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SATELLITE PRO

TECHNOLOGY INTELLIGENCE FOR THE SATCOM MARKET

MIDDLE EAST

MAKING THE CONNECTION
Ooredoo on teaming up with satellite operators for VSAT

COMMUNICASIA SPECIAL
A look at what some companies will be exhibiting at the show

SNG terminals are becoming smaller and more portable, allowing journalists to transmit to base without a full broadcast crew

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A Time to Reflect

Welcome to the June edition of *SatellitePro ME*. Last month we had our anniversary party, which was a resounding success, and there is no way we could have done it without you. You are more than just clients and well-wishers. You are our friends, and for that I am very grateful and fortunate. There are some pictures on page 28, so browse through and see if you can spot yourself.

In other news, we have a new section in the magazine dedicated to telco operators and others in the industry. We spoke with Yousuf Abdulla Al Kubaisi, COO, Ooredoo Qatar about how the telco is teaming up with satellite operators to introduce VSAT services to their clientele. Qatar is also one of the few countries in the region that is equipped with VoLTE and what Ooredoo calls Supernet, which can allow internet speeds of up to 1Gbps. Read more in our exclusive interview on page 16 of the magazine.

I'm also excited to go to CommunicAsia, and have already set up a few interviews with friends at the show. It's one of the best shows to go to in Asia, and I've found its always taught me a lot about new technologies and future trends. I look forward to seeing you there.

The Holy Month of Ramadan will soon be upon us, and I'm sure all of you will be busy with suhoors and iftars to go to. Ramadan Mubarak from our family at *SatellitePro ME*, to you and yours.

I wish you a wonderful June. As always, I'd love to hear your feedback and comments on this issue of the magazine. Please send me an email or call the number in the panel on the left.

Clayton Vallabhan
Editor

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"Most recently, we've launched the 1Gbps Fibre plan, the fastest fibre service available in the region"
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"Companies like Google and Facebook are planning to launch hundreds of small satellites to provide internet connectivity to emerging countries"
Mahdi Nazari, CCO, NorthTelecom
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Information

15 November 2016 | Habtoor Grand, Dubai, UAE
Summit: 10am - 4pm | Awards: 7pm – 10pm
broadcastpromeawards.com

SkyStream awards antenna contract to ASC Signal

The ASC Signal Division of Communications and Power Industries LLC (CPI) has been awarded a Ka-band antenna contract from Dubai-based SkyStream, a major provider of satellite internet services in the UAE and the Middle East. For SkyStream, CPI ASC Signal Division developed a motorised 5.6m Ka-band system with wideband feed, sub-reflector tracking (SRT) and CPI ASC Signal Division's popular Next Generation Controller (NGC), which includes a high-accuracy motor kit and outdoor unit (ODU).

"For us, the ability to deliver quality satellite internet services throughout our region, where demand is high, requires that the technologies which support our network be first-rate. The CPI ASC Signal organisation gives us comfort in this regard," said Riyadh Al Adely, Managing Director of SkyStream.

+ www.cpii.com

+ www.skystream.com


Riyadh Al Adely, MD, SkyStream.

UAESA SIGNS MOC WITH GOVERNMENT OF JAPAN

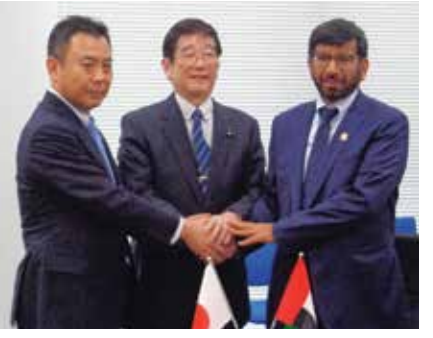
The UAE Space Agency has signed a significant memorandum of cooperation with the government of Japan, representing a major step forward in safe space exploration and strategic cooperation in the short and long term.

The MoC was signed by H.E. Dr Khalifa Al Romaithi, Chairman of the UAE Space Agency; H.E. Dr Tsutomu Tomioka, State Minister of Education, Sports, Science and Technology (MEXT); H.E. Yosuke Takagi, State Minister of Economy, Trade and Industry (METI); and H.E. Yasuyuki Sakai, Parliamentary Vice-Minister of the Cabinet Office of Japan; with the presence of H.E. Dr Eng Mohammed Nasser Al Ahbabi, Director General of the UAE Space Agency, and representatives from the Cabinet Office of Japan, the Ministry of Education, Culture, Sports, Science and Technology of Japan, and the Ministry of Economy, Trade and Industry of Japan.

Recognising the advantages and benefits of cooperating in the realm of space science and peaceful space exploration, the memorandum promotes the exchange of information and collaboration in research and development, human capital development and the development of space-related industries.

The MoC also advocates for educational exchanges by agreeing to share space experiences, studies and research, as well as encouraging space sector visits, conferences and lectures. These factors contribute to the peaceful exploration, research and utilisation of space.

+ www.space.gov.ae



THALES COMMITS TO ME CYBERSECURITY MARKET

Thales is strengthening its business and commitment to the cyber security market in the Middle East with new executive appointments to its e-Security team. Thales already has an established presence in the region, offering solutions for data protection and trust management, and the announcement of new personnel in the region comes in response to the increasing demand to protect sensitive information and meet the growing number of privacy-driven regulations.

Philip Schreiber has been appointed Regional Sales Director MEASA, previously Regional Sales Manager sub-Saharan Africa at Thales e-Security. Hamid Qureshi Region Sales Manager Middle East, coming from Hewlett Packard; Maen Ftouni has been appointed Regional Sales Manager Saudi Arabia, previously with Symantec; and Simon Taylor has been appointed Channel Manager Middle East.

+ www.thalesgroup.com

Yahsat signs Memorandum of Understanding with Tele10

Yahsat has signed a Memorandum of Understanding (MoU) with Tele10 Group, a regional broadcast and internet service provider, to discuss collaborations for improving internet connectivity in Rwanda, Burundi and East Democratic Republic of the Congo. The MoU comes ahead of Yahsat taking delivery of its third satellite, Al Yah 3.

The launch of Yahsat's upcoming satellite will see the roll-out of YahClick, the company's cost-effective satellite broadband service, to 19 new markets in Africa during the first half of 2017.

Commenting on the MoU, David Murphy, Yahsat's Chief Commercial Officer, said, "Our cutting edge satellite technology connects individuals and businesses across Africa, regardless of the level of telecommunications infrastructure present in each country. At Yahsat, we are dedicated to serving underserved and remote areas by providing better connectivity."

David Murphy, COO, Yahsat.

+ www.yahsat.com

GTT AND GBI PARTNER

GTT Communications and GBI jointly announced that they have formed a strategic relationship to provide enhanced services and connectivity in the Middle East. As part of the agreement, GTT will be adding new points of presence (PoPs) in the Middle East, starting with the UAE and Qatar. Through this deployment, clients will be able to leverage GTT's global network while gaining access to GBI's extensive reach across the Middle East. The agreement will also provide GBI with connectivity to the United States and Europe.

+ www.gbiinc.com

SSL TO BUILD COMMUNICATIONS SATELLITE FOR INTELSAT

SSL announced that it has been selected to provide a high power communications satellite for Intelsat's Globalised Network, powered by its leading satellite backbone. The satellite, Intelsat 39, will provide broadband networking and video distribution services in Africa, Europe, the Middle East and Asia. It will replace the Intelsat 902 satellite, which was also built by SSL and launched in 2001.

"SSL and Intelsat have had a close working relationship for many years," said John Celli, president of SSL. "Intelsat 902 was part of a series of seven satellites that introduced new capabilities, which became a standard for future versions of the 1300 platform. Now, we look forward to collaborating on next-generation advances for Intelsat 39."

Intelsat 39 will have both C-band and Ku-band transponders and will be located at the 62° East longitude position.

"Intelsat's Globalised Network is an interoperable fleet comprised of high throughput, spot beam and wide beam capacity, which we will continue to enhance and optimise based upon customer applications at particular orbital locations," said Thierry Guillemin, Executive Vice President and Chief Technology Officer. Intelsat 39 is based on the powerful SSL 1300 platform.

John Celli, President of SSL.

+ www.sslmda.com

InfiNet Wireless opens new facility

InfiNet Wireless announced the opening of its new state-of-the-art production facility in Ekaterinburg, Russia. This expansion enables the company to better serve rapidly growing markets across the globe, such as the Middle East.

"Over the last couple of years, we have seen significant demand for our products, especially from enterprises of all types in the Middle East, particularly in the UAE, Saudi, Jordan and Oman markets. Recent implementations with customers such as du in the UAE and the Mecca Municipality in Saudi have contributed to InfiNet Wireless' business in the Middle East growing at an average rate of 35% year-on-year over the past three years alone. This was the key driver behind our investment into this brand-new production facility," said Kamal Mokrani, Global Vice President, InfiNet Wireless.

The move will allow the company to almost double its production capacity and implement enhanced quality assurance

Infinet Wireless' new production facility.

testing for all its wireless products. It will also see the company's cutting-edge R&D and technical support capabilities grow by up to two and a half times.

InfiNet Wireless is a high-technology company which has always prided itself on innovation and on being a leader for research and development in the wireless world. The R&D team accounts for a third of the total number of employees in the company and continues to grow steadily year-on-year.

+ www.infinetwireless.com

ASIASAT APPOINTS NEW VICE PRESIDENT FOR CHINA

AsiaSat has announced the appointment of Zhang Yan as its new Vice President, China, to take over the responsibility of Zhang Haiming as he retires from 1 May, 2016.

Zhang Yan started working with AsiaSat in 2008 as the Chief Representative of the AsiaSat Beijing Office and General Manager of CITICSat, AsiaSat's partner in China. She will assume all responsibilities previously held by Zhang Haiming and lead a strong team to continue to serve existing customers and develop new business in the China market. She will also maintain the close working relationship with CITICSat.

"Over the past years, Zhang Yan has made considerable contributions to our satellite business in China, notably our recent successful re-entry into the video market there. I trust Zhang Yan's strong leadership, along with her wealth of expertise will lead our strong China team to new heights.

+ www.asiasat.com


An artist's impression of Eutelsat 65 West A.

EUTELSAT AND SSL TEST POTENTIAL OF EHF

Eutelsat and Space Systems Loral have successfully carried out transmissions in Extremely High Frequencies (EHF) using an experimental payload flown into space on the EUTELSAT 65 West A satellite.

