SATELLITE**PRO**

TECHNOLOGY INTELLIGENCE FOR THE SATCOM MARKET

MIDDLE EAST

REDEFINING COMMUNICATIONS ON THE MOVE

COTM provides constant connectivity, with antennas becoming more compact, yet facilitating more data than ever

Exciting Times

Welcome to the July-August edition of *SatellitePro ME*. This month, we've got an exciting line-up of features and interviews for you. We've spoken with some of the finest experts in the field of COTM, who have unequivocally said that the demand for smaller and thinner antennas is a trend that is sweeping the industry. Moreover, these smaller antennas have become much more powerful over time and are able to handle much more bandwidth than in years past. I'm sure this will be a knowledgeable read for you, and perhaps even steer your business decisions to take advantage of this growing trend.

In other news, we sat down with Fahad Al Hassawi, CCO of Du, and Ahmed Almuhaideb, VP of Broadcasting, to find out how the UAE telco operator has made massive strides in developing a loyal customer base. With innovation and clear direction, Du has managed to garner a reputation for being a partner of choice for satellite operators, through Samacom, as well as a communications provider with customer service at the helm of its business strategy.

It's that time of year again, when our industry is geared to head to Amsterdam for IBC. We've also put together a preview of what you can expect to see at the show. Turn to page 34 of the magazine to get a peek at what's in store. I'm so excited to see you all. Get in touch with me and let's set aside a time to meet at the show.

I wish you a wonderful August. 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

In this edition:

"By reducing the profile (of antennas), this allows for discretion in use and application without giving up performance."
Darin Anderson, Director, Thinkom

"We are already seeing the benefits of high frequency bands, giving users much more bandwidth at a lower cost than ever before"
Jan Hetland, Director, Telenor

"We hope to start uplinking a 4K TV signal during the latter part of this year and we are very excited about that"
Ahmed Almuhaideb, VP – Broadcasting and IPTV Services, Du

"We work specifically with du to do a number of things. One of them is to provide point-to-point connectivity to the enterprise market"
Kamal Mokrani, Global VP, Infinet

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Summit: 10am - 4pm | Awards: 7pm – 10pm
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ibc 2016

Intelsat 33e reaches Guiana Space Centre in Kourou

>> Intelsat S.A. announced that Intelsat 33e, the second of the Intelsat Epic[NG] series of high throughput satellites (HTS), has arrived at the Guiana Space Centre in Kourou, French Guiana, where it will undergo final preparations before its scheduled launch on an Ariane 5 rocket on 24 August.

Intelsat 33e will extend Intelsat's high throughput capacity in both C- and Ku-band from the Americas to include Europe, the Middle East, Africa, Asia Pacific, the Mediterranean and Indian Ocean regions.

Intelsat Epic[NG] features an exceptionally flexible HTS payload design that is backward compatible with already deployed user networks globally. The higher performance, better economics and simplified access of the Intelsat Epic[NG] design are built to address an expected $3.2 billion incremental revenue opportunity related to new demand for satellite-based infrastructure.

+ www.intelsat.com

An artist's impression of Intelsat 33e.

MAURITANIAN TV BOUQUET LAUNCHES EXCLUSIVELY ON ARABSAT'S BADR-4 SATELLITE AT 26-DEGREES EAST

Arabsat has announced the launch of the Mauritanian TV bouquet exclusively in the Middle East, North Africa and Europe on board its satellite Arabsat Badr-4. This will contribute to the delivery of Mauritanian broadcasting to its large sector of viewers in Europe, due to the excellent Arabsat BADR-4 footprint.

Khalid Balkheyour, CEO of Arabsat, said that the initiative is another remarkable milestone in Arabsat's partnership with Arabic broadcasting television bodies. "We are proud to be the exclusive carrier of the Mauritanian bouquet for several years, and now we are thrilled to deliver the Mauritanian channels to all viewers in Europe and the Arab world, via Arabsat BADR-4."

"We are delighted to launch the package of Mauritanian channels exclusively on Arabsat BADR-4," said Mohamed Dieh Sidaty, General Director of the Mauritanian Broadcasting Corporation.

"We have a keen interest to ensure the proper delivery of the Mauritanian channels to all its viewers across Europe and the Arab world, who are always following news and media content from their home country, noting also the remarkable growth in the value proportions of Arabsat TV broadcasting hotspot at 26-degrees East."

+ www.arabsat.com

UAESA CELEBRATES SECOND ANNIVERSARY

The UAE Space Agency is celebrating its second anniversary and reflecting on its achievements since its establishment. These include developing and integrating the UAE national space sector, launching the Agency's strategy and signing several important Memoranda of Understanding (MoU) with prominent global space industry players.

The UAE Space Agency has a mandate to organise, regulate and support the national space sector. It also encourages the development and use of space science and technology in the country.

+ www.space.gov.ae
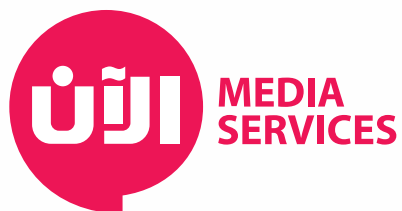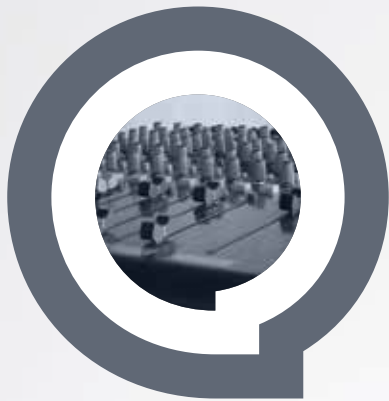
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Speedcast wins ACOMM award

>> SpeedCast International Limited announced that it has been awarded the Communications Alliance and CommsDay (ACOMM) Award for Satellite Provider of the Year. The accolade recognises excellence in the provision of satellite communications or satellite-related products and services in Australia.

SpeedCast has been instrumental in supporting the transmission of vital and sensitive information for military and government operations, such as the Australian Department of Defence, as well as supplying mission-critical communications to the Wheatstone project. In the last 24 months, it has strategically invested in its infrastructure in Australia to support vital and secure communications to the rest of the world.

In 2015, SpeedCast acquired two prime teleport facilities on Australia's west and south coasts, both recognised as highly secure Global Access Points supporting certified classified networks. These teleports have been integrated into SpeedCast's global satellite network and play an important role in providing best-in-class

Pierre-Jean Beylier, CEO, SpeedCast.

network communications services to customers around Asia-Pacific and all the way into the Middle East and Africa.

SpeedCast's teleports are interconnected via a dedicated, uncontended and fully redundant MPLS network to core data centres worldwide. The network connects all key network Points of Presence via a high-quality, low-latency, uncontended terrestrial backbone, providing high-speed backhaul links allowing customers to seamlessly move voice, data and video traffic as needed.

+ www.speedcast.com

FRANCE IX AND ONLINE BOOST CAPACITY WITH 100GBPS PORTS

France-IX, the Paris- and Marseille-based digital gateway to the MEA region, announced that Online.net, one of the leading web hosting providers in France, has joined the growing number of its peering members upgrading to 100Gbps ports. The migration from four 10Gbps ports to two 100Gbps ports has significantly boosted capacity at Online and is enabling the company to deliver increased performance benefits to its customers.

Online hosts several hundred thousand websites across its three datacentres and offers a range of services including domain names, dedicated servers and web hosting to internet stakeholders of all sizes worldwide.

The company understands that performance doesn't depend solely on processor power or RAM, so optimises its entire platform, including its network capacity. With the release of France-IX's 100Gbps member ports, Online decided to upgrade from four 10Gbps ports to two 100Gbps ports.

+ www.franceix.net

JCSAT-16 REACHES CAPE CANAVERAL AIR FORCE STATION

SSL announced that the JCSAT-16 satellite, which it designed and built for SKY Perfect JSAT Corporation, has arrived at the Cape Canaveral Air Force Station in Florida, where it will launch aboard a SpaceX Falcon 9 launch vehicle. The satellite, currently being prepared for launch, will function as an in-orbit back-up that will ensure stability for existing services and further strengthen the foundations of SKY Perfect JSAT Corporation's business.

"JCSAT-16 will be our second satellite for SKY Perfect JSAT to launch this year," said John Celli, President of SSL. "It has been an honour to work together with our Japanese colleagues to build this satellite that has the flexibility to meet the demand for a variety of missions, and we look forward to collaborating on the launch."

JCSAT-16 is an 8.5kW satellite designed to serve the Japanese market from multiple orbital locations. It is a multi-mission Ku-

and Ka-band satellite which will provide service for video distribution, data transfer communications and fleet redundancy.

"When launched, JCSAT-16 will provide us with the flexibility to reinforce our growing fleet as needed, ensuring the highest level of reliability for our customers," said Shinji Takada, Representative Director, President and CEO of SKY Perfect JSAT.

