ISSUE 64 | SEPTEMBER 2017

Publication licensed by Dubai Production City

SATELLITE PRO

TECHNOLOGY INTELLIGENCE FOR THE SATCOM MARKET

MIDDLE EAST

IBC 2017

AMSTERDAM BOUND
A sneak peek at what some key exhibitors will be showcasing at IBC

SMART OPERATIONS
HTS lowers costs and caters to new digital applications in the oilfield

HIGH SPEED CONNECTIONS

Craving higher speeds for bandwidth-hungry applications? HTS is the answer

ASBU presents

BROADCASTPRO selevision

SUMMIT AND AWARDS 2017

14 November 2017

HABTOOR GRAND / DUBAI / UAE

1 day / 4 panels
25 speakers / 16 awards
1 gala awards dinner

BroadcastPro ME Summit & Awards is our annual flagship event to promote and celebrate excellence in the broadcast and satellite industry across the MENA region. Featuring extensive networking opportunities, seminars and awards presentations by key industry and government leaders.

Sponsorship

Raz Islam | +971 50 451 8213
raz.islam@cpimediagroup.com

Nominations

Vijaya Cherian | +971 55 105 3787
vijaya.cherian@cpimediagroup.com

Information

Ivana Pesic | +971 4 375 5470
ivana.pesic@cpimediagroup.com
broadcastpromeawards.com

Event Sponsors

TITLE SPONSOR

selevISION

PANEL & CATEGORY SPONSOR

ir.deta

WELCOME SPONSOR

FOX NETWORKS GROUP

CATEGORY SPONSORS

BS BROADCAST BUY & SELL BROADCAST

LAWO

CONTENTS

ARABSAT
26° EAST
THE FUTURE OF VIDEO BROADCASTING
IN THE MIDDLE EAST AND NORTH AFRICA

JOIN US AT IBC2017
VISIT OUR STAND 1.B38

www.arabsat.com

Email us: info@arabsat.com

WELCOME

Welcome to a brand new edition of *SatellitePro ME*. After careful consideration, and the valuable input of our esteemed readers, we have completely redesigned the magazine and given it a tremendous breath of fresh air. Still feel something is amiss? Send me your thoughts.

With IBC around the corner, I'm sure the industry is busy fixing up appointments and creating a list of all the wonderful products and demonstrations that can't be missed. You'll be happy to know, just like every year, we will be at the show in full force. I'm so excited to meet all of you and hear about how your businesses are evolving. With HTS being the buzzword for a while, we are finally seeing some real-world implementations, and I must say I am awestruck by the potential this new technology has to offer. Faster speeds at lower costs, who doesn't want that right?

Now, most importantly, please make sure you nominate your company for the annual *ASBU BroadcastPro Awards*. There are three satellite categories this year; Satellite Operator of the Year, Best Satellite Solutions Provider and Best Telecom Strategy of the Year.

Deadline for entries is 28 September so don't wait till the last minute to let us know about the amazing work you have done in the past year.

I look forward to seeing you in Amsterdam!

CLAYTON VALLABHAN
Editor
SatellitePro ME

SATELLITEPRO MIDDLE EAST

CPI TRADE PUBLISHING
www.cpitrademedia.com

PUBLISHING DIRECTOR
RAZ ISLAM
raz.islam@cpimediagroup.com
+971 4 375 5483

EDITORIAL DIRECTOR
VIJAYA CHERIAN
vijaya.cherian@cpimediagroup.com
+971 4 375 5472

EDITORIAL

EDITOR
CLAYTON VALLABHAN
clayton.aldo@cpimediagroup.com
+971 4 375 5479

SUB EDITOR
AELRED DOYLE
aelred.doyle@cpimediagroup.com

ADVERTISING

GROUP SALES DIRECTOR
SANDIP VIRK
sandip.virk@cpimediagroup.com
+971 4 375 5483
+971 50 929 1845

DESIGN

ART DIRECTOR
SIMON COBON
simon.cobon@cpimediagroup.com
+971 4 433 2849

DESIGNER
LUCY MCMURRAY

PHOTOGRAPHY
MAKSYM PORIECHKIN
maksym.poriechkin@cpimediagroup.com

CIRCULATION & PRODUCTION

DISTRIBUTION MANAGER
SUNIL KUMAR
sunil.kumar@cpimediagroup.com
+971 4 375 5476

PRODUCTION MANAGER
VIPIN V. VIJAY
vipin.vijay@cpimediagroup.com
+971 4 375 5713

WEB DEVELOPMENT
MOHAMMAD AWAIS
SADIQ SIDDIQUI

FINANCE

ACCOUNTS
NAHEED HOOD
naheed.hood@cpimediagroup.com
+971 4 375 5474

CREDIT CONTROL EXECUTIVE
CAMERON CARDOZO
cameron.cardozo@cpimediagroup.com
+971 4 375 5499

FOUNDER
DOMINIC DE SOUSA (1959-2015)

PRINTED BY
PRINTWELL PRINTING PRESS LLC

CPITRADE

Licensed by TECOM to registered company, CPI Trade Publishing FZ LLC
whose registered office is 207 – 209, Building 3, Dubai Studio City, Dubai, UAE.
www.cpitrademedia.com

NORTH TELECOM

Come and celebrate with us our

10th ANNIVERSARY

at

Rai Amsterdam

BOOTH : 1.A44

OIL & GAS | VSAT | BROADCASTING | BROADBAND | MARITIME | ISP | MOBILITY

www.NorthTelecom.com

UAE's 'Genes in Space' heads to ISS

LAUNCH

UAE high school student Alia Al Mansoori's experiment is on its way to the International Space Station. This was the culmination of the first UAE Genes in Space competition held in the UAE, made possible through a partnership of the UAE Space Agency, the National and Boeing.

The DNA-based research competition was open to all students in Grades 7 through 12 across the country. The contest invited students to propose experiments that contribute to solving real-life space exploration problems.

Alia Al Mansoori's experiment won the 'Genes in Space' competition.

The experiment by Al Mansoori, 15, will be the third award-winner to fly an experiment to the ISS under the auspices of the Genes in Space competition and the first outside the US.

Al Mansoori's experiment will examine DNA produced in space for changes in protein expression. The results may provide clues on how to prevent unwanted cell death in order to keep future astronauts healthy during long-duration missions into deep space, including flights to Mars.

Al Mansoori worked with scientists from miniPCR to prepare her experiment for launch and operations aboard the station. Working with a miniPCR DNA replicator smaller than a glove box, astronauts will create numerous chains of DNA in orbit to see how they change. Al Mansoori said UAE Genes in Space inspired her by offering the opportunity to potentially help future astronauts reach Mars safely.

Arabsat selects Kratos' end-to-end solution

PARTNERSHIPS

Kratos Defense & Security Solutions announced that Arabsat has selected Compass, Kratos' end-to-end network management product, to support its expanding satellite fleet ground operations. Compass network monitoring and control (M&C) will help Arabsat scale its international operations by automating, and more effectively managing, the network functions of ground operations supporting its expanding fleet. Compass will be deployed at the company's teleports in Saudi Arabia and Tunis.

Compass' flexibility offers Arabsat the opportunity to develop its own network procedures according to its operations concept. Bruno Dupas, President of the Kratos operation in France, explains: "Optimisation of network performance and capability to scale up the monitoring of ground assets were two of Arabsat's key objectives. Compass will monitor all telemetry, tracking and command (TT&C) and carrier system monitoring (CSM) Earth stations of the Arabsat satellite fleet."

MBRSC organises space summer camp

Some of the students who attended MBRSC's space summer camp.

EDUCATION

For the third consecutive year, MBRSC organised a summer camp for intermediate and high school students. The camp included a number of interactive workshops, and scientific and technical experiments on space, planets and satellites.

During the camp, students analysed their findings of a strange object in space using different equipment and methods, which enabled them to understand the differences between systems used to observe planets.

ETL supplies equipment for SES gateways

EQUIPMENT

ETL Systems has provided essential equipment for ground stations and gateways to support three new SES satellites.

The firm supplied a large amount of the RF hardware required for the six Ka-band and nine Ku-band gateways and ground stations around the world. These include four ground stations in Australia, seven in the US and two in Brazil.

Included in the fully tailored kits ETL provided to SES were custom-designed switches and 10MHz splitters.

"We are very pleased to have been able to support SES in what is a massive achievement for the company," commented Andrew Bond, ETL Systems. "Our equipment is known for its resilience and scalability and is the perfect match for SES's new gateways."