The two companies are analysing the potential of the Q/V band (40-50GHz) as an enabler of future Terabit satellite broadband programmes. The data assembled will help steer the design of adaptive techniques and hub architectures that will shape the blueprint of future broadband communications systems.

EHF stands to enhance the performance of the next generation of High Throughput Satellite programmes. By offloading backhaul links between a satellite and its hubs from the Ka-band to the Q/V band, significantly more bandwidth can be made available for users.

+ www.eutelsat.com

+ www.sslmda.com

MEASAT launches CBS Reality in Africa

MEASAT and RR Media announced the launch of the CBS Reality channel across the African continent. CBS Reality is an award-winning channel featuring compelling documentaries and hard-hitting real life dramas. The channel is available to pay-TV operators from AFRICASAT-1a satellite at 46°E.

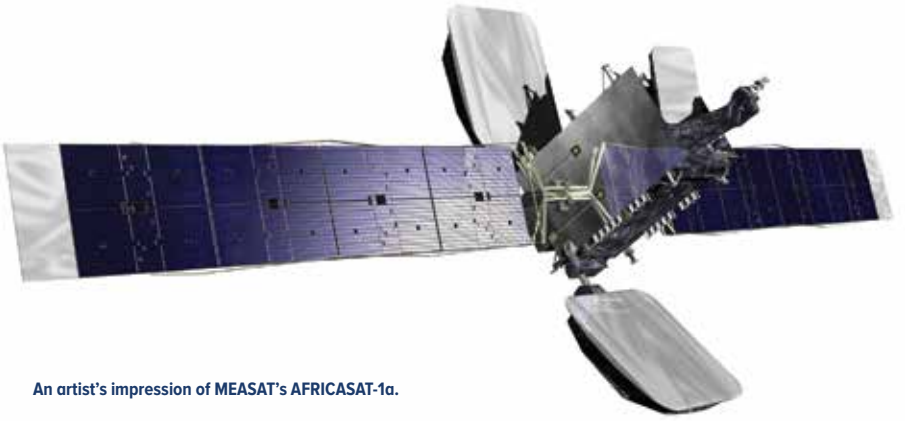
"With MEASAT we are creating a premium selection of tier-one channels that we are able to offer to pay-TV operators and cable providers across the African continent. We are happy to work with MEASAT to offer the most comprehensive channel line-up in order to add value to operators," said Shlomi Izkovitz, VP Global Sales, RR Media.

"MEASAT is pleased to partner with RR Media again to deliver premium video content to Africa," said Yau Chyong Lim, Chief Commercial Officer, MEASAT. "With our strengths and partnerships, pay-TV operators are increasingly attracted to our video neighbourhood. MEASAT is on track to build 46.0°E as Africa's leading video hotspot."

The AFRICASAT-1a satellite provides high powered C-band beams with excellent look angles across the African continent and island nations. Through this and great brand recognition with a strong channel line-up, AFRICASAT-1a is increasingly preferred by channel operators and content providers.

+ www.measat.com

+ www.rrmedia.com



An artist's impression of MEASAT's AFRICASAT-1a.

VIRGIN MOBILE MEA AWARDED 'MOST SUCCESSFUL MVNO'

Virgin Mobile Middle East & Africa has been recognised by being named "Most Successful MVNO" globally at the 2016 MVNO World Congress in Amsterdam. The MVNO World Congress is a prestigious annual conference and competition recognising the achievements of MVNOs (Mobile Virtual Network Operators) around the world.

Virgin Mobile Middle East & Africa won the main award at this year's ceremony for its unparalleled success breaking into and innovating in the MEA region's mobile telecom markets. As the fastest growing MVNO in the Middle East and Africa, Virgin Mobile Middle East & Africa has more than 2.5 million customers across all of its markets. It has had particular success in Oman, where it currently has over 10% market share, among the highest of any MVNO globally, as well as in Saudi Arabia, where a customer base of over one million was reached within a year of becoming the first fully licensed MVNO to launch there.

At the ceremony, CEO and founder of Virgin Mobile Middle East & Africa Mikkel Vinter said, "This award from the MVNO World Congress recognises the success of Virgin Mobile Middle East & Africa and the hard work of our team."

+ www.virginmobilemea.com

ETL SYSTEMS LAUNCHES NEW GPS RANGE

Andrew Bond, Sales Director, ETL Systems.

ETL Systems, a global designer and manufacturer of RF equipment for satellite communications, has announced the launch of a new range of products for Global Positioning System (GPS) and the broader Global Navigation Satellite System (GNSS) applications.

The new range includes outdoor and indoor GPS over fibre outdoor and GPS splitter units, which provide a reliable method for distributing GPS timing signals from a single antenna.

"For organisations and industries such as financial institutions, media companies, satellite earth stations, base stations, television broadcast, security and military, precise time on computer systems is a must," said Andrew Bond, Sales Director at ETL Systems. "Networks of computers need to be synchronised to the same time so that events occur in an organised, predetermined manner and so applications such as data-logging, monitoring and control can be relied upon."

GPS is much more accurate at timing signals than radio-based time transmissions. A GPS-locked Network Time Protocol Server (NTP) – the most widely used protocol for the dissemination of time on computer networks – is a network appliance designed to obtain precise time from the GPS satellite positioning system and synchronise a network of devices. The device ensures that accurate timing is provided to servers, workstations and communications network infrastructure.

+ www.etlsystems.com

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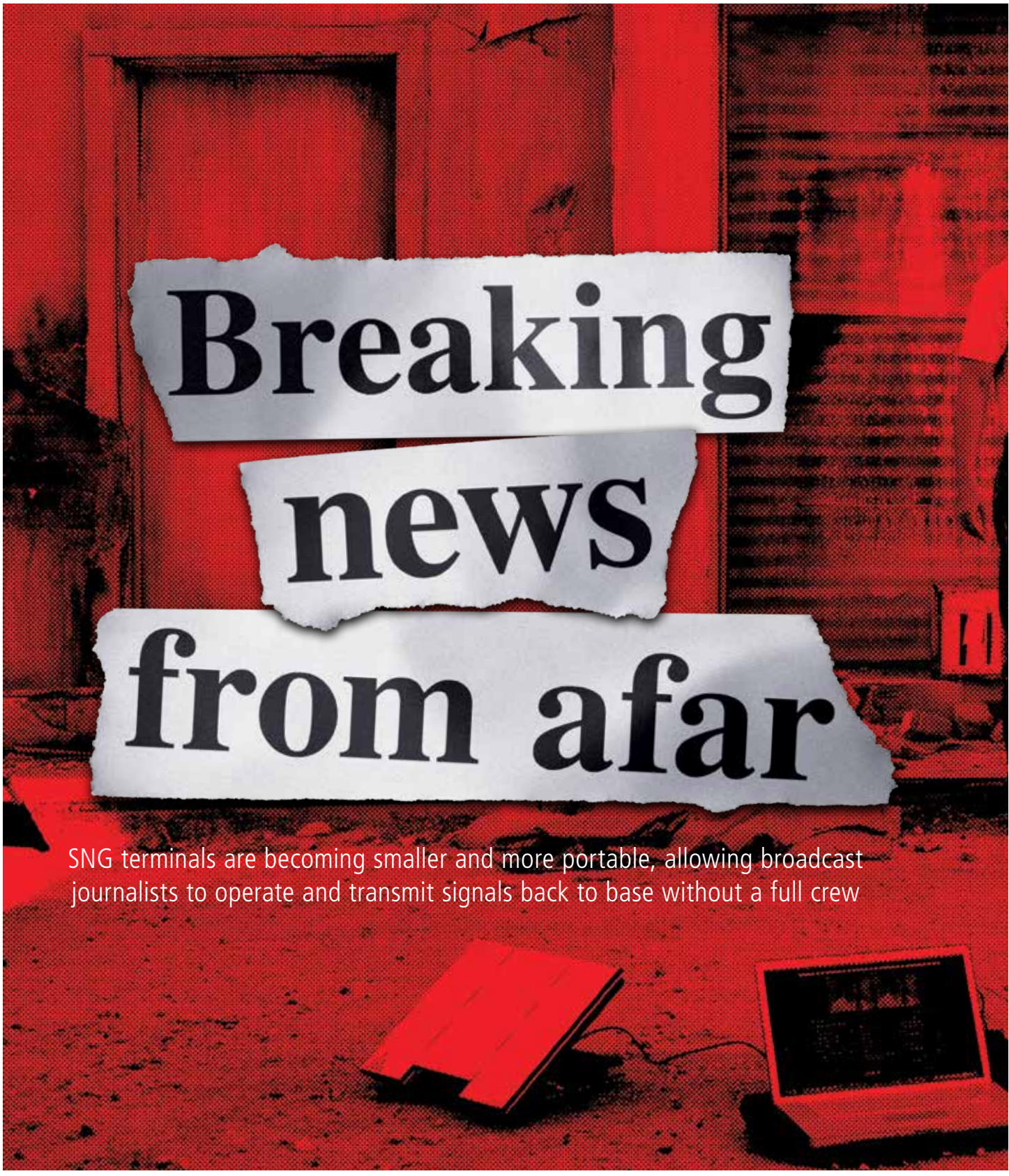
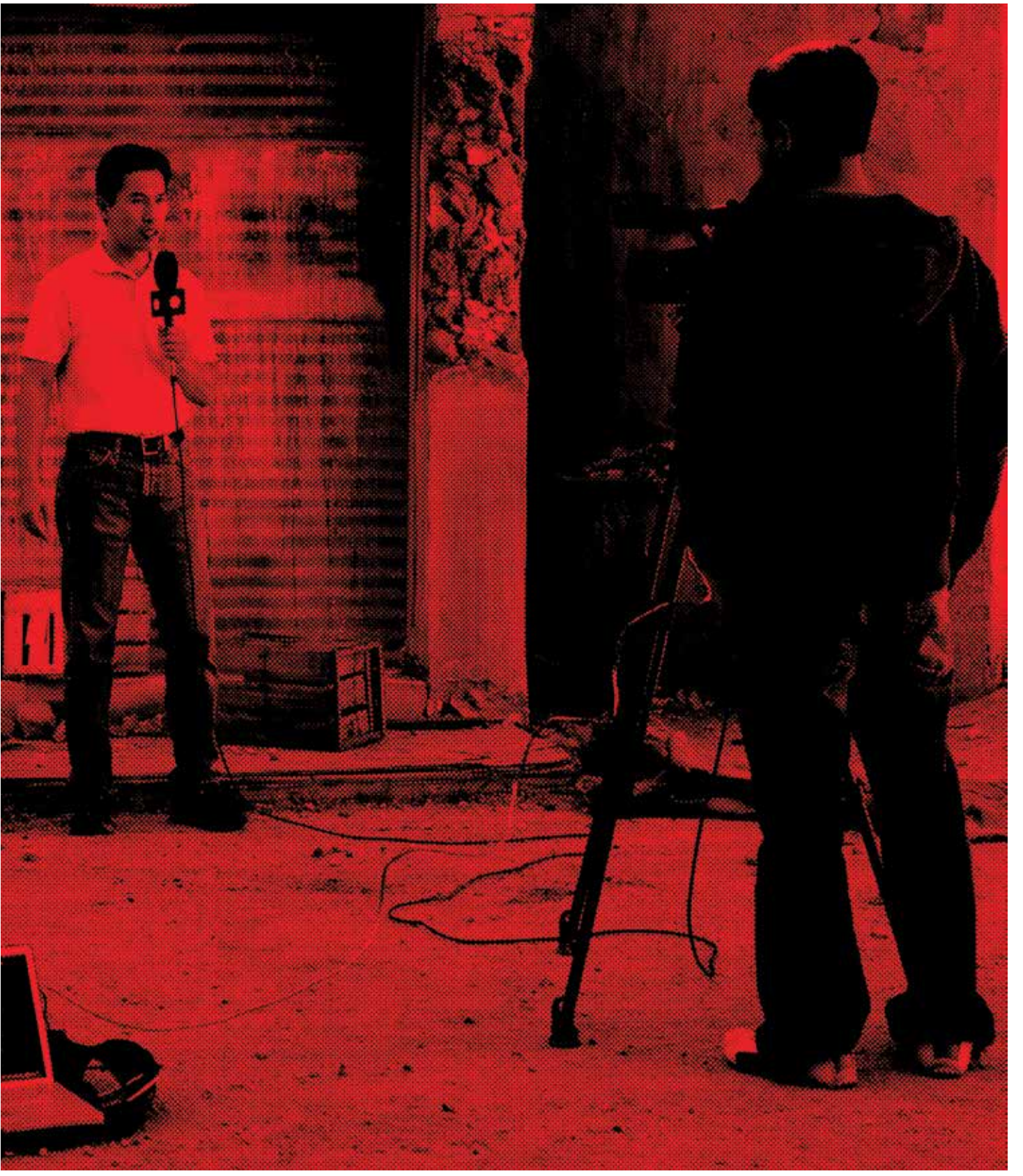