"SSL has been an excellent partner in support of our fleet expansion and we are pleased to hear that the satellite has safely arrived at the launch base in Cape Canaveral, Florida."

JCSAT-16 is based on the highly flexible SSL 1300 platform, which has the capability to support a broad range of applications and technology advances. SSL is also building JCSAT-15, also scheduled to launch in 2016.

+ www.sptvjsat.com

JCSAT-16 has reached Cape Canaveral in Florida.

Intelsat and Marlink power MSC cruise ships

>> Intelsat, powered by its satellite backbone, announced that it has selected Marlink to deliver fast, high-quality Intelsat Epic^{NG} broadband connectivity to Mediterranean Shipping Company's (MSC) cruise ships. At the end of May, MSC Cruises began to apply the benefits of Epic^{NG}'s high throughput connectivity aboard the MSC Divina, one of the world's largest cruise ships. Using Intelsat's Globalised Network, Marlink will provide broadband connectivity to all of MSC Cruises' 12 existing ships, ensuring all will be covered globally. Passengers and crew members demand mobile broadband on a par with the speeds and reliability experienced at

Kurt Riegelman, Senior Vice President, Sales and Marketing, Intelsat.

home. The agreement with Intelsat enables Marlink to supplement its existing maritime VSAT services with Sealink Cloud Services to one of the world's largest and fastest growing cruise lines.

Kurt Riegelman, Senior Vice President, Sales and Marketing, Intelsat, said: "Marlink has been a great partner and understands the value that Intelsat's fully integrated wide beam and high throughput global network can deliver to its customers, particularly those operating a fleet of ships in the Pacific, Atlantic, Caribbean and Mediterranean ocean regions at the same time."

+ marlink.com

THALES ALENIA SPACE PENS CONTRACT WITH ORBITAL ATK

Thales Alenia Space has announced the signing of a new contract with Orbital ATK Inc, a global leader in aerospace and defence technologies.

The announcement was made at the Farnborough International Airshow in Farnborough, England. Under the terms of the agreement, Thales Alenia Space will supply nine additional Pressurised Cargo Modules (PCM) to Orbital ATK for upcoming cargo resupply missions to the International Space Station (ISS). The cargo module is designed to transport crew supplies and science experiments on Orbital ATK's Cygnus spacecraft under NASA's Commercial Resupply Services contract. Cygnus recently delivered 7,900 pounds of cargo and science experiments to astronauts aboard the station

and successfully completed its fifth mission under the contract.

"Thales Alenia Space has been one of our most reliable and strategic partners in the area of human spaceflight," said David Thompson, President and CEO of Orbital ATK. "The pressurised cargo modules developed by Thales Alenia have worked flawlessly to establish Cygnus as a flagship product for cargo resupply missions and as a research platform for science experiments that enable deep space exploration. The enhanced pressure cargo module flown on our last two missions also enabled Cygnus to carry over 50% more cargo to NASA."

+ www.thalesgroup.com

+ www.orbitalatk.com

RAI AND EUTELSAT BEAM EURO 2016 IN ULTRA HD

Rai, Italy's national public broadcaster, and Eutelsat offered Italian TV homes coverage of seven games of Euro 2016. The initiative with Eutelsat marked Rai's most ambitious foray into Ultra HD, the next big leap forward in broadcasting.

Images of the matches were filmed by 14 Ultra HD cameras located by UEFA at the Vélodrome Stadium in Marseilles and sent to the International Broadcasting Centre (IBC) in Paris, where they were forwarded to Eutelsat's Paris-Rambouillet teleport.

A temporary studio set up by Rai at the teleport added live commentary, after which the special Rai 4k channel was encrypted and uplinked to Eutelsat's HOTBIRD satellites. Tivùsat homes equipped with an Ultra HD screen and a CAM certified by Tivùsat were able to watch the quarter-finals, semi-finals and final.

+ www.eutelsat.com

ViaSat opens new R&D facility in India

>> ViaSat has inaugurated its first R&D centre in Chennai, India. The new centre advances ViaSat's globalisation efforts, strengthens its presence in India and enables the company to tap into high-quality engineering talent to drive technology innovation. The new R&D centre will help ViaSat on its mission to connect the world with high-speed broadband internet. The news comes as India continues to transform into a digitally-empowered society under the government's Digital India and Smart Cities programmes. "India is a recognised technology innovation hub with highly sought-after engineering talent and business potential," said Mark Dankberg, ViaSat Chairman and CEO. "The new centre in Chennai is a major step in building ViaSat's footprint in Asia, making India important to our strategic globalisation efforts, R&D acceleration initiatives and our ability to bring comprehensive, next-generation cloud, virtualisation, networking and sophisticated network management applications to market." Beginning in 2019, ViaSat will launch three ViaSat-3 class satellite platforms. Each will offer 1,000Gbps (1TB per second) of network capacity, making each satellite equal to the total capacity of all commercial satellites in space today.

+ **www.viasat.com**

Mark Dankberg, Chairman and CEO, ViaSat.

STARTIMES AND EUTELSAT SIGN MULTI-YEAR CONTRACT

StarTimes and Eutelsat have concluded a new multi-year agreement, setting the stage for accelerated roll-out of digital broadcasting services across Africa.

StarTimes uses satellites to deliver its multi-channel TV platform to over seven million homes in 13 Sub-Saharan African countries and is gearing up to expand into DRC Congo and Zambia in August. The platform transmits over 200 channels, including international channels, regional and country-focused channels and StarTimes' own branded content. Content is offered on both a free-to-view and pay-TV basis, with exclusive programming including frontline events such as the Bundesliga and the 2016 Copa America.

StarTimes has renewed capacity contracts on two Eutelsat satellites as well as agreements for uplinking services provided by a partner teleport operated by STN in Slovenia.

In anticipation of the continued expansion of Africa's TV market, StarTimes has also secured extra capacity and plans to scale up further by the end of the year.

+ **www.eutelsat.com**

THURAYA BEGINS FIRST TELEMEDICINE EXPEDITION TO K2

The first telemedicine expedition to K2 is underway, after successful trials. The WiCis-Sports app, running on Thuraya SatSleeve+, will monitor every step of the #K2Adventure16 Madison Mountaineering trip, taking pioneering technology onto one of the world's most challenging peaks.

The expedition will demonstrate how telemedicine can provide instant access to medical expertise around the globe. OCENS is providing continuous pinpoint weather data and forecasts via its patented WeatherNet software through the WiCis-Sports app.

The #K2Adventure16 project began on 12 June and is set to reach the summit in mid-August. Led by Garrett Madison, the team of ten is accompanied by porters from Pakistan and Sherpas from Nepal. One of the most remote places on Earth, with only 46 permits issued in 2016, K2 is the world's second highest and arguably most intimidating mountain.

Select adventurers will wear lightweight, breathable, Bluetooth-enabled garments featuring embedded or integrated sensors under normal climbing gear. The sensors continuously monitor heart rate, oxygen saturation, skin temperature, geo-location, altitude, speed and bearing.

Data will be streamed to the WiCis-Sports internet platform using Thuraya Sat-Sleeve+, and will be available within one to two seconds on any internet-enabled device on the planet.