New board of UAESA meets to discuss projects

BOARD MEETING

The new formation of the UAE Space Agency Board of Directors met for the first time on August 9, chaired by HE Dr Ahmad Belhoul Al Falasi, Minister of State for Higher Education. Board members include HE Hamad Obaid Al Mansoori, Khalid Al Buainain, Badr Al Olama, Sultan Muhair Al Ketbi, Yousuf Hamad Al Shaibani, Mohammed Saif Al Maqbali, Massaoud Mohammed Sharif and Dr Behjat Al Yousuf.

The new members praised the diligent efforts and successes of the previous Board over the past three years, during its period under the chairmanship of HE Dr Khalifa Al Romaithi. In particular, the Board highlighted the establishment of the Space Agency and its subsequent international recognition within the global space sector, including appreciation from leading international organisations and bodies.

In addition, members noted the legislative and regulatory frameworks covering the national space sector, the projects and initiatives to develop advanced technical capacities, and the launch of various space research centres.

The Board reviewed the Agency's forthcoming projects and programmes aimed at organising the sector, with a focus on educational activities. Board members also discussed the latest developments related to the National Space Law and the National Space Strategy, which are currently being finalised. Finally, departmental reports were reviewed, providing an overview of the results and achievements of initiatives implemented and future proposals, as well as summaries of administrative mechanisms and hierarchies.

The new board members of UAESA met on August 9 to discuss future projects.

BS Broadcast launches in Dubai

Irfan Gondal, CEO, BS Broadcast.

NEW COMPANY

BS Broadcast has established itself as the first company in the Middle East to deal in the buying and selling of quality-tested used broadcast and satellite equipment.

Strategically based in the UAE to facilitate easy shipment across the globe, the company is keen to engage with TV and radio stations, Earth stations, satellite uplink providers, OB/SNG service providers, production houses, media training centres, government and educational institutions.

The company has worked to establish an inventory of over 650 products from 69 market-leading manufacturers, including Advent, Comtech Xicom Technology, Communication & Power Industries (CPI), Ericsson, Harmonic Inc, Norsat and more.

NorthTelecom celebrates its tenth anniversary

ANNIVERSARY

NorthTelecom is celebrating its 10th anniversary this year.

Hadi Mehrabi, CEO, NorthTelecom said: "NorthTelecom has achieved a lot of significant stages in its development over the last decade. Over the past few years, we have seen tremendous organic growth around the globe, that is clearly in line with our corporate vision. We started our first office in Dubai and have expanded operations of new branches and our teleport business in Germany, Singapore and Malaysia, as well as operations in South Korea, Greece, Spain, the UK and Cyprus.

"Additionally, NorthTelecom has attained a major goal by developing and creating a successful broadcasting hotspot in the MENA region, through our alliance with Yahlive."

SSL to build next-gen Hughes satellite

NEW SATELLITE

Hughes announced that it has signed a contract with SSL to build its next-generation JUPITER 3 ultra-high-density satellite (UHDS), to be designated EchoStar XXIV.

The new satellite is targeted at key markets across the Americas and will more than double Hughes' Ka-band capacity in the region. Powered by the next-generation JUPITER System, the new satellite will enable significant increases in service performance, with speeds of 100Mbps.

EchoStar XXIV/JUPITER 3 will increase capacity and support business expansion in the US, Canada, Mexico, Brazil and other countries in South America. Planned for launch in early 2021, the satellite will drive the continued growth of HughesNet and provide new capacity across a wide range of service sectors, including consumer, enterprise, aeronautical, cellular backhaul and community Wi-Fi markets.

Pradman Kaul, President of Hughes, said: "With EchoStar XXIV/JUPITER 3, our satellite fleet will deliver unmatched performance, coverage and speeds, powering continued growth of HughesNet, which today serves 60% of the market for high-speed satellite internet in the Americas."

"EchoStar XXIV/JUPITER 3 will help Hughes satisfy the increasing demand for high-speed internet around the globe," said Dario Zamarian, Group President at SSL. "The significant breakthrough in performance that the new satellite will deliver demonstrates the depth and breadth of our partnership with Hughes, and ensures that space-based systems will continue to be an essential part of the world's telecommunications infrastructure."

An artist's impression of Hughes' JUPITER 3 satellite.

Inmarsat completes GX VIP test flight

INFLIGHT TESTING

Inmarsat has announced the successful completion of its Global Xpress 'Around the World' test flight.

The exercise, conducted on a Gulfstream IV aircraft June 5-11, 2017, covered more than 25,000 miles and demonstrated Global Xpress' ability to deliver seamless worldwide coverage across multiple spot beams and satellites.

While government and business users have historically had to manipulate flight plans to avoid gaps in coverage and performance, the test flight enjoyed complete flexibility in route selection.

The flight route spanned the northern and southern hemispheres, beginning in the US with stops in the UK, the UAE, Thailand, Australia and Fiji.

HIGH QUALITY PREMIUM CONTENT AT 25.5°E/26°E MENA BROADCAST HOTSPOT

Es'hailSat's high powered satellites provide the key infrastructure to media networks and broadcasters to distribute services such as linear TV, video on demand, high definition TV and 4K TV, across the region.

Space to deliver your vision

Es'hailSat Stand No.: Hall 1, Stand B59

www.eshailsat.qa

Es'hailSat سهيل سات

Qatar Satellite Company الشركة القطرية للأقمار الصناعية

Amazonas 5 arrives at ILS in Baikonur

SATELLITE LAUNCH

The Amazonas 5 satellite has arrived at the International Launch Services (ILS) launch site in Baikonur, Kazakhstan aboard an Antonov aircraft, commonly used to transport heavy components. Its transfer was carried out after it passed all the functional and environmental tests conducted in the construction process, and after it finalised its manufacture in the facilities at SSL in Palo Alto.

The last series of tests will be run at the launch site in order to verify proper functioning of the satellite after its transfer to Baikonur, and it will then be integrated into the Proton M Breeze M launch vehicle for its launch scheduled for September.

The Amazonas 5 satellite reaches the launch facility in Baikonur.

The Amazonas 5 has an estimated useful life of 15 years and was built on SSL's 1300 satellite platform. This new satellite expands the space capacity of the Hispasat fleet in the American continent. It has 24 Ku-band transponders offering coverage over Central and South America that will provide high-performance direct-to-home television services.

It will enable the broadcast of 500 new TV channels and will be key to promoting 4K TV in the region.

It also incorporates 34 Ka-band spots that will provide connectivity services to more than half a million people. The Amazonas 5 satellite will offer efficient and competitive satellite internet services and transportation or backhaul services to deploy 3G, LTE and even 5G cellular networks.

AsiaSat and Encompass to deliver SEA games


Barrie Woolston, Chief Commercial Officer, AsiaSat.

PARTNERSHIPS

AsiaSat and Encompass Digital Media (Asia) have partnered to provide Telekom Malaysia Berhad (TM) with C-band capacity on the AsiaSat 5 satellite to deliver live coverage of the 29th Southeast Asian (SEA) Games.

"With our extensive experience of delivering top-quality live sports coverage and Encompass' unrivalled satellite distribution services, we are confident that AsiaSat 5 will once again demonstrate its leading role as Asia's prime occasional use platform," said Barrie Woolston, Chief Commercial Officer, AsiaSat.

Thuraya enters collaborations with KSA

CONTRACTS

Thuraya recently held meetings with senior-level officials and government system integrators in the Kingdom of Saudi Arabia (KSA), to present its latest product portfolio and explore possibilities for collaborative ventures. The roadshow, which took place in July and included visits to Jeddah, Riyadh and Dammam, was exclusively developed in line with increasing KSA's public sector interests. Thuraya national service partner Farhan Commercial Company played a pivotal role in enabling meetings with the country's commanding officers and decision-makers.

Fahad Kahoor, Director of Market Development, Thuraya, said: "Our relationship with influential companies like Farhan has given us a strong foothold in KSA and helped us gain steady growth in key vertical markets across the region. Having completed our most recent series of meetings, we are poised to deliver tailored solutions for existing clients and look forward to actualising partnerships that add advanced satellite capabilities to the KSA government's technology-centric plans."

