DECEMBER 2014/JANUARY 2015
Volume 13
Number 6

northern african wireless COMMUNICATIONS

For comms professionals in north, west, east & central Africa

- The latest satellites for Africa and what they offer
- Why open architecture is best for critical communications
- Should you invest in used network equipment?

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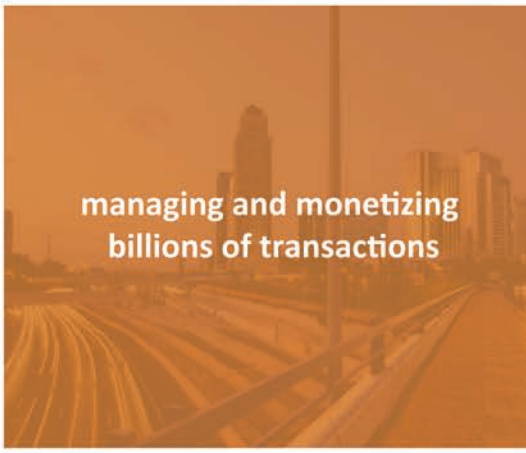

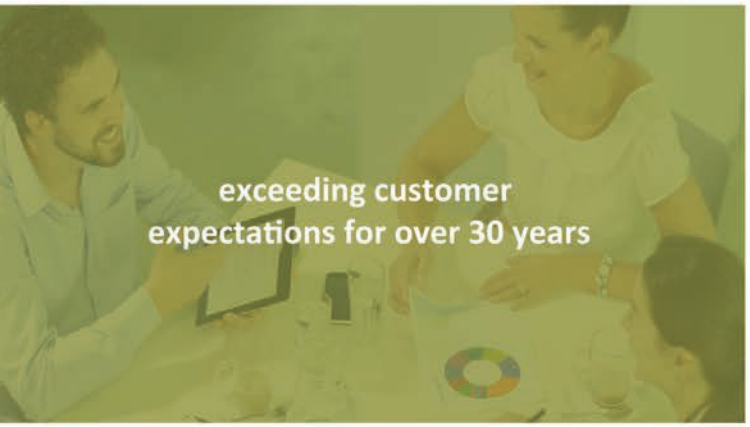

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Hytera delivers nationwide TETRA system in Nigeria

Briscoe Technologies will replace and expand its TETRA network in Nigeria with the help of PMR specialist Hytera Communications.

Lagos-based Briscoe is the owner and operator of Nigeria's biggest TETRA network. With more than 10,000 users from multiple industries, it covers Lagos, Abuja and Port Harcourt, and is claimed to be the first network in Africa to be based on all-IP TETRA technology.

With the need for broader coverage in areas such as Port Harcourt and Rivers State, plus increasing demands for higher security and stability, Briscoe needed a new exclusive communication system based on a customised design.

But the company faced a challenge in replacing its existing systems without causing disruption to customers. It also had to ensure that any new infrastructure offered compatibility and flexible network topology to satisfy different industry requirements.

Hytera's complete TETRA solution for Briscoe includes 30 base stations and 2,500 of its *PCS* terminals with system control, dispatch, and PABX service.

As part of the first phase, 15 base stations have already been delivered. They are being used to replace the existing network and extend coverage to parts of the Niger Delta where the oil and gas industry is located. During phase two, coverage will be extended to most of the Niger Delta region as well as in the Abuja Federal Capital Territory. All sites are expected be completed and operational by mid-2015.

Hytera's PMR experts are working with Briscoe Technologies which owns and operates Nigeria's biggest TETRA network and has more than 10,000 users.

Hytera is also providing Briscoe professional services including network topology design, site selection, commissioning of network, training, and local technical support.

RedCloud platform helps launch Sudan's first MFS

RedCloud Technology has provided the platform behind *Hassa*, Sudan's first mobile financial service (MFS).

The UK-based firm – which claims to be renowned for developing *M-PESA* – says its *ICENI* platform is a customisable solution for m-commerce, allowing financial institutions to deliver MFS at a "fraction of the cost" of operating a traditional branch network.

Hassa (which means 'now') was launched last August by the Bank of Khartoum (BoK) in conjunction with mobile operator Zain. It's been designed to enable customers to easily access mobile financial services such as fund transfers, cash in/out transactions, and account tracking.

Over the last few months, *Hassa* has been upgraded and will now also allow subscribers to pay utility bills, carry out bank transfers, and buy mobile airtime. Additionally, customers will be able to use *Hassa* shops or BoK ATMs to deposit cash and make withdrawals directly from their mobile accounts. RedCloud says that more than1,000 *Hassa* agents are already supporting the service across the country.

According to BoK CEO Fadi Salim Al Faqih, only 15 per cent of Sudan's adult population is currently served by financial services, while mobile penetration is 75 per cent.

He adds: "*Hassa* will provide easy, instant and convenient access to financial services through any mobile phone and improve lives."

Established in 1913, the Bank of Khartoum is Sudan's oldest and largest Islamic bank, and operates 55 branches across the country.

Safaricom introduces LTE-Advanced network in Kenya

Safaricom has notched up another first for Kenya with the launch of an LTE-A network. It is initially rolling out 4G services in Nairobi and Mombasa before launching in major towns over the coming months.

Safaricom's LTE-A network was launched in December 2014 and aims to offer peak speeds of up to 100Mbps. Carrier aggregation is a key feature of LTE-A. This enables operators to create larger, virtual carrier bandwidths for services by combining separate spectrum bands, thus boosting network capacity, speed and performance.

Safaricom is using 800MHz as its main frequency band with 900MHz and/or 1800MHz (depending on use and capacity) as the aggregation bands.

Safaricom's core LTE-A network uses Nokia's *Flexi Multiradio 10* base station for 2G, 3G and 4G services.

It has contracted Nokia Networks for a variety of products and services for the deployment. The vendor has modernised Safaricom's network using its ATCA-based *Liquid Core* portfolio for MSS and EPC, and deployed a compact Single RAN Advanced platform based on the *Flexi Multiradio 10* base station. Nokia has also implemented its subscriber data management system, cloud-ready *NetAct* OSS platform, and is providing planning, optimisation, and competence services, amongst others.

Safaricom's LTE-A launch is part of its push to "democratise data", according to CEO Bob Collymore.

"The direct impact of data on our economy has already been noted through the increasing number of businesses and services offered online," he says. "With 4G, we can deliver revolutionary services like telemedicine, virtualisation, or real-time video that have immediate and transformational impact on our society."

The operator adds that it plans to launch "affordable" 4G-enabled devices, including phones, routers and modems. A sub-KES9,000 (USD98) handset is expected to be launched early this year.

Safaricom currently has more than 21 million subscribers and says it's invested KES27.78bn (USD303m) in infrastructure over the last year. Its network features more than 3,200 BSTs, nearly half of which are 3G-enabled, and provides 3G coverage to more than half of the population, and 2G coverage to 90 per cent.

In 2003, the operator became the first in Kenya to introduce mobile data services on a 2G network, and the first to launch 3G in 2008.

Ooredoo Algeria claims fastest networks in North Africa

Ooredoo says its 3G network in Algeria has been ranked as the fastest in North Africa in 2014 by the official Network Quality Benchmark.

It adds that it has also become one of the first operators in the world to achieve network throughput of 63Mbps, and is the first in Africa to deploy a 400G ultra-broadband mobile access network.

The operator claims 3.5 million customers have now signed up for its 3G service since it was launched in December 2013. The network is now available in 19 provinces such as Tizi Ouzou, Mascara and Naama, and is currently being extended to include 32 provinces covering 80 per cent of Algeria's population.

Ooredoo Algeria says it has invested more than USD2bn in its network enhancement programme

For instance, early last December it announced that Alcatel-Lucent had deployed a 400G optical backbone network to enable high-speed ultra broadband mobile access in Algiers, Constantine, Oran, and some smaller cities. The transport network became fully operational at the end of 2014 and is based on the vendor's DWDM optical technology and platform. It will support data speeds of 400Gbps on each of its 88 wavelengths.

Ooredoo Algeria CEO Joseph Ged says: "Our 400G network will be instrumental to support the best QoE for our customers as well as to increase our market share in Algeria.

"Through this game-changing achievement we intend to consolidate our technology leadership within the Maghreb region, and also in Algeria, in order to offer our clients a best-in-class network in terms of capacity and speed."

Ooredoo Algeria is simplifying the process for accessing 3G services so that everyone can enjoy mobile data, according to CEO Joseph Ged.

Ooredoo Algeria was formerly branded as Nedjma. It is a subsidiary of Qatar's Ooredoo Group and is said to currently offer services to more than 11.45 million subscribers.

Looking after the welfare of NGOs via satellite

Globecomm and Gannexion are providing 'e-welfare' services in Mali, delivering communications and morale support for personnel at remote sites.

Each site features a satellite dish, Wi-Fi and GSM antennas for local delivery of radio, television, voice and data services. They are also equipped with video-conferencing facilities to allow users to interact with family and friends.

The e-welfare services are provided via satellite using Globecomm's UK and Netherlands teleports, and Gannexion's customised wireless communications solutions.

Working together, the two partners are providing network services, round the clock monitoring, and onsite staff at each camp to support operations and provide maintenance.

The Mali installation expands on a network of facilities served by the two companies in Afghanistan, Turkey and other EMEA nations.

"Together with Globecomm, we plan to continue the provisioning of innovative and custom-made services especially for governmental organisations where security and reliability is imperative," says Gannexion director Joost de Jong.

MEASAT increases spectral efficiency on Africasat-1a

Customers on *Africasat-1a* will be able to benefit from additional cost savings following the successful test of 64APSK modulation on the satellite's high-powered pan-African beam.

The tests were conducted using NovelSat's *NS3000* high data rate satellite modem running its *NS3* transmission technology.

According to MEASAT, *Africasat-1a*'s Malaysia-based owner, all this increased spectral efficiency levels by between 20 and 50 per cent. It says that increased spectral efficiency enables more bits per Hertz leading to higher bandwidth and reduced costs.

MEASAT adds that the key application areas that will benefit are multiplexed IP trunking and voice backhaul for mobile operators, and point-to-point IP transit for ISPs.

NovelSat claims its technologies deliver the "fastest" data rates and the most "scalable" transmission solutions from 64Kbps to 850Mbps on a single modem.

NS3 is built around its *Satellite Modem Operating System*, a unified satcoms platform designed to ensure optimal interoperability, throughput and scalability. It also offers software-upgradable features and waveforms.

iSAT helps Es'hailSat to commercialise Ka-band payload

iSAT has delivered and installed two pilot VSAT terminals for Es'hailSat to enable the commercialisation of the Ka-band payloads on its *Es'hail 1* satellite.

Es'hail 1 was developed by Qatari satellite company Es'hailSat and Eutelsat. It was launched in 2013 to provide services in North Africa, the Middle East and Central Asia, and gives both companies Ka-band capabilities for new business opportunities *(see News, Aug-Sep 2013)*.

UK-based iSat (Integrated Satellite Applications Technologies) specialises in the custom design, manufacture and installation of satellite Earth stations and VSATs to optimise the use of bandwidth for satellite operators and their customers. It says that while the HDFSS Ka-band market has a variety of suppliers, the frequency area below 29.5GHz is where its expertise lies. Es'hailSat is the first operator to use this spectrum.

iSAT's integration of equipment for Es'hailSat also involved sourcing other VSAT system components such as BUCs, LNBs, OMTs, and TRFs.

iSAT's development of Es'hailSat's equipment involved designing, integrating and testing feeds specific to its satellite's multi-mission Ka-band frequencies with existing reflectors. iSAT says this ensured that performance complied to international standards for antenna side lobe and cross-polar patterns. The firm supplied and installed a 1.2m VSAT terminal designed to work with *Es'hail 1*'s 'Mission 4' Ka-band transponders, and a second one that can be used as an uplink for customers using its 'Mission 3' Ka-band transponders.

iSAT claims the deployment of its specialised equipment will enable Es'hailSat to offer "superior coverage and secure connectivity" for business and government users across the entire MENA region. It will support applications such as broadband access, enterprise networks, backhauling and other services, using small fixed or mobile antennas.

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Spectra Wireless launches Africa's first TV white spaces services

Spectra Wireless and Microsoft have launched what's claimed to be Africa's first commercial service pilot network utilising TV white spaces (TVWS).

djungleEd is initially available at the Koforidua Polytechnic in Ghana's Eastern region, and covers the campus and surrounding student hostels.

Spectra has used 6Harmonics' *GWS* TVWS radios to connect the buildings, and a total of 17 links will be deployed to support the polytechnic's sites. The operator is also using Meraki's cloud-based Wi-Fi APs for the client access.

"We have over 5,800 unique client devices registered on our network, out of a student population in Koforidua of 8,500, so the interest level already has been high," says Spectra Wireless country leader Sam Darko.

As part of the *djungleEd* service students will be able to: purchase high speed internet bundles from GHD2 (USD0.61) per day; use apps such as the *Microsoft Virtual Academy* and *Microsoft Office 365*; and apply for zero-interest loans in partnership with UT Bank to purchase selected internet-enabled devices from Dell, HP, Lenovo and Microsoft.

Spectra adds that there are plans to expand the service in the future but has yet to announce further details.

Spectra Wireless is the Ghanaian subsidiary of wireless access service provider SpectraLink Wireless. It is using unlicensed spectrum to build wide area broadband networks across the continent, and has a primary focus on West and Central Africa.

The launch of Spectra Wireless' service in Ghana follows the success of a TVWS pilot scheme that it launched last May in collaboration with Microsoft's *4Afrika* initiative.

Spectra's *djungleEd* service will enable university students to apply for zero-interest financing to buy selected internet-enabled devices.

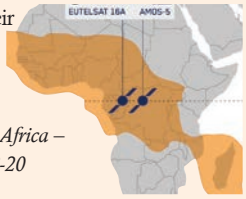
Satellite broadcasts from one "virtual" position

Eutelsat Communications and Spacecom have agreed to team up to expand digital broadcast services at what they describe as Africa's "leading" video neighbourhood.

The two firms have established a framework for cross-commercialisation of Ku-band capacity connected to the high-power African service areas of *EUTELSAT 16A* at 16°E and Spacecom's *AMOS-5* at 17°E.

Eutelsat and Spacecom say the 16°-17°E slot is one of the fastest-growing broadcast markets, with a strong DTH and free-to-air video neighbourhood in West Africa. They claim that more than 100 free-to-air local and international television channels are transmitted by their two satellites, across a footprint covering approximately 30 million TV homes, mainly in Francophone Africa but extending to Ghana and Nigeria.

EUTELSAT 16A and *AMOS-5* were launched in 2011 and their Ku-band African payloads offer identical footprints over Africa. The two firms have pledged to improve the quality and effectiveness of broadcasting services, and expand the channel line-up from their one virtual position.



Upcoming satellites for Africa – feature pp18-20

Liquid Telecom to extend fibre in Kenya and Uganda

Liquid Telecom will expand its fibre networks in Uganda and Kenya using technologies from Alcatel-Lucent.

Liquid says the upgrades will enable it to add much-needed capacity to meet demand for broadband services from home and small office users as well as address new markets and opportunities.