+ **www.thuraya.com**

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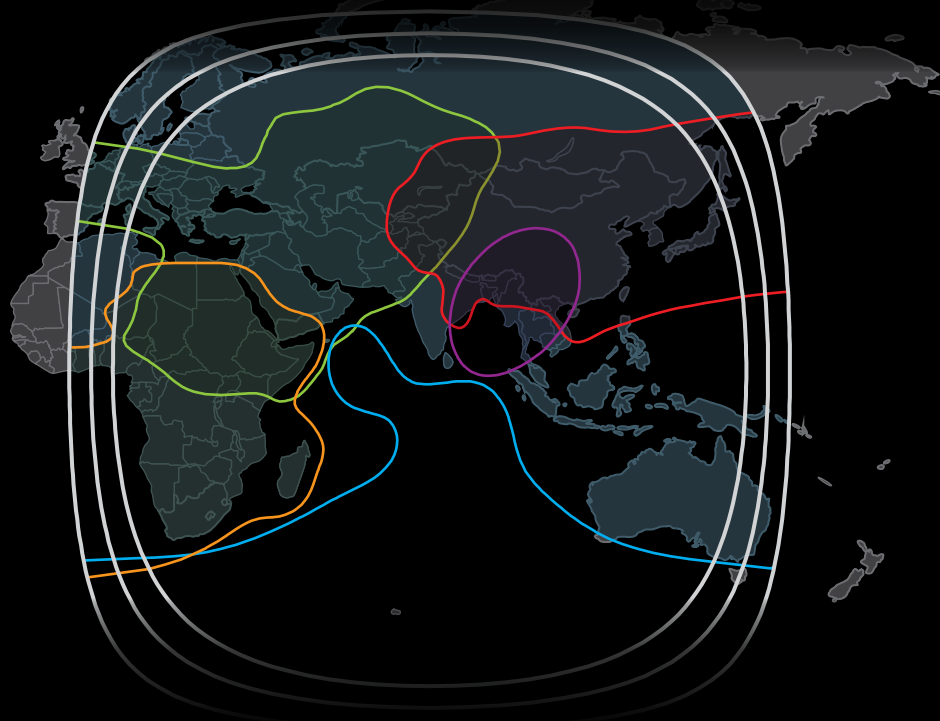
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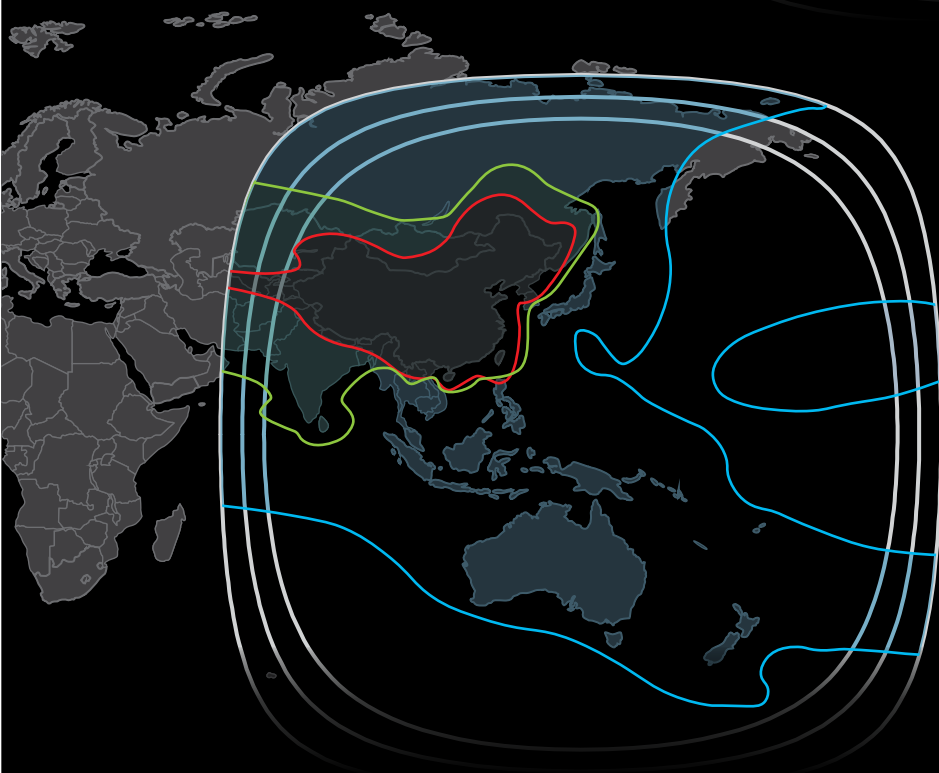
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REDEFINING COMMUNICATIONS ON THE MOVE

The growth of COTM has been phenomenal in the last few years, with more people expecting to be connected anytime, anywhere throughout the globe. Antennas have become more compact, yet are facilitating more data than ever
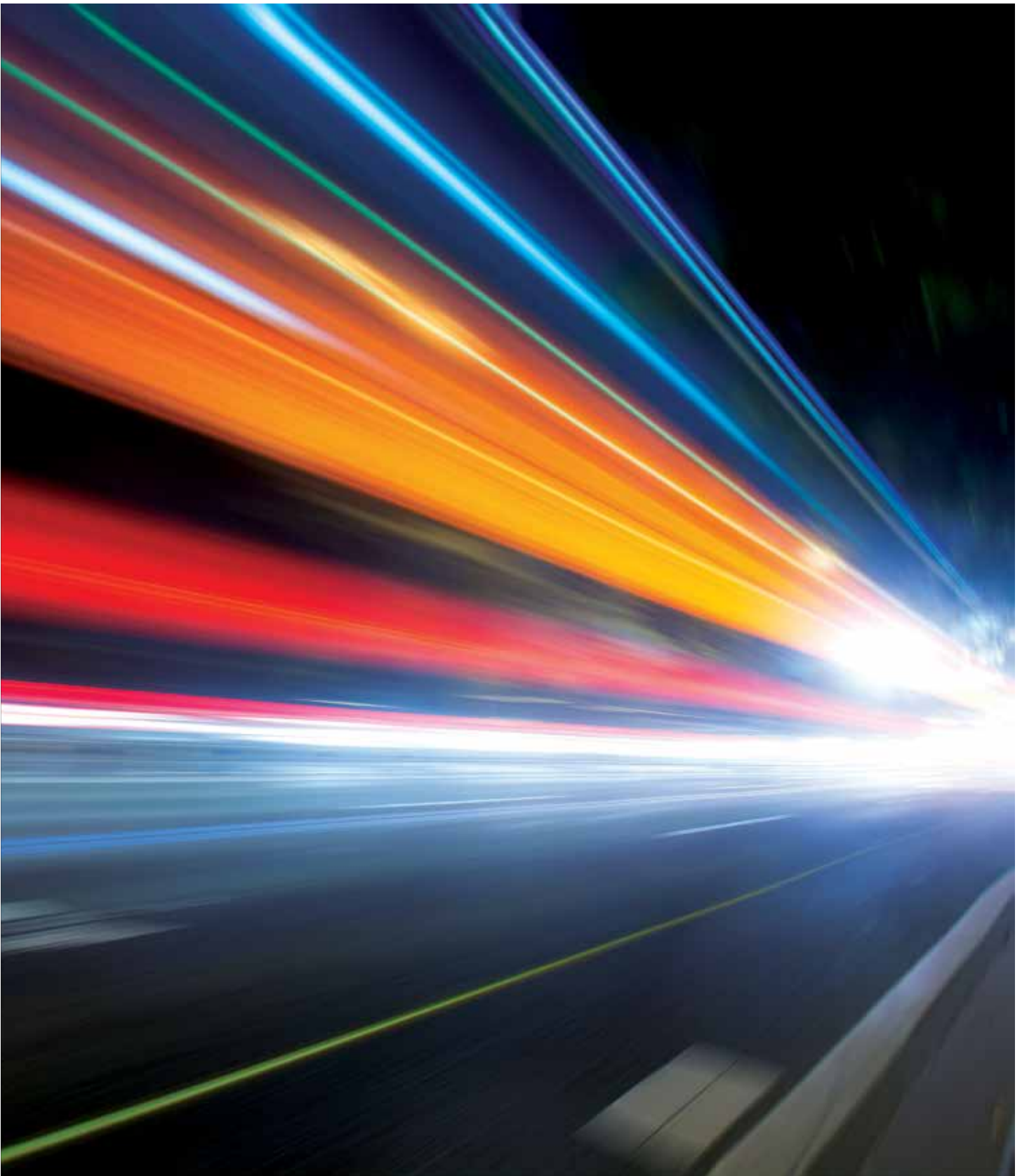
The demand for communications-on-the-move (COTM) has increased dramatically over the past few years as more and more users have come to expect, anywhere in the world, the same capabilities they get on their smartphones at home.

The capability to support COTM has grown tremendously in the past decade with the development of smaller, more portable antennas and more capable satellites, including the recent launch of HTS.

Chris Hudson, Principal Technical Advisor at Intelsat General, says people expect to have access to all types of information at all times, and this expectation spills over into any sort of military operation too.

"Every end user wants an ever smaller terminal, and that is the direction we are heading. We want satellite terminal sizes to shrink as long as performance and operating costs are not adversely affected. High throughput satellites, such as Intelsat Epic, are ideally suited to enable these small platforms."

From a maritime perspective, Tore Morten Olsen, President-Maritime, Marlink, thinks there has been a huge shift towards VSAT for MSS, as shipping companies recognise the advantage of fixed price, high-speed maritime broadband. This has been driven by increased global coverage on seamless VSAT networks.

"For instance, Marlink has developed the most extensive global VSAT network, which enables ships to roam freely almost anywhere and stay connected. Our VSAT network has recently been augmented with a huge amount of Ka-band capacity from new HTS services such as Inmarsat GlobalXpress and Telenor Thor7, and will be extended even further with capacity on Intelsat's Epic Ku-band HTS services. This, alongside our continuing development of our fully managed network, ensures that the global shipping industry has the capacity to leverage the power of connected technology

"We want satellite terminal sizes to shrink as long as performance and operating costs are not adversely affected. High throughput satellites, such as Intelsat Epic, are ideally suited to enable these small platforms"

CHRIS HUDSON, Principal Technical Advisor, Intelsat General

for safer, smarter operations," says Olsen.

Along with better connectivity, terminals are also getting smaller and thinner, yet at the same time data rate demand has increased dramatically.

Hudson says that the maritime sector is seeing a range of changes in applications, especially for small craft operations near coastlines. Once again, terminal size is an important driver in developing new communications capabilities using HTS. In addition, he says it's hard to find a sailor anymore who is willing to go to sea for long periods of time without being connected to home or to the internet.