SNG terminals are becoming smaller and more portable, allowing broadcast journalists to operate and transmit signals back to base without a full crew



Satellite newsgathering (SNG) enables journalists to go wherever the story is breaking and report from that location – often in real time. Other technologies to enable live video broadcast or remote filing of stories, such as cellular, are often not present in more remote locations.

SNG combines hardware with assets both in space and on the ground, to deliver a complete end-to-end solution that allows broadcasters to extend their news rooms into the field.

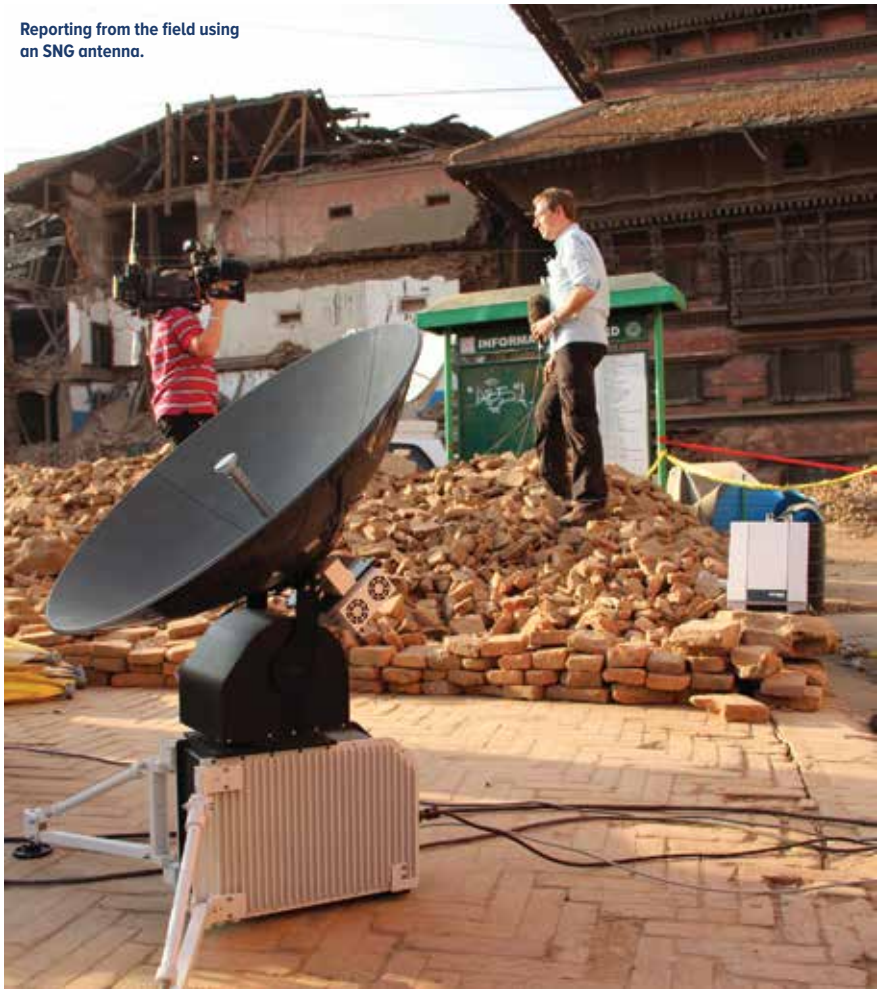
Today, broadcast journalists increasingly play more than one role – they can often be writer, producer, cameraman all rolled into one. Remote news gathering products therefore need to deploy seamlessly.

A modern Digital Satellite News Gathering (DSNG) van is a sophisticated affair and can be deployed practically anywhere in the world. Signals are beamed between a geostationary satellite and the van, as well as between the satellite and a control room run by a broadcast station or network. In the most advanced systems, IP is used.

Television news has changed dramatically over the past few decades, largely due to DSNG. We are able to watch events and news from around the world, such as wars and natural disasters, unfold in real time because of DSNG technology.

Daniel Cooper, Head of Media, Inmarsat, says: "Inmarsat provides a network of L-band and Ka-band satellites providing global IP coverage. These satellites are 'always on' and allow you to either upload a file-based story to your studio, servers or partners, or provide a live video streaming service to the same recipients. This means that journalists can deliver breaking news faster and more reliably, and in today's busy digital society, being first to broadcast is essential for news services to compete effectively in the market."

A DSNG mobile station is typically composed of one or more cameras and audio equipment, next to a van in which the transmission and editing equipment is located. A rooftop-mounted, steerable antenna establishes the connection with the satellite. As use cases range from Fast News Gathering (FNG) to large events with high video quality requirements, the equipment can range from compact, low-cost video encoders, with integrated modulators and basic monitoring, up to sophisticated, redundant high video quality encoders and modulators, accompanied by reception gear for quality monitoring and two-way communication with the studio, providing voice, file exchange and internet access.



Reporting from the field using an SNG antenna.

Traditional broadcast contribution workflows typically used by FNG or SNG operators are, to a large extent, still manually operated.

Hans Massart, Market Director Broadcast at Newtec, says: "The possibility for broadcasters to choose from satellite, cellular, Wi-Fi or Ethernet IP connectivity ad hoc provides them with more tools in the tool box to establish a flexible, reliable and cost-effective way to deliver more content from more locations and from more vantage points."

Manual FNG / SNG operation requires an operator of the flyaway terminal or the SNG van to coordinate with a central Network Operations Centre (NOC) to determine the right frequency settings for correctly establishing the satellite link with the central news room. Skilled SNG operators are required to correctly configure the modem, perform a time-consuming line-up procedure, etc.

Massart adds that SNG operators look for the cheapest connectivity that provides the required Quality of Service (QoS), so if 3G/4G networks are available they are probably more cost-effective. However, in remote areas, bandwidth and coverage may be unavailable for certain events. In such cases, satellite is the only viable alternative.

The technology is changing significantly and SNG trucks are downsizing to

A reporter storing a news piece and forwarding it to the news station.

camera cars, due to further integration and miniaturisation of products and components but also due to things like the advent of Ka-band.

"A journalist and cameraman are enough to handle the event coverage, but for large events, which are well planned in advance, SNG vans may well be accompanied by OB vans to allow full production. Security reasons and even weather conditions will also make sure not all SNG vans will become camera cars. Meanwhile, the need for supporting both linear and non-linear, tapeless workflows has triggered a dramatic increase in the capabilities and subsequent complexity of a modern SNG broadcast network.

"Newtec's broadcast modems support DSNG profiles, according to the WBU-ISOG working group. This set of pre-configurations will ease line-up, shorten time-to-deployment and limit transmission errors. Newtec's latest MDM5000 satellite modem equipped with dynamic Mx-DMA bandwidth allocation technology provides ultimate flexibility in association with high throughput. Transporting contribution grade UHD (4K) or multiple aggregated HD video is not an issue," says Massart.

"A journalist and cameraman are enough to handle the event coverage, but for large events, which are well planned in advance, SNG vans may well be accompanied by OB vans to allow full production"

HANS MASSART, Market Director Broadcast, Newtec.

John Huddle, Senior Manager Market Development Media/Energy/Mining at Thuraya, thinks the equipment has become smaller, lighter and faster.

"When I look back to the terminals being used a few years ago, they bear little resemblance to what we offer today. We are now making devices that are simple to use, elegant and extremely portable, and that trend is only going to continue. The key challenges involved in using SNG are


Hans Massart, Market Director Broadcast, Newtec.


John Huddle, Senior Manager Market Development, Thuraya.


Daniel Cooper, Head of Media, Inmarsat.

reliability, portability and cost," he says.