Alcatel-Lucent is providing its *7360 ISAM FX* and *5520 Access Management System* to support GPON-enabled FTTH. It will also supply its IP transport product range, including the *1626 LM* to support DWDM. The DWDM enhancements will be deployed to Liquid's network in Nairobi and Mombasa.

Liquid Telecom provides data, voice and IP networks in Eastern, Central and Southern Africa. It uses multiple technologies, supplying fibre, satellite and global carrier services to the continent's major mobile operators, ISPs, financial institutions, as well as to businesses of all sizes.

The company adds that it's built what's claimed to be Africa's largest single fibre network. This currently spans more than 18,000km and runs from the north of Uganda to Cape Town *(see News, Jun-Jul 2014)*. The network also provides connectivity to the five main subsea cable systems landing in Africa: WACS, EASSy, SEACOM, SAT3 and TEAMS.

VSAT solution for "communications sterile" locations

308 Systems says its *TAC-PAK/VSAT* system effectively turns any vehicle into a 'mobile command centre'.

VSAT systems from US-based 308 Systems are being increasingly deployed by the military in Ethiopia, Ghana and Sudan. The company says these users have a need for more command resources in remote, "communications sterile" locations, and have therefore deployed its *TAC-PAK/VSAT* mobile systems.

308 Systems specialises in 'flyaway kit' command and communication systems that use VSAT backhaul. It says African military, peacekeeping and first responders deploy its terminals as a key technology to ensure fast and effective responses during critical missions.

The company's 'mobile command in-a-box' *TAC-PAK/VSAT* systems are supported in Africa by local partners, and these latest deployments are a follow-on to previous implementations. 308 says the new systems were custom-configured to meet specific communication requirements, including linking field radios to mobile phones and PCs.

With multiple form factors and VSAT data rates up to 6Mbps, the company claims its *TAC-PAK/VSAT* flyaway kit combination provides deployment flexibility.

It says the kit can be operated anywhere with "great efficiency", and is packaged in a rugged, small, and highly portable form factor that can be easily loaded into a pickup truck or similar vehicle. It adds that this effectively turns any local vehicle into a 'mobile command centre'.

Etisalat Egypt selects JDSU for geolocation services

Etisalat Egypt has chosen JDSU's *ariesoGEO* geolocation software to help optimise mobile network services for its post-paid customers.

ariesoGEO uses location intelligence for RAN planning and performance engineering, and is designed to support 2G, 3G and LTE technologies.

The platform geolocates all customers on the network and collects data on their usage. Etisalat will use this information to manage the growing demand for data more efficiently throughout its network.

The operator says it opted for *ariesoGEO* because of its scalability and support for a wide range of vendors and technologies.

Etisalat Egypt CTO Khalid Murshed says: "We serve a substantial base of VIP customers in Egypt. The power of the insight offered by *ariesoGEO* will allow us to ensure the highest quality experience for these valued customers in near real-time."

Etisalat adds that the platform was quick to deploy and will support its future LTE plans.

JDSU claims its partnership with the cellco represents a "landmark" move towards customer support based on genuine network insight.

Sue Spradley, SVP for network and service enablement, says: "The region has shown a remarkable appetite for the scope of geolocation services, with operators moving to differentiate themselves through QoS initiatives."

AT plans to transform broadband network

Following on from the launch of its LTE network last year *(see News, Jun-Jul 2014)*, Algeria Telecom (AT) is now aiming to upgrade its broadband network. The state-owned operator says it plans to offer residential, "feature rich", triple play services along with secure enterprise networking at lower TCO.

While AT worked with Nokia Networks on its LTE network, it has partnered with Ericsson for this latest project which will see the transformation of its broadband aggregation network.

Under the terms of the agreement, the Swedish vendor says it will consolidate the existing network functions for a "simple and scalable" architecture using its *SSR 8000* series router applications such as *Provider Edge* and *Broadband Network Gateway*.

Ericsson's *SSR* (*Smart Services Router*) *8000* series includes the *Broadband Network Gateway* designed to bring cloud and video services to the home.

By deploying its multi-application platforms, Ericsson claims AT will meet the growing demand for residential broadband connectivity and offer secure, high-speed VPN services for its enterprise customers.

"The new modernised network will enable Algeria Telecom to quickly meet this challenge as well as offer added-value triple play services with IPTV and video on demand for a feature rich, end-user experience," says the firm. "The consolidated, lower TCO network also enables Algeria Telecom to deliver secure Layer 3 VPN and high-speed internet to its enterprise customers."

Mohamed Sebaa, AT's deputy CEO, adds: "This new infrastructure will provide the reliability, scalability, performance and flexibility for enabling us to offer more and better choices to both residential and enterprise customers."

MTN opens new mobile money corridor

MTN has opened a new cross-border mobile money remittance service between Côte d'Ivoire and Benin. It claims this will make its *Mobile Money* service cost less and be easier to use than before.

This latest initiative follows MTN's landmark deal with Airtel last year which saw the launch of a mobile money corridor between Côte d'Ivoire and Burkina Faso *(see News, Apr-May 2014)*.

"The ability to transfer money easily and cheaply between Burkina Faso and Ivory Coast is revolutionising the lives of many of our customers," claims MTN Côte d'Ivoire CEO Wim Vanhelleputte. "As with the Burkina service, the Benin corridor will not only connect families, but also facilitate trade and business partnerships on a regional scale."

MTN Côte d'Ivoire CEO Wim Vanhelleputte says mobile money corridors are "revolutionising" people's lives.

In a separate development, MTN has also signed a deal with WorldRemit that will allow the UK company to send remittances to the operator's *Mobile Money* customers.

WorldRemit claims to be the "leading provider" of remittances to mobile wallet users, and says that more 50 per cent of its transfers to Africa are received in mobile money accounts or as airtime top-ups.

Ismail Ahmed, founder and CEO of WorldRemit, says: "Mobile money is rapidly displacing cash as a way of receiving money from friends and family abroad. WorldRemit's partnership with MTN allows our customers around the world to send money instantly to *Mobile Money* users."

According to MTN, 22.2 million of its subscribers in 15 countries are now using its money services. The GSM Association adds that there are 256 mobile money services currently active around the world, and that there were approximately 60 million active mobile money users in June 2013, up from 30 million in 2012.

E-learning from Avanti

Avanti Communications has launched a new education service in Africa. *Avanti Connected Education* aims to deliver internet-enabled learning to children in Africa for less than USD0.15 per child per day. This is the latest in a series of e-learning initiatives from Avanti which describes itself as a wholesale "carriers' carrier" but is better known as the operator of the *HYLAS* satellites. It also recently launched *Project iMlango*, where partners provide students with interactive educational content.

Facebook app expands

Following the launch of *Internet.org* in Zambia and more recently in Kenya, Facebook is expanding its partnership with Airtel to bring the app to Ghana. Subscribers will have access to a set of internet services, such as health, education, news and sports, location information, and more, all for free. Facebook VP of Internet.org Chris Daniels says it is important to make "internet access available to the two-thirds of the world not yet connected".

BICS unveils IPoSat

Global wholesale carrier BICS has unveiled a range of IP over satellite (IPoSat) services that it believes will improve reliability and reach for African telcos. The company claims its new *SatFlex* and *MultiFlex* services will provide cost-effective connectivity to landlocked states as well as a "robust" backup for fibre and submarine cables. "By using BICS' satellite IP services, operators can ensure customers are no longer taken completely offline by damaged cabling and severe weather," says BICS senior product manager for capacity and IP, Eric Loos.

MENA supercharges its fibre with Infinera's PICs

MENA Submarine Cable System has deployed Infinera's *DTN-X* platform across its trans-Egypt terrestrial network. Infinera says its *Intelligent Transport System* provides multi-terabit capacity and network services to MENA, and will enable it to differentiate its services and manage costs as it scales.

A subsidiary of Orascom Telecom Media and Technology, MENA owns and operates a submarine system that connects Egypt to Greece, Italy, Oman, Saudi Arabia and India. This latest deployment will enable it to provide wholesale carriers with terabit capacity as well as a range of connectivity services from STM-1 to 100Gbps.

As with previous deployments for other customers in the region (such as SEACOM – *see News, Jun-Jul 2014*), Infinera says its *Intelligent Transport System* includes the industry's only commercially available single card 500Gbps "super-channel" solution which is based on photonic integrated circuits or PICs. By integrating DWDM optical transmission and up to 12Tbps of non-blocking OTN switching into a single platform, the firm claims its 500Gbps super-channels provide network operators the ability to easily scale to terabits of transmission capacity.

MENA MD Ahmed Khalaf says: "The solution's OTN switching capability provides the ability to offer our customers terabit capacity immediately upon deployment. The scalability realised from this network enables MENA to use time as a weapon to offer wholesale customers top-notch services."

WiMAX out at iWay

Pan-African operator Gondwana International Networks – better known as iWayAfrica – will upgrade its 4G network from fixed WiMAX to TD-LTE. It will use Telrad's *Dual Mode* solutions in an effort to improve connectivity for its business subscribers in Nairobi before rolling out across its other sub-Saharan networks. The solutions include the *BreezeCOMPACT 1000* base stations combined with dual mode CPEs. iWay will also use the vendor's software defined radio system for migration from WiMAX to LTE.

ICN switches TDM to IP

IP networking specialist Cataleya has been selected by Interconnect Clearinghouse Nigeria (ICN) to help it transition from TDM to IP. ICN has already started the migration process using Cataleya's *Orchid One Network Session* system to serve local and regional mobile operators as well as offer fixed line services with IP connectivity. Jay Jayasimha, the vendor's CTO, claims the scalability of *Orchid One* is "ideal" for delivering IP-enabled networking in Nigeria which he regards as "Africa's largest telecoms market".

Direct DRC to US route

Gilat Satcom has established a new POP in the US to provide a direct satellite route for traffic to and from the DRC. This latest investment from the company in its fibre and satellite infrastructure comes after it won a variety of new deals from operators and enterprises across Africa last year. "We are investing to ensure that we provide our customers with reliable high-quality competitively priced broadband services with excellent QoS," says CEO Dan Zjicek.

Wananchi Telecom outsources network services to support wholesale business

East African carrier Wananchi Telecom has partnered with Epsilon to connect its customers in Africa to more than 170 countries around the world.

It will use Epsilon's *Global Network Exchange* and carrier grade IP network for the delivery of outsourced services to support the growth of its wholesale telecoms business.

Epsilon has deployed a 'virtual POP' in Telehouse's *East London* UK data centre and at *SmartHub Fujairah* in the UAE, enabling Wananchi to access more than 500 carriers and network service providers.

In addition to network infrastructure, Epsilon will also provide a remote support service for cabling, installations and POP management.

Nairobi-based Wananchi delivers services in Burundi, Kenya, Mozambique, Rwanda, South Africa, Tanzania and Zambia, as well as in London, Mumbai and UAE.

As part of the deal, Epsilon will have access to Wananchi's extensive African network footprint, giving it greater local presence. Epsilon already has interconnection agreements with both WACS on the west coast of Africa as well as SEACOM on the east coast.

"Network outsourcing is the fastest and most efficient way for service providers to go global and connect their customers to the rest of the world," says Clint Collins, Epsilon's EMEA director for carrier business. "With this partnership, Wananchi Telecom can expand its local and international presence, ensuring it delivers high-quality services to more destinations."

Epsilon's latest deal with Wananchi follows on from a similar outsourcing contract with Vuetel Italia in Africa last year *(see News, Jun-Jul 2014)*.

Orange and USAID give mHealth a boost

The U.S. Agency for International Development (USAID) and Orange have formed a new alliance to develop mHealth innovations in Africa.

The agency says that using mobile phone technology to accelerate access to health information and services is a "game changer". It adds that partnerships with private companies such as Orange will enable it to have a larger impact in a cost-effective manner.

Under the first phase of their programme, the two organisations will leverage their combined expertise, technologies and local resources to improve quality of care and ensure that health services are readily accessible to the public. Niger is one of the countries currently under exploration. Future services will use integrated mHealth platforms and Orange's networks in 20 countries across MEA to communicate alerts and share resources.

USAID says using mobile phone technology to accelerate access to health information and services is a "game changer" in Africa.

Orange says healthcare workers will be able to use the technology to share medical expertise, collaborate with specialists regardless of location, and improve patient care. The public will also be able to access health information via the platforms.

For instance in West Africa, USAID and Orange are starting to develop a regional platform with a menu of mobile apps that health ministries, donors and NGOs could use for consumer education, healthworker tools, mobile money, and data collection.

The alliance ultimately aims to create a framework for easily replicating these mobile services in a number of African countries.

Dealing with Ebola

The current Ebola outbreak requires a global response. The ICT community has been offering its support through technology.

Ebola is estimated to have killed more than 8,000 people since the latest outbreak began in Guinea at the end of 2013. Nearly 3,000 cases and 1,700 deaths have so far been reported in that country alone. The disease has quickly spread to neighbouring Liberia and Sierra which between them have seen more than 18,200 cases and a death toll of 6,500.

The ICT community has been mobilising its forces and technologies in response to this growing international tragedy. For example, satellite operator SES is supporting the B-LiFE initiative, an international collaboration between the public, private and academic sectors. Run by a consortium that includes the European Space Agency, amongst others, B-LiFE aims to bring rapid disease identification for a fast response to crises such as the current Ebola epidemic.

Once installed in a crisis zone, the B-LiFE laboratory uses DNA-based analysis techniques to very precisely identify the presence of life-threatening biological agents that cause disease. A B-LiFE lab has been installed in N'Zerekore, Guinea to provide and ensure a rapid identification of Ebola-suspected patients through appropriate diagnostic tests. It will also perform clinical tests to analyse the effects of new therapeutic drugs and contribute to the development of new treatments for Ebola.

The effectiveness of the response provided by the B-Life lab depends on the real-time communications provided by satellite. Connectivity is provided via a rapid deployment kit with an inflatable antenna, and is operated on the emergency.lu and SATMED platform using SES satellite capacity *(see World News, Jun-Jul 2014)*.

SES also believes education is vital in helping to contain the epidemic and has launched *Fight Ebola*, an education channel that is available to both free-to-air and pay-TV viewers. It is transmitted via *ASTRA 2F* at 28.2°E and *SES-5* at 5°E, and aims at informing populations in affected areas about the nature and dangers of the disease and how to fight it.

Ibrahima Guimba-Saidou, SVP commercial Africa at SES, says: "Many people do not understand this disease and therefore, tragically, do not seek the medical care they need. *Fight Ebola* broadcasts content to millions of people that need to be informed on the risks of Ebola. The content on the channel comes from multiple sources endorsed by the Luxembourg Ministry of Health."

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A field worker in Ghana uses a Google *Nexus* tablet pre-loaded with crisis-response apps. Inveneo has distributed 500 of the tablets to aid agencies in the region and has provided training in how to use them.