There are three main drivers for installing communications on ships – safety and regulatory aspects, crew welfare and vessel/fleet operational efficiency. All areas have seen developments over the past few years that require more bandwidth and service availability to meet the needs of various stakeholders.

"In regards to crew welfare, we see a situation where competition for quality people is high. So in addition to offering good financial remuneration, shipping companies have to look at the on-board environment in order to attract the best crews. In addition to comfortable living quarters, internet connectivity and affordable voice calling facilities becomes important

Casper Jensen, VP for Business Development at Cobham SATCOM.

Chris Hudson, Principal Technical Advisor at Intelsat General.

Tore Morten Olsen, President-Maritime, Marlink.

Darin Anderson, Director of International Business Development, ThinKom.

for retaining the most qualified crew. Crews' expectations are high, so shipping companies need to deliver communication services to match," explains Olsen.

He says Marlink's XChange communications management system helps reduce admin time on board by enabling crew account management from the shore office. The company has also recently released XChange Media, a new Marlink crew-focused solution designed to deliver the best in news, sports and entertainment multimedia content. Looking forward, the company also has a Telemedicine system ready for release this September.

VSAT has also been key for vessels and fleets to operate smarter and more efficiently in recent years. More available global services are allowing greater use of machine-to-machine (M2M), electronic document handling and e-navigation applications, while a key communications investment

driver of many shipping companies is saving significant money on fuel costs, which in turn has the added effect of reducing a vessel or fleet's environmental footprint. A new generation of software and sensors has arrived that can stream or transfer in-depth data about a ship's engine efficiency to teams on shore. This can be acted on by globally distributed experts in order to advise on adjusting operations to suit conditions.

Of all the sectors, aviation probably has the longest implementation and use cycle. It takes significant resources to qualify a terminal for aeronautical use. It also takes significant resources to install a satellite terminal on an aircraft. As such, the terminals do not change as rapidly in the aviation sector as they do in maritime or ground applications. The introduction of Inmarsat's SwiftBroadband-Safety (SB-S) service is one of the biggest developments in the sector.

Darin Anderson, Director of International Business Development at ThinKom, says reducing the profile allows for a lower visual signature for covert/discreet operational needs and in the aero markets increases fuel savings due to reduced drag. In the aero applications (government, commercial aircraft, business aviation and UAV), these demands have placed antenna technologies in the spotlight to determine which ones are proven, affordable, high-performance, efficient, low SWaP (size, weight and power), reliable, aesthetically pleasing and offer a low cost of ownership.

Casper Jensen, VP for Business Development at Cobham SATCOM, says that the company is developing a full range of terminals which support the new generation SB-S and has just announced a new contract with Airbus to supply an AVIATOR S Series system as a line-fit option for the A320 and A330 fleets from 2018.

ThinAir antenna for aero connectivity, by ThinKom.

Arabsat BADR-7 @ 26˚E, with unparalleled market specific beams covering the Middle East and Africa
with unrivaled Ku and Ka-band payload and a special Ka-band mission tailored to deliver broadband and tripleplay services from satellite.

The Thinsat 300 antenna fitted on to an off-road vehicle in the desert.

"We have also recently signed a Technical Service Agreement (TSA) with Boeing – Cobham SATCOM's first contract with an airplane manufacturer for the AVIATOR S series. The TSA allows Cobham and Boeing to work together on the design of the AVIATOR 600S and 700S solutions on to the Boeing next-generation 737, the 737 MAX, the Boeing 777-300ER and 777X. Cobham SATCOM's AVIATOR S product series offers smaller, lighter, more powerful satcom equipment to airlines and addresses the growing demand from airlines for continuous non-encrypted secure data exchange between their ground operations and their aircraft. The AVIATOR S series of products supports secure IP and ACARS data services, as well as multiple voice channels, among other things.

"Though SB-S is a current focus, our AVIATOR product range covers a wide range of requirements for cabin and cockpit communications. The full Cobham SATCOM AVIATOR range includes the revolutionary AVIATOR S series, which are smaller, lighter and more cost-effective than current satellite communication systems, adding to the current AVIATOR 700 and 700D, AVIATOR 350 with high gain antenna (HGA), AVIATOR 300 with IGA as well as the exceptionally compact and lightweight AVIATOR 200 with low gain antenna (LGA)," says Jensen.

Cobham SATCOM also recently launched the world's smallest and lightest Inmarsat UAV satcom solution – the 1.45kg AVIATOR UAV 200. The unit integrates all

"Cobham SATCOM's AVIATOR S product series offers smaller, lighter, more powerful satcom equipment to airlines and addresses the growing demand from airlines for continuous non-encrypted secure data exchange"

CASPER JENSEN, VP for Business Development, Cobham SATCOM

components into one compact lightweight system which delivers Inmarsat Class 4 SwiftBroadband services in a low-SWAP package, making it 76% lighter than comparable products on the market.

On the military side of things, COTM is a vital tool for communications in the field, the ocean, reconnaissance and other missions. The communications needs of the defence sector can run from being essentially identical to those of a commercial company to being much more demanding in terms of operational environments, data needs and security.

Hudson explains that a battalion or a ship can be doing routine training at home one day and be halfway around

the world engaged in intense operations just a week later. Their communications network has to work well under both conditions. In addition, these customers do not want to be tied down to any one type of terminal, so operators support open architecture allowing customers to access existing commercial platforms as well as their own specialised platforms.

Data demand continues to increase significantly year after year in air, land and sea applications with a variety of means of optimising the throughput. Although there are many tall dome/parabolic antenna systems for COTM military/government applications, trends are moving to replace these high visual signatures in the military environment.

Anderson explains: "By reducing the profile, this allows for discretion in use and application without giving up performance. That is highly beneficial for such aero, land and maritime applications that can be pushed terrestrially with advances in LOS and NLOS terrestrial use in varying frequency bands to the war fighter."

"The AEHF satellite constellation cost way more than expected and strategic waveforms are too expensive, heavy and power-hungry for dismounted forces. Therefore, the American DoD is working to deploy affordable next-generation protected SATCOM systems based on protected tactical waveform (PTW). PTW provides low-cost communications for dismounted solders who have a critical need for secure, anti-jam (AJ) and low-probability-of-intercept (LPI) satellite communications."

Intelsat and Intelsat General are working towards software programmable satellite payloads on future satellites.

"Down the road, we expect that satellites will be manufactured identically, but once on orbit be configurable – and re-configurable – spot and wide beam coverages, and performance can be customised to meet evolving market needs. This will be a win-win for all.

"Through standardisation, the satellites will be cheaper and quicker to manufacture and launch. At the same time, because of programmable payloads, a satellite's performance will better match each customer's needs," concludes Hudson. **PRO**

Trends and
Interference

SatellitePro ME speaks with Jan Hetland, Director – Products and Services,
Datacomms at Telenor Satellite, about industry trends and their impact on interference

The satellite industry is in a period of fantastic innovation, with new developments and technology appearing continually. As the industry develops, there is no doubt that these trends will have a significant impact on interference. It is as yet unclear whether this will overall be for the better.

VSAT moving to higher frequency bands

We are already seeing the benefits of high frequency bands, giving users much more bandwidth at a lower cost than ever before. It is not surprising, therefore, that more and more VSAT users are moving to higher frequency bands. That could be moving from C-band to Ku-band or from Ku-band to Ka-band. We are witnessing less and less traffic on C-band

> "We are already seeing the benefits of high frequency bands, giving users much more bandwidth at a lower cost than ever before. It is not surprising, therefore, that more and more VSAT users are moving to higher frequency bands. That could be moving from C-band to Ku-band or from Ku- to Ka-band"

year on year, and that trend is likely to continue, with C-band traffic reduced to a minimum in a few years' time.

With the move to higher frequency, we have moved from circular polarisation to linear, and now we are back at circular polarisation. On the downside, this is associated with poorer cross-pol performance. However, you do away with the need to adjust polarisation manually, getting rid of the all too prevalent risk of human error.