Since 2005, the BGAN platform has transformed news gathering, enabling live broadcasts from the farthest and most inhospitable reaches of the planet. Cooper says that at Inmarsat, the team improved streaming speeds with BGAN X-Stream in 2009. In 2013, it introduced BGAN HDR, enabling live broadcasting speeds of up to 800kbps, which is used by major media corporations all across the globe.

"Now, in 2016, we're introducing our brand-new Ka-band Global Xpress service, which will offer broadcasters HD-ready broadcasting speeds of up to 5Mbps, from terminal form factors that fit into airline checkable cases. This means remote journalists broadcast the same high-bandwidth footage as their colleagues who use cellular technologies, but live on location, no matter where that may be," says Cooper.

He further explains that the challenges of SNG today revolve around speed of set-up and lack of infrastructure. Typically, when on location, a journalist is either alone or has a very small crew. So any technology used has to be portable, reliable and easy to use and set up in minutes.

Abdullah R. Battah, CTO, ABS Network, brings in a broadcaster's perspective. He sees certain challenges when using SNG equipment.

"We are now making devices that are simple to use, elegant and extremely portable, and that trend is only going to continue. The key challenges involved in using SNG are reliability, portability and cost "

JOHN HUDDLE, Senior Manager Market Development, Thuraya

"Firstly there is the problem of changing weather, where high-speed winds and snow storms heavily affect the operation of SNG, then there is the problem of signal blockage, where in some locations where the SNG should be fixed, the satellite signal is blocked by buildings. Power issues are another familiar issue, as the SNG normally consumes high power and so must have high power amplifiers that inject the signals to the satellite in the space. Lastly, permissions are required from government entities to use the equipment and this adds cost to the operation," says Battah.

Massart explains that the adoption of new standards, aimed at a better user experience, drives broadcasters to prepare their infrastructure for the next evolution. These include higher quality video channels, the introduction of new codec standards including HEVC and high resolution formats such as 4K Ultra HD, a continuous increase in available content, and the lean-forward consumption of content on different devices with varying resolutions.

"In addition, broadcasters are required to get premium content and advertisements on air faster than ever before. The increasing consumption of content on any device, at any time, at any place, forces broadcasters to exchange content in various, sometimes multiple, formats across different transmission channels around the world and in many different time zones. Just like other businesses, broadcasters are also facing increasing pressure on operating margins, while also having to retain the high expectations in service availability and reliability," says Massart.

To evolve with the changing industry, broadcasters must have solutions that are flexible and scalable and at

the same time guarantee bandwidth-efficient, OPEX-friendly transmissions.

The evolving broadcast industry is pushing broadcasters to upgrade their infrastructure for more flexible, scalable and efficient operations. These operations need to support very flexible workflows, supporting multiple video, audio and metadata formats and profiles, as well as both ad-hoc breaking news transmissions and scheduled sports and events.

"The emergence of single all-IP connectivity for both broadcast and data services can address these complex operations, opening the possibility to use a single multi-service infrastructure for live content, file exchanges, remote monitoring and control, broadband access, access to content archives and media asset management systems, to name a few.

Newtec has solutions enabling traditional broadcasting workflows, as well as solutions to handle the more complex and customised workflows.

"For traditional broadcasting workflows, Newtec's MDM6100 broadcast satellite modem has a plethora of features to satisfy the most demanding broadcaster when it comes to bandwidth efficiency, low delay point-to-point or point-to-multipoint video contributions. DVB-S2X provides novel features which are very useful for high bitrate contribution. Channel Bonding, for example, allows to transmit a 4K or even an 8K 200Mbps contribution transport stream over up to three traditional transponders," adds Massart.

"The terminals themselves are portable and designed for harsh and challenging environments. Our BGAN terminals fit into a backpack, and our new Global Xpress terminals pack away into airline-checkable cases "

DANIEL COOPER,
Head of Media, Inmarsat

Inmarsat's BGAN and Global Xpress services for the media have been designed with the remote journalist in mind. Cooper says the services are IP-based and plug & play.

"The terminals themselves are portable and designed for harsh and challenging environments. Our BGAN terminals fit into a backpack, and our new Global Xpress terminals pack away into airline-checkable cases, so that a journalist can travel to wherever they need to go quickly and easily, without having to arrange a support crew or support vehicles."

A reporter using Inmarsat's BGAN terminal to send a news report to a TV channel.

Trends for the future

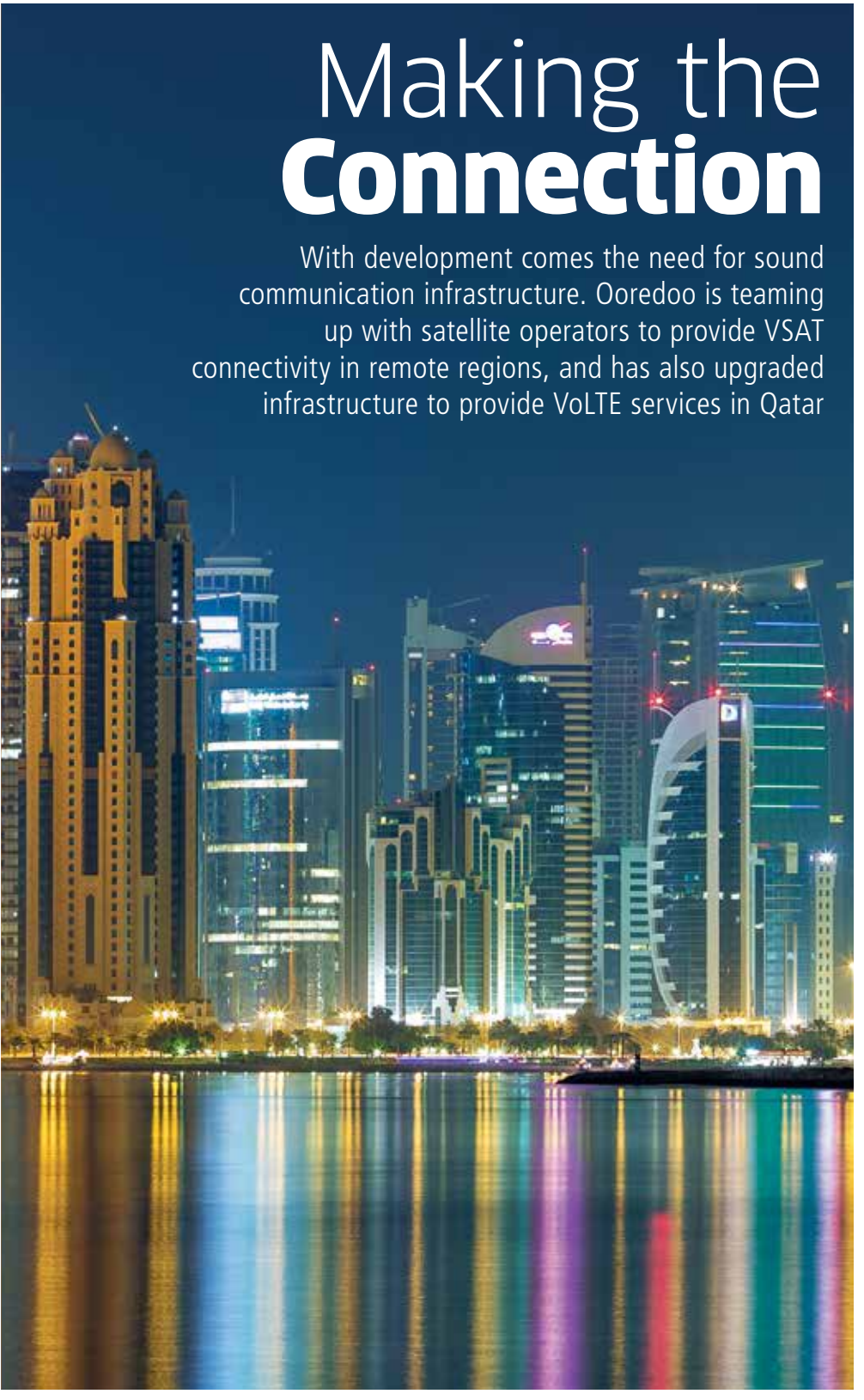
Large broadcasters, news agencies or broadcast unions are looking to automate workflows in order to reduce mainly OPEX in many ways. At the same time, automation on a converged IP network allows users to lay out workflows end to end on hybrid networks.

"As delivering content in new ways to multiple devices and in different formats is incredibly complex, and upgrading legacy networking systems can be a costly undertaking, media companies are also interested in purchasing a managed service from satellite service providers or satellite operators. This also provides the advantage of being able to access a network via the service provider or satellite operator. Another trend we see is the requirement for occasional use of IP trunks between truck and studio," says Massart.

Battah thinks the future is trending towards making the SNG terminals more portable and less power hungry, as well as towards using the technology to broadcast the video signal as data packages to reduce the usage of satellite bandwidth.

Huddle says the future of remote news gathering will be driven by access to high-speed data. The requirement for an always on connection is being augmented with the need for that connection to be high speed so live broadcasts can be of higher quality. He also adds that it is important for the mobile broadcast solutions they integrate to take advantage of all the advances being made in encoding technology.

"As an HTS service, GX allows broadcasters to buy one type of terminal that can seamlessly and securely operate in all regions of the world. With the addition of the newer HECV H.265 types of codec, delivering HD pictures from a single solution anywhere in the world is simple and means you can confidently cover pretty much any news story that you might be called to," concludes Cooper. PRO



Making the **Connection**

With development comes the need for sound communication infrastructure. Ooredoo is teaming up with satellite operators to provide VSAT connectivity in remote regions, and has also upgraded infrastructure to provide VoLTE services in Qatar

Qatar is developing at an incredible pace and the country's incumbent operator, Ooredoo, is following in its footsteps. The operator recently signed a partnership with Qatar's own satellite operator, Es'hailSat, to provide VSAT services throughout the country.

Satellite-supported communications are opening new frontiers for businesses in Qatar and across the region. The combination of Ooredoo's industry expertise and Es'hailSat's growing fleet of satellites can position Qatar as a true leader in this growing field.

This partnership gives the two companies the opportunity to work together on a range of new satellite and world-class communication services for Qatar.

As per the agreement, Es'hailSat will become one of Ooredoo's preferred partners, and will work with Ooredoo to develop a portfolio of satellite services for customers in Qatar. Both companies are collaborating on designs and specifications for developing VSAT projects for leading enterprises in Qatar.