TV Broadcasting Capacity on **NileSat** Orbital **7/8° W**

Limited TV Capacity

Call Now & book a place in the space

RAI Amsterdam . 14th - 19th September 2017 . Stand B49

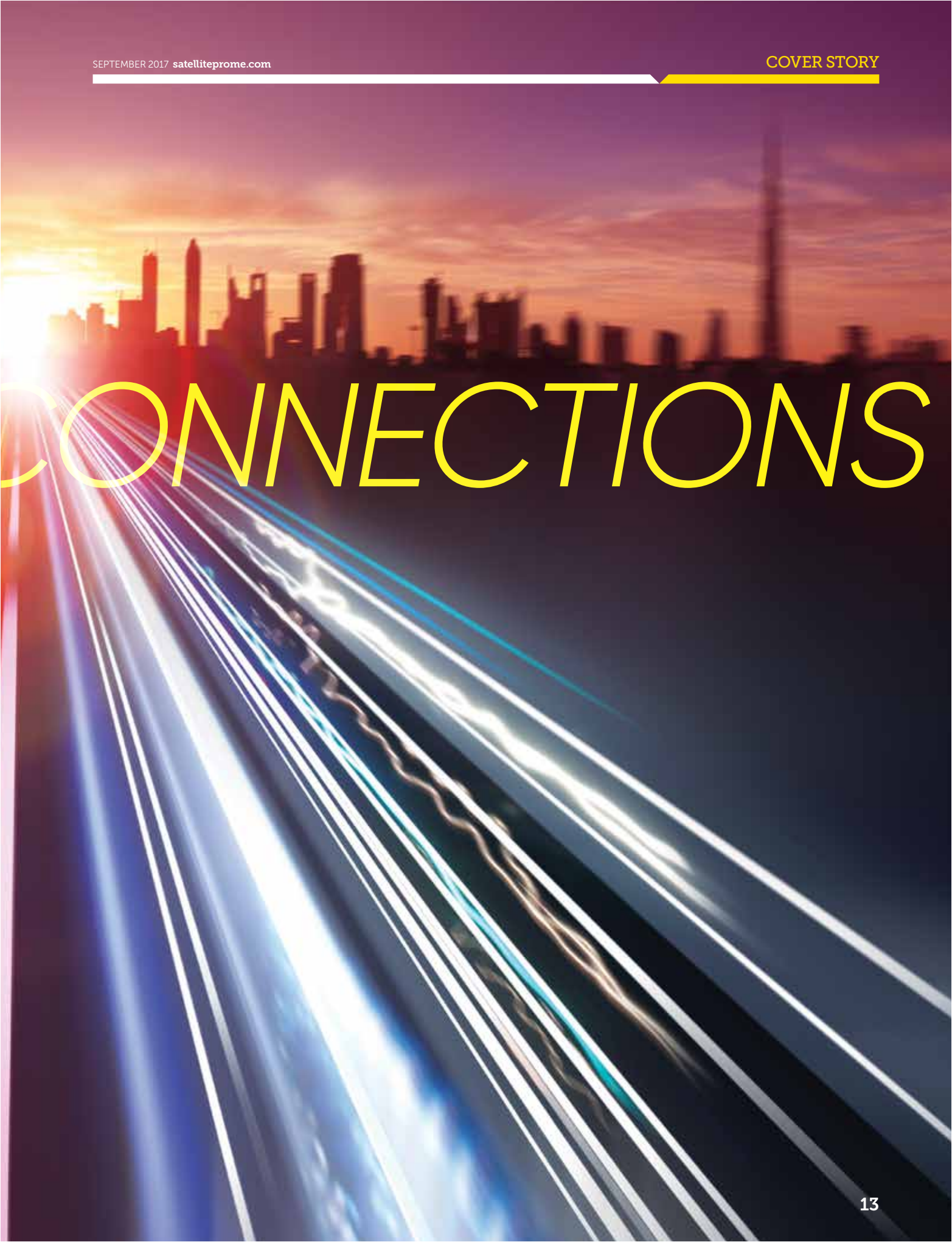
Gulfsat No More Boundaries
جلف سات بث بلا حدود

+965 2291 7777 . +965 2291 7799 . +965 6677 3530

sales@gulfsat.com . www.gulfsat.com

HIGH SPEED

Oscar Garcia, Senior Vice President, Business Marketing at Etisalat UAE speaks exclusively with ***SatellitePro ME*** about the company's recently achieved high speed VSAT throughput


CONNECTIONS

In the world of growing data needs for applications that rely on constant connectivity, high-speed internet is essential. This proves even more challenging in situations when there is no mobile connectivity and high-speed fibre lines wane away at the terrestrial stage.

Satellite connectivity is something that has been around for a while, but for most businesses it has been cost-prohibitive and only looked at as something to be used in life-threatening situations and commercial emergencies.

This is all changing with the introduction of high-throughput satellites (HTS). With the need for ever more reliability on faster data rates, the solution at hand can bring users increased throughput at costs that pale in comparison to former technology.

Etisalat recently announced the launch of a new class of HTS service for high-capacity, efficiency, performance and multi-band connectivity, to address business segments in remote locations or harsh environment.

It provides customers with much higher speeds of up to 170Mbps, with improved coverage and flexibility, by maximising the VSAT throughput, spectral efficiency and optimising network performance.

Oscar Garcia, Senior Vice President, Business Marketing, Etisalat UAE, says: "Etisalat's new HTS services will be able to reach out to a wider industry segment offering affordable satellite solutions."

"The service seamlessly integrates with the customer's network, providing high scalability, redundancy and resiliency, and meets customers' requirement where fibre connectivity is not available."

Etisalat started offering satellite services in 1976, more than 40 years ago. It started with video contribution and international transit services. VSAT was introduced by the telecom operator's satellite division in 1995 and today offers services for internet, data, voice, video, IPTV, data and broadcasting.

Recent developments have helped providers like Etisalat introduce new digital services that are becoming more sophisticated by the day. Previously constrained technological advances have begun to explode into the arena, with crew welfare, remote healthcare, 24x7 surveillance and other technology now being coerced to the forefront of every customer's

Etisalat started satellite services in the UAE 40 years ago.

satellite connectivity quota.

Garcia says: "We are introducing new digital services such as medical imaging, telemetry applications and remote surveillance. This is a very important line of business for us, with more than 500 VSAT links deployed, and growing healthily. VSAT services continues to be an area where we are seeing a lot of growth, and we are focusing heavily on this."

According to Garcia, who joined the division in 2014, there has been steady double-digit revenue growth over the last three years.

He explains a trend in the market that he sees in both terrestrial and satellite networks.

"Customers require more and more bandwidth for their bandwidth-hungry applications, and this needs to be delivered in a cost-effective way. In our case, HTS is the right solution to deliver these high-speed connections to our customers of over 170Mbps, through existing Ku- and C-bands. This means it minimises the impact on our customers' infrastructure, allowing us to be more cost-effective and thus to provide more value to our customers for the same price."

Etisalat's market approach is a bespoke model. As Garcia explains, the company meets its customers individually and discusses their specific needs, then provides them with a solution that will meet those needs.

Garcia says Etisalat works with market leaders in this field, and has the most apt partners to help the customer achieve the desired outcome.

Achieving the feat of speeds of up to 170Mbps on VSAT didn't come without challenges. However, knowing the fruits that high-speed connectivity would bear, Etisalat started working on this project nearly a year ago.

"When we achieved a speed of 170Mbps through VSAT, it certainly reflected the market trend, and required specific efforts on our side to execute. We had to choose the right partners for both the terrestrial and satellite segments. We needed to integrate these solutions to our network and IT systems, which involve a lot of effort for any telecoms services provider.

"Another thing for us is the go-to-market strategy where we partner with customers to understand the requirements they have and come up with an offer that would suit their needs. It is not only about the technical challenges that have always been there, but it's also about how we've taken it to the market," explains Garcia.

He highlights that the collaboration between different teams across Etisalat and especially its Engineering team was responsible for the network design and the operation of the satellite section. This collaboration proved to be critical to the operator and, combined with the right level of expertise in the field to carry out installations, helped cement its position in the market.

"In some cases, for specific customers we have encountered, they are quite precise and strict regarding not just technical skills but also nationalities of the staff that can be present in certain locations. We have had to address all these challenges, and the result is that we have been able to serve the market and even have some specific customers at this point. Facing challenges is part of our DNA, and we do it every day."

Oscar Garcia, Senior Vice President, Business Marketing, Etisalat UAE.

> "Customers require more and more bandwidth, and these need to be delivered in a cost-effective way. In our case, HTS is the right solution to deliver these high-speed connections to our customers of over 170Mbps, through existing Ku- and C- bands"
>
> **Oscar Garcia, Senior Vice President, Business Marketing, Etisalat UAE**

Customers and Applications

Etisalat essentially focuses on the UAE and the Middle East, but Garcia says it specifically tries to follow the operations of its customers in oil & gas, and VVIPs. These are among its most important sectors.