HTS for data services

The other trend I expect over coming years is High Throughput Satellite being used for a large proportion of data services. These systems bring a number of advantages when it

Telenor's THOR-7 in the Compact Antenna Test Range.
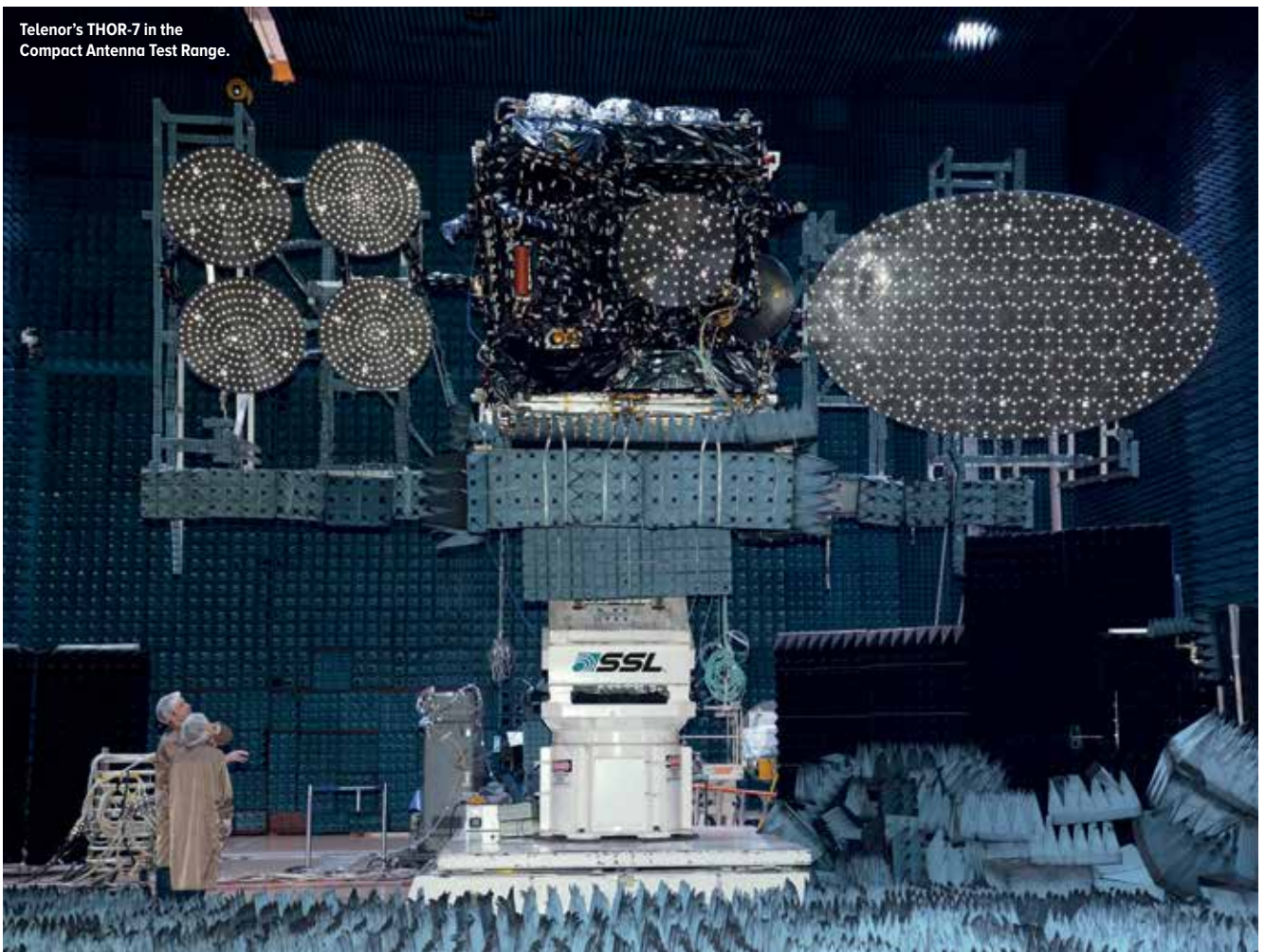
Jan Hetland,
Director Products and
Services, Datacomms,
Telenor Satellite.

comes to interference prevention and resolution. Intentional interference will be extremely unlikely, as any would-be interferer would have to land precisely in gateway beam. Also, smaller spot beams make it easier to get a rough idea of the location of any interference extremely quickly. It is also easier to geolocate, resulting in a more precise location, even with just one satellite.

With data services using HTS, we will also see an increasing trend for teleport owners to also be satellite owners. This will mean owners having an interest in keeping the teleport infrastructure in good shape, so less likely to cause interference.

Shift from SCPC to TDMA
This is of course nothing new, but it will certainly continue at a fast pace. This brings a number of challenges, as it is inherently burst-mode in nature, which means tracking down specific interferers is extremely challenging. New tools such as SatGuard from VeriSat will be vital in locating those instances quickly and efficiently.

Mobility
Satellite is increasingly being used on

"Ka-band has brought many benefits; however, as antennas get smaller and smaller, those benefits are becoming negated. We are also seeing huge investment in the development of flat panels, and in the not so distant future we are likely to start to see electronically steered flat panel antennas released onto the market"

the go, with the mobility market a key customer for many satellite operators. When dealing with mobile users, there is an extra layer of difficulty for satellite operators. You are much more likely to get intermittent issues, which again are much

harder to locate.

Antennas getting smaller…and flatter
Ka-band has brought many benefits; however, as antennas get smaller and smaller, those benefits are becoming negated. We are also seeing huge investment in the development of flat panels, and in the not so distant future we are likely to start to see electronically steered flat panel antennas released onto the market. The challenges that will likely come from this are as yet unknown, but they may also bring many benefits. Exactly how that will play out remains to be seen.

Innovation breeds mitigation
While many of these trends present challenges for interference mitigation, the vast majority will do their bit to reduce instances or help us resolve it quickly. Coupled with some really rather exceptional solutions we have seen emerge over recent months, it feels like we may be winning the war against interference. The biggest challenge will now be getting all satellite operators and users to see the benefits of proper interference management and adopt these tools. PRO

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Delivering TV and film
to the Sea

Eaton's fleet required delivery of IPTV to its crew, along with an integration of critical technologies on board. Exterity was able to deliver a solution that both promoted crew welfare and enhanced security

"Our customers in the marine and offshore sectors are away from home for long periods of time, which means that they need entertainment to keep their morale up while out at sea for weeks. By deploying an Exterity system, we offer live TV streaming to crews while ensuring that critical features such as ship-to-shore communication with coast stations, port or harbour authorities"

MAURIZIO CANNELLA, R&D Manager of Eaton Gitiesse business unit of HAC

Eaton is a global technology leader in power management and solutions for industry sectors including marine and offshore. The company operates across the globe and has offices in 10 Middle East countries including Qatar, Kuwait and Saudi Arabia, with headquarters in the UAE.

Ship builders turn to Eaton's Hazardous Area Communications Group (HAC) to provide robust and efficient power management systems to build increasingly sophisticated vessels. These include commercial marine vessels, cruise ships, oil & gas vessels and naval frigates that need to meet the highest levels of on-board safety, security and reliability.

The challenge
Crew on marine vessels often work long hours and spend weeks away from home at a time. To keep their morale high and provide some home comforts, employers need to provide on-board staff entertainment, including TV and movie content. To meet these requirements,

Eaton wanted an IP video system that could deliver multiple satellite TV channels and also integrate with a number of critical technologies already in place on their ships, such as radio and satellite communications, navigation and CCTV systems.

The solution
The Exterity IP video system delivers TV and video, including foreign language channels for crew members of all nationalities, premium sport and movie content, to communal areas and every staff bedroom. In addition, Exterity IP video enables Eaton to offer safety-related content such as an alarm system, as a

separate video channel, providing the highest level of security for members of the crew. Minimal hardware also reduces the number of cables on board, ensuring the best use of space.

On working with Exterity, Maurizio Cannella, R&D Manager of Gitiesse business unit of HAC, says: "Our customers in the marine and offshore sectors are away from home for long periods of time, which means that they need entertainment to keep their morale up while out at sea for weeks. By deploying an Exterity system, we offer live TV streaming to crews while ensuring that critical features such as ship-to-shore communication with coast stations, port or harbour authorities and

The Exterity AvediaStream t5600 Transcoder is a rack mounted 1U appliance.

other vessels remain top of mind. This way, we ensure that our customers' crews are safe and happy, even during long trips."

The result
Combining hardware and software components, the Exterity system reduces the number of third-party integrations on board the ship, while facilitating the management of all activity by using existing infrastructure for both internet and IP video. The system also enables the ship to receive live TV channels from satellite sources to offer constant entertainment, even in remote areas such as the middle of the ocean.

"We are living in a world where

> **"We are living in a world where constant connectivity has created a demand for content to be available everywhere, even offshore. This was a key requirement for Eaton as their vessels have sensitive technological ecosystems in place"**
>
> COLIN FARQUHAR, CEO, Exterity

constant connectivity has created a demand for content to be available everywhere, even offshore," says Colin Farquhar, CEO at Exterity. "This was a key requirement for Eaton, as their vessels have sensitive technological ecosystems in place. Exterity's IP video technology has been designed to deliver content from any source, to any location and any device, making it a perfect solution for an environment like cargo or cruise ships. We are delighted that our end-to-end video system has been deployed by Eaton, and is providing high-quality content whilst working with technology and processes already in place to ensure the safety of crew on board." **PRO**

The Winning Formula

Du has been thriving in a market that was primarily led by another telco operator. Most of it has been due to innovating with new technology, but a large part has also been because of a constantly engaging with its customers

Du is a UAE-based telecommunications service provider that started its services in February 2007. Despite starting in a market with over 120% mobile phone penetration, du experienced phenomenal growth. Du is the fourth most valuable brand in the UAE and one of the most recognised brands in the region, with a favourable perception among subscribers.