Yousuf Abdulla Al Kubaisi, Chief Operating Officer of Ooredoo Qatar, says: "Demand for VSAT services has risen sharply in recent years, particularly from businesses with operations in remote locations. We see a strong opportunity for Qatar to achieve global leadership in this important area."

"By working with Es'hailSat, which already operates Es'hail 1 and is in the process of preparing for the launch of Es'hail 2, to be followed by a full global fleet, we believe we can build our leadership position to serve the whole region and ultimately the global telecommunications industry."

The partnership with Es'hailSat is one of a number of key satellite partnerships that Ooredoo has signed in recent years. In April 2016, the telco signed a major strategic partnership agreement with Arabsat to work together to develop new satellite services for customers.

The VSAT service solution deploys state-of-the-art Ka-band VSAT technology and doesn't require elaborate infrastructure to be set up. It deploys a small satellite dish capable of both receiving and sending satellite signals, and is a very cost-effective solution for delivering internet access

Ooredoo's Supernet network in Qatar.

to even the most remote locations, including deserts and coastal waters.

As well as internet connections, Ooredoo's Smart Satellite Services include bandwidth pooling, the most effective way to share bandwidth resources between multiple remote locations; maritime solutions, which ensure high-speed access to the internet around the clock at sea; OverHorizon Advantage, which provides throughput availability on the move in real time; and auto-acquire antennas, which support ad-hoc remote broadband.

"However, we're growing our whole portfolio of products and services. Most recently, we've launched the 1Gbps Fibre plan, the fastest fibre service available in the region, on Ooredoo Supernet. By launching 1GB Fibre, Ooredoo [made Qatar] the first country in the region – and one of a handful of nations in the world – to provide this fastest-ever fibre connection for homes.

"This technology enables customers to download a four-minute song in approximately four seconds, or a five-minute video in two seconds, or a 45-minute HDTV show in five seconds. Households will also see a smoother and faster experience for all users, as the speed will enable more people to enjoy being connected to the internet at the same time," explains Al Kubaisi.

"Most recently, we've launched the 1Gbps Fibre plan, the fastest fibre service available in the region, on Ooredoo Supernet"

YOUSUF ABDULLA AL KUBAISI, COO, Ooredoo

Yousuf Abdulla Al Kubaisi, COO, Ooredoo Qatar.

As part of expanding the nationwide Supernet network, Ooredoo has also launched a Voice over LTE (VoLTE) network, which will enable customers to make HD voice and video calls.

Additionally, in February this year Ooredoo Qatar launched a new digital premium television service, Ooredoo TV. The new service is the region's first commercial 4K TV offering, combining apps, on-demand and live television in one box and taking home entertainment in Qatar to a new level.

Al Kubaisi says the company is very community-focused and believes it has a responsibility to contribute to the social and economic development of the communities in which it operates.

"Ooredoo means 'I want' in Arabic, and it's at the core of our philosophy as

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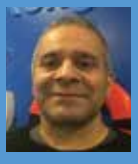

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a company. Our objective is to stimulate human growth through enriching our customers´ daily lives, helping them fulfil their aspirations and reach their potential using the technologies we offer. We're growing our portfolio to take the lead in smart services and helping to build Qatar's new smart cities, smart stadia and smart universities."

Ooredoo Qatar's vision is to become the leading integrated ICT provider in Qatar, and the operator is pursuing a strategy of network evolution across its footprint to deliver a better internet experience for customers, as well as enable a host of smart technologies that connect millions of devices to the network.

"We are already laying the foundations for 5G services in Qatar, and we recently signed agreements with global technology leaders to build the region's first 5G research and development centre in Doha. The rise of the IoT means that we need networks that can support billions of connected devices, as well as millions of people. Our investment in the Ooredoo Supernet means that we will be ready for this technological evolution and will offer our customers the latest solutions as they become available," says Al Kubaisi.

According to him, the operator's total customer base in Qatar increased 6% year-on-year to 3.5 million at the end of March 2016. That growth came from across the portfolio, but Ooredoo is seeing particularly strong growth in mobile broadband and from services like Ooredoo TV. In addition, its nationwide fibre service has now passed 380,000 homes in Qatar, again reflecting significant growth over the last year.

Of course, as in every industry, telecom operators face certain challenges, but Al Kubaisi says the biggest challenges are also its biggest opportunity, and the shift from voice services to data is the most important pillar of the industry. Telecoms and digital services are rapidly converging, and Ooredoo's customers are increasingly looking for solutions to support their digital lifestyles.

"Ooredoo has risen to that challenge by continuing to invest in our network, launching 4G and 4G+ services, bringing in new fibre and satellite options, and enhancing the range of smart solutions that we offer. We have learned to work effectively with the OTT players, recognising that the shift in customer behaviour online opens opportunities to boost data services.

"We feel we're well on the way to establishing Ooredoo as one of the leading companies in the data space. As of April 2016, around 51% of our total revenue in Qatar was data revenue – that's a major shift that we have accomplished in the space of a few years," says Al Kubaisi.

Over the past few years, a growing demand for smart services and integrated

Ooredoo's data centre in Qatar.

Ooredoo and Es'hailSat officials at the signing of the VSAT services agreement.

"As of April 2016, around 51% of our total revenue in Qatar was data revenue – that's a major shift that we have accomplished in the space of a few years"

YOUSUF ABDULLA AL KUBAISI, COO, Ooredoo

Ooredoo's headquarters in Qatar.

The customer care centre at Ooredoo.

features, and an unquenchable thirst for data, is something Ooredoo has seen across its footprint. Al Kubaisi explains that seeing the real change the operator's technology can make to people's lives, and whole communities, has pushed the company to learn about the needs of each market and to deliver them in the most future-proof way possible.

"As an industry, we need to drive affordability and improved customer experience, especially in terms of devices and network. We also need to continue to look for ways to manage the impact of OTT players, to support monetising our network investment.

"Mobile broadband and bringing the benefits of it to wider communities is the defining challenge for us as an industry and government authorities – we will be judged by our success in including as many people as possible in this new digital world."

With a customer base of 118 million subscribers across all its markets, customer care is of paramount importance to Ooredoo. In order to ensure that the customer experience is optimal, Ooredoo has launched a number of initiatives.

It has the Ooredoo Community, a space where customers can ask and answer questions about services and technical issues with a community of members. It has also launched a new service on the My Ooredoo website portal, to give customers a dedicated hub to contact the company directly, register issues and receive feedback.

"With the launch of this service, customers will be able to contact a dedicated team member who will be responsible for answering their questions and resolving their problems. Also, customers will receive easily tracked ticket numbers directly from the dedicated customer support team. This will deliver a faster response for customers, and ensure a better overall experience.

"As demand for social media response is growing, the company has launched a Twitter profile too, which serves as a dedicated customer service profile, managed by Ooredoo's customer service team," concludes Al Kubaisi. PRO

Applications of Satellite-AIS for National Defence and Security

Safety of Life at Sea to counter piracy and defence operations is a growing concern

EXECUTIVE SUMMARY

exactEarth, Ltd (www.exactearth.com) is a private data services company delivering Near-Real Time (NRT) global location-based maritime vessel tracking information for government authorities and a wide range of commercial organisations, through its exactAIS service. Automatic Identification System (AIS) is a mandatory navigation safety communications system under the provisions of the Safety of Life at Sea (SOLAS) Conventions which requires ships of 300 gross tonnes and upwards engaged on international voyages, cargo ships of 500 gross tons and upwards not engaged on international voyages, and all passenger ships irrespective of size to be fitted with AIS. The ability to decode such messages using a constellation of satellites has been continuously demonstrated by exactEarth since 2010 as they have exploited big data management expertise to deliver clear, global near real-time maritime vessel tracking information to government authorities when, where and how they have needed it. The superior detection technology of these satellites supports the rapid build-up of verifiable Maritime Domain Awareness (MDA). In an ever-changing environment where there is a vital need for the persistent monitoring of human activity to forecast defence challenges, S-AIS has become a very powerful tool in the delivery of MDA to a variety of maritime and geo-intelligence users. S-AIS is evolving in the context of Activity Based Intelligence (ABI) as a crucial aid to effective decision making and proactive response to ensure national defence and security, as evidenced with data being easily correlated with other information sources, such as a Radar or Electronic Support Measures (ESM) signature. The impact of this enhanced Maritime Domain Awareness (MDA) to support vital national security across issues from Safety of Life at Sea through environmental protection to counter piracy and defence operations is illustrated in this whitepaper.

CONTEMPORARY THREATS TO MARITIME SECURITY

The global deterioration in maritime security which has captured so many headlines because of African piracy, the use of the Caribbean by Latin American drug cartels or

the growing concerns surrounding maritime activity in the South China Seas, have dictated new methods of MDA were needed if these irregular threats were to be managed successfully. Likewise, existing strategic and conventional threats from nations with interests counter to those of the West, such as in the Arabian Sea/Persian Gulf and the Western Pacific, also require access to this rich vein of MDA related information. It is in these areas where S-AIS is already helping to turn the tide and enable maritime security forces to focus upon organised criminals, terrorists, and ever- present strategic threats. Governments around the world are already making use of exactEarth's S-AIS for these purposes, including Canada, the U.S. (Navy & Coast Guard), Australia, Singapore, South Africa, Denmark, India and NATO.

There are four specific capabilities that are common across these situations:

- To continuously identify all vessels who are transmitting, so that threats can be analysed in terms of likelihood and impact.
- To analyse patterns of movement of transmitting vessels and flag anomalous behavior.
- To collect data in areas that are remote (such as large parts of the African coastline, or the Polar Regions), or those areas that have denied access.
- To compare identification of transmitting vessels by correlating AIS against other detection means, against those detected by such other means but who are not transmitting on AIS.

SATELLITE AIS FROM EXACTEARTH – A CRITICAL TECHNOLOGY FOR TODAY'S MDA

The exactView system utilises a patented algorithm for detecting the maximum number of satellite AIS messages, even in very dense shipping areas; this proven technology offers a complete (NRT) picture2 when it comes to understanding global maritime traffic movements. The exactEarth satellite constellation of four polar orbiting satellites has provided over 2 years of global coverage of vessel positions, routes and traffic for commercial and government customers alike; with numerous observations per day of any given point on the earth. This constellation already detects over 40,000 vessels per day, and by the time the constellation is fully deployed, will detect nearly all ocean-going vessels on a daily basis. Additionally, exactView can also detect messages from Class B transponders when certain conditions are met, such as in areas with a low density of Class A transponders. With the increased coverage from the planned new satellites, the instances and quality of Class B detections will improve as well.