The importance of apps

Mobile apps are playing a significant part in the fight. For instance last year, Inveneo sent a team to Accra, Ghana to distribute 500 Google *Nexus 7* tablets to health workers in West Africa. The devices are pre-loaded with crisis response apps designed to support major aid agencies working on the ground in the affected areas. Inveneo's team, led by senior field engineer Samuel Perales and executive director Bruce Baikie, have also provided training to support up to 50 aid organisations stationed throughout the region.

"International relief organisations have been expressing the need for tablets on the ground," said Perales. "Having seen first hand just how effective these tablets were in the aftermath of Typhoon Haiyan in the Philippines [in 2013], we are particularly eager to get tablets into the hands of aid organisations working to eradicate Ebola."

The *Nexus 7*s feature software and apps that enable post-crisis communication and coordination. With programs such as street-level maps and access to medical information, aid workers are able to deliver supplies more quickly and also receive updates and news stories that rural communities desperately need.

US-based Inveneo, which specialises in deploying sustainable computing and broadband solutions to developing countries, has also launched its *Ebola Response Connectivity* initiative. It is using equipment, such as radios, dishes and bridges from specialist vendor Ubiquiti, to build an instant Wi-Fi network bringing internet connectivity to doctors, nurses, and others working at medical centres in Sierra Leone.

Meanwhile the ITU has launched a free app called *Ebola-Info-Sharing*. It's designed to facilitate coordination among organisations responding to the crisis, and allows the general public to access the latest Ebola news from official sources, including an interactive map on the spread of the disease.

In Liberia, identification technology specialist Zetes is working with Médicins San Frontières (MSF), providing medical professionals with an app that tracks the location, condition, and treatment of patients using portable terminals. In December, Zetes said the system was being piloted in Monrovia at MSF's largest treatment centre which monitors infected patients.

On arrival at the centre, each patient receives a bracelet with a printed barcode and a unique ID. MSF doctors scan the patient identifier which then allows them to look up his or her records, and input their diagnosis directly using a questionnaire displayed on a mobile terminal screen.

The information is sent to the centre's database via a wireless network. The results of the examination determine the treatment to be administered, and also adds to the epidemiological database. Thanks to the mobile solution, Zetes says medical personnel can now look up the location, condition, and progress of every patient at any time.

Elsewhere, mobile operators on the continent are collecting funds to support the African Union's 'United Against Ebola' appeal. Safaricom, Vodacom and Vodafone have donated a combined total of USD1.25m to the union, while Millicom and the MTN Group are running individual SMS-based campaigns. MTN is inviting its subscribers to give at least USD1 as part of the appeal, and has also pledged to add USD10m from its own coffers.

Security AND Productivity

21st Century Solutions to 21st Century Problems

All tower companies and mobile operators face the challenge of preventing theft and unauthorized access to their infrastructure. The more remote the location, the more difficult the challenge.

The most common solution has been mechanical locking systems. The problem is, these systems create numerous management headaches including copied keys, lost/stolen keys, the frequent need to replace locks, where the process itself can be far more expensive than the cost of the original locks, and the need for trained and trustworthy staff to manage all these keys, which may number in the tens of thousands.

A switch to combination locks was thought to be a solution. They are not, as combination locks create an increased security threat; namely who knows the combinations at any given time? Should all combinations be changed every time staff leave?

In the age of Big Data, management has never put more value on generating and analyzing critical data in their operations. Mechanical systems cannot meet the data demands of the 21st century. Thereby, the industry has begun searching for other solutions. These usually consist of:

- Wired Systems - Why not deploy the same smart card based access control systems used in the office? The problem is, these systems are not designed for remote, outdoor environments. The installation alone may cost from 2-5 times the price of the hardware and necessitate major changes to site infrastructure. Installation may then require skilled technicians on-site for days at a time. If this is scaled across an entire network, deployment time alone is unrealistic. Then there is the maintenance involved. The costs and complexity likely outweigh the benefits of the technology.

- Battery Powered Readers – An alternative is to install wire-free readers, especially Bluetooth-based systems. While this eliminates the need for large control panels and trenching, it also means that the system is dependent on batteries. We all know that batteries fail and must be replaced periodically, requiring a new workflow simply to maintain the readers. What some may not realize is, because of the battery issue (which are installed inside of a door), these systems feature mechanical-lock over-rides. Now a hi-tech solution suffers from the same security weaknesses of a mechanical one – picked or bumped locks, lost/stolen keys, and the ability for users to enter sites undetected through these keys.

– It is important to note, that with both these systems, not all assets can be wired or installed with readers. How to expand the system to monitor access to assets like generators and front gates?

We have gone to great lengths in designing solutions that take these challenges into consideration. By deploying electronic, programmable locks and keys, intelligence is added to the same kind of padlock or cylinder lock already deployed on sites. Critically, the locks are completely wire and battery free. These solutions offer rapid deployment – all that is required is a screwdriver and 10 minutes at a site. Any asset can be secured, thus one solution can monitor vendors from the front gate to the generators to the LTE and BBUs. Operators and towercos can now gain control and data anywhere with minimal headaches.

The next challenge is to offer Real Time control and monitoring with a power independent system. In our solutions, users on-site enter a random code which offers them access only to the assets required in their service ticket and only for the time they need. This single-usage code is generated by a software which is sent to the user's phone.

In the developing world where many technicians do not own smart phones, needless to say data plans, it is essential that this kind of solution can also function on a basic phone. Another critical factor is redundancy, our system implements real-time control and data in such a way as to function regardless of if power is down at the site itself.

The demands for security are only increasing. The demands for productivity are increasing alongside it. An ideal solution will enhance both synergistically. At the same time, we must be realistic. Human resources, budget, operational architecture, and time must all be considered. Let us show you how we can work under your constraints to dramatically increase security and productivity.

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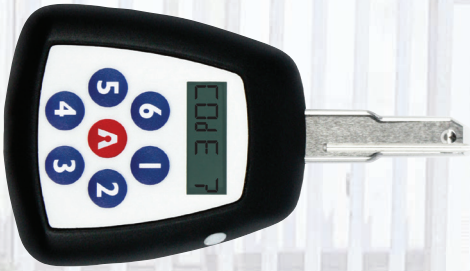

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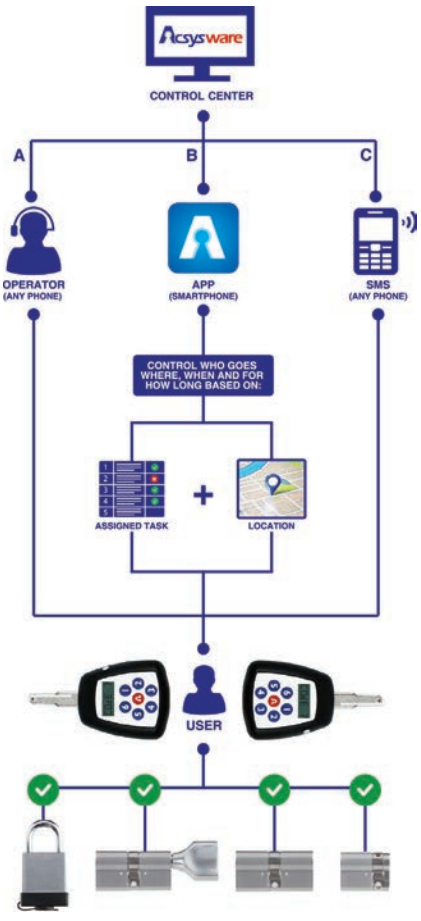


IHS secures billions in funding for more expansion across Africa

In what's described as the largest capital raise in Africa since 2007, IHS Towers has agreed funding worth USD2.6 billion. The deals, announced towards the end of last year, comprise equity of USD2bn and a loan facility of USD600m.

The equity has been secured from existing and new shareholders, while the debt component is split between USD and NGN with a seven- and eight-year tranche. The facility was fully underwritten which IHS says confirms its status in the credit markets.

The company has now raised a total of USD4.5bn since 2012 and claims to be the largest towerco in the EMEA region. IHS says the latest funding will support new site build programmes across its footprint, and will also be used to deliver greener power technologies to its tower portfolio such as more efficient operational management solutions, solar systems, and high efficiency generator units.

IHS CEO Issam Darwish says Airtel's users will now benefit from greater efficiencies and increased network uptimes.

In December 2014, the firm announced it will acquire more than 1,100 towers from Airtel in Zambia and Rwanda in a deal reportedly worth around USD313m.

Airtel Africa's entire estate of around 17,000 towers has been up for sale for some time now, and thousands have already been sold to Eaton Towers and Helios Towers Africa in separate deals *(see Wireless Business, Aug-Sep 2014)*.

Airtel's agreements with IHS, which are subject to statutory and regulatory approvals, will involve the sale and lease back of towers in Zambia and Rwanda under a 10-year renewable contract. The operator says this will enable it to focus on its core business and customers, de-leverage through debt reduction, and reduce its ongoing capex on passive infrastructure.

Once approved, this latest deal will mean that IHS will manage more than 21,000 towers in Africa, adding to its existing assets in Cameroon, Côte d'Ivoire and Nigeria.

It is also likely to result in further employment opportunities. Over the last few years IHS says it has created "several thousand" direct and indirect job opportunities, adding that it continues to invest "heavily" in the recruitment, training and development of its workforce.

"We are clear in our ambition to play a leading role in the creation of the widest, most efficient and reliable mobile networks in Africa," says IHS CEO Issam Darwish. "The social and economic benefits to the local economies where we operate are significant."

NIGCOMSAT to be privatised

The Nigerian Government has announced plans to privatise state-owned satellite operator NIGCOMSAT.

Early last December, the plan for the privatisation was discussed during a government meeting chaired by communication technology minister Dr. Omobola Johnson.

At the meeting it was noted that, according to benchmarking analysis from the global satellite industry, the most successful privatisation exercises have occurred with satellite companies that have been established for a minimum of 24 years.

But because of austerity measures, Johnson said NIGCOMSAT's privatisation will be preceded by a transition phase. She said the 2015 transition plan will focus on the company's commercial growth and improved financial attractiveness before it is privatised, which is expected by 2018.

The estimated market value of NIGCOMSAT's ground infrastructure in Abuja and China is around USD1bn, according to MD Abimbola Alale. She added that if the government chooses to increase commercialisation efforts through additional critical infrastructure investment, then it will gain the "optimal asset utility to generate revenue and improve financial profiles to attract investors".

Afrimax and Vodafone team up to find regional partners

Under a non-equity framework agreement, Vodafone and LTE operator Afrimax will explore potential 'Partner Market' opportunities in a variety of territories in sub-Saharan Africa.

The two firms have already signed their own Partner Market agreement in Uganda, and will offer customers voice and data products and services using the 'Vodafone Uganda' brand. Vodafone adds that its multinational corporate customers will benefit from the addition of Uganda to their existing contracts for international managed services.

Netherlands-based Afrimax specialises in acquiring spectrum, building networks, and operating mobile services in diverse geographic markets such as Africa. It is backed by private investors as well as World Bank Group members IFC and AMC.

With an existing 4G footprint covering 12 countries and further licenses being acquired, the company is using TD-LTE technology to build what it claims is the "largest" portfolio of 4G wireless broadband networks across sub-Saharan Africa. Last November, it announced that it had secured an additional USD56m in equity funding to back its ambitions.

Vodafone says its Partner Markets community has been successfully operating in more than 50 countries. This latest framework agreement with Afrimax has been agreed in conjunction with Vodacom Group, and will complement its operations in DRC, Lesotho, Mozambique, South Africa and Tanzania.

88mph and Microsoft Ventures to support startups in Nigeria

Microsoft is working with business mentor 88mph to expand the Microsoft Ventures programme into Nigeria. As part of the software giant's *4Afrika* initiative, the collaboration aims to help improve startups' productivity by offering tools, resources, expertise and routes to market around the world.

"By expanding Microsoft Ventures into Nigeria, we hope to re-invent productivity for startups," says Amrote Abdella, director of startup engagement and partnerships at Microsoft Africa Initiatives. "This means equipping them with the technology that puts their businesses first, providing affordable devices, cloud-based software and pay-as-you-go models, that enable anytime-anywhere access."

Startups for the programme will be selected based on globally established criteria. These include having a full-time founding team, a "bold vision" for tackling a real problem, technology-driven solutions, and less than USD1 million in raised capital.

One Nigerian startup that has already benefited from the partnership is mobile games company Gamsole. The firm says it's had more than nine million downloads around the world, making its founder Abiola Olaniran Nigeria's highest paid *Windows* game developer.

88mph is a seed fund and accelerator investing in startups that target African markets. Microsoft describes it as a "leader in a region where entrepreneurism is thriving and a great source of economic good". The two organisations first teamed-up in Kenya in 2013 *(see Wireless Business, Oct-Nov 2013)*.

Microsoft Africa Initiatives aims to "re-invent" productivity for startup firms, according to Amrote Abdella.

Chinese banks back VimpelCom

VimpelCom has signed a new USD1bn credit facility with Bank of China and the China Development Bank (CDB). Announced last November, it has a tenure of eight years and is unsecured but guaranteed by VimpelCom Amsterdam B.V. It is in addition to the USD0.5bn credit facility signed with the CDB in December 2012.

"Our cash flows remain robust," says VimpelCom CFO Andrew Davies. "And with an improved debt maturity schedule, no major re-financing obligations until 2020, and a strong liquidity position, VimpelCom is well-funded."

The credit will be used to fund capex for the telco's various subsidiaries. The Russian operator, which is headquartered in Amsterdam, provides services in 14 countries around the world and its interests in Africa include Djezzy in Algeria and Telecel in Zimbabwe. The firm says it has been investing in high-quality networks across its operations to capture the opportunity from mobile data growth.

Meanwhile in January 2015, the group announced several changes to its management team.

COO René Schuster plans to leave the company to "pursue other business interests". Chief HR officer Anja Uitdehaag has also quit and will be replaced by former Cap Gemini S.A. VP Jeremy Roffe-Vidal.

Earlier in December, Jon Fredrik Baksaas said he was stepping down from VimpelCom's Supervisory Board. Kjell Morten Johnsen will now act as his alternate.

Billion dollar network deals for Egyptian operators

In deals worth EGP15bn (USD2.05bn), Mobinil and Vodafone have signed international service contracts with Telecom Egypt (TE).

Under the four-year agreements, the two cellcos will have wholesale access to TE's global gateway services. In addition, Mobinil and Vodafone have agreed to offer domestic infrastructure services to TE for five and three years, respectively.

In 2014, the Egyptian government agreed to issue unified telecoms licenses. These latest agreements will therefore help both mobile operators to launch fixed services, while TE will be able to offer mobile services as soon as its long-awaited license is granted.

TE currently has a 45 per cent stake in Vodafone Egypt. The country's government wants to see that share, which is said to be worth around USD1bn, sold by the end of 2015. The telco is reportedly looking to hire financial advisers to help with the sale, and has also asked local and international banks to submit proposals if they wish to be involved.

Ericsson's full year performance hit by slowdown in Africa sales

Ericsson has seen a significant dip in sales in the sub-Saharan Africa region, a downturn which has contributed to a disappointing 2014 for the networking equipment manufacturer.

The Swedish multinational has reported a drop in full-year sales of 13 per cent in the sub-Saharan region, but despite the poor report it reckons there are reasons to be cheerful.