Fahad Al Hassawi, Chief Commercial Officer, du, says: "In the broadcasting field, du acquired Samacom, a leading teleport in the MENA region, in 2006. As part of the du teleport, Samacom has witnessed excellent growth in 2015, growth that contradicted the general economic trends. For example, the number of TV channels has grown by 18% and the number of satellite uplinks increased by 10% compared to the previous year. From a quality perspective, the broadcasters continued to migrate their services to HD and Samacom maintained its superior position as the top teleport in the MENA region."

"Keeping all that in mind, we are very optimistic about our 2016 prospects. We are building a new teleport in Dubai in order to cope with the huge demand and maintain pace with our customers' growth plans."

Du has large scope in mobile, fixed, managed services and other services. As far as the scope of broadcasting services is concerned, the operator's plans were to accelerate Samacom's growth and sustain high customer satisfaction by focusing on quality of service. Samacom's services were enhanced by being a part of a telecom operator.

Hassawi says: "We have adopted a partnership approach with our customers that enables us to serve them the best on their growth requirements. This approach also means complete transparency with our customers regarding ongoing operations for their services. We have a very prestigious list of broadcasting names trusting their services with du: Dubai Channel Network, Abu Dhabi Media, MBC, OSN, Discovery Network and others. We continue to build on our success story."

Ahmed Almuhaideb, Vice President – Broadcasting and IPTV Services at du, says the company is developing solutions using the cloud for playout customers.

"We have adopted a partnership approach with our customers that enables us to serve them the best on their growth requirements. This approach also means complete transparency with our customers regarding ongoing operations for their services"

FAHAD AL HASSAWI,
Chief Commercial Officer, Du

As an industry in general, du is moving towards virtualisation of its infrastructure.

"4K TV is the new format that all broadcasters are talking about. We hope to start uplinking a 4K TV signal during the latter part of this year and we are very excited about that. As for next year, however, we expect to see incremental growth of 4K TV channels available for our satellite TV viewers. I don't anticipate as fast a growth as we've experienced with HDTV.

"There are a few reasons: the costs, at this point in time, might make several broadcasters very hesitant to take that step. The operational cost has an even higher impact in terms of the high bandwidth requirement on the satellites. Another factor is the limited supply of content on 4K. Both factors can be addressed and solved in the very near future, since worldwide 4K content is building up fast and technology is bound to give solutions that will ease the cost problem. On the plus side of 4K, 4K TV will be demanded by the high income households, an exclusive segment of the market which can be easily targeted by advertisers of high-end products," explains Almuhaideb.

For the last eight years, Samacom has maintained its rank among the top ten teleports in the world. The company shares close ties with all satellite operators, and its partners include Yahsat, Arabsat, Nilesat, Eutelsat, AsiaSat and SES. Many of these operators are customers of

Du's head office in Dubai.

Samacom services as well as service providers. Samacom maintains close ties with operators through reciprocal site visits, conferences and bilateral meetings.

"The UAE has a very prosperous economy, a well-served and very advanced telecom sector, and mobile phone and smartphone penetration rates that compete with highly advanced economies such as Western Europe. The only way to survive is to provide a differentiated customer experience such as high data rates and widespread coverage. We have been investing, enhancing and improving our services since the very first call was made on our network.

"For example, duTV offers a variety of TV channels, several features and the like to our fixed services consumers and enterprises. Soon these services will be available to all of our customers in UAE rather than being limited to newly developed areas in Dubai. We have also introduced duView for a complete multi-channel experience where our customers can watch TV on their mobile or tablet. duView and duTV were distinguished in several professional conferences in the region.

"When it comes to broadcasting, I am not sure that the UAE market can be considered a crowded market. We are very fortunate to be in the position that we are in. Dubai and the UAE government in general welcome enterprise and innovation. Through Media City, TwoFour54 and other hubs, the UAE has become the media hub in the MENA region. Of course the competition is fierce when it comes to providing state-of-the-art technology and service quality, but this is good – we would rather compete on quality as it motivates us to work even harder on our innovation capabilities," says Al Hassawi.

Du is staying ahead of the competition regionally by innovating in terms of service quality and technology. The telco is also collaborating closely with its partners to ensure that it maintains levels of service and brings the latest technologies to Middle East customers.

The role of any regulatory body is to nurture growth and ensure all stakeholders benefit in the process. This is true for
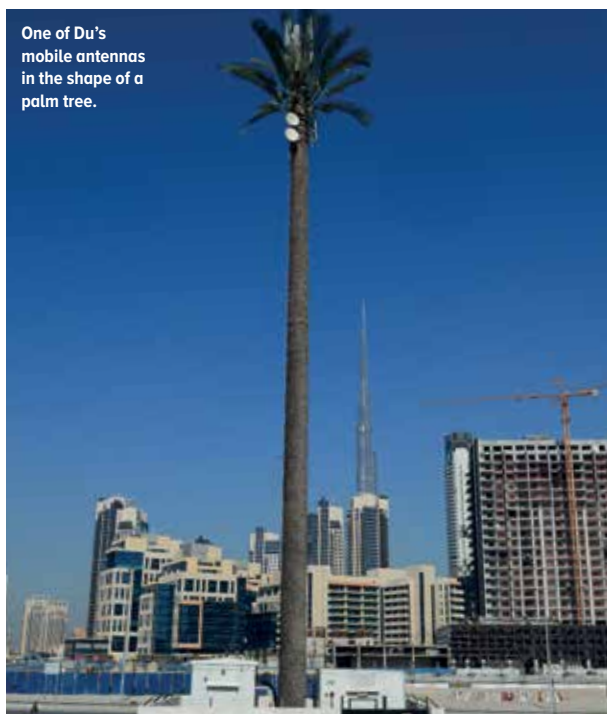
"4K TV is the new format that all broadcasters are talking about. We hope to start uplinking a 4K TV signal during the latter part of this year and we are very excited about that"

AHMED ALMUHAIDEB, Vice President – Broadcasting and IPTV Services, Du

Interacting with customers at Du's customer service centre.

One of Du's mobile antennas in the shape of a palm tree.

Customer using self service kiosk for bill payment.

the UAE's TRA too, which has been playing a decisive role in ensuring the growth of UAE telecom, keeping larger societal goals in mind.

Al Hassawi says du's experts are working closely with technology partners, infrastructure vendors and standardisation bodies to help shape and clarify the 5G network requirements, especially from an operator perspective.

Last year, the International Telecommunications Union (ITU) approved du's submitted contribution regarding 5G standardisation, entitled 'Proposal to launch the 5G studies in SG13'. The contribution outlines du's research on the basic and most important requirements for the road to 5G, its current candidate technologies and architectures, and the concerns and issues foreseen with all the highlighted candidate technologies and architectures.

5G is set to serve three main types of use case. The first is massive mobile broadband. This basically provides the ability to provide 1Gbps+ speeds (with minimum guaranteed speed in the range of 10Mbps at the cell edge), in addition

Use cases for 5G

Massive Mobile Broadband	• Gbps peak speeds • 10's Mbps cell edge • Wide area coverage - indoors	Video streaming (UHD, 3D)	High density experience
Critical Communications	• Very high reliability • Wide area coverage - indoors • Ultra low latency	Industrial/ robitics	Automotive V2V/traffic
Massive IoT	• Billions of connected devices • Wide area and very deep coverage • Long life and very low cost	Smart cities	Health & wellness

to wide area coverage with deep indoor penetration. The main targets for this use case are ultra HD video streaming, 3D video streaming and augmented reality, as well as serving high-density locations and still providing impressive speeds.

Then there is critical communications. This use case targets very high reliability as well as ultra-low latency, in addition to wide area coverage with deep indoor penetration. The main targets for this use case are future industrial automation,

remote operations, robotics, automotive vehicle to vehicle communications and real-time traffic control.

Lastly, 5G will be used massively for IoT. This use case targets the billions of connected devices (things), but on condition of sustaining very long battery life at a very low cost. In addition to wide area coverage with deep indoor penetration, the main targets for this use case are smart cities, wearables and the future connected IoT.

Du's Samacom teleport in Dubai.

"We aim to continue providing a personalised service across our call centres – our Fujairah call centre, for example, is 100% Emirati-run with a 94.4% female contingent enabling our customers to experience true Emirati hospitality"

FAHAD AL HASSAWI, Chief Commercial Officer, Du

"Currently, we are at the stage of definition of technical performance requirements, evaluation criteria and methods, and submission templates. The next phase will be the submission of proposals for evaluation," says Al Hassawi.

In line with du's strategic objectives, 2015 saw the company enter a phase of transformation in which it examined its business model against the industry's shift towards digital delivery. In doing so, du has been able to hone its strategy to ensure sustainability and maximise value for both customers and shareholders.