"Traditional coastal AIS technology provides limited coverage up to 50 nautical miles off shore as ships essentially disappear beyond the horizon and AIS signals are not picked up beyond this limit"

AIS messages are complex and multifaceted as they contain an abundance of information about a vessel, including details such as position, speed, course, rate of turn, etc. In addition, on any given complete satellite pass of the exactEarth constellation, nearly 100,000 messages are received and it is only with a patented technology that exactEarth is able to not only make sense of the data in an extremely quick manner but also turn around and deliver this data securely to customers allowing for the creation of their essential near real-time operating pictures. This manipulation of big data management highlights the clarity exactEarth brings to global AIS data so that it can be rapidly and easily consumed by authorities worldwide.

The most recent and significant service advancement came in the creation of exactAIS Geospatial Web Services to deliver exactAIS data to customers in an on-demand manner. Authorities have the ability to receive data when, where and how they need it by utilising Open Geospatial Consortium (OGC) compliant Web Map Services (WMS) and Web Feature Services (WFS) to retrieve vessel position, static, voyage, and historical track information. There is an increasing need to get data to users in forms that can be easily accessed and integrated into existing operational systems. Recognising this requirement, exactEarth created a way to break down the interoperability bottlenecks that often hamper data integration in the geospatial world.

FIRST PASS DETECTION

The deployment of an operational S-AIS constellation faces many challenges due to the fact that AIS was primarily intended for sea-level reception. Traditional coastal AIS technology provides limited coverage up to 50 nautical miles off shore as ships essentially disappear beyond the horison and AIS signals are not picked up beyond this limit. The AIS detection protocol was developed for this short range collision avoidance for large vessels, and not for space-based reception. The saturation of the satellite receiver due to the high amount of messages broadcast at the same time and at the same frequency is known as "message collision". Message collision is a problem particularly when high density traffic areas, such as the Great Circle routes or the two main trade routes across the Indian Ocean, are in the satellite's field of view. Message collision and receiver saturation are known to be the main factors which impact on the uninterrupted detection of a transmitted AIS position report. Satellite systems relying on first generation technology have been required to take multiple passes over areas of high shipping densities in order to maximise detection opportunities. Watershed technological advancements in AIS detection from exactEarth led to the creation of considerably more efficient satellite performance. This technology permits a single pass by an exactEarth satellite to detect more in its first pass than any other system. This means a more accurate and timely initial detection as well as more complete updates on subsequent passes.

SENSOR CORRELATION

Combining optical and radar imagery with S-AIS enables the rapid identification of vessels in those images. The great strength of S-AIS is the ease with which it can be correlated with information received from other sources such as different radar types, optical, and ESM. Space-based radar and other sources can contribute to maritime surveillance by detecting all vessels in specific

maritime areas of interest. Combined imagery and S-AIS confirms all of the known vessels and aims to identify unknown vessels by associating the AIS track information with parameters of Vessels of Interest (VOI).

S-AIS supports comprehensive MDA picture compilation by:

- Providing near real-time data that can be correlated to another data source.
- Improving the accuracy of vessel identification, because AIS information & attributes are associated with the closest S-AIS message. This early refinement allows for dark targets (non-transmitters) to be detected more readily.
- Improving track validation when correlated with SAR radar or other optical imagery by comparing the dimensions of the image with AIS information contained in the transmitted message.

DEFENCE APPLICATIONS FOR S-AIS

Specifically, S-AIS can offer utility to a wide range of applications to defence, such as:

Maritime Security: At the tactical level access to S-AIS offers a long range means to track and identify merchant vessels that may not be complying with IMO or other international regulations. In high threat waterways S-AIS data can provide the ability to readily detect changes in a vessel's velocity, course over ground and heading; all potential indicators of anomalous behavior. Conversely vessels detected by other means but not transmitting an AIS response are worthy of further investigation. At the operational level, S-AIS provides maritime information which better supports mission planning particularly in the Naval Control of Shipping.

Military Aid to Civil Power / Natural Disaster Relief: Traditional coastal surveillance systems can be disrupted by inclement weather and natural disasters, whereas S-AIS provides consistent coverage for wide area surveillance even in the harshest of weather conditions.

Search and Rescue Operations: Satellite AIS also provides real benefits to S&R operations as authorities can compare the traffic image leading up to and following an event to locate probable survivors as well as refine the search area and use of adjacent maritime resources in S&R operations. S-AIS can enable authorities to be proactive when a rescue incident occurs and the data can be used to help the selection of the most appropriate rescue vessel in the vicinity. This ensures that authorities can best utilise resources in the area for a rescue operation.

Casualty Alerting: Each year hundreds of maritime casualties are reported which have resulted in vessels sustaining damage, loss of cargo, and tragically loss of life. Common problems identified in the investigation are poor navigation, loss of propulsion or structural failure. S-AIS provides a complete set of dynamic vessel information, which can be used to determine risk of casualty using heading and course over ground. This gives authorities a clear idea, when a vessel is in danger of foundering or has lost propulsion, to identify the best course of action for responding to the situation. The data can then be used after the fact to aid determining what happened in a given incident.

SECURITY APPLICATIONS FOR S-AIS

In today's climate of multi-agency government activity, the pertinence and applicability of S-AIS cannot be under-estimated in the following mission roles:

Fishery Protection: S-AIS can be used to cue other highly discriminate sensors to gain intelligence on vessel behaviour and activities. Alternatively, S-AIS can assist in enforcing compliance to fishing regulations as it can validate a vessel's reported position information into a Vessel Monitoring System (VMS). By establishing legitimate fishing activity, S-AIS can assist in the determination of non-cooperative Illegal Unreported and Unregulated (IUU) vessels.

Marine Safety: Historically, there was a limited capacity to validate a ship's positional information and then monitor its compliance to declared protocols. This has in turn required greater reliance on aircraft patrols for periodic checks. With S-AIS providing a track with time, position, heading, and speed it is now a much easier task to verify whether a ship is complying with marine safety requirements. Marine safety in terms of traffic analysis and monitoring can also be extended cost effectively into remote coastal and deep offshore areas, such as high Polar Latitudes, allowing authorities to monitor vessels to ensure their adherence to regulations, recommendations, safe practices and consequent safe passage.

Environmental Protection: S-AIS provides tracks to assist governments in determining violations of existing regulations surrounding prohibited discharges and observance of speed restrictions close to shore. This will be

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particularly important in maintaining the strict environmental regula-tions put in place in order to preserve the Polar environments. It is also possible to validate posi-tions recorded in the on-board logbooks against S-AIS recorded positions to identify discrepan-cies. Data can also be used to show ships who have deviated from a pre-defined route or switched off their AIS as an indication they may be trying to avoid detection of prohibited dis-charge. In much the same manner S-AIS is uniquely suitable for long range monitoring of maritime vessel traffic over large ocean areas.

Arctic Shipping: Shipping in the Arctic is on the increase as the sea ice retreats further each year and the region opens up to further industrial development. The retreating ice is opening up the Canadian Northwest Passage and the Russian Northern Sea Route to regular ship traffic, which could have the largest impacton shipping in the region. Moni-toring and understanding the changes in ship traffic is vital in order to not only provide reliable information to safely guide Arctic Shipping in the future, but also to understand the impact of this increased activity on this pristine, fragile, and rapidly changing ecosystem. Satellite AIS is ideally suited to monitoring such a re-mote region and provides a unique insight into Arctic shipping. Such data provides safety agencies, national authorities, commercial companies and research insti-tutes with an unparalleled view into ship traffic move-ments in this remote region, allowing the analysis of risk to vessels, the environment, and safety of life.

"Global MDA is increasingly a key strategic requirement for naval /defence forces, coast guards and port authorities who seek actionable intelligence and proactive security"

PUBLIC-PRIVATE COLLABORATION

The interest shown by the Canadian Department of National Defence (DND) in AIS has led to a number of innovative investigations with links to the Maritime Monitoring and Messaging Satellite (M3MSat) Applied Research program (ARP) and TDP funded by DRDC, the Canadian Space Agency (CSA), and exactEarth's parent company COM DEV Ltd. The M3MSat is intended to build upon the success of exactEarth's other satellites, provide operational AIS detection for the Canadian government, and contribute to commercial ship-tracking services5. The current arrangement fuses existing technology with the additional capabilities of the DRDC/CSA through jointly funded and managed M3MSat missions. It will allow enhanced data collection and handling capabilities and aims to fuse exactEarth data with radar imagery.

CONCLUSION

Today's maritime environment hosts a variety of potential threats to national security and the safety and economic security of global states depends largely upon the secure use of the world's oceans. The infrastructure and systems that span the maritime domain have increasingly become both targets of and potential passageways for dangerous and illicit activities. Moreover, much of what occurs in the maritime domain with respect to vessel movements, activities, cargoes intentions, or ownership remains often difficult to discern.

As an important force-multiplying operational tool, S-AIS from exactEarth has already made a significant impact upon those government agencies that are responsible for maritime security, marine safety and environmental protection. As demonstrated by Canadian, American and African maritime authorities S-AIS provides high quality, long-range MDA requirements for both defence and civil applications across a wide range of mission sets. To date, S-AIS has successfully provided mission commanders with access to readily correlated information to support vessel identification, behavior patterns and more effective detection of non-transmitting targets. In addition, the emergence of web services will enable even wider use of S-AIS benefiting an ever-increasing number of users across the defence and intelligence arena, providing a new solution to the Activity-Based Intelligence problem of data overload. Never before has big data been so readily accessible across defence organisations and operations to create and allow for such a cohesive and comprehensive picture of maritime activity.

Global MDA is increasingly a key strategic requirement for naval /defence forces, coast guards and port authorities who seek actionable intelligence and proactive security. These authorities have in recent years drawn from a number of data sources to build a fused global maritime traffic picture, but the advent of S-AIS increasingly offers them unprecedented opportunities to correlate in a more timely and effective manner. PRO

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APT Satellite showcases entire satellite fleet

APT Satellite will showcase satellite solutions across its fleet, which is made up of five in-orbit satellites. APT Satellite currently operates APSTAR-5, APSTAR-6, APSTAR-7, APSTAR-7B and APSTAR-9 (APSTAR Satellite System), covering regions in Asia, the Middle East, Europe, Africa and Australia, and beaming to approximately 75% of the world's population. Additional plans include the future launch of two new satellites, APSTAR-5C and APSTAR-6C.