"Sales increased year-on-year on the back of increased spending by customers in key markets," says the firm's annual report. "Lower handset prices is the key driver of mobile data traffic growth. This, together with regulatory quality requirements, drove mobile broadband investments."

Ericsson says its full-year sales declined but recovered in the second half, mainly driven by operators focusing on network traffic and quality management. The company states that this resulted in continued demand for managed services.

However, a closer look at its annual report reveals that, for sub-Saharan Africa, all four quarters of 2014 show fewer sales than the corresponding quarter in 2013.

Ericsson's sales in North America also declined, with year-on-year sales in 2014 down eight per cent compared to the previous year. The region was previously one of the fastest-growing markets for the company, but it has slowed down because construction on the latest generation of 4G networks has largely peaked and shifted to capacity upgrades.

Total sales for the year were USD28bn, a slight fall of two per cent. Overall operating income was USD2bn. 2015 may continue to be a relatively tough year for the firm as it forecasts restructuring charges of approximately USD500m.

Ericsson president and CEO Hans Vestberg, says the slowdown in sales in sub-Saharan Africa and North America were offset by increases elsewhere: "A sales decline in North America of eight per cent was compensated by growth in the Middle East, Europe and Asia. Operating margin improved in the core business driven by higher share of capacity sales and efficiency enhancements. This was partly offset by currency hedge losses, investments in targeted areas as well as losses related to the modems operations."

Ericsson president and CEO Hans Vestberg says the lower sales in North America and Africa were compensated for by growth in the Middle East, Europe and Asia.

Operators are "living in denial" and need a new business model

Global trends for mobile operators show stagnant revenues and declining margins, says Strategy Analytics.

According to the research firm, while many consider developing countries to be growth markets for technology, they are not actually proving to be profitable.

In a recently published report, *Are telecommunications Operators in Denial? ROI is at Risk and New Business Model is Needed*, Strategy Analytics says: "While network operators around the world have spent over USD700bn

NEW APPOINTMENTS

Date	Name	New employer	New position	Previous employer	Previous position
04/11/14	Ashish Chowdhary	Nokia Networks	Chief business officer, customer operations	Nokia Networks	EVP Asia, Middle East & Africa
04/11/14	Igor Leprince	Nokia Networks	Head of global services	Nokia Networks	SVP & head of Middle East and Africa
07/11/14	Jimmy Eisenstein	Eaton Towers	Chairman	Grupo TorreSur	CEO
25/11/14	Giorgio Heiman	Orange	VP Middle East & Africa	Vodafone	Head of global services, emerging markets
11/12/14	Stephen Spengler	Intelsat	Deputy CEO (to become CEO in Apr)	Intelsat	President & CCO
15/12/14	Bernard Najm	Nokia Networks	VP Middle East & Africa	Nokia Networks	Head of 'SKIL' sub-region
12/1/15	Francois Van Zyl	Anam Technologies	Regional director, Africa	Cell C	Managing executive
12/1/15	Debbie Minnaar	MTN Group	GM, products & services	IBM South Africa	GM, strategy & special projects
14/1/15	Jürgen Eynck	DAMM	Director, R&D	Fjord-e-design sales	Authorised officer
15/1/15	John Wibergh	Vodafone	CTO	Ericsson	EVP & head of networks
19/01/15	Brig Gen Peter Hoene	SES Government Solutions	President & CEO	SES	Corporate VP, development
29/1/15	Joe Barrett	GSA	President	VisionComs Ltd	Founder

in infrastructure investment over the past ten years, revenue growth has been almost flat since 2007.

"Operators appear to be in denial that the business model has changed, and unwilling to recognise that investment alone does not lead to increased profitability."

The researchers adds that their wireless operator performance benchmarking report indicates that with new capacity and increased competition, ARPU has been steadily declining in every region of the world. They says that this, together with slow revenue growth, has resulted in a steady erosion of margins since 2010 in most regions.

Microsoft's fourth quarter results below expectations

Shares in Microsoft tumbled 10 per cent after it announced its 4Q14 results. Analysts believe the fall was due to enterprise software license sales being below forecasts.

Microsoft has been trying to move away from its traditional stronghold in the PC market and more towards mobile devices. It has seen increased sales of its *Lumia* smartphones and *Surface* tablets – year-on-year revenues from the latter grew 24 per cent to more than USD 1bn.

The company says its cloud computing software has also been selling well, with earnings that have more than doubled. Microsoft claims the division is now on course to bring in USD 5.5bn in the next financial year.

Total revenues for the quarter were just over USD26bn, with commercial licensing – mostly *Windows* – bringing in almost half that amount.

IN BRIEF...

Under a two-year deal worth USD7.5m, Gilat Satcom will provide satellite backup in the DRC. The firm has not named its customer but describes it as a "leading mobile communications company" in the country.

As part of an agreement that Gilat announced last November, the operator will use satellite to backup its cellular, fibre and backhaul networks in the DRC's four largest cities: Goma, Kinshasa, Kisangani and Lubumbashi.

The company adds that it's been providing satellite broadband connectivity to enterprises and ISPs in the DRC since 2008, most recently using O3b's new satellites.

CommScope Holding has agreed to acquire TE Connectivity's telecoms, enterprise and wireless businesses in an all-cash transaction valued at around USD3bn. CommScope hopes the deal will enable it to expand into "attractive" adjacent markets as well as broaden its position as an infrastructure provider.

Headquartered in Switzerland, TE is said to have a "strong presence" in Europe, Middle East, Africa and Asia Pacific. It specialises in fibre optic connectivity for wireless and fixed networks, and reported revenues of around USD1.9bn for its fiscal year that ended last September. These consisted of USD1.1bn from its Telecom division, USD627m from Enterprise, and USD164m from Wireless.

US-based CommScope says it expects to finance the transaction through the use of cash on hand and up to USD3bn of incremental debt. It has received debt financing commitments from J.P. Morgan Securities, BofA Merrill Lynch, Deutsche Bank and Wells Fargo.

The deal is expected to close by the end of 2015 subject to approvals and other customary closing conditions.

At the end of January, Global Telecom Holding (GTH) announced it had closed the sale of its 51 per cent interest in Omnium Telecom Algeria – formerly known as Orascom Telecom Algérie (OTA) or Djezzy – to the Algerian National Investment Fund for USD 2.6bn. GTH will continue to exercise operational control over OTA, and as a result, both GTH and its parent company VimpelCom will continue to fully consolidate OTA. Shortly prior to closing, OTA and its wholly-owned subsidiary Optimum Telecom Algérie established credit facilities with a syndicate of Algerian and international banks for DZD82bn (around USD 0.9bn).

Airtel is said to have become Africa's first and only cellco to provide its customers with 100 per cent coverage using terrestrial and mobile satellite connectivity.

In a deal announced last November, the operator said it is launching mobile satellite products and services from Thuraya across its 17 African markets. They will be initially available in Congo, DRC, Gabon, Ghana, Kenya and Zambia, with expansion into its remaining operations on the continent to follow.

Thuraya says its collaboration with Airtel "spearheads" the convergence between satellite and mobile which is addressing Africa's growing demand for communications technology.

Gemalto has opened an office in Côte d'Ivoire in an effort to better meet the needs of its customers throughout West Africa.

According to the digital security specialist, Côte d'Ivoire has a mobile penetration rate of more than 90 per cent and its ICT market accounts for nearly 10 per cent of GDP.

"This new location will therefore aim to further foster the digital development of the local economic fabric," says the firm. "This genuine technology hub will leverage skill transfer and the pool of engineering excellence available in the country."

Cairo-based VAS provider TA Telecom has been recognised as one of the 50 fastest-growing technology companies in Africa. It ranked fourth on the *Deloitte Technology Fast 50 Africa 2014* for achieving a revenue growth of 560 per cent over the past five years.

TA harnesses the power of 'Big Data' and analytics for its mobile content platforms. It says its products benefit more than 10m users in MEA.

Nigerian transactions specialist Interswitch ranked first in Deloitte's table with 1,226 per cent growth.

It was followed by Kenya's TechnoBrain, and South African firms Everlytic and Adapt IT who ranked third and fifth respectively.

LATEST COMPANY RESULTS

Date	Company	Country	Period	Currency	Sales (m)	EBITA (m)	EPS (units)	Notes
30/10/14	Bharti Airtel	India	2Q14	INR	22,845 (cr)	7,705 (cr)	NA	Africa up 6.4% in local currency terms but USD appreciation depressed growth to 1.9% YoY. India revenues up 12.3% YoY.
30/10/14	Intelsat	Luxembourg	3Q14	USD	608.6	477.8	0.58	Revenues reflect current markets for African services & government businesses; new launches offer future optimism.
30/10/14	Eutelsat	France	3Q14	EUR	357.6	NA	NA	CEO Michel de Rosen: "We are on track to deliver on our full year financial targets."
30/10/14	SES	Luxembourg	3Q14	EUR	467.7	355.9	NA	Revenues flat compared to prior year; Europe & overseas markets offset weaker performance in North America.
12/11/14	VimpelCom	Netherlands	3Q14	USD	5.1 (bn)	2.2 (bn)	NA	Net income declined due to one-off costs related to recent re-financing of WIND & unfavourable forex.
13/01/15	Huawei	China	FY14	CNY	287 (bn)	29.4 (bn)	NA	The telecom networking giant became the third-largest smartphone maker last year, and is now said to be the largest telecoms equipment manufacturer in the world.
19/01/15	ZTE	China	FY14	RMB	81.24 (bn)	NA	0.77	Full-year profits almost doubled last year. Has high hopes for its Blade S6 smartphone over the coming 12 months and aims to dent Apple's market share.

OneAccess unveils LTE-enabled multiservice access router platform

OneAccess says its new integrated 4G router platform enables operators, cloud and managed CSPs to add LTE connectivity to the growing list of access technologies they can integrate on multipath WANs. It adds that the *One1540-4G* also provides a single, centrally managed application platform over which service providers can deliver "bundles of revenue-generating managed network services".

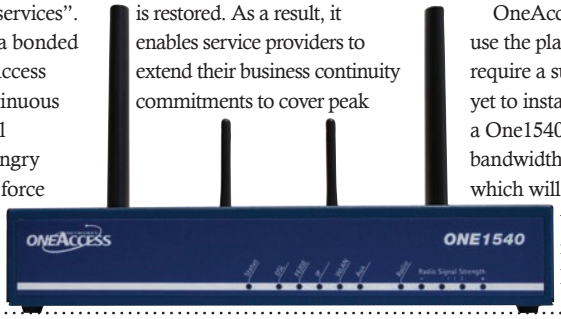
MANUFACTURER: OneAccess

PRODUCT: One1540-4G

MORE INFORMATION:
www.oneaccess-net.com

The new platform enables a bonded LTE link on the WAN. OneAccess says that this ensures the continuous availability of business-critical applications as bandwidth-hungry cloud-based apps continue to force increasing volumes of data across the network.

The vendor claims the *One1540-4G* can effect a seamless and automatic failover to LTE, together with an automated return to the primary link once the main fixed connection is restored. As a result, it enables service providers to extend their business continuity commitments to cover peak traffic periods when failover to legacy cellular standards, such as 3G or HSPA+, could risk performance degradation from overloading the network.



OneAccess says operators can use the platform with customers that require a superfast connection but have yet to install a fibre link. By deploying a One1540-4G they can deliver a high-bandwidth LTE link of up to 150Mbps which will automatically switch over to a fibre link when cabling is completed, retaining the LTE link as a failover.

Mini COFDM transmitter for bodyworn surveillance

MEL Secure Systems has launched a new and compact COFDM H.264 digital video transmitter to meet the needs of users in a wide range of security and military applications. Measuring 86 x 56 x 25mm, *Ranger Mini* is said to support high-quality, real-time video monitoring and recording applications for bodyworn, mobile and temporary CCTV uses.

MANUFACTURER:
MEL Secure Systems

PRODUCT: Ranger Mini

MORE INFORMATION:
www.melsecuresystems.com

It's claimed to provide "class-leading" performance, and uses ultra-narrowband to provide "exceptional" range and video quality in high multi-path environments regardless of line-of-sight. MEL says the unit delivers images at distances of up to 1km in non-line-of-sight urban environments, while a 15km range has also been achieved in line-of-sight environments.

The firm says the device also enables users to colocate more channels in the increasingly crowded RF spectrum. It is available in a wide range of frequencies including 1.3GHz, 2.4GHz and 5.8GHz, while bandwidth is available in 1, 2, 4 and 8MHz. MEL adds that built-in AES 128/256-bit encryption ensures the highest security standards.

Optional receiver kits include an LCD monitor and integrated DVR which enable high-quality, interference-free images to be received from up to four cameras simultaneously.

Sepura introduces new DMR Tier III portfolio

Sepura has added a DMR Tier III solution to its product portfolio. It says the flexible design of its platform allows the creation of tailor-made solutions or off-the-shelf systems.

Sepura claims its Tier III DMR system architecture provides an extremely high level of built-in redundancy. Subscriber and network data is distributed across every node in the system, eliminating the need for dedicated site controllers and permitting no single point of weakness that could cause the whole network to fail. In addition, existing Sepura Tier II deployments can be easily upgraded, allowing radio systems to grow according to user needs.

The firm says its new line-up includes "rugged and robust portables" as well as "sophisticated" fully featured mobiles. There's also a multi-functional and easy to install system incorporating a new controller developed in collaboration with Fylde Micro which Sepura acquired in May.

MANUFACTURER: Sepura

PRODUCT: DMR Tier III system

MORE INFORMATION:
www.sepura.com

Elevate "slashes" time-to-market for wireless devices

Spirent Communications describes the *Elevate Test Framework* as a "revolutionary advance" in testing wireless and M2M devices and services. It claims *Elevate* provides a unique open test architecture and offers "powerful" resources to enable faster time-to-market and improved user experience.

Unlike conventional platforms, Spirent says its framework separates hardware from software, making use of virtualisation and organising test elements into an open architecture.

Elevate offers analytics that cross all phases of wireless device development, such as emulated and live services, instrumentation, an open API, and automated and interactive testing. It then outputs shareable test results for comprehensive collaboration.

"With surges in smartphones and M2M devices, legacy test solutions are not able to support the complexity and time to market needs", says Spirent.

MANUFACTURER:
Spirent Communications

PRODUCT:
Elevate Test Framework

MORE INFORMATION:
www.spirent.com/elevate

Nokia Networks launches OSS software as a service

Nokia Networks has developed OSS as a Service in an effort to enable operators to shift capex to opex for lower and more predictable costs.

The firm is offering two OSS tools asaservice:PerformanceManagerto help operators manage the performance and capacity of 2G, 3G and LTE networks; and Service Quality Manager which aims to give them an accurate real-time view of service quality across mobile broadband and IT networks.

Nokia reckons OSS as a Service provides "greater business agility" with deployment in just a few weeks. It says overall operator costs can be 19 per cent lower compared to conventional business models, due to reduced installation, integration and operation costs.