"In terms of services, pretty much all IP-based services are supported over HTS. These include voice, data, internet, mobile communications, Wi-Fi and other digital services, and some specific detailed services like medical imaging transfer, remote surveillance of CCTV feeds and others. Pretty much everything that can be transferred over a telecom network can be relayed over satellite via HTS and VSAT to our customers," he says.

For reaching oil rigs, satellite is pretty much the only option

available, and with medical applications there is also the added necessity to react to medical emergencies. For this, satellite connectivity is the only platform available.

Being able to offer advanced services beyond pure voice and data is very important, and Garcia sees Etisalat's customers requesting this more and more.

Another very important vertical is government services and military applications. Garcia says these too form a significant chunk of its business.

"Etisalat's vision is to be the preferred supplier for all ICT services in the region for every customer that we have. We believe we can meet all those needs, from satellite to terrestrial including mobile communications, as well as new digital services. Furthermore, having a single point of contact is something really important for every business customer, but especially for the largest ones, which have very specific needs. We offer 99.9% availability, 24x7 support and we support class of service.

"Class of service allows us to differentiate the type of service latency that we provide to specific applications which are sensitive to these kind of parameters. For instance, a customer might have voice that needs to be prioritised over internet traffic, and that's something we are able to do," he explains.

Asked about the satellite operators Etisalat works with, Garcia says partners include Eutelsat, Intelsat and APSTAR, adding that there are others and it's important to have a balanced approach and keep excellent relationships with all of them. The operator also uses a lot of technological partners.

Etisalat is not a company that rests on its laurels, says Garcia.

New digital services such as remote suveillance and medical imaging are being introduced through HTS connectivity.

> "We are progressing by introducing services such as medical imaging, telemetry applications and remote surveillance. This is a very important line of business for us with 500 VSAT links deployed, and growing healthily"
>
> **Oscar Garcia, Senior Vice President, Business Marketing, Etisalat UAE**

Looking to the future, the evolution of speed will continue. The horizon shows only growth in terms of bandwidth requirements from evolving applications. There will be more integration of networks, and operators will need to be able to provide a similar solution for complex customer needs. More applications will also come about, and the industry will have to adapt to the specific requirements of the satellite media and the specific needs of its customers. Customers will require performance, but at the same time cost-effective solutions, which is what the industry will need to provide to them.

"We believe Etisalat is uniquely positioned because of being an integrated operator that plays a leadership role in this area. We will continue developing our own goals and those of our customers' business.

"We will continue to grow, and perhaps next year we are trying to achieve speeds double the amount currently achieved. In a few years, the industry will even reach speeds of 1Gbps, which some people call 'fibre in the sky'. This is something that will continue and we will be on top of technical and technological advances. For us it is important to be at the forefront of innovation, and we will continue to incorporate these advances for that to be achieved," concludes Garcia. PRO

You Create

We Broadcast and Connect.

YOUR BEST CHOICE FOR GLOBAL CONTENT DELIVERY

- DTH platforms DVB-S and S2 on Hot Bird - E13, E70B, E9B, E12WB, E7A and many others
- Gbe fibre network with hundreds of access points from mayor cities and wordlwide coverage
- Outside Broadcast facilities with HD OBVans and DSNG trucks for news, sports and showbiz events
- Two state of the art teleports in Italy and a strong partner's network for global distribution
- 24/7 MCR and operation with single point of contact and real time response
- Playout, Co-Location, Encryption and professsional services

M-Three
satcom
business division of Giglio Group

IBC 2017

Hall 5 - Stand 5.B35

IBC2017 RAI Amsterdam
CONFERENCE 14-18 September
EXHIBITION 15-19 September

sales@m3sat.com www.m3sat.com

CHANNEL IN A BOX

Global teleport operator STN recently adopted Playbox Technology EU's EXEcutor broadcast server, to offer customers the ease of channel-in-a-box technology

The Client

The Satellite Telecommunications Network (STN) is a teleport operator based in Slovenia with facilities and solutions for broadcast over satellite. The operator uses multiple solutions, satellites and platforms that are constantly tailored to suit individual customers' requirements. STN is able to maximise broadcasting possibilities for customers by using the most effective technology available in the market.

The Challenge/Objective

There is a lot more to it than storing some media files on a server and blasting them out to a satellite. A customer broadcaster requires the ability to remotely manage content, brand channels with layers of graphics, insert region-specific adverts, and play out to a plethora of frame rates and resolutions. Other broadcasters require the automated scheduled capture of material from their existing satellite or IP feeds, and to have that material time-shifted to different channels or different time zones. These are just some of the services offered by teleports to broadcasters.


Tomaz Lovsin, Chief Technical Officer, STN.

STN needed a flexible transmission model, which was far from simple to achieve. This is where Playbox Technology EU (PBT EU) stepped in to deliver a system which is fully operated remotely by the broadcaster, where the teleport operator need only intervene for technical support.

It is evident that the way content is consumed by the end viewer has changed dramatically in recent years. What STN and PBT EU hoped to achieve was to allow broadcasters to prosper from the opportunities that these changes create, without being held back by having to solve the technical headaches that come along with those changes. The technicalities can be outsourced to teleports, allowing broadcasters to concentrate on their content while also enabling a greater diversity of smaller broadcasters to access millions of viewers via multiple platforms.

Tomaz Lovsin, Chief Technical Officer, STN, says: "In simple terms, a teleport enables broadcasters to place their channels on air to reach millions of viewers all around the world. They deliver content to end users across many different viewing devices – TV screens, laptops and mobile phones."

The Solution

One of the key technical

> "A significant number of customers have a need to use our playout services, where they can upload their content, add graphical detail and set a playlist schedule for transmission. We've seen significant growth for playout facilities in recent years"
>
> **Jurij Blazin, Technical Director, STN**


Jurij Blazin, Technical Director, STN, checking the server racks at the teleport.


Vladimir Stanic, GM, PBT EU.

developments in recent years that has helped enable teleport operators like STN to provide evolving broadcast services is the channel-in-a-box (CiaB) concept. By reducing the number of complex, high-maintenance systems in a production workflow, a CiaB solution offers great potential to help broadcasters run a more agile operation. This is why STN expanded its channel distribution services with 100 EXEcutor broadcast servers by PBT EU.

Vladimir Stanic, GM at PBT EU, explains further: "Channel-in-a-box is actually revolutionary, as it provides more efficient, simplified and cost-effective solutions. Our EXEcutor server allows media to be ingested, scheduled, managed and played out in a wide variety of formats, all controlled remotely if required. Key features include the ability to add graphics to content with unlimited layering, using dynamic data sources and even manipulated with advanced scripting via an API."

Jurij Blazin, Technical Director, STN, elaborates on scale and reach. "STN's teleport in Slovenia currently handles several hundred TV channels being received from and transmitted to all parts of the globe via DTH multiplexes in Europe, the Middle East, Africa, North America and with strategic partners for Asia and Latin America. A significant number of customers have a need to use our playout services, where they can upload their content, add graphical detail and set a playlist schedule for transmission. We've seen significant growth for playout facilities in recent years."

An added benefit of the services offered by STN to client broadcasters is the ability to remotely manage all aspects of playouts via an intuitive web interface. This allows broadcasters to outsource technical operation to the experts at the teleport, while maintaining absolute control over output.

Blazin adds: "PBT EU provides our customers with a training course which serves to enable them to come to terms with the operation of the equipment in a very short space of time. This enables our customers to work much quicker with our service offering. For example, one of our customers uses more than 25 units for their SD and HD playout systems, with virtually no interaction required from our operational team on a day-to-day basis. The system is fully operated remotely by the client, with STN purely providing hands and eyes for support."

The significant installation at STN bears a closer resemblance to a datacentre than most would think of when considering a traditional broadcast installation. Just like a datacentre, broadcast customers make use of STN's infrastructure and security, but can also co-locate their own broadcast servers in that environment.