APT successfully launched its first satellite, APSTAR-1, in 1994. Since then, APT has experienced extensive growth, providing coverage over Asia, Oceania, the Pacific Ocean, Africa and Europe. APT Satellite is promoting itself as a one-stop shop for transponder leasing, satellite telecommunications and satellite TV broadcasting to top-notch broadcasters and telecommunication customers. It offers solution-based services via its APSTAR Satellite System to video and telecommunication customers, including transponder service, teleport service, platforms service, co-location management and play-out services. With high power transmission and broad footprints, all APSTAR satellites are capable of high-quality C-band and Ku-band transponder services.

Sat-Lite to sign partnership

Sat-Lite Technologies, specialising in the design and manufacture of transportable antenna products for the satellite communications industry, has teamed up with Decibel Technologies as its partner in India. Decibel Technologies will provide sales as well as customer service, support and training to its customers exclusively throughout India and also support opportunities in the Middle East.

"I've had the good fortune of working with the team from Decibel for many years, there isn't a more experienced or respected group in India. We're very excited for them to be the face of Sat-Lite in the region," said Chris Callow, Director of Sales for Sat-Lite Technologies.

Randeep Sethi, President of Decibel Technologies, commented: "We are very pleased and privileged to partner with Sat-Lite and help them continue their growth in flyaway and mobile products. Their industry leading expertise in state-of-the art antenna systems will bring many advantages to Indian and regional customers."

Edge-core showcases open networking

Edge-core Networks, a provider of traditional and open network solutions for enterprises, data centres and telecommunication service providers, will display its open networking solutions and enterprise wired and wireless solutions at the show.

Edge-core Networks specialises in open networking, with a full line-up of open Wi-Fi access points and 1GbE, 10GbE, 25GbE, 40GbE, 50GbE and 100GbE OCP-accepted switches. These ONS (Open Network Software) switches support a choice of NOS (Network Operating System) and SDN software, for data centre, telecommunications and enterprise networks.

At the recent Open Compute Project summit, Edge-core announced 10 new open product designs, including three open Wi-Fi access point designs, two open provider edge switches with high capacity off chip memory, a new open stackable access switch, with four available in versions including PoE, with UPoE (60W) supported on eight ports, and finally Edge-core's new flag ship OMP (Open Modular Platform).

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RF-Design touts **FlexLink**

RF-Design will demonstrate its FlexLink series. The company specialises in developing, manufacturing and marketing high-quality RF distribution, RF-over-fibre and RF/DVB monitoring solutions, and has just released its new FlexLink S7A-1616, a 1RU/19 rack-mount L-Band switch matrix that by standard comes in size 8:8 and allows field expansion to 8:16, 16:8 to up to 16:16.

This new switch matrix unit is especially designed for smaller RF distribution and signal management architectures and is perfectly suited for cable/IPTV headends and DSNGs, but also for teleports, satellite earth stations and broadcast infrastructures.

The FlexLink S7A-1616 is available with 50Ohm and 75Ohm connectors and can be equipped with optical inputs. It provides various advantageous features, such as variable gain, slope equalisation and RF power monitoring, for superior RF performance and signal quality.

Furthermore, the unit supports switchable LNB-supply and a 10MHz external reference feed, as well as 1:1 redundant dual power-supplies. Access and configuration can be done locally via the front-side LC-display/keypads and remotely via the rear-side Ethernet interface (Web-GUI, SNMP).

The new FlexLink S7A-1616 switch matrix completes RF-Design´s FlexLink switch matrix series, which incorporates its scalable 6RU/19" FlexLink K7-Pro, available in sizes from 8:8 to 64:64 and expandable symmetrically or asymmetrically to up to 256:256 (increments of 8), as well as its 1RU/19" FlexLink S2A, which comes in size 8:24. Besides these switch matrix systems, RF-Design is also well known and has strong capabilities and experience to develop and manufacture custom-built switch matrix solutions for the individual requirements of the operator.

Viaccess-Orca demonstrates **Voyage at the show**

At CommunicAsia2016, Viaccess-Orca will demonstrate how service providers can quickly address critical market changes to shape the ultimate content experience on every screen – ahead of the competition.

A key highlight was Viaccess-Orca's Voyage TV Everywhere as a Service (TVaaS) platform. Voyage – TVaaS enables content providers to deploy the most cost-effective, scalable and modular TV services anytime, anywhere and on any device.

At CommunicaAsia2016, Viaccess-Orca Executive Vice President of Marketing and Sales Chem Assayag spoke about the opportunities for content providers and operators when moving to a cloud-based service delivery model.

Viaccess-Orca showcased Voyage –TVaaS to the Asia-Pacific market for the first time at CommunicAsia2016. The new cloud-based OTT platform simplifies multiscreen content preparation and delivery and improves monetisation, by enabling operators to manage the entire workflow, from transcoding to packaging, encryption, publishing, personalisation and delivery. Using this cloud TV service, TV operators and content providers can create and deliver high-quality on-demand and live video to subscribers on any screen.

During the show, Viaccess-Orca demonstrated the service's best-in-class premium content protection capabilities, unique subscriber engagement features including personalised applications and content discovery functionalities, and tools for monetising content and maximising ROI.

Viaccess-Orca also showcased an end-to-end, best-of-breed virtual reality (VR) ecosystem, in partnership with Harmonic and VideoStitch. Through this VR ecosystem, operators and content owners can deliver 360-degree video content and offer a best-in-class experience in terms of interactivity and image quality, i.e. UHD video encoded in HEVC.

NorthTelecom expands to APAC

At CommunicAsia2016, NorthTelecom will announce that it is expanding its facilities to the APAC region.

The company will now be able to bridge East to West and offer more cutting-edge services and solutions to the global market, said Mahdi Nazari Mehrabi, Managing Director Asia and CTO NorthTelecom.

"We are investing in a new facility and capacity in Singapore to serve the APAC region. These investments will allow NorthTelecom to extend its leading-edge and forefront solutions and services into Asia and the Pacific market in the coming months.

"We are very delighted to extend our cost-effective and reliable services and solutions to our partners in this part of the world," added Mehrabi.

The new facility will be equipped with state-of-the-art ground equipment as well as a highly qualified and competent team on the ground.

ETL Systems showcases new technologies in RF

ETL Systems, a global designer and manufacturer of RF equipment for satellite communications, will showcase its new technologies in RF distribution at this year's CommunicAsia.

ETL will demonstrate the smallest matrix of its kind on the market. The new 64 x 64 Hurricane boasts inclusive LNB powering in a 4U compact, modular chassis. Hurricane's flexible design offers optimised performance and a range of customisable options to suit a particular set of RF needs, such as fibre inputs, variable gain and variable slope, which can be individual to each feed.

ETL has also designed new functionality and increased benefits into a series of advanced products, including its StingRay RF over Fibre and Dextra splitters and combiners. New StingRay models on show will include redundancy systems for reliability and stand-alone component modules, while new Dextra models now include options with integrated DC & 10MHz pass.

ETL's heritage is in designing satellite signal routing solutions for broadcasters who demand high levels of RF performance.

V2Plus brings UC&C products to the show

V2Plus Technology will showcase its All-in-One Business Communication Hub UC-6050 and UC-8100 products at CommunicAsia 2016. They are tailor-made for small and medium-sized businesses, integrating a Unified Communications and Collaboration (UC&C) solution with cloud video PBX, collaboration gateway, PSTN gateway, surveillance, door phone, remote presence, IoT gateway and router functionality in one box.

This significantly minimises the hassles of deploying and managing multiple system complexity and reduces the Total CapEx and OpEx cost, while elevating business process effectiveness and productivity.

The 'All-in-One OS' running at the core of the V2Plus platform not only binds the devices that are connected today in a seamless manner, but also paves the path for connecting to intelligent IoT devices in the future. A simple and intuitive UI with click-it buttons and icons on versatile end-point devices such as smartphones, tablets, computers, IP phones and IoT devices aims to bring people and events into an immersive and collaborative environment.

"When IT technology advances at a dramatically fast pace, there is a real need for SMB to keep up with its bigger enterprise counterparts in business collaboration to enhance operation efficiency. Integrating UC&C and other communication functions in the business process to increase the company's productivity is a key winning strategy," said Ting Liu, President of V2Plus.

Newtec brings HTS modems to the show

Newtec will bring its latest range of satcom applications and modems to CommunicAsia2016. These are designed to improve efficiency in all areas of the industry. A particular focus will be on getting the most out of the ever-growing number of high throughput satellites (HTS).

The latest version of Newtec Dialog (release 1.3) was among the products that made their Asian debut. Newtec Dialog is a scalable, flexible and highly efficient platform which allows operators to build and adapt their business as the market changes, by enabling multiple services over a single all IP-based platform. New features of release 1.3 include DVB-S2X on the forward link, support for the new MDM5000 satellite modem, layer 2 bridging and mobility support.

Newtec Dialog is also equipped with Newtec's unique technology, Mx-DMA, which enables MF-TDMA flexibility and on-demand variable bandwidth allocation at SCPC efficiencies. From release 1.3 onwards, Mx-DMA rates of up to 75Mbps in the return are supported using shared capacity.