The tools are hosted and supported by Nokia Networks' Global Delivery Centres. Users can choose to take the tools with maintenance and basic services such as key quality indicator modelling for *Service Quality Manager* for example, or a more comprehensive package that also includes service management for a fully outsourced service operations centre.

Nokia says as operators look to take advantage of efficiencies that cloud-based networking can offer, hosting models can not only help reduce the disruption of upgrade cycles, but also schedule expenditures to better match the ramp-up in network requirements.

It adds service management can resolve service quality degradations 20 per cent faster than a NOC alone.

MANUFACTURER: Nokia Networks

PRODUCT: OSS as a Service

MORE INFORMATION: www.company.nokia.com

10GbE platform for virtualised services

Telco Systems has added *CloudMetro 100* to its *Open Metro Edge* range of solutions. According to the SDN and Carrier Ethernet specialist, the offering is the first 10GbE platform for virtualised IT services at the network edge.

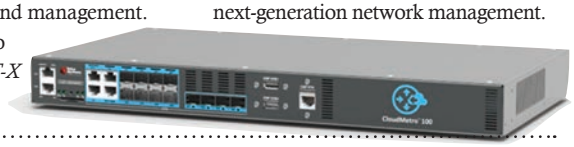
CloudMetro 100 is said to offer a carrier-grade platform that enables service providers to transform their transport networks to full IT-enabled networks. According to Telco, this makes their networks "highly orchestrated, agile and virtualised".

The platform supports distributed network functions virtualisation (NFV), enabling operators to run the vendor's virtualised apps to provide multi-services in addition to connectivity.

To implement distributed NFV, *CloudMetro 100* combines a switch and integrated Intel x86 CPU as a hosting processor. This runs the *Telco Virtualisation Engine* infrastructure layer, enabling carrier-grade virtualisation support that simplifies NFV execution and management. The platform also utilises Intel's *VT-X* technology to optimise virtualisation performance.

Telco says that accelerating demand for bandwidth is already pushing NFV toward the next modernisation wave that will satisfy bandwidth-hungry NFV applications over high-capacity Ethernet. It says the 10GbE-capable *CloudMetro 100* meets this approaching capacity challenge while supporting all of the latest transport technologies including Carrier Ethernet 2.0, IP/MPLS and OpenFlow.

In addition, it provides many OAM, resiliency and HQoS capabilities, as well as NETCONF and YANG for next-generation network management.



MANUFACTURER: Telco Systems

PRODUCT: CloudMetro 100

MORE INFORMATION: www.telco.com

An all-in-one solution to critical threats

Adax has launched a new all-in-one solution to help operators protect subscribers and their data.

The packet-processing and network infrastructure specialist says its *SEG+* is a security gateway that will enable operators to have greater control of their networks. Adax says it will help them deal with a general culture of security threats which has opened up a whole new portal for intruders to infiltrate data packets on the core network.

It's claimed the gateway delivers performance, reliability and scalability, securing the connection between untrusted networks and the core in a complete carrier grade solution.

SEG+ has been designed to offer high-quality, robust security performance through hardware acceleration at low cost for high bandwidth and scalability.

Adax says the gateway uses the most current IPsec security features including MOBIKE, IKEv2 and TCP/IP firewall, and also offers support for IPv6/IPv4 and 64-bit platforms.

An onboard switch provides up to 16 x 1G or 4 x 10G interfaces to the network, and dual 10G or dual 40G connectivity to the core without the need for extra blades or modules.

MANUFACTURER: Adax

PRODUCT: SEG+

MORE INFORMATION: www.adax.com

ALSO LOOK OUT FOR

Keysight offers signal library for 5G research

Keysight Technologies says its EEsof EDA 5G Baseband Exploration Library provides ready-to-use reference signal processing intellectual property for 5G technology research.

The Agilent subsidiary claims the opening of its library is an industry first, and that it will "dramatically" increase the productivity for system architects and baseband physical layer designers.

Launched last November, the library supports various 5G candidate waveforms for orthogonal and non-orthogonal multi-carrier comms systems, including advanced MIMO and beamforming signal processing.

It also provides transmitter and reference receiver modelling examples which, according to Keysight, can be easily re-designed to achieve optimal performance for comparison of each of the candidate standards proposals.

The new resource consists of source code, subsystems, models and infrastructure components. These can be used for the high quality, rapid development and verification of advanced digital modems using Keysight's *SystemVue* simulation platform.

The company says the source code provides a self-documenting independent reference library that allows system designers to quickly replace and modify blocks, and subsystems to meet the needs of their specific end product.

It claims *SystemVue*'s integrated simulation environment allows users to investigate, implement and verify their communications PHY signal processing designs with dynamic link-level scenarios.

Adding the new library to the platform provides a numb00er of features. Keysight says these include: advanced DSP blocks for 5G candidate waveform technologies; end-to-end PHY layer transmit and receive simulation models; signalling schemes for MIMO channels including spatial multiplexing, space-time coding and multiple detection methods; and more.

The new space race

RSCC's *Express-AM6* on the launchpad at the Baikonur Cosmodrome, Kazakhstan in October 2014. It is the first of several satellites for Africa from the well-established Russian operator.

PHOTO © ROSCOSMOS

RAHIEL NASIR takes a look at the latest developments in African satcoms and begins the countdown to some of the key launches to look out for in the coming months.

2015 looks set to be a landmark year for satellite technology, most notably in Africa with the launch of Asia Broadcast Satellite's *ABS-3A*. It will be one of the world's first to use an all-electric propulsion system which aims to gives operators more affordable launch options as well as the ability to nearly double payload capacity.

ABS-3A has been built by Boeing using the *702SP (Small Platform)*. According to the company, its *702SP* satellites are affordable, lightweight and provide efficient options for movement. It adds that the platform offers up to a total of 48 C- and Ku-band transponders, and nearly 8kW of payload power across the satellite's lifetime.

Boeing is building two pairs of *702SP* satellites under a joint agreement signed in 2012 with ABS and Eutelsat. The firm's patented technology will enable the first of these satellites, *ABS-3A* and *EUTELSAT 115 West B*, to be launched together as a vertically stacked pair on board a SpaceX *Falcon 9* rocket on 27 February 2015.

While *EUTELSAT 115 West B* will be positioned at 114.9°W for expanded capacity across the Americas, *ABS-3A* will orbit at 3°W to serve both sides of the Atlantic for international as well as regional connectivity and services. It features 24 C-band transponders, including three C-band beams to cover Africa, the Middle East and the Americas, along with a global beam. Of its 24 Ku-band transponders, four beams will cover North Africa, the Middle East, South Africa, Europe and the Americas.

ABS-3A will support VSAT services, IP trunking, cellular backhaul, maritime services, and TV distribution. Last July, ABS announced that the Arab Satellite Communication Organisation (Arabsat) had signed a multi-transponder deal to use Ku-band capacity for the duration of the spacecraft's 15-year lifetime. Arabsat hopes the payload will provide it with additional growth opportunities to serve customers over the MENA region. Speaking at the time, the firm's CEO and president Khalid Balkheyour said: "Arabsat has put in the market a request for proposals for four new satellites at different orbital locations, and yet we continue to see rapid increase in customers' demand on telecommunication and broadcasting services across the region."

In addition to *ABS-3A*, ABS is planning to launch *ABS-2A* during the second half of this year. It also uses Boeing's *702SP* and will be co-located with *ABS-2* at 75°E. Designed with 48 transponders and five dedicated high-powered Ku-band beams, the satellite will serve sub-Sahara Africa, the Gulf Cooperation Council region, South East Asia, Afghanistan, India and Russia.

Satellite: the TV superstar to watch

Eutelsat's plans for Africa this year include *EUTELSAT 8 West B* which it describes as a "powerful new satellite" for North Africa and the Middle East. Built by Thales Alenia Space, it will be equipped with 40 Ku-band transponders designed

primarily to serve the region's DTH markets. The satellite will orbit at 8°W and introduce a C-band mission to this location with 10 operational transponders connected to footprints covering Africa and reaching west to South America.

EUTELSAT 8 West B will join others from Eutelsat and Egyptian operator Nilesat that are already orbiting at the adjacent 7°W position. Eutelsat says the 7/8°W video neighbourhood is one of the "most dynamic in the global satellite TV market", with a rapidly growing audience and channel line-up. It comprises three Eutelsat satellites plus two from Nilesat which broadcasts more than 1,000 TV channels to households from Morocco to the Gulf.

Last September, the two companies strengthened their long-term partnership when it was announced that Nilesat had agreed to take a long-term lease for multiple transponders on *EUTELSAT 8 West B*. Nilesat already leases capacity on *EUTELSAT 8 West C* but will transfer this to the new bird once it enters service.

Eutelsat regularly carries out market research to monitor the number of homes receiving TV channels broadcast by eight of its flagship video neighbourhoods serving North Africa, the Middle East and Europe. As part of its latest *TV Observatory* report released at the start of 2015, it said that all eight continue to experience audience growth, including the 7/8°W neighbourhood shared with Nilesat whose DTH base in MENA grew from 27 million homes in 2010 to 52 million in 2014.

Eutelsat believes the demand for higher quality digital broadcast services further consolidates satellite as the preferred digital infrastructure technology across the region. In earlier research carried out in 2014, it found that out of a population base of 77.1m TV homes across 14 countries (which included Algeria, Egypt, Libya, Morocco and Tunisia, amongst others), 92 per cent favour satellite reception for pay-TV or free-to-air viewing. In 2010, satellite reception accounted for 67 per cent of TV homes in the region, and by 2013 penetration had increased by 25 percentage points. Over the same period, the number of homes receiving analogue terrestrial TV slumped from 18.2m in 2010 to 4.1m in 2013.

PHOTO: BOEING

ABS-3A and *EUTELSAT 115 West B* are vertically stacked together on a Boeing *702SP* satellite platform. They will be jointly launched in February and will be the world's first satellites in space to use all-electric propulsion systems.

Boosting performance

While Intelsat plans to launch four satellites in 2015, these are mainly aimed at the Americas. Its next orbiters for Africa are due next year. *IS-33e* and *IS-36* are currently under construction, once again by Boeing, and will be Intelsat's first satellites for the continent to use its much talked about *EpicNG* high-performance platform.

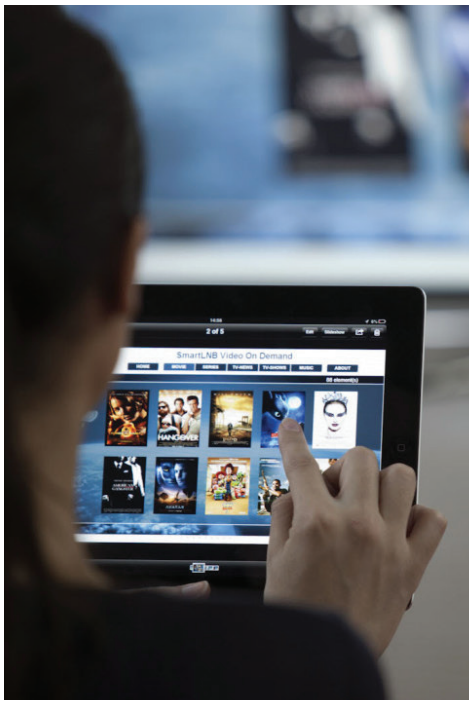
Designed as a complementary overlay to its fixed satellite network, Intelsat says *EpicNG* is designed to use C-, Ku- and Ka-bands, wide and spot beams, as well as frequency re-use technology to provide a variety of customer benefits. The platform will be fully integrated with the company's existing fleet and global *IntelsatOne* terrestrial network.

According to Intelsat, *EpicNG* is based on open architecture and engineered for backwards compatibility. It says this allows broadband, media, mobility and government organisations to realise the cost-efficiency of using existing hardware. It also gives increased control, enabling service providers to offer their end-users customised and differentiated solutions – even defining such service characteristics as speed, hardware and network topology.

Intelsat goes on to claim that *EpicNG* will provide three to five times more capacity per satellite than its traditional fleet. It adds that the expected throughput will vary according to application and satellite, but is expected to be in the range of 25-60Gbps which is typically 10 times more than its traditional fleet.

MultiChoice is often described as Africa's pioneer pay TV provider, having launched the continent's first digital satellite service in 1995. It is aiming to put Intelsat's claims to the test and has already signed a 15-year service agreement for capacity on *IS-36*. When it's launched (which is expected during the second half of 2016) the new satellite will be co-located with *IS-20* at 68.5°E, Intelsat's premier DTH neighbourhood in Africa. MultiChoice has been the anchor customer at this location since 1995.

IS-36 will feature Ku- and C-band transponders. MultiChoice will use the Ku-band payload for its DTH services, while the C-band payload will be used by Intelsat to provide services to other customers using the 68.5°E neighbourhood which also distributes content to South Asia.



Research from Eutelsat reveals that satellite reception accounted for 67 per cent of TV homes in the MENA region in 2010, and that penetration had increased by 25 percentage points by 2013. Over the same period, the number of homes receiving analogue terrestrial TV slumped from 18.2 million in 2010 to 4.1 million in 2013.

MultiChoice is clearly hungry for even more bandwidth. Eutelsat is leasing capacity on *Express-AMU1*, a new Russian Satellite Communication Company (RSCC) satellite that is due to be launched later this year to 36°E. It will commercialise the capacity under the name *EUTELSAT 36C*. Last year, MultiChoice signed an agreement with Eutelsat and will use the entire payload of 15 Ku-band transponders connected to the African service area of *EUTELSAT 36C (see News, Aug-Sep 2014)*.

RSCC describes *Express-AMU1* as a "state-of-the-art" high-capacity satellite with up to 70 transponders, and will use it for Ku- and Ka-band coverage of the European part of the Russian Federation. For Eutelsat, *Express-AMU1* will provide follow-on and expansion capacity for *EUTELSAT 36A*, and will also ensure service continuity and growth for the firm's broadcast markets in sub-Saharan Africa.

While RSCC has been established as a satellite operator since 1967, it did not make its African debut until 2014 with the launch of *Express-AM6* in October. Scheduled to start commercial operations from 53°E on 1 July 2015, *Express-AM6* will provide coverage of Africa, the Middle East, Europe, European Russia, the Urals and Western Siberia.

Built by Russian manufacturer Reshetnev Information Satellite Systems in association with Canadian-based MDA and the Russian Radio Research and Development Institute, *Express-AM6* is based on the *Express-2000* platform. It is equipped to carry 72 C-, Ku-, Ka- and L- band transponders, bringing its combined capacity to more than 2,700MHz.

RSCC plans to launch two more satellites in the coming months. *Express-AM8* will have C- and Ku-band fixed beams covering Africa from 14°W, while *Express-AM7* will orbit at 40°E offering C-band coverage over West and Southern Africa via steerable beams.

December 2014 saw the launch of *ASTRA 2G* from SES. Manufactured by Airbus Defence and Space (ADS) using the *Eurostar E3000* platform, the satellite will orbit at 28.2°/28.5°E with a payload of 62 Ku- and four Ka-band transponders.

"The spacecraft includes the capability to connect West Africa to Europe via Ka-band," said SES CTO Martin Halliwell. "In combination with *ASTRA 2E* and *ASTRA 2F* which were launched in September 2012 and 2013 respectively, *ASTRA 2G* is the culmination of our fleet renewal programme at the 28.2/28.5° orbital arc.