Support and security are vital aspects of STN's offering, and it has clearly forged a strong partnership with PBT EU. "STN is a 24/7 operation. It's absolutely vital, not only to us but also to our customers (and their customers), that we have full-time support when it is needed. We deliver services globally, which means that the business day changes from client to client. STN has received great support from PBT EU and its distributors in terms of delivery times and ongoing technical assistance," concludes Blazin. PRO

www.stn.eu, www.pbteu.com

CABSAT

Strategic | Technical | Creative

WWW.CABSAT.COM

14-16 JAN 2018

DUBAI WORLD TRADE CENTRE

Help your customers

UNLEASH THEIR IMAGINATION

Technology for Content Creation | Broadcast | Film | Satellite | Radio | Music

Influential buyers & creative minds from across the Middle East, South Asia & Africa

13,000+	1,000+	900+	130+	100+
satellite, broadcast & creative media professionals	pre-arranged meetings	exhibiting brands	countries represented	hours of inspiring content

Full immersion features for 2018:

- The Airwaves
- Script to Screen in 48
- Content of the Future
- Tech Innovation Startup Zone
- CABSAT Beats
- Acoustic Dialogues
- Action-Packed Location Tours
- Indie Film Funding Meet-Up

To learn more about what's going on at this year's CABSAT or book your stand contact the team, **cabsat@dwtc.com**

@CABSATofficial

Organised by

Official Media Partner

Official Airline Partner

Official Travel Partner

Official Courier Handler

Official Publications

Official Publisher

SMART OPERATIONS

With the oil & gas sector going through unpredictable times, saving costs is essential. HTS is helping lower costs for satellite communications, as well as catering to new applications that were not previously possible due to lower bandwidth rates

The oil & gas industry was the first sector to recognise the value of satellite communications and embrace the multiple applications for which satellite technology can be used to improve efficiency, productivity and safety. Satellite solutions are used in the oil & gas sector for always-on asset tracking, for instance. Being able to know the location of engineering equipment and supply deliveries on the way to and from a rig can help ensure that engineers, maintenance crew and any other personnel on a rig have the equipment they need when they need it. At the same time, understanding when engineering resources and personnel will arrive helps managers to plan better and minimise operational downtime. Gavan Murphy, Director of Marketing EMEA, Globalstar, says: "On and around the rig itself, safety is paramount, of course, and several of Globalstar's Integrator partners have developed tracking and monitoring devices which incorporate the Globalstar STX-3 communications chipset certified to the ATEX Zone 0 level, for use in hazardous environments."

"Oil exploration and production operations take place in many remote areas of the world, where alternative telecoms infrastructure can be insufficient or unreliable. With satellites, users can be aware of the location of any fixed or movable asset at any time, regardless of the location or the

environmental conditions." Traditionally, satellite technology on oil rigs was limited to voice and basic data transfers through email. The introduction of HTS has fuelled new applications which can take advantage of higher bandwidth at lower costs.

Michael Manson, Sales Manager, Telenor, explains: "The availability of HTS and new technologies has allowed new applications such as telemedicine, e-learning and high-quality video conferencing to be available and play a role in offshore communications. Satellite can also be used for transfer of high volumes of operational data and video to onshore facilities. This in turn means the need for fewer skilled personal being offshore, as decisions can be made remotely on analysis of the data."

Value-added resellers and distribution partners in the satellite communications industry have shown creativity and talent in devising, developing and implementing innovative solutions specifically tailored to the oil & gas industry.

Murphy adds: "Often these smart solutions leverage multiple technologies such as GSM/GPRS and RFID to deliver seamless least-cost routing, delivering maximum value for money for users. Typically, our partners further enhance the value of reliable and robust satellite devices from Globalstar by adding a layer of intelligent functionality and software. As a result, participants in the oil & gas ecosystem benefit from highly flexible and ultra-usable solutions which are truly fit for purpose, and which reliably deliver capability even when operations are taking place in remote and isolated locations. We know from our customers that they are constantly discovering new business and operational applications for the satellite-based solutions which our partners supply, so these solutions deliver ever-better value."

Gavan Murphy, Director of Marketing EMEA, Globalstar.

> "With satellites, users can be aware of the location of any fixed or movable asset at any time, regardless of the location or the environmental conditions"
>
> **Gavan Murphy, Director of Marketing EMEA, Globalstar**

Marc Rasmussen, VP and GM, Mobility, Intelsat, thinks meeting the needs of the oil & gas sector requires more than just the latest in satellite technology.

He says: "In a way, the applications — and hardware and other operational aspects — on platforms have been designed assuming there is no, or very little, connectivity. With very high-throughput, affordable connectivity now available, we are encouraging designers to rethink platform operations. This is what we mean when we say that Intelsat EpicNG is unlocking a new generation of applications."

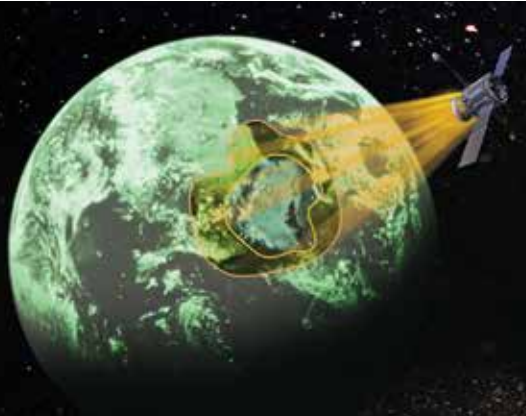
Furthermore, he adds that efficiency is improving with HTS modems.

"It is a combination of the design of our HTS architecture, combined with coding, that is creating this higher performance environment. Our design results in a signal that has less adjacent interference, increasing the amount of throughput in each MHz of capacity. The new modems take advantage of that improved environment. We designed our system this way because our customers are most interested in getting the most throughput through their hardware, as compared to designing for maximum throughput on the satellite – which might be better for us, but not offer nearly the value to the user. Intelsat EpicNG testing with customers and ecosystem partners showed a 165% increase in spectral efficiency with existing ground platforms and modem technologies, and up to a 330% improvement when using next-generation technology under development."

Manson concurs and says the combination of high-power beams on HTS and new modem technologies means that much higher throughput per MHz can be achieved, compared to traditional SCPC links. The continual improvement of modem technology and availability of higher order modulation techniques will help reduce the cost of delivering data and ensure satellite retains a vital role in the oil & gas industry.

With HTS prices for connectivity dropping, the question remains whether customers are more likely to want higher bitrates.

Manson says: "Costs to deliver a megabyte of data over satellite have already dropped dramatically



SMi's 19th Annual

Global MilSatCom

CONFERENCE & EXHIBITION 2017

SMi LINKING BUSINESS *with* INFORMATION

Europe's Leading Military Communications Event for Satellite Professionals

Tuesday 7th November - Thursday 9th November 2017 | Park Plaza Riverbank Hotel | London, UK

OPENING ADDRESS:

Harriett Baldwin MP,
Minister for Defence Procurement,
UK Ministry of Defence

HOST NATION ADDRESS:

Air Commodore Nick Hay, Head of Capability C4ISR & SRO for Future Beyond Line of Sight Programme, HQ Joint Forces Command, **UK Ministry of Defence**

KEYNOTE ADDRESSES:

Deanna Ryals, Chief of International MilSatCom, **U.S. Air Force**

Colonel Cameron Stoltz, Director Space Requirements, Director-General Space, **Canadian Forces**

Brigadier General Nag Jung Choi, Commander of Defence Communication Command, **Republic of Korea Military***

Colonel Shinichiro Tsui, Counsellor National Space Secretariat, **Japanese Cabinet Office**

MILITARY AND GOVERNMENT SPEAKERS ALSO INCLUDE:

Colonel Laurent Jannin, Head of Syracuse III and IV Programs and MilSatCom Operations, **DGA France**

Colonel Jan der Kinderen, Programme Manager MilSatCom, Defence Material Organisations (DMO), **Netherlands MoD**

Lieutenant Colonel Frank Ruckes, Staff Officer, Cyber-/IT- Division, CIT I 3, **German Federal MoD**

Lieutenant Colonel James Dryburgh, DDC4OPS CIS Branch, **New Zealand Defence Force**

Lieutenant Colonel Luigi Mauro, Chief SATCOM Section, Department 1, Computer Science, Telematics and Advanced Technologies, **Italian MoD**

Major Geoffroy Beaudot, SatCom and CIS Programme Manager, **Luxembourg Directorate of Defence**

Dean Olson, Senior SATCOM Policy Analyst, Chief Information Office, **Department of Defense**

Brigadier General Carlos de Salas, Head of C4ISR & Space Programmes, **Spanish Armed Forces**

Commodore Victor Anuge, Director of ICT, **Nigerian Defence Space Agency**

Colonel Jorge Vital, Executive Vice President of Space Systems Coordination and Implementation Commission (CCISE), Department of Air & Space Technology - DCTA, **Brazilian Air Force**

Lieutenant Colonel Martin Vlach, Senior Staff Officer, Communication and Information Systems Agency, **Army of the Czech Republic**

Eron Miller, Chief, SATCOM Division, Infrastructure Directorate, **Defense Information Systems Agency (DISA)**