"Looking ahead, we remain committed to many of the UAE government's initiatives aimed at enhancing the lives of UAE citizens and the development of a digitally enabled ecosystem. The UAE's Smart Government and Dubai's Smart City initiatives are great examples of this. Data continues to drive our business. Customer demand for connectivity remained at healthy levels during the fourth quarter, while our fixed and enterprise businesses showed great improvement. In the last 12 months we have seen our 4G uptake increase by 20%; 3G usage has been growing as well, but at the expense of 2G, which is in a declining phase. This encourages us to continue investing in newer technologies and enhance our footprint," explains Al Hassawi.

Du's revenues have grown to AED 12.34 billion ($3.36 billion), a 0.8% increase compared to 2014. At the same time, fixed line revenue has risen to AED 2.55 billion ($69.43 million), up 13.8% over the course of 2015.

Du's success is primarily due to its customer service initiatives. Al Hassawi says that as a company, du truly believes that fostering an ecosystem of engagement for staff and customers results in memorable experiences for both.

"Hence our efforts to ensure customer satisfaction begins at a much earlier stage, by ensuring that our staff members are satisfied. In an ongoing effort to engage customers and meet their changing needs, we continue to update the retail experience across store locations around the region. These updates will eventually encompass all of du's customer interactions – at our online shop, social media channels as well as face-to-face.

"In 2014, our centres resolved over 20 million calls addressing consumer, enterprise and directory enquiries. According to our customer satisfaction survey results, 92% of our consumer and 86% of our enterprise customers were satisfied with our services. We aim to continue providing a personalised service across our call centres – our Fujairah call centre, for example, is 100% Emirati-run with a 94.4% female contingent enabling our customers to experience

true Emirati hospitality. We also offer mobile customer service support with our du app, du self-help pages on www.du.ae for mobile and home, as well as du's online community website and the du Selfcare portal," explains Al Hassawi.

Du's customers can also get in touch via social media. Al Hassawi says the company actively monitors all its pages, including Facebook and Twitter, and promptly addresses all customer comments, suggestions, feedback and complaints.

"What we have learned is that the customer is now in the driver's seat when it comes to demand. The growth of social media is also driving open communication between the brand and individuals on an open platform – this real-time communication has driven customer expectations to new heights. At du, we keep our ear close to the ground when it comes to anticipating customer needs. By using predictive analytics and analysing data from multiple sources, we are able to anticipate customer needs and offer them services and solutions that they need, before they know they need them.

"This is the future of customer service in the smart city, and we expect customer service expectations to continue evolving to create more avenues for data analytics in business, to ensure an omni-channel experience across all touch points," concludes Al Hassawi. **PRO**

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Ready, Set, **Show!**

IBC2016 will feature some of the latest and greatest technology from broadcasters, equipment manufacturers and satellite operators. Read on for a preview of what lies in store

SIS LIVE to **demonstrate Anylive+**

At IBC 2016, SIS LIVE will announce the further expansion of its AnyliveT fibre network. This powerful, rapidly expanding fibre network has been operating for a number of years and has strengthened SIS LIVE's mission to become the connectivity provider of choice for critical media content.

SIS LIVE will also announce details of Anylive+, a new range of services that will extend the capabilities of the Anylive network to include remote production options.

SIS LIVE's Managing Director David Meynell said, "The need for high production values for live events continues to rise and with them, the costs. That's why the advent of high-quality, low-latency connectivity over IP like that offered by our Anylive network is an attractive proposition for those who need the power and flexibility of IP-based production for multiplatform delivery."

Two teleports and 24/7 network operations centres at MediaCityUK and SIS LIVE's head office in Milton Keynes are backed by extensive, permanently leased satellite capacity to supplement the fibre-based connectivity. The network has been successfully trialled for the production of major national sporting events, which has led to the official launch of the network. Additions to the rapidly expanding network are expected to be announced at IBC.

The addition of highly adaptable Anytime+ services enable production operations such as gallery functions, vision engineering and camera operations to be moved back to the comfort and familiarity of a broadcaster's base. The power and reach of SIS LIVE's rapidly growing fibre-based infrastructure offer the triple benefit of exceptional production flexibility, high resilience and, ultimately, significant cost savings.

Anylive and Anylive+ are supported by highly specialised in-house connectivity experts who monitor, manage and maintain the network at all times. Further support is provided in the form of Europe's largest fleet of mobile satellite uplink vehicles.

According to Meynell, "Anylive+ is a major initiative that, as we transition from SNG provider to a connectivity service provider, will further extend our reach as the country's fastest growing broadcast media fibre supplier and, in turn, greatly enhance the remote production capabilities of our clients. As ever, we aim to deliver the best, most efficient and most highly adaptable range of services worldwide."

Broadcast Wireless **to debut new codec**

Broadcast Wireless Systems, which offers objective technical expertise on specialist broadcast RF requirements, will unveil its plans for a new H.265/4K video codec platform at IBC2016.

Stuart Brown, Director, Broadcast Wireless Systems Commercial said: "Wireless camera operators face a double squeeze. The demand for 2K and 4K content is increasing, while available RF spectrum is simultaneously being reduced. We provide a cost-effective method for wireless camera users to upgrade to 2K and 4K operation without replacing their existing systems."

Broadcast Wireless will share space on the Sematron stand, where it will not only provide details of its latest codec development, but actively solicit input from prospective end users that will collectively form part of the final design.

Brown added, "From the outset, we decided that we would only proceed with our new H.265/4K platform if we could offer a demonstrable real-world solution to our customers, which is why features such as low two-frames in 4K delay and low 10W power consumption are integral to the platform. However, before we finalise our offering, we're actually going to do what others only talk about, and that is consult with end users to ensure we develop what is best for their needs."

Broadcast Wireless will also feature its latest offerings in terms of advanced wireless transmitters, high-level systems integration, and turnkey project management. The company also takes responsibility for design and integration as well as round-the-clock service and support.

Work Microwave **to debut A-Series modems**

At IBC2016, WORK Microwave will demonstrate the latest innovations in analogue and digital satcom solutions, increasing flexibility, bandwidth and margins for satellite operators while reducing their operational costs. Key highlights at the show will include the company's new A-Series IP-based DVB-S2X family of modems, demodulators, and modulators, along with the debut of greater design options for frequency converters based on market demand.

WORK Microwave devices have been deployed by operators worldwide to support a range of applications within the satellite broadcast and satellite communications markets, including SNG/contribution, direct-to-home, IP networking, teleport management, governmental and more.

WORK Microwave will showcase three new products from its A-Series FPGA-based family of modem, modulator and demodulator platforms at IBC2016. On display will be the AX-60 IP modem, AR-60 IP demodulator and AT-60 IP modulator high-performance platforms for IP trunking and IP network infrastructure applications.

Customisable and scalable, the A-Series can be adapted to any throughput and data analysis method, and other waveforms beyond DVB-S2X, making it perfect for telecommunication companies, internet service providers, teleport operators, government and intelligence agencies, and operators of low orbit (LEO) satellite constellations.

Using the A-Series, operators can transmit and receive DVB-S2X signals with the utmost efficiency and ease of operation. Optimal use cases include high-speed network links (100, 200 or 300Mbps) over satellite, IP-based satellite newsgathering, IP-based contribution and distribution links, connection to and from LEO for Earth observation, and reception and analysis of satellite communication. By providing operators with a future-proof and flexible platform for both standardised DVB-S2X and customised satellite communication, the A-Series simplifies the transition toward an all-IP environment.

Other products and technology showcased include DVB-S2X broadcast modulator, wideband technology demonstration, modular and compact frequency converters.

Newtec to demonstrate **Dialog 1.3**

With over 30 years of experience in the broadcast sector, Newtec will return to IBC2016 to display its latest range of satcom applications, designed to improve efficiency. Its technologies can be applied in a wide range of single and multiservice applications, from DTH broadcasting, video contribution and distribution, disaster recovery and backbones for cellular backhauling, to small and medium enterprises, SCADA and oil & gas networks, aircrafts and vessels.

This year's products will focus on getting the most out of the ever-growing number of HTS. The latest version of Newtec Dialog release 1.3 will be making its IBC debut. A scalable, flexible and highly efficient platform, Newtec Dialog 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. It's also equipped with Newtec's unique Mx-DMA technology, 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.

The MDM5000 – the industry's first DVB-S2X high-throughput VSAT modem – is designed for mid- and high-speed applications like connectivity for medium-sized enterprise networks, government applications, oil & gas, maritime and cellular backhaul. This latest edition completes Newtec's modem portfolio for low- up to high-speed applications, ensuring the optimal solution for every application and price point.

Release 2.0 of the MCX7000 Multi-Carrier Satellite Gateway, used for efficient distribution and contribution to broadcast applications, will also premiere at IBC.

NorthTelecom **demonstrates MVSAT at IBC**

NorthTelecom has been providing MVSAT communication for many years, but now the company has solutions that will meet the requirements of all boat and ship owners and operators, with 24/7 communication support including video on demand, GSM, fax, VoIP, SIP phone and more.

Its MVSAT services will be on display at the show. The company plans to meet the needs of all users who require satellite services all the time.