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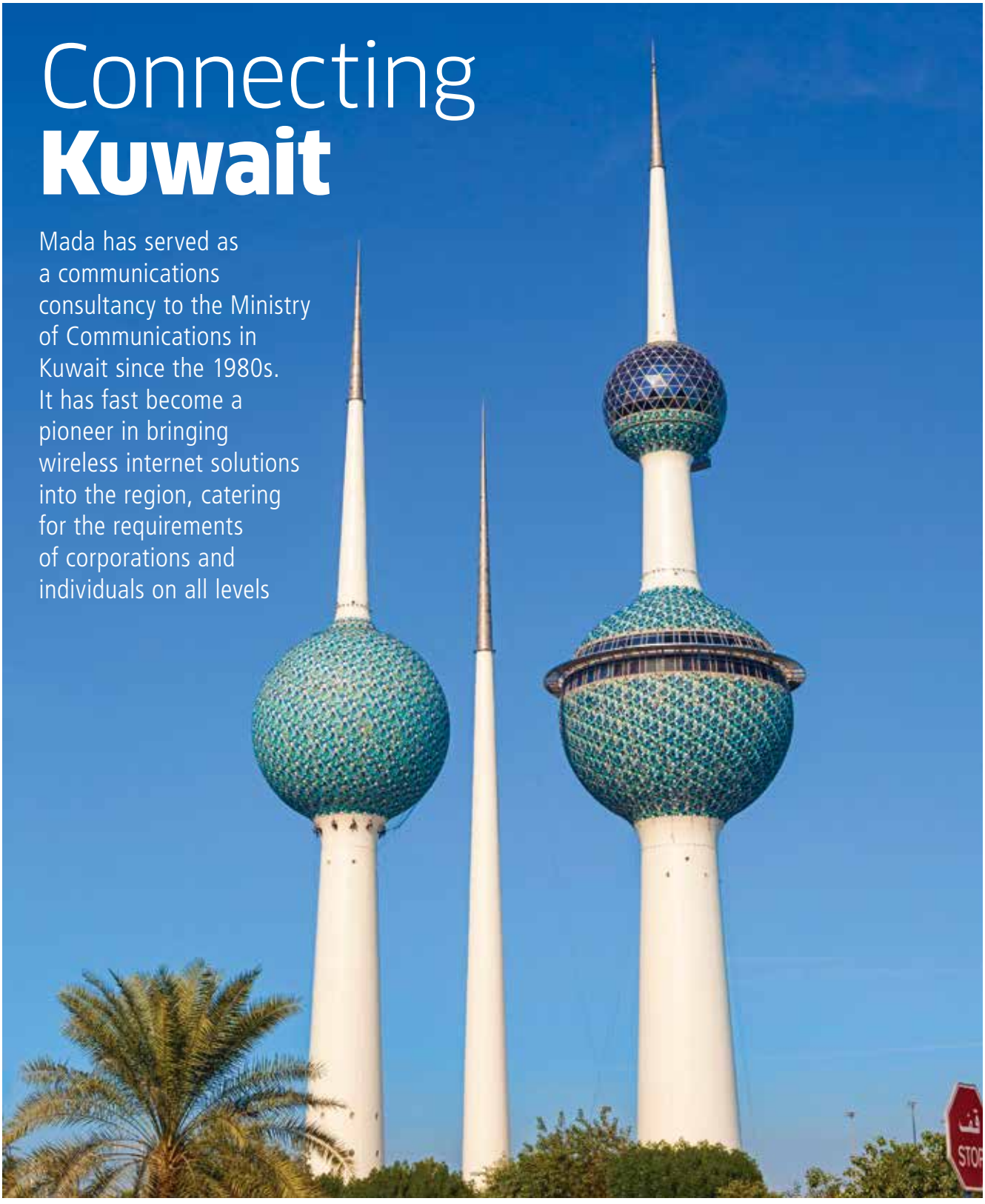
Connecting **Kuwait**

Mada has served as a communications consultancy to the Ministry of Communications in Kuwait since the 1980s. It has fast become a pioneer in bringing wireless internet solutions into the region, catering for the requirements of corporations and individuals on all levels



In early 2012, following an unprecedented surge in demand for higher bandwidth by customers in the Kuwaiti market, Mada took the decision to swap its existing point-to-multipoint infrastructure (based on WiMAX and pre-WiMAX) to a new and more advanced platform that would cater for today's requirements as well as having the ability to fulfil future demand.

Solution

Mada selected InfiNet's MIMO range of solutions (InfiMAN 2x2 and InfiLINK 2x2) over competitive solutions available in the marketplace, and conducted an extensive field trial based on a stringent testing and acceptance plan. During the trial period, Mada replaced some of its VIP customers' previous terminals with InfiNet's models, and involved each one of them in order to gain their valuable feedback and ensure total satisfaction across the board.

After successful trials, commercial deployment began in December 2012 and 80% of Kuwait is now covered by Mada and InfiNet.

Benefits

One of the major limitations that Mada faced on its previously deployed WiMAX network was the inability to work on different modes (bridge/VLAN/router). With InfiNet, it has the option to have multiple topologies and modes on different CPEs connected to the same sector, depending on each customer's specific requirements. In addition, the new capability to work in router mode has opened up a brand-new SME market for Mada with the ability to provide lower cost solutions and L2/L3 compatibility for customers as per their requirements.

Another major drawback of the old WiMAX network was the fixed ratio of the download/upload nature, which resulted in unused bandwidth and limited upload provisioning. With InfiNet's Adaptive TDD Feature, Mada is now able to provide the exact upload bandwidth required by each customer and, at the same time, significantly increase the efficiency of each base station sector.

Additionally, the WiMAX and Pre-WiMAX platforms deployed were unstable under harsh conditions, and Mada often lost connectivity to its customers, especially those in remote areas. InfiNet's solution resolved this issue of link stability, with the availability of the links enhanced dramatically with minimal outages and zero performance degradation.

Mada was also able to provide InfiNet's terminals to a number of

Requirements:

- New infrastructure to replace an existing WiMAX network, providing increased reliability and coverage
- High-capacity base stations and subscriber terminals
- Cost-effective

Solution:

- InfiMAN 2x2 and InfiLINK 2x2 product families in the 3.5Ghz frequency bands

Benefits:

- Significantly reduced outages
- "Install-and-forget" infrastructure
- Increased geographical coverage and available capacity
- Reduced operational expenses
- Increased customer satisfaction

major contractors working in the oil & gas sector, a vital area for the Kuwaiti economy. These contractors generally move from one location to another on a daily basis and, with the InfiNet solution, Mada was able to provide uninterrupted service without the involvement of on-site technicians after the move of a rig or drilling platform. This was made possible with the use of InfiNet's sophisticated, yet simple to use, RapidView-1 antenna alignment tool.

Out of the hundreds of links already deployed in Mada's new network, less than 0.1% have experienced any downtime, which translates into a significant decrease in the number of customer complaints. In November 2013, a large and unusual storm hit the whole country of Kuwait for two continuous days. The reliability of InfiNet's solutions was seriously tested and none of the installed wireless units were affected. Only 0.5% of CPEs went down, mainly due to power outages in the remote locations rather than failure of the units. The installed wireless solutions now offer 100-250% sector capacity increase over the previous infrastructure, with customers enjoying 10+Mbps data connectivity plans. Other benefits of the InfiNet solution include a massive mast space cost saving, the ability to co-locate with other mobile operators, reduced operational expenses and much improved customer satisfaction. PRO

"Out of the hundreds of links already deployed in Mada's new network, less than 0.1% have experienced any downtime, which translates into a significant decrease in the number of customer complaints"

Opportunities Abound

With the satellite industry being deregulated, growing to cater to end users other than the government, opportunities have arisen where once there were none

The satellite industry, as part of the space economy, has had significant shifts in its structure over the past two decades.

Since its inception in 1957, it has been mainly driven and dominated by non-commercial customers, consisting mainly of government and institutional clientele as well as military and defence. It has also been very regulated, with many barriers to entry.

The trend in the space segment was always to move to more civil service and to commoditise these transactions into international economies. In the early 1990s, the space industry shifted from a very centralised market to a more decentralised one, and the market witnessed the evolution of some international organisations in charge of commercial space technology and assets, as well as alterations of space regulation and policy, which eased the barrier to de facto entry.

Moving forward, in the past few years there has been another major shift in the space segment, heralded by the arrival of numerous new entrants in the field of satellite technology. Since then, with the growing trend of social media and apps, many OTT companies have started to increase their market share by penetrating new markets.

However, there is still a big dilemma. Over 50% of the world population is underserved without any means of connectivity. This works out to around three billion people.

This potentially lucrative statistic is one of the main motives for companies to show a larger interest in satellite technology, as a feasible and deployable solution to reach the underserved population in as short a time as possible.

For instance, companies like Google and Facebook are planning to launch hundreds of small satellites to provide internet connectivity to emerging countries. At the same time, incumbent players have introduced new concepts such as high throughput satellites and replaced older satellites nearing the end of their life.

"The most important element for success of any new technology is the ecosystem and having a proper and mature supply chain to be able to deliver the service/product from top to bottom"

MAHDI MEHRABI, MD, APAC, NorthTelecom

Both of these movements have pumped huge capacity into the markets, and at a very early stage a problem popped up – oversupply of capacity. This made people start to consider new technology as disruptive technology, and somehow a threat.

But is it really disruptive or a threat? It's something which the entire industry has always wanted. It appears that we all forgot to consider a very basic element of any market structure: the supply chain and creation of demand.

We neglected how the satellite industry has been evolving through the non-commercial market foundation. It has now quickly moved into a business to serve such a large number of customers in a service-oriented market and economy, without having a proper ecosystem in place.

The most important element for success of any new technology is the ecosystem and having a proper and mature supply chain to be able to deliver the service/product from top to bottom, as well as to send feedback from bottom to top.

Reviewing the structure of the space industry in general, and the commercial satellite industry in particular, shows that something is missing.

Present in 12 international points of presence and seven teleport operations, as well as serving more than 100 partners globally, NorthTelecom enables businesses to be reached worldwide, leveraging the most recent and updated ICT concepts to deliver reliable and efficient services and solutions to key industries. NorthTelecom has a global reach with offices in Dubai, Germany and Singapore, as well as having operations and teleports in South Korea, Singapore, Dubai, Greece, Spain, UK and Cyprus. PRO

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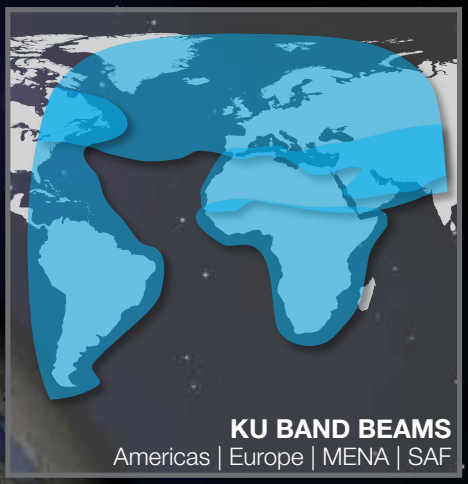

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