Bernd Kremer, Service Line Chief, Directorate Infrastructure Services, **NATO Communication and Information Agency**

Mike Rupar, Branch Head, Transmission Technology Branch, Code 5550, **US Naval Research Laboratory**

*Subject to Final Confirmation

PRE-CONFERENCE WORKSHOPS | Monday 6th November 2017

A: Global Government Payload Exploration
Hosted by: **The Hosted Payload Alliance**
8.30 - 12.00

B: Interference in SatCom Systems
Hosted by: **Jamie Dronen,** Director, MILSATCOM Future International Programmes, **The Aerospace Corporation**
12.30 - 16.00

LEAD SPONSOR

SES beyond frontiers

GOLD SPONSOR

AIRBUS

SPONSORS

BOEING · eutelsat · GOVSAT · HUGHES · inmarsat · INTELSAT General Corporation · KRATOS · LOCKHEED MARTIN · Newtec · Raytheon · THALES · UBS · ViaSat

EXHIBITORS

Advantech Wireless · AEROSPACE · COMTECH · CUBIC · etl · inster · L3 · SCISYS · XTAR

To keep updated with programme developments or to reserve your place, please visit:

www.globalmilsatcom.com

Global MilSatCom Community · #GlobalMilSatCom · @SMiGroupDefence

CPD CERTIFIED

Crew welfare is of the utmost importance, allowing staff to keep in touch with friends and family as well as further their learning.

CREW WELFARE

KEEPING CREW CONNECTED

Our experts believe that crew welfare is extremely important, both to boost the morale of crew members and to allow them to learn through telelearning and maintain crew health, as well as for access to emergency medical assistance through telemedicine. The new generation of offshore worker has grown up with devices such as laptops, tablets and smartphones being part of normal daily life. They expect a similar user experience to be replicated offshore, and the availability of HTS such as Thor 7 means low-cost crew welfare solutions can now be provided and assist crew retention."
Michael Manson, Sales Manager, Telenor

Crew retention is an important aspect of efficient operations, and connectivity has become essential to personnel working in remote locations for long periods of times. Crews expect to be able to keep in touch with their family and friends, access social media or watch online entertainment. A robust broadband connectivity also allows the crew to access educational and training programmes and delivers vital telemedicine services."
Marc Rasmussen, VP and GM, Mobility, Intelsat

Providing rig workers with the communications capabilities to help improve safety surely goes a long way to achieving health and safety goals. Reliable, resilient connectivity also helps alleviate the stress we all experience when we need to make an urgent call or send a vital email, yet no matter how hard we try, we simply can't get a stable Wi-Fi or 3G/4G signal. To add to the safety imperative, access by the emergency services while on a rig at sea requires specialist support such as an air ambulance. Remote crew require a communications system they can trust, rain or shine, 24/7, and that enables an always-on link with colleagues on land. And when there's an emergency, crew need to know they can summon rescue. Being able to stay in touch with home boosts morale and welfare among crew who are away for extended periods of time. They need an easy way to call and Skype with friends and family which is low-cost, so they don't feel they need to wait for a special occasion to make contact."
Gavan Murphy, Director of Marketing EMEA, Globalstar

> "The availability of HTS and new technologies has allowed new applications such as telemedicine, e-learning and high quality video conferencing to be available and play a role in offshore communications"
>
> **Michael Manson, Sales Manager, Telenor**

over the past couple of years. This has been achieved both through increased competition between the satellite operators and also through the use of more efficient hardware. The launch of HTS such as Thor 7 has also allowed operators to deliver satellite services to the oil & gas industry, due to the vastly increased capability of these satellites.

"The use of Ka-band satellites also means smaller, more cost-effective antennas which also have a lower installation cost may be used offshore. These lower costs open up the opportunity to use more high data rate applications offshore, which would have previously been prohibited by cost."

Rasmussen thinks the oil & gas sector always has one eye on costs, but at the same time broadband connectivity is becoming nearly indispensable to efficient operations at the rigs.

"Our goal is to reduce the cost of bit delivered, because

we think this will open a host of new applications. Efficient, cost-effective communications support critical applications. Ultimately, the choice in network infrastructure comes down to three things: consistent performance even in remote areas, scalable throughput in high-demand areas, and resiliency and security to provide confidence in daily operations."

Michael Manson, Sales Manager, Telenor.

Challenges

A major challenge now is the unpredictability of oil prices. People in the industry, however, have long recognised the unique ability of satellite communications to enable communications and connectivity in faraway regions where oil exploration and production take place.

Murphy says: "It is unlikely that there will be wholesale abandonment of satellite communications networks, even in the face of unstable oil prices. The business benefits of satellite communications are clear and overarching, and there are no alternatives that could deliver comparable capability. In parallel, we at Globalstar continually roll out new usage packages including unbundled message plans and generous bandwidth offerings at market-beating price points."

It is clear that saving money is an issue, but according to Rasmussen, there are more factors at play.

He thinks the main challenge is the increase in data traffic being driven by operational needs and increasing crew requirements to exchange video, voice and data from the most remote areas. This is placing enormous pressure on networks.

He says another challenge that continues to grow is cyber-security.

"The oil & gas sector faces a high degree of risk due to the nature of the business. In addition

to this 'no mistakes' operational environment, the growing use of bandwidth by crew can introduce access points to a network not related to corporate operations, introducing cyber threats from a plethora of sources not cleared by the corporate cyber team. We have to consider all of the applications being used on the network and every part of the hybrid networks that serve remote operations will need to be secured for our customers.

"Intelsat understands the importance of securing a network in order to protect the valuable data being exchanged. We have invested considerable resources building a strong cyber posture, because our role in the world's infrastructure is very far-reaching and our customers receive this security overlay as part of the services we provide," he adds.

So what lies in store for oil rigs and satellite technology in the future?

> "Our goal is to reduce the cost of bit delivered, because we think this will open a host of new applications. Efficient, cost-effective communications support critical applications"
>
> **Marc Rasmussen, VP and GM, Mobility, Intelsat**

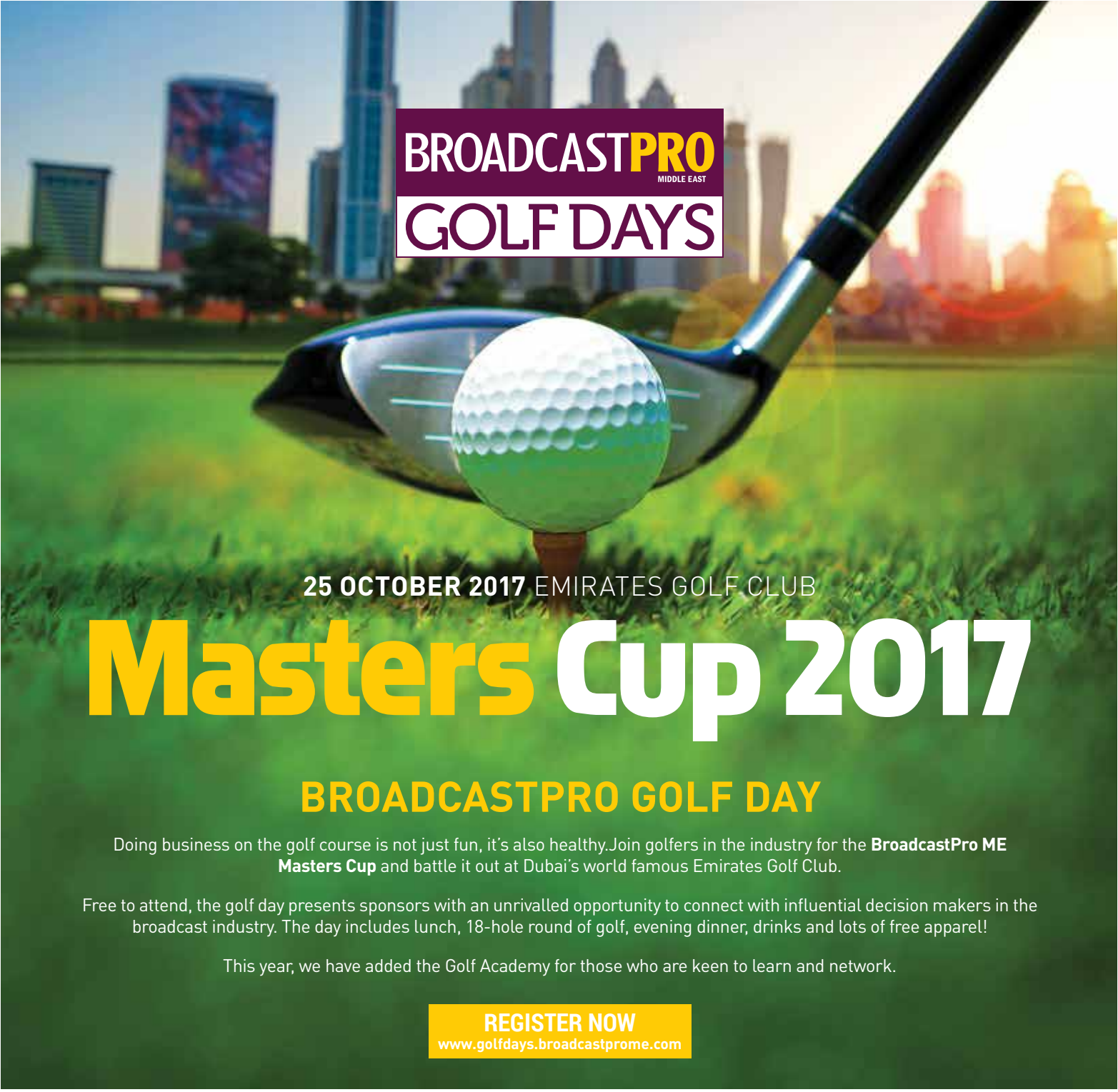
Manson thinks the digital oilfield continues to evolve; although there is a wide variation on data needs depending on end user requirements, these are expected to grow with time.