"NorthTelecom works out plans with fixed monthly charges to our customers," said Mahdi N. Mehrabi, CTO and MD Asia Pacific. "Our MVSAT services provide significant savings on communication cost and keeps our clients connected in the sea all the time, even in the most extreme conditions."

NorthTelecom's MVSAT services deliver regional coverage over the Arabian Gulf, Oman Sea, Aden Gulf and Red Sea. It also provides continental coverage over the Mediterranean Sea and the North Sea, as well as intercontinental coverage over Asia Pacific all the way to South Korea.

AVIWEST to demo **HE4000 encoder at IBC2016**

At IBC2016, AVIWEST will demonstrate the latest enhancements to its live video contribution and distribution systems. AVIWEST's advanced live video contribution platform enables broadcasters to capture and broadcast live 4K, HD or SD video over multiple unmanaged IP networks, including bonded 4G/3G cellular, Wi-Fi, Ethernet and satellite links.

On display will be a new version of its DMNG APP, featuring an optimised interface, advanced camera settings, dynamic resolution and video quality improvements. The DMNG APP is now available as an SDK, allowing broadcasters to develop a personalised application based on AVIWEST technology and fully integrated into the AVIWEST ecosystem.

Also on display will be a new HE4000 encoder which supports HEVC compression to optimise the distribution of SD, HD and 4K content over unmanaged networks such as the public internet.

The HE4000 implements a best-in-class HEVC/H.265 video encoder, allowing

broadcasters to deliver the same visual quality as H.264/AVC at 50% of the bitrate, up to 4K resolution. Thanks to AVIWEST's SafeStreams technology, which implements an intelligent IP bonding stack, and powerful contribution network protocols such as the H-ARQ mechanism, the HE4000 assures the delivery of live video even in the midst of unpredictable and unmanaged network conditions, enabling broadcasters to provide seamless news and sports coverage from any

location around the world. By combining HEVC encoding and AVIWEST's SafeStreams contribution technology, the HE4000 dramatically reduces bandwidth costs while guaranteeing superior video quality.

AVIWEST will also be demonstrating the latest version of its popular DMNG PRO video uplink system. The new software upgrade provides broadcasters with a wide range of benefits, including the ability to deliver higher bitrate and sub-second latency.

Point-to-Point **Connectivity**

Kamal Mokrani, Global Vice President at Infinet Wireless, speaks about how the company's efforts in fixed broadband wireless are bearing fruit in the Middle East

As a company, from the very beginning we wanted to focus our efforts on the fixed broadband wireless service. We are not a Wi-Fi or WiMAX company. We have been in the Middle East for a long time, and in fact our first customers were from Malaysia and Saudi Arabia. Last year, Saudi Arabia was the biggest market for us outside of Russia.

The attractiveness to the Middle East for us was that Saudi Arabia is a huge geographical spread and wireless for them was the best option. This is especially so for inter-city communications. Within the city there is a lot of fibre.

Apart from Saudi Arabia, we are well established in Dubai, with du being our biggest customer. The sectors we target range from service providers, energy companies, transportation, enterprise and the government sector. We work specifically with du to do a number of things. One of them is to provide point-to-point connectivity to the enterprise market.

If there's a customer that doesn't have access to any cabled infrastructure and they need access to connectivity, this is something du would use us for.

Therefore, when there is no internet du will use us, and this is how we've been partnered with them for the last four years. They also use us to backhaul their base stations. Since we are 100% IP transport, for us it doesn't matter if it's LTE or 3G, etc.

In the UAE, we also have other customers, some of which are purely for video surveillance in strategic areas with the government.

In Oman, we work both with oil & gas customers as well as with service providers. For oil & gas customers, we do all the SCADA systems and remote monitoring. We have also recently

> **"Therefore, when there is no internet du will use us, and this is how we've been partnered with them for the last four years. They also use us to backhaul their base stations"**
>
> KAMAL MOKRANI, Global VP, Infinet Wireless

adapted our products to allow them a nomadic feature, where they will move rigs or stations, and the minute they stop they get automatically reconnected to the network.

In Jordan, we work with Umniah, which is an operator there. We provide all their enterprise connectivity.

In Kuwait, we have partnered with Mada and Zain Group. In Egypt, we work with intelligent traffic systems. We worked with a Canadian company who is a specialist in designing traffic infrastructure. It certainly helped reduce the pollution and spread the traffic load on parallel roads. This was commissioned at the beginning of last year, and we're already starting to see growing benefits.

We also work with a number of satellite companies like Speedcast, where they bring in the signal via satellite, and we pick up their feeds and deliver it in a point-to-point or point-to-multipoint mode. We did all the security for the London Olympics, right from the airport to the M4 motorway, which is a strategic highway. We also did the broadcasting of all the rowing in Bournemouth, because they had a problem with fibre connectivity. However, 90% of our systems were used for security.

We also equipped 12 stadiums for the World Cup in Brazil two years ago. This was mostly backhauling the extra base stations that were installed there, as well as video surveillance.

We can work very closely with a lot of satellite operators, because at the end of the day we come in as part of a consortium.

We are not the project leader, because we provide connectivity, but the end user wants a turnkey solution, so normally we work with the prime contractor as opposed to the end user. **PRO**

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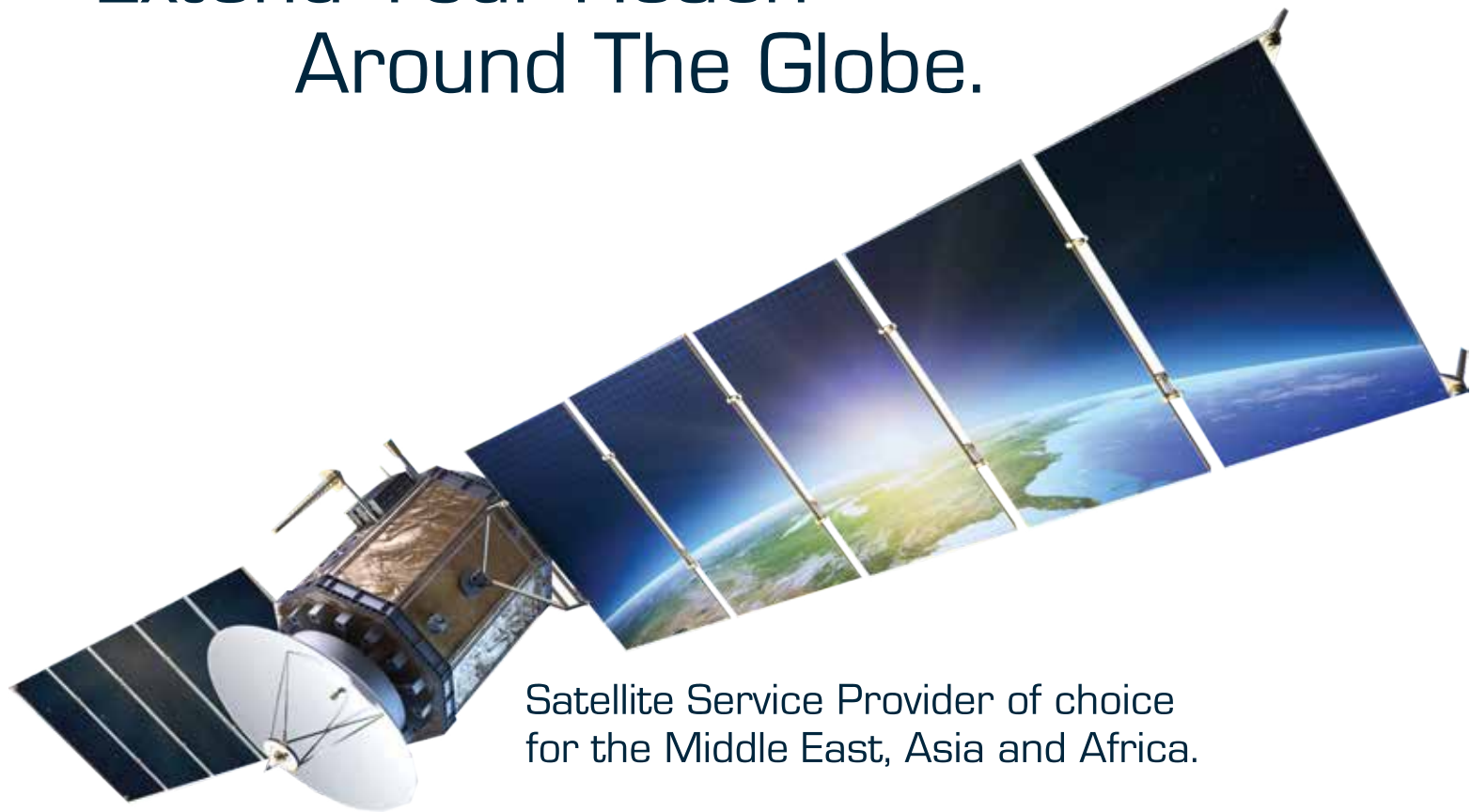
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