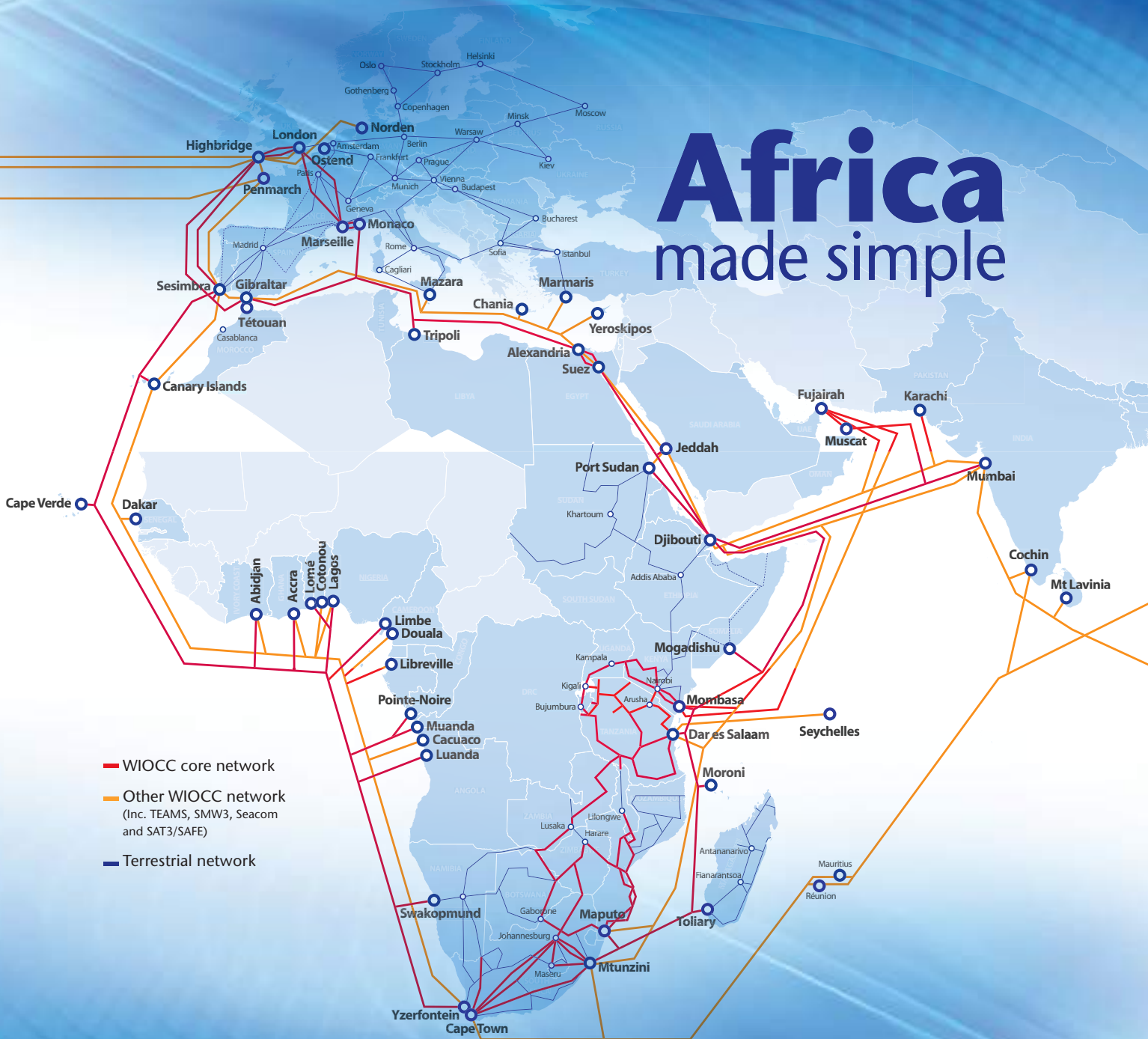Expiry date: ☐☐/☐☐
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