"The demand for new applications, which will allow the likes of real-time remote control and increased remote data analysis, means the need for high-speed and reliable satellite communications. These high data rate, reliable satellite services will assist in allowing offshore operators to continue drive efficiencies while improving safety on offshore installations," he says.

Rasmussen believes the future of oil exploration should be rethought.

"Given the massive change in the connectivity environment, perhaps exploration should start with a clean sheet of paper. If the engineers knew that significant quantities of highly reliable connectivity were available to operate an exploration operation, how would the design be different? How much more automation could be utilised? Could more analytical work be done remotely and in real time? These are the questions that are starting a new phase in exploration site design," he concludes. PRO

HTS is helping lower costs as well as allowing new applications to be used by crew.



BROADCASTPRO MIDDLE EAST

GOLF DAYS

25 OCTOBER 2017 EMIRATES GOLF CLUB

Masters Cup 2017

BROADCASTPRO GOLF DAY

Doing business on the golf course is not just fun, it's also healthy.Join golfers in the industry for the **BroadcastPro ME Masters Cup** and battle it out at Dubai's world famous Emirates Golf Club.

Free to attend, the golf day presents sponsors with an unrivalled opportunity to connect with influential decision makers in the broadcast industry. The day includes lunch, 18-hole round of golf, evening dinner, drinks and lots of free apparel!

This year, we have added the Golf Academy for those who are keen to learn and network.

REGISTER NOW
www.golfdays.broadcastprome.com

SPONSORS & PARTNERS

selevision

FOX NETWORKS GROUP

SPONSORSHIP
Raz Islam
raz.islam@cpimediagroup.com
+971 4 375 5471

INFORMATION
Ivana Pesic
ivana.pesic@cpimediagroup.com
+971 4 375 5470

BOUNDLESS CONNECTIVITY

Mark Rasmussen, VP and GM, Mobility at Intelsat, speaks exclusively with *SatellitePro ME* about how SOTM is changing with HTS and the introduction of more compact flat-panel antennas

How is SOTM changing with HTS?
The experience of implementing Intelsat Epic^{NG} and bringing it to our customers has affirmed our beliefs about the potential of HTS to unlock new opportunities. It is delivering higher performance and enabling the use of smaller and smaller antennas, which has a benefit for all types of mobility applications. For satcoms-on-the-move, Intelsat General has tested many small tactical terminals ranging in size from 45cm to 1.3m and achieved efficiencies up to 2.8bps per Hz. This is easily an improvement of two to three times over what we have seen on typical wide-beam satellites. Next-generation ground modems being rolled out this year are expected to achieve efficiencies up to 3.5bps per Hz on Intelsat Epic^{NG} satellites. Many of these antennas are designed for a new generation of small Class III Unmanned Aircraft Systems (UASs) that are coming into service for Intelligence, Surveillance and Reconnaissance (ISR) operations, and other non-military government and commercial applications.

What are some specific use cases in the maritime industry?
Satellite-based connectivity has always played a critical role for the maritime sector. Intelsat Epic^{NG} and other HTS platforms have helped maritime operators replace thinking of satellite connectivity as solely a necessary expense for crew welfare, and instead seeing it as a means of fully integrating their global fleets with onshore operations. The mindset created by years of having only minimal satellite bandwidth is now opening up to the possibilities of using satellites to gather valuable data for the analysis that can make operations more efficient. With broadband connecting ships, it isn't too great a leap to forecast a day when most ships' operations could be done entirely from shore-based operations centres.

For commercial shipping operators, it can keep vessels in constant communication with onshore offices, delivering real-time information on ship operations that can lead to improvements in fuel management, cargo care or route adjustments to avoid bad weather.

For cruise lines, HTS is meeting broadband requirements for passengers and supporting the operational data needs of ship owners. The typical family walks onto a cruise ship with up to seven connected devices. Passenger applications include web surfing, email, social media, gaming and video entertainment. And an equally capable return link is becoming more important, as passengers are now sending photos and video to social media along with downloading entertainment.

Being connected on flights is becoming essential to passengers. How do you see this trend evolving?
Anyone who has tried to connect to the internet from an airplane over the past couple of years has experienced the quality

progression of in-flight Wi-Fi. Passengers have gone from no connectivity initially, to having the ability to just exchange emails or view websites. Now, passengers expect to be able to access the entire web's content, including synchronising heavy files in the cloud and streaming their favourite TV show while remaining connected on social media. Two innovations in particular are driving this improvement. First, HTS platforms such as Intelsat Epic^{NG} can deliver the much larger volumes of data thanks to their multi-spot design. Second, the development of flight-optimised antennas, which together with new modems allows much more efficient and flexible use of the satellite spectrum while improving the craft's aerodynamics, and therefore its fuel consumption.

Intelsat and Gogo demonstrated the latest in onboard connectivity in early May during a two-hour flight out of Newark International Airport with a plane full of aviation and technology journalists. Gogo had equipped the airliner with its new 2Ku antenna and the latest generation satellite modem, all connected to Intelsat 32e. During the flight, the journalists connected 53 different devices to the internet, moving 29GB of data at speeds as high as 100Mbps while they used Facetime, Netflix, Facebook Live and other high-bandwidth services to test the capabilities of the system.

How is Intelsat's investment in Kymeta going to help develop flat-bed, more powerful antennas?
Kymeta is developing a flat-panel array system that can be used for multiple applications. Their 70cm flat-panel antenna is scheduled to go into production this year and will be critical for a variety of applications in the maritime sector. In addition, their smaller 20cm antenna will be perfect for the connected car. A car has a hundred million lines of code, which means that a simple software upgrade could be approximately 500MB – to hundreds of millions of cars. For customer convenience and cost-efficiency purposes of downloading these large files, it makes more sense to opt for satellite and the power of broadcast instead of a global mobile phone network. Kymeta's 20cm antennas, combined with the higher performance of Intelsat Epic^{NG}, offers car manufacturers a secure, highly efficient and more cost-effective solution for software upgrades.


Marc Rasmussen, VP and GM, Mobility, Intelsat.

> "Intelsat Epic^{NG} and other HTS platforms have helped maritime operators replace thinking of satellite connectivity as solely a necessary expense for crew welfare, and instead seeing it as a means of fully integrating their global fleets with onshore operations"
>
> **Marc Rasmussen, VP and GM, Mobility, Intelsat**

Can you tell me a bit about how civilian use of satellite internet differs from military use? What specifics do military clients need?
Military clients are generally very risk-averse and require a highly resilient and secure platform for the majority of their communications. Intelsat meets some of the most stringent security standards in the industry today. We meet and often exceed all US Department of Defense-mandated security requirements, and we are the only operator with an independent third-party accreditation of our security posture.

Where do you see the future of mobile satcom in the next 10 years?
We could see major breakthroughs over the next 10 years. Mobile satcom will be transformed by the benefits of high-throughput satellites and more effective hardware. Coupled with advances in shipboard monitoring systems and electronics, the move to autonomous operations will be accelerated. Hardly a month goes by without a new announcement of a partnership or initiative to test the latest advances in moving from the connected ship to the smart ship, as the autonomous technology has been called. Going a step further to smart ships, fully autonomous vessels offer many advantages. The most obvious is that crew can work onshore, operating the ships remotely,

rather than far out at sea in sometimes hazardous conditions. Another is that experts say the ships can be built more cheaply because crew spaces can be significantly reduced. More efficient remote operations can lower fuel use by better route planning, an advantage already being seen with connected ships that have navigation and engine management systems onboard.