"The new state-of-the-art SES satellites provide more focused and higher power to our broadcast customers, while the Ka-band on board supports the delivery of next-generation satellite broadband services as well as intercontinental connectivity between Africa and Europe."

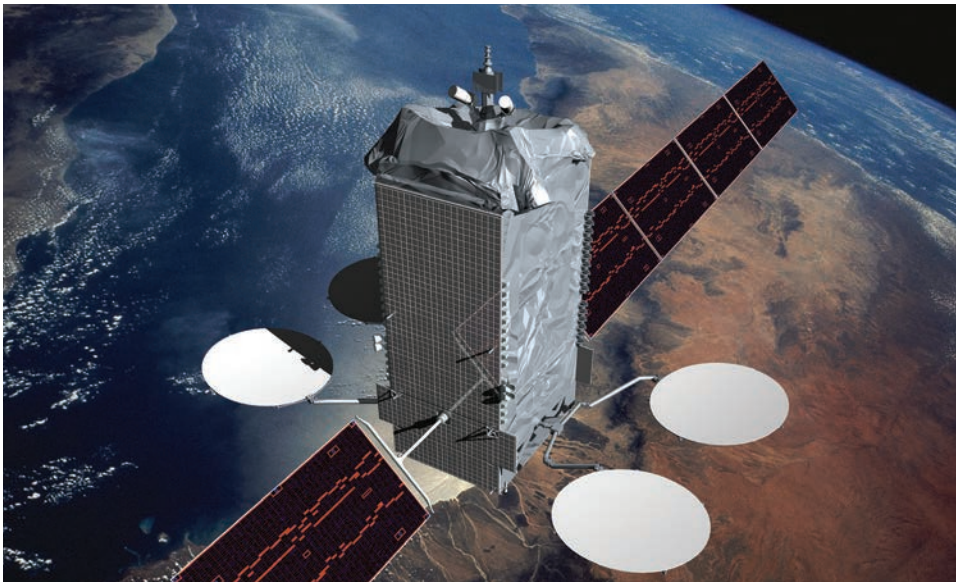
The launch of *ASTRA 2G* also supports the *SATMED* e-health platform that was developed to improve public health in emerging and developing countries, most significantly in isolated areas with poor connectivity. The platform was conceived by SES' TechCom division, and is supported by the Luxembourg Government and 'ESTHER', a pan-European alliance of governments for the networking of health professionals and associations in their fight against AIDS *(also see World News, Jun-Jul 2014)*.

While three more SES satellites are presently under construction by ADS, these are destined for Asia and the Americas, and include *SES-12* which will also use an electric propulsion system *(see World News, p32)*.

The next satellite for Africa from the Luxembourg-based operator will be *MonacoSAT* which is due to be launched in the first quarter of 2015. Based on SES' partnership with SSI-Monaco, it will orbit at 52°E and provide capacity for media, trunking and enterprise services in North Africa, the Middle East, Europe and Central Asia. SES will have the rights to commercialise *MonacoSAT*'s entire payload of 12 Ku-band transponders covering MENA.

Last September, Spacecom, the operator of the *AMOS* fleet, announced plans to launch a high throughput satellite (HTS). It claims *AMOS-6* will be fitted with numerous new technologies such as electronic propulsion capabilities to save on weight and cost. Its adds that the satellite's spot beams will bring "multiple times" more throughput than traditional satellites, thereby enabling broadcasters and service providers to "re-think business opportunities in providing various data services, including mass market broadband services."

Scheduled for lift-off in Q4 2015, *AMOS-6* will be positioned at 4°W to offer 39 Ku-band segments and 24 Ka-band beams for a wide array of services. It will include six HTS Ka-band spot beams over sub-Sahara Africa and Europe, as well as three Ku beams covering the Middle East and Europe.



Boeing is building four satellites for Intelsat based on the *702MP* platform (pictured). They include *IS-33e* and *IS-36* which will be Intelsat's first satellites for Africa to use its high throughput *EpicNG* platform.

'Fibre in the sky'

O3b Networks ended 2014 on a high note with news of the successful launch of four more of its satellites. They were sent into medium Earth orbit (8,000km) on 18 December, and mean that the company's initially planned constellation of 12 satellites is now complete. The new spacecraft are currently going through a period of in-orbit testing and are expected to be integrated into the O3b network in early 2015.

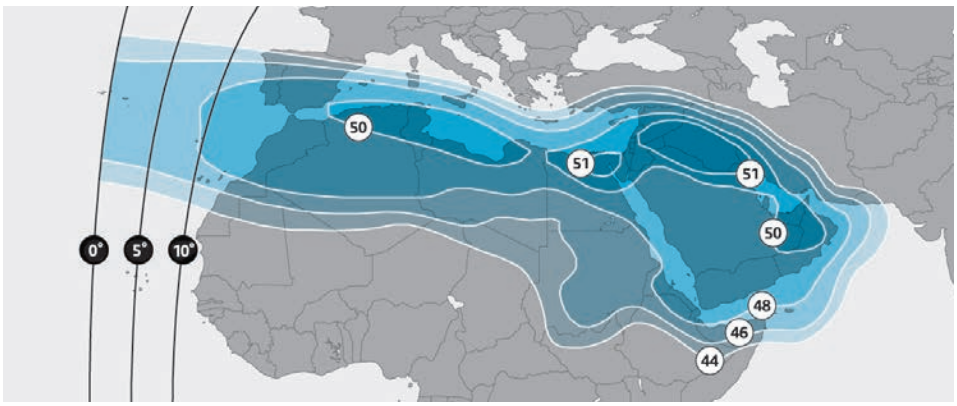
O3b's fleet has been fully operational following the launch of its second quartet of satellites last July. It says this added more than 80Gbps of capacity to its network and expanded fleet capacity to over 100Gbps. CEO Steve Collar has previously stated that in the future O3b intends to increase its in orbit capacity to more than 1Tbps.

The firm claims its system delivers "fibre-like" performance, throughput exceeding 1Gbps per connection, and latency comparable with terrestrial networks, all while retaining the "flexibility and ubiquity" of satellite.

In Africa, O3b's system has already been deployed by Hermes Datacomms in Angola, Raga Sat in the DRC, Somtel in Somalia, and RCS in South Sudan. Last November, it was announced that Gulfsat Madagascar had become the first African company to offer a fully redundant hybrid network that incorporates both fibre and O3b's "fibre equivalent" satellite. According to Gulfsat, its fibre network and O3b's system are closely matched in terms of price and performance, and therefore work together "seamlessly".

The new hybrid network is said to give Gulfsat a significant increase in bandwidth with a reliable throughput of up to 1.6Gbps. This will enable it to expand its broadband and telephony services in Madagascar, as well as launch new enterprise services at speeds of up to 50Mbps using the *O3bTrunk* solution. In addition, O3b says the lower round trip latency of less than 150ms will benefit Gulfsat's existing and new oil and gas customers.

"The fact that O3b's service was selected by Gulfsat in a market where more than one submarine fibre is available was very telling to us," said Omar Trujillo, O3b's regional VP of Africa and LATAM. "We are starting to see that African customers that focus on providing a high-quality service select our platform ahead of fibre or traditional satellite because they look for a combination of high throughput, low latency, high reliability and a competitive price." ■



SES will have the rights to commercialise *MonacoSAT*'s entire payload of 12 Ku-band transponders covering the Middle East and North Africa.

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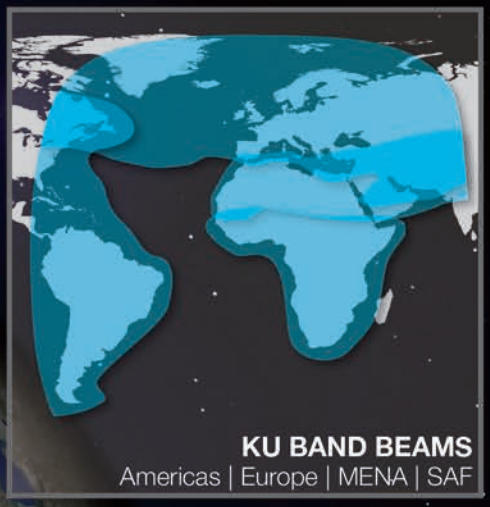

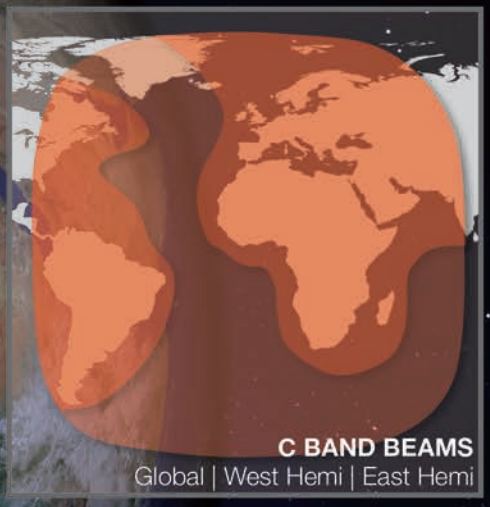

www.absatellite.com

Satellite rendition courtesy of the Boeing Company

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Many African communication companies are now looking at the secondary equipment market where previously used or surplus equipment is available at costs that are said to be significantly lower than the original OEM list price.

Dealing with the 'repair or replace' dilemma

With operators facing network infrastructure challenges across Africa, TOM PARKER says investing in the secondary user market for telecoms equipment is an option worth considering.

Fuelled by improved economic performance, the last five years have seen Africa experience the highest increases in the global telecoms sector, with mobile subscriber growth remaining the fastest in the world.

Enormous investments have already been made in the creation of nationwide 2G networks but 3G coverage typically remains confined to the main urban centres, where the more affluent smartphone users are located. Many operators are also taking a multi-technology approach to reaching subscribers, using both 3G and WiMAX, or cable and data.

As the industry grows there is an ever-increasing need for more capacity, and with the pressure to run converged core networks, operators are being challenged to cost-effectively upgrade legacy technology and deploy new infrastructure – all with limited capex.

In particular, away from urban centres, access to data remains constrained. Operators face a high cost of expansion with insufficient backhaul infrastructure, limited power supply and lower smartphone penetration making the economics of expansion even more challenging.

Furthermore, the maintenance of existing networks, into which heavy investment has already been poured, remains a high priority. When equipment fails, operators are often faced with the 'repair or replace' dilemma in order to successfully run their network.

One of the major drawbacks in repairing equipment is the availability of spares. Once an OEM declares a part as 'end of life', operators

may be unable to identify a source of supply in the future. This can lead to huge unnecessary costs being spent on 'last time' buys of redundant equipment, 'just in case' equipment fails.

Evolution of the secondary market

Over the last 10 to15 years, the secondary user market for telecoms equipment has evolved considerably. When it first emerged it was viewed by operators as being unreliable with questionable quality and frequently dismissed as an alternative to repair.

For instance in Europe, where OEM contracts are more frequently relied on for all support (and particularly multi-vendor contracts), the adoption of the secondary market has been slower. But in the US, operators have been faster to adapt the advantages of this market. They have seen it as a way to challenge traditional repair and OEM support channels to reduce their operational costs for both maintenance and expansion. It is not uncommon for US operators to spend tens of millions of dollars supporting their networks with products sourced from the secondary user market.

Over the last five years there has been a significant shift in the perception of the market and the type of services being delivered. In the past, there was an abundance of small organisations with limited or no inventory that survived on product specific relationships in niche divisions within operators.

However, it is testament to the efforts of the leading suppliers that this perception has evolved. Operators now actively embrace those organisations with inventory, and a variety of value-added inventory management and asset recovery solutions.

OEMs are accepting, rather than contesting, this shift, and are selectively approving secondary user organisations with whom they can partner with to drive down cost and reduce their reliance on traditional repair routes. It also allows secondary market providers to offer solutions that were previously out of scope – extend the life of multi-vendor networks, and offer more dynamic solutions that grow the partnerships with global communication companies.

Delivering cost-efficient networks

With telcos in Africa, cost is the key limiting factor in network expansion. Therefore, in recent years their focus has inevitably turned towards cost control and operational efficiency. Like their US and European counterparts, many African communication companies are now looking at the secondary equipment market where previously used or surplus equipment is available at costs significantly lower than the original OEM list price.

Rather than stock expensive and new spares to mitigate the repair or replace dilemma, or purchase brand new infrastructure to patch network issues, the secondary market can be used to provide inexpensive and discrete equipment supply solutions. This helps reduce capex when deploying new network elements, or reduce opex when managing the operation of existing networks.

TXO says operators can get more value from their network assets by selling off legacy equipment or recycling hardware, such as these high grade telecom boards, for precious metals.

When sourcing through the secondary market, it is nearly always more cost effective to replace an asset rather than repair it to extend the life of a network. Furthermore, the replace decision can be treated as a capex expense which could benefit the bottom line as an amortised and depreciated cost, rather than coming from strapped operating budgets.

The secondary market is an ideal source for 'hard to find' parts, many of which are available on shorter lead times than those offered by the OEMs for brand new purchases. This enables telcos to operate a leaner supply chain for spare parts management.

Visibility of equipment available in the secondary market is essential in order to maximise potential capex and opex savings. Secondary market providers and resellers who have immediate access to the global used marketplace are able to offer risk assessment and valuable advice on whether operators are able to sustain their networks with surplus equipment that is available in the market at reduced cost, either now or in the future.

Creating new revenue streams

Many operators across EMEA are now appreciating that there is also value in equipment that has reached the end of its useful life in a network. Operators can extract further value from their network assets by selling off surplus or legacy equipment to be re-used elsewhere or recycled for precious metals. This has the further advantage of generating additional income for investment back into the network, and/or can be offset against the cost of new spares.

Whether seeking equipment for upgrades, repairs or replacements, operators must first fully understand their own networks and the assets deployed. This enables complete lifecycle planning of major asset purchases, whether used, or new. As the pace of change accelerates from country to country, equipment can be recovered from one part of the network and redeployed elsewhere.

Reputable secondary equipment suppliers and asset recovery specialists are able to support the entire process – from identifying assets with value and procurement of parts at optimal market price, to recycling and redeploying on behalf of the operator. The secondary market is very much driven by the inventory that is available and how this is turned into revenue streams.

Delivering consistent 'fair market value' from the resale of redundant and obsolete assets is extremely important for all operators. It is all too easy to over-value inventories which end up in parts being sold too cheaply and not meeting expectation, or having parts priced too expensively which never sell. With operators and OEMs acting as both supplier and purchaser of equipment, it is the responsibility of the larger and experienced providers to use their own data and extensive market history to ensure that a balanced and sustainable solution is delivered. ■

Headquartered in the UK, TXO Systems aims to help its customers to responsibly and sustainably acquire, redeploy, resell, and recycle technology assets, allowing them to generate revenues and reduce expenses.

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Industries across the world have deployed DAMM's de-centralised architecture to secure their mission-critical communications. For example, in harsh environments such as mining oil and gas, the vendor says its *TetraFlex* system has delivered integrated voice and data solutions based on a "true IP backbone".

Being open – the key to digital migration

In a volatile global market, companies are being challenged to make productivity gains. Critical radio communications in PMR environments may offer opportunities for doing just that, according to ALLAN DETLEFSEN.

Advanced networks enable companies to capture major gains in collaboration, workforce productivity and asset utilisation. According to consultancy firm McKinsey, improving production efficiencies by upgrading to new digital capabilities can yield substantial productivity improvements in operations.

So why have so many companies not yet replaced their existing analogue systems with newer, more advanced digital solutions?

Upgrading installations and migrating to new platforms is not without challenges. It requires time and investment; companies may have to apply for new frequencies; current installations have existing wired systems, equipment and components, so there remains considerable uncertainty about the risk of deploying a digital communication system; and personnel may also need special training. What's more, all this may require a big investment in equipment such as terminals, applications and infrastructure, not to mention derived costs such as cold rooms for central IT purposes.

But despite these challenges, upgrading should not be regarded as a bad thing. Like going from old mobile phones to smartphones, people quickly discover they can do so much more with their digital system and can communicate more efficiently.

So here's the key question: how will you prioritise your critical radio communications spend to better run, grow and transform your business?

Centralised or de-centralised architecture?

Given the challenges, companies need to know the best way to move forward and to ensure that their critical radio communications network will remain viable and relevant in the future.

In some ways, it is similar to the days when companies made the transition from being dependent on large computer systems to adopting desktop computing and mobile PCs. The new technologies simply allowed people to be far more agile and productive.

Not only that, but executives quickly realised that it was a whole lot more cost effective to upgrade PCs rather than huge computer systems as technologies and applications advanced.

In our experience, companies that have successfully pursued upgrades and replacement programmes for their PMR environments consider one of two approaches: should they choose a centralised or de-centralised system architecture? This is a fundamental issue.

Centralised systems tend to require the largest upfront investment, both financially and in terms of the time it takes to design, install and commission.

Such architectures operate redundant servers, links and routing paths from a central control site. They may require specific communication protocols and highly trained specialists to design the infrastructure to ensure a stable power supply, and provide housing as well as cooling for the units.

Additionally, centralised systems can be prone to failure because they depend on central switch/control configurations from which units are shared. This means that when a unit fails, the connection to the central units can fail, and this can have a domino effect throughout the system.

De-centralised systems offer a more flexible option. They give companies the opportunity to start small and then scale out in response to business requirements. Today's de-centralised systems require a smaller initial investment and do not need large engineering teams to design and configure them. Moreover, they tend to be highly resilient in the face of the failure of a single unit because hardware resources are not shared. That means there is simply no single point of failure, so there is no risk of impact on neighbouring units.

From a business perspective, de-centralised architecture models mean higher availability and greater continuity of service. And they have proven interoperability with other vendors' equipment and applications. According to many in the industry, the de-centralised approach is preferred to mandating a single, centrally developed and controlled system across the network.

The open architecture approach

Companies with successful digital migration programmes think in terms of total lifecycle costs and economics. The key to a de-centralised system (such as DAMM Cellular's *TetraFlex*) is its plug and play simplicity for easy setup, fast deployment, and cost-effective scalability. Basically, it enables companies to think big, start small and scale fast.

When planning a network, capacity and coverage requirements are factored into dimensioning to determine the initial scale of a deployment. With an open architecture, owners and operators can rapidly deploy their networks today and scale fast tomorrow to meet operational demands.

No special infrastructure protection, such as cool rooms, is needed with an outdoor solution. This means that when IP65-rated encapsulated equipment is used, you know it is rugged and built to withstand the most challenging outdoor conditions. All of this keeps upfront costs to a minimum, and it means that investments can be aligned with a company's growth.

The use of open gateways means the system is vendor-neutral and can interface with other technologies. It enables an open architecture system to bridge between TETRA platforms via, for example, the DAMM *Group Bridge* solution as well as interface with analogue networks and terminals.

Additionally, TETRA over LTE is possible operating through Wi-Fi, WiMAX, UMTS (3G) and LTE networks, gaining full benefits of broadband technologies. Plus, it keeps the system open to third-party applications.

Thus an open architecture platform offers distinct benefits with regard to seamless integration capabilities with existing technologies. This helps to avoid being locked in by technology choices, both past as well as future.

Smarter system thinking

De-centralised networks give users layout freedom, vendor independence, and flexibility with a 100 per cent standard IP backbone. As coverage or capacity needs grow, additional base sites can be readily deployed and seamlessly 'dropped' into the distributed IP architecture. Its standard IP technology connects all network components including indoor and outdoor base stations, dispatchers, network management facilities, logging servers and external gateways in one state-of-the-art intelligent distributed architecture.

The use of intelligent software enables simple and self-configuring site expansion – even while the system is in operation. The entire user interface is *Windows*-based and has the same user interface many are familiar with, so no special training is required to use it. And from a purely practical perspective, an outdoor base station such as *TetraFlex* is so easy to deploy it only takes a single engineer (rather than an entire team) to mount the mast and ready the system for operation.

Enterprise managers are constantly under pressure to reduce costs while simultaneously transforming their businesses with new critical radio communications opportunities. Industry experience and prudent risk management dictate that all your options be thoroughly investigated and, if possible, proven in small-scale implementations to begin with.

Ultimately, it's all about spending more on equipment that maximises the value critical radio communications delivers to your business, and less on things that don't. Which may be the best case yet for adopting a de-centralised approach to critical radio communications. ■

FROM PIT TO PORT

How a mining company unearthed the value of a de-centralised and secure open architecture solution.

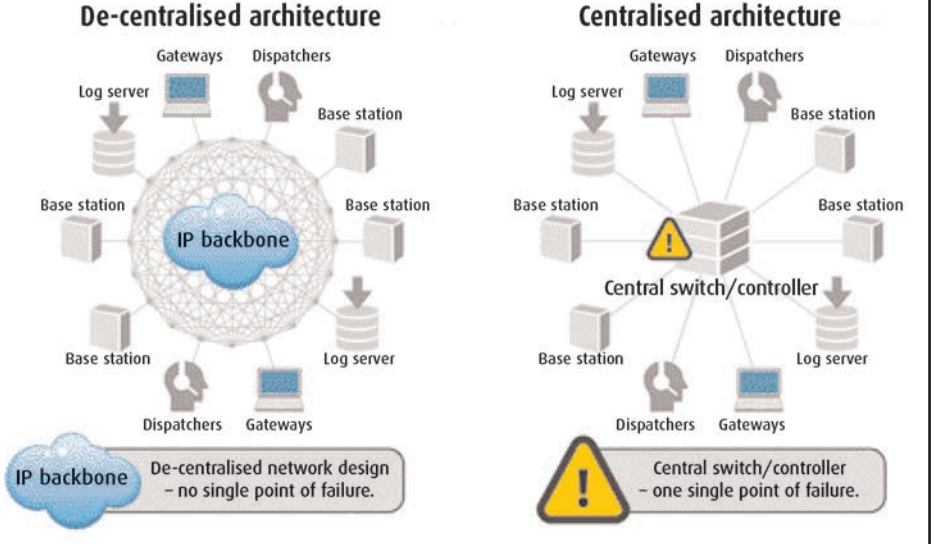
Fortescue Metals Group (FMG) in Australia is one of the world's largest iron ore mining and export companies. It also runs its own railway which leads to Port Hedland in Western Australia's Pilbara region.

Today, FMG's rail network includes a main 300km route as well as a 130km branch line. The company's rail and mining infrastructure benefits significantly from DAMM's distributed architecture because it has allowed it to scale in response to business requirements.

There are 25 nodes in the rail corridor alone and, thanks to the low power consumption of the IP65 encapsulated outdoor *DAMM Base Station*, many of the nodes are run on solar power, creating considerable savings. Since no air conditioned housing is needed and power consumption is extremely low, initial installation costs can also be kept to a minimum.

In mining, rail and port applications, DAMM claims that its *TetraFlex* system has proven to be "cost-effective and remarkably reliable". It adds that the solution for FMG is only one among hundreds of successful projects that provide real world proof that is durable and cost effective.

"Installations from the hot climates of Australia to the freezing mountains of Norway have shown that this system, which has no fans or moving parts, keeps maintenance, repair and operations costs next to zero," says the company.



Before migrating from analogue to digital, PMR users need to decide upon a centralised or de-centralised approach to their system architecture.

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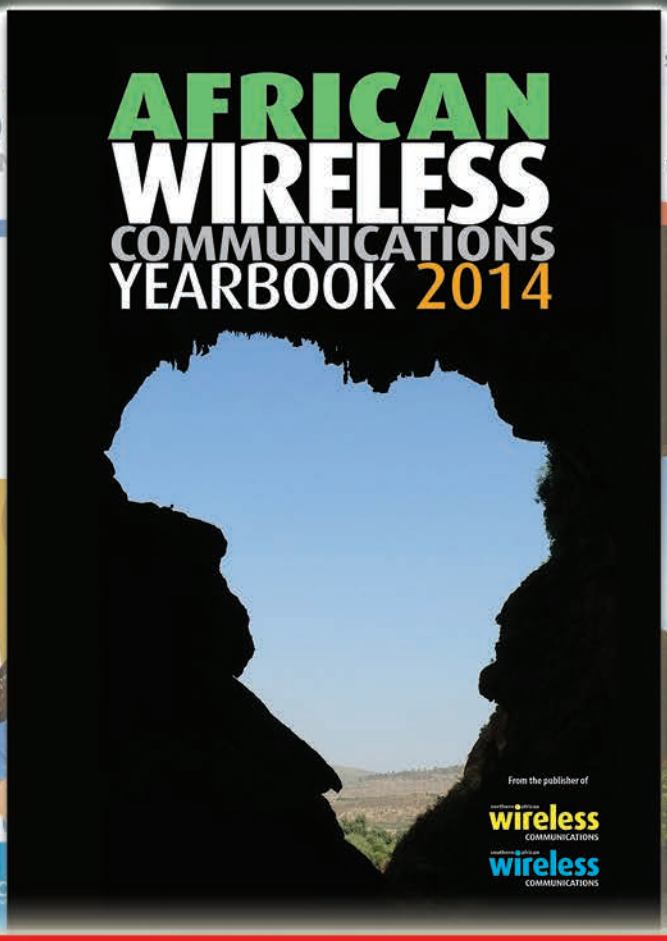

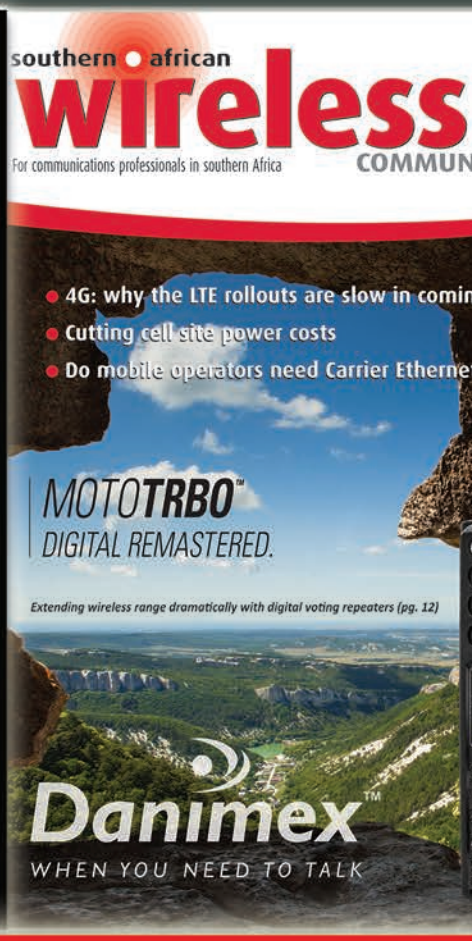

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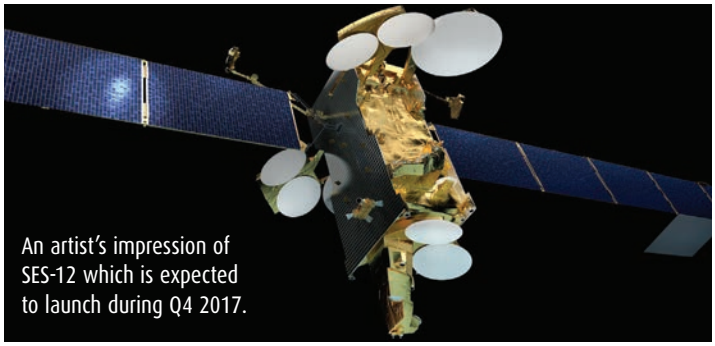
SES to expand capabilities in Asia

SES is planning to launch a new hybrid, high throughput satellite for Asia.

The firm says *SES-12* will expand its capabilities to provide direct-to-home broadcasting, VSAT, mobility, and data connectivity services in the APAC region, including rapidly growing markets such as India and Indonesia.

SES-12 will be positioned at 95°E from where SES claims it currently serves close to 20m DTH households in India and Indochina. It will replace the company's existing *NSS-6* and be colocated with *SES-8* when it's launched during Q4 2017.

The new satellite will be built by Airbus Defence and Space using the *Eurostar E3000* platform. It will be equipped with an electric plasma propulsion system for orbit raising and on-orbit manoeuvres.



An artist's impression of SES-12 which is expected to launch during Q4 2017.

SES-12 is designed to operate for 15 years with a payload that includes 68 Ku- and eight Ka-band transponders. It will offer what SES describe as "two distinct but complementary" missions. Firstly, there are 54 (36MHz equivalent) transponders for traditional wide beam coverage. SES says these will provide "state-of-the-art" replacement and growth capacity for its existing DTH, government and VSAT customers, enabling a "seamless" transition from NSS-6 to *SES-12*.

In addition, the design provides incremental growth capacity to support new DTH platforms and other services targeting the Asia-Pacific region, says the firm.

The second mission consists of 70 Ku- and 11 Ka-band spot beams. It's claimed these high throughput beams will deliver more than 14GHz for VSAT, enterprise, mobility and government applications.

This mission also includes a Digital Transparent Processor. This provides anti-jamming capabilities as well as increased payload flexibility in order to provide bespoke bandwidth solutions to customers.

Getrak and Wyless partner in Brazil's M2M market

Getrak and M2M specialist Wyless have teamed up to offer a fully managed end-to-end solution for device, cloud and managed connectivity across all four mobile operators in Brazil.

Getrak provides cloud-based tracking solutions to the country's fleet and telematics markets.

Working with Wyless Brazil subsidiary Wyless TM Data, it aims to create a 'one-stop shop' for device, cloud and network services for its customers that together manage more than 250,000 vehicles.

Getrak CEO Frederico Menegatti says: "We want to generate more value to the services we provide to our customers by helping them save costs significantly through traffic data management tools and multi-network capability such as the Wyless Porthos platform.

"Together with Wyless we will offer Getrak customers a full end-to-end solution for managed telematics services."

The two companies also plan to extend services to other markets and operators in South America.

According to IDC, telematics services account for nearly 40 per cent of Brazil's M2M market which was valued at USD2bn last year.

Cummins to supply hybrid power units in Myanmar

Irrawaddy Green Towers (IGT) is using hybrid power solutions from Cummins Power Generation in Myanmar.

In 2013, Norway's Telenor and Qatar's Ooredoo won licenses to launch Myanmar's first mobile networks. Telenor has contracted IGT (a joint venture between VIOM/QUIPPO and Golden Towers) to build and operate around 1,500 towers for its network which has since gone live.

Under the agreement, Cummins is supplying solar hybrid, battery hybrid, and diesel generator systems to more than 750 mobile tower sites that IGT is rolling out throughout the country during the coming months.

"While there are no shortages of renewable hybrid solution providers, we chose Cummins Power Generation for their technical expertise as well as their local service capability and coverage," said IGT CEO Charbel Abou-Jaoude. "Additionally, we were looking for a partner who is as committed to the growth of this country as we are."

Cummins says that it is already a main supplier to Ooredoo, and this new contract with IGT means it will now power both mobile service providers' networks in Myanmar.

Vodafone's 3G initiative gains support in rural areas

A Vodafone *Open Sure Signal* unit installed on a barn in the northern England county of Cumbria.

Vodafone has teamed up with the UK's Countryside Alliance and National Association of Local Councils (NALC) to encourage more communities to apply to its Rural Open Sure Signal programme.

Vodafone's programme is a community-led initiative. It aims to give 100 rural communities in poor mobile coverage locations across the UK the opportunity to receive 3G mobile access.

Based on 'open femto' technology, it uses units that are about the size of a domestic broadband box that can be installed on any number of buildings across the community to ensure widespread mobile coverage.

During initial trials, the programme connected 12 rural communities across the UK, from the Shetland Islands off the coast of Scotland to the county of Devon in southwest England.

The Countryside Alliance is a major campaigning organisation on rural issues in the UK. Its head of policy Sarah Lee says: "The importance of good mobile phone and broadband coverage to those who live and work in rural areas cannot be over emphasised.

"Mobile phones are an essential part of modern life, but many rural businesses and families cannot be sure that they will be able to access their network when they need it most."

The NALC represents 9,000 parish and town councils in England and 80,000 councillors. Its chairman, Ken Browse, adds: "We see fast broadband access as an essential need for the social and economic well-being of neighbourhoods in rural areas as well as urban areas."

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ST Teleport and Eutelsat team up

ST Teleport and Eutelsat are combining their expertise to respond to high user demand for connectivity solutions for data and video services in Asia.

ST Teleport is a provider of full service satellite, fibre and IP communications solutions, and operates a groundstation complex in Singapore *(pictured below)*.Working with Eutelsat, it has completed the installation of a new gateway at the station that connects to *EUTELSAT 70B* which is positioned at 70.5°E.

The two firms say their new gateway is ready to serve data, maritime, media and entertainment clients across a high-performance footprint spanning south-east Asia. This includes Myanmar, Indonesia, the Philippines and Thailand, as well as Australia and south-east Asian waters.

It can also connect to *EUTELSAT 70B*'s African and European beams. Eutelsat claims its satellite has a "unique ability" to offer secure, single hop connectivity between key business hubs, such as Singapore and Frankfurt or Singapore and Nairobi.

For even broader reach across the APAC region, ST Teleport adds that it also has the option of tapping into *EUTELSAT 172A* orbiting at 172°E.

Elara goes over-the-top with IDT Global calling app

Elara Comunicaciones is launching an international calling app for customers in rural and remote villages in south-eastern Mexico. The company says the app will make international phone calls simpler and less expensive.

Elara's large-scale satellite network, implemented through a government project in south-east Mexico, provides more than 3,000 towns with voice and data services. The network brings connectivity to citizens, schools, hospitals, and other government institutions in the region for the first time.

The CSP is deploying *VoiceLine* from wholesale voice and payment services provider IDT Global across its Wi-Fi network, enabling international calling via the app on mobile devices. IDT says claims its white label *VoiceLine* application allows businesses to create new forms of revenue streams and gain new subscribers.

Elara has VSATs installed in private and public companies throughout Mexico.

The app comes with both unlimited and pay-§as-you-go calling plans, and works over both 3G and Wi-Fi networks. The firm says this enables customers to use their existing phone number and contacts. It also includes voicemail services and class 5 telephony features.

Jonathan Nierenberg, IDT's SVP of business development, says: "Our application has a simple user interface which makes it easy for the customer to use. Because of its low rates, our app offers customers great value for their money."

Virtual DC secures Deutsche Post app

Deutsche Post, said to be Europe's largest postal service, is relying on a virtual data centre (VDC) from Interoute for *SIMSme*, its new smartphone messenger app.

Interoute says its VDC in Berlin provides the cloud infrastructure for the app and guarantees smooth operation, regardless of how many people are using it. The company claims it was able to quickly scale up the computing infrastructure it provides to Deutsche Post, adding 30 times the initial computing power provisioned to meet the rising demand for *SIMSme*.

According to Interoute, *SIMSme* users are guaranteed complete control over their personal information. It says the ability to control which geographic VDC zone or zones are used to host a user's data ensures app data stay within German national borders.

SIMSme is secured with end-to-end encryption which has been tested and approved by TÜV IT. In addition, the app has a special feature that allows the user to setup and trigger the automatic self-destruction of confidential messages after a few seconds.

Marco Hauprich, Deutsche Post's SVP of mobile and new media, says: "We provide the world's best data protection in accordance with strict German laws, without imposing additional expenses on the customer. *SIMSme* is free of charge and as we are not using this opportunity to fund the service through advertisements like other messenger app services, it's also free from advertisements."

Interoute claims to own and operate Europe's largest cloud services platform. This encompasses more than 67,000km of lit fibre, 12 data centres, 10 VDCs and 31 collocation centres, with connections to 195 additional third-party DCs across the continent.

Indonesia's fastest mobile service launched by Indosat

Indosat has launched what's claimed to be Indonesia's fastest LTE service, offering subscribers speeds of up to 185Mbps.

The launch of *Super 4G-LTE* last November followed on from the company's network modernisation programme. This saw the rollout of its *Super Internet* service in 23 cities, using U900 and DC-HSPA+ technology to offer speeds of up to 42Mbps.

2014 marked Indosat's 47th anniversary. The company says *Super 4G-LTE* is part of its ongoing "network journey" that started with the *Super 3G+* 7.2Mbps system in 2012 which was followed by the 20Mbps *Super WiFi* service in eight cities.

The telco says its digital strategy is dedicated to supporting mobile finance, education and e-commerce services, and also includes "significant" investment to support the local development of apps.

"To continue enhancing Indonesia's tech ecosystem, Indosat is dynamically encouraging the growth of the local content industry through its young developer's incubation programmes, either via [Indosat Wireless Innovation Contest] competitions or the *Ideabox* incubation programme," says the firm.

Indosat is the largest operating company in Qatar-based Ooredoo Group. In addition to mobile services in Indonesia, it also provides fixed line, data communications, internet, enterprise solutions, and satcoms via the *Palapa-C2* and *Palapa-D* satellites.

Indosat marked its 47th anniversary last year, and is the largest subsidiary in the Qatar-based Ooredoo Group.

TETRA network built for an earthquake zone

The Venezuelan government has chosen Hytera Mobilfunk to supply and install a TETRA system for the police in Caracas.

Working with its local partners APD and Cobra, the Germany-based PMR specialist – which is a subsidiary of China's Hytera – says it will implement the latest generation TETRA technology.

The deployment will feature *DIB-R5* TETRA base stations with support for TEDS (Tetra Enhanced Data Service), as well as the complete range of Hytera's TETRA product portfolio.

Around 4,000 radios will be supplied, including the vendor's *PT580H* handhelds and *MT680* mobile devices.

Hytera says because Caracas is in a region that is at very high risk from earthquakes, redundancies were integrated into the network in case any base station should fail.

The *DIB-R5*s all have a backup base station which is placed at a different location and can take over the radio coverage of the region if needed. The firm says that this ensures the system will be available at any time, even in the case of unforeseeable events.

Hytera's *DIB-R5* TETRA base stations all have a backup.

Largest TD-LTE network

China Mobile (CM) and Nokia Networks have announced a framework deal for equipment and services worth USD970m. Under the terms of the deal signed last October, Nokia will provide 4G TD-LTE technology including EPC and GSM hardware, software and services to support the operator's ongoing 4G roll outs in 2015. Deliveries under the deal have already begun, and by the end of 2014 CM said it had built the world's largest TD-LTE network with more than 500,000 4G BSTs deployed.

Telstra and Tata connect

Telstra reckons its multinational customers will benefit from "superior connectivity" to and from India thanks to a new network-to-network interconnection (NNI) deal with Tata Communications. The NNI will utilise Tata's 116 PoPs, extending Telstra's reach to Tier 2 and Tier 3 Indian cities such as Jaipur, Surat and Trichy. Telstra says that by leveraging Tata's domestic infrastructure and global subsea fibre network, users will benefit from increased availability and reduced latency, giving them access to the business services they need.

Passenger Wi-Fi system

Government-owned Queensland Rail will use an end-to-end Wi-Fi solution from Nomad Digital on 75 new trains. The six-car trains are being supplied by Bombardier to increase capacity on commuter services in the Australian state. Queensland Rail operates more than 7,000km of track connecting Brisbane and regional areas such as Cairns, Townsville, Rockhampton, Longreach and Charleville. Nomad claims the passenger Wi-Fi system will be the largest in the southern hemisphere.

Hypermart deploys PowaTag mobile app to help maintain customer loyalty

One of Indonesia's biggest retail groups plans to use mobile technology to support its customer loyalty programme.

PT Matahari Putra Prima Tbk (MPPA) operates the *Foodmart*, *Boston Health* and *Beauty*, and *Hypermart* stores. It's claimed that the latter has the widest network among hypermarket operators, with 227 outlets in more than 60 cities across the region.

Working with mobile solutions provider PT Artomoro Prima Internasional, MPPA will implement the *PowaTag* app from Powa Technologies Group across 48 of its 102 *Hypermart* stores in Indonesia. The app will power coupon distribution and redemption for the *HiCard* customer loyalty programme which is said to have grown to more than three million members and represents over 60 per cent of *Hypermart*'s sales.

PowaTag is a mobile commerce solution that enables shoppers to complete purchases anytime, anywhere, simply by scanning tags on anything from products to billboards.

It will be linked to the *HiCard* app which allows members to redeem loyalty points using their mobiles. They will also be able to acquire coupons and special offers by 'tagging' in-store promotional material and ads, both in print and online.

Powa Technologies Group CEO Dan Wagner says: "No longer will [customers] have to seek out coupons and offers from newspapers, laboriously clipping and taking them into the store. All that's needed now is a quick capture of the *PowaTag* with their mobile, and numerous coupons are instantly available to them."

Future phases of the deployment include rollouts across *Hypermart*'s entire store network, and additional functionality such as location-based notifications, virtual shopping, and special offers.

OBS to provide connectivity for Tesla cars

Tesla Motors has chosen Orange Business Services (OBS) to provide wireless connectivity to its fleet of *Model S* vehicles in France.

Using Orange's mobile networks and SIM cards, Tesla will be able to offer its customers in France interactive navigation services, internet radio and web browsing. OBS says it will also be able to provide "seamless" remote diagnostics and over-the-air updates of M2M software.

Tesla Motors is a manufacturer of electric vehicles and power train components, and its goal is to accelerate the world's transition to sustainable transport. The firm was founded by South Africa born entrepreneur and inventor Elon Musk, who is perhaps better known for establishing space transport services company SpaceX.

The interior of Tesla's Model S. OBS says today's car drivers and passengers want on-demand access to infotainment and navigation services.

OBS believes electric and connected cars are becoming an increasingly accessible and desired means of transport in a market driven by both environmental and social trends. "Not only do drivers and passengers want safer and cleaner cars, but they want on-demand access to infotainment and navigation services," it says.

The company claims to be a "strong supporter" of sustainable transportation and launched its Smart Cities and Territories programme in 2011.

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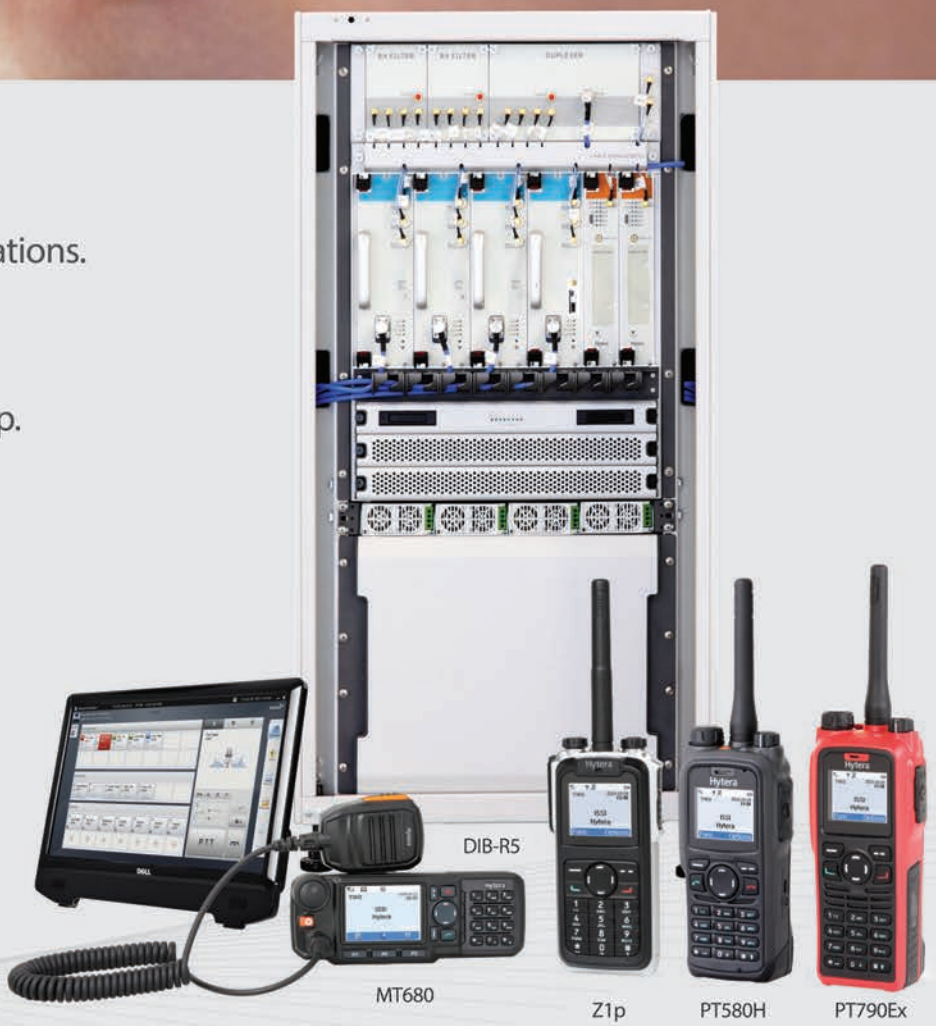

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