Government users want higher data rates to push through high-bandwidth applications such as high-definition, full-motion video, and they want this throughput with small antennas that are inexpensive and have a low profile. This combination requires high-performance satellites like Intelsat Epic^{NG}.

Any challenges? How are you working to resolve them?

While the technologies for smart ships, for example, are advancing rapidly, a number of other challenges need to be overcome to fully take advantage of being able to connect ships to shore and even operate them without onboard crews. One is making sure that the onboard networks, the satellite connections to shore and the shore-based operations centres can't be hacked. With cyberattacks costing business an estimated $400 billion annually (and experts thinking that will quadruple by 2019), and Futurenautics reporting that crew members now take an average of three personal devices onboard the vessel, the risks of cyber criminals using the dark web to access private data, install malware or launch debilitating denial-of-service attacks become very realistic scenarios. Cybersecurity is becoming more of a challenge for all companies and individuals, as the recent case of the global ransomware incident so vividly illustrated.

When designing new services or making changes to installed systems, we view incorporating cybersecurity measures as a key part of the process. Satellite boasts vastly superior security aspects, offering a consolidated distribution opportunity that reduces cyberattack vectors by eight or nine orders of magnitude, when compared to cellular in terms of entry and exit points. And Intelsat is the only satellite operator that has gone through independent auditing firm KPMG and completed a Service Organisation Control 3 (SOC3) review of security controls. The architecture of the all-digital Intelsat Epic^{NG} platform, combined with our focus on satellite network security, provides a strong basis for hardening a network. We also believe it is our responsibility to assess our ecosystem partners with the same rigour that we look at everything else, as they are vital components when enabling services. As threats increase in sophistication, cybersecurity is crucial, and this is why we've integrated it in our road map to the future. PRO

THE GREAT ENABLER

A fast and reliable data connection between vessel and shore will transform the way operators run their businesses, says Jan Kragh Michelsen, VP, Cobham SATCOM

Advances in information and communications technology offer substantial opportunities for the shipping industry, and the transformation has only just begun. Perhaps this is why, despite freight rates coming under pressure due to fleet overcapacity and sluggish growth in international trade, the number of ships deploying VSAT broadband onboard has continued to increase over the last five years.

This enthusiasm would not manifest unless there were quantifiable economic benefits to going down the digital road. Dramatic improvements in the performance, reliability and usability of satellite communications at sea – the culmination of major investments by satellite operators and sustained innovation by terminal manufacturers — can also take some of the credit. It would be remiss not to also mention a wider shift to a digitally-enabled economy.

Antenna advances

The performance and capacity of satellite communication services now available to ships would have been considered unfeasible five years ago, and probably impossible as recently as ten years ago, from both technological and economic perspectives. Yet thanks to a new generation of high-throughput satellites and the enabling antennas onboard ships, vessels now have access to link speeds measured in the tens of megabits per second.

Successive satellite generations have demanded comparable developments in the capability of antennas on ships, and for Cobham SATCOM this meant the evolution of smaller hardware and standardised solutions, leading to compact and highly resilient antennas connecting to four tiers of Inmarsat services on L-band: A, B, Fleet and FleetBroadband.

Meanwhile, a plethora of antenna systems were created to function with C-band and Ku-band VSAT. The former, while highly reliable and weather resistant, were initially characterised by bulky, unstandardised and costly installations. Except in some niche sectors, these have gradually been superseded by smaller, more cost-effective Ku-band hardware.

Now, high-throughput satellites (HTS) operate on the even higher frequency Ka-band, which means antennas must be smaller and lighter still. Once again, Cobham SATCOM has responded to the need for greater standardisation to simplify and speed up installation roll-out on larger fleets, offering

SAILOR terminals operating over Ka-band for both VSAT and Inmarsat's Global Xpress networks. To ensure maximum coverage and redundancy, Ka-band systems normally come paired with a back-up L-band antenna. In the case of the Inmarsat Fleet Xpress service, for example, Cobham installations comprise one SAILOR GX and one SAILOR FleetBroadband user terminal per vessel, plus the network service device and system integration from the service provider. It is simply no longer acceptable for vessels to go offline.

With this in mind, it's worth noting that Cobham SATCOM is also revisiting more traditional means of communication at sea, not wholly dependent on orbital infrastructure. Adjacent to its efforts in advanced antenna design, some of our engineers are working on a VHF Data Exchange System (VDES) with a data speed of up to 300kbps (for comparison, FleetBroadband provides up to 432kbps). The new transceiver can operate terrestrially or over satellite, and can work point-to-point, multicast or broadcast.

The drive for data

In our experience, to date the major driver for connectivity at sea has been crew welfare. At a time when it is difficult to recruit and more importantly retain competent crew, vessel owners and operators see access to email and the web as a helpful bargaining chip. Moreover, it is widely believed that a happier crew is more productive.

However, the pendulum has recently been swinging in favour of operational efficiency as a driver for change. Owners and operators are increasingly looking to data to gain an edge over competitors in tough trading conditions. A reliable satellite connection can have a transformative effect both on day-to-day operations and at a strategic level, and I believe it is a catalyst for reducing the underlying cost base.


Jan Kragh Michelsen, VP, Cobham SATCOM.

> "The performance and capacity of satellite communication services now available to ships would have been considered unfeasible five years ago, and probably impossible as recently as ten years ago, from both technological and economic perspectives"
>
> **Jan Kragh Michelsen, VP, Cobham SATCOM**

It makes little financial sense to duplicate IT infrastructure on every ship in a fleet if a single centralised system on shore can fulfil this function. Condition-based monitoring of equipment such as engines and thrusters, to help optimise performance and schedule maintenance in a proactive manner, is an obvious candidate. Transmitting some or all of this data ashore allows shore-based experts to keep an eye out for anomalies warning of trouble ahead and to run more rigorous mathematical analyses than would be possible at sea. There's no reason this cannot be widened to include other major energy consumers, or even mission-critical hardware such as dynamic positioning on an offshore support vessel.

As the adage goes: you cannot manage what you cannot measure. The stream of readings also provides the raw data for carrying out trend analysis, necessary for subtler optimisations aimed at improving fuel efficiency, as well as gauging the performance of an individual vessel against others in the fleet.

Expect disruption

In all this, electronic communication and data are enablers in the process rather than ends in themselves. Smarter, more connected operations will likely pave the way for more radical technological changes down the line. On land, we see creeping automation, as industry adopts increasingly sophisticated robotic systems to carry out jobs until now done by people.

The prospect of a fully autonomous ship has also been suggested as the logical end point of this fervour for automation. The idea has stirred considerable debate within industry circles, with views on its feasibility polarised. Depending on who you ask, either it will arrive tomorrow, or never; but the idea is being taken seriously. Resilient, effective communication channels to shore will be indispensable if/when such vessels set sail.

Shipping could also be in the crosshairs of a new breed of digital entrepreneurs determined to disrupt established business

> "Owners and operators are increasingly looking to data to gain an edge over competitors in tough trading conditions. A reliable satellite connection can have a transformative effect both on day-to-day operations and at a strategic level, and I believe it is a catalyst for reducing the underlying cost base"
>
> **Jan Kragh Michelsen, VP, Cobham SATCOM**

Major drivers of maritime connectivity include crew welfare and operational efficiency through data exchange between the vessel and base.

models and practices. After witnessing what Airbnb is doing to the hotel business and Uber is doing to the taxi business, such a prospect may be unsettling, because a common trait among such high-profile market disruptors has been their aversion for owning assets as they scale up data.

There are countless start-ups looking for a route to break into the maritime business to make their millions. Most are focusing on finding a way to flatten the tangle of relationships between freight forwarders, charterers and other intermediaries.

Major e-commerce players are thinking along similar lines. Last year, web retailer Amazon's China arm registered as an ocean freight forwarder, in a bid to take more control over shipping products from Chinese factories to US shoppers. E-commerce giant Alibaba has announced a string of partnerships with major shipping lines so that customers can reserve space on ocean vessels online, cutting out freight forwarding middlemen and opening pathways to global markets.

Whether or not such moves mark a fundamental shift, they send a clear signal to the maritime business that it is not insulated from the digital revolution. Instead of fearing it, the industry should embrace it, be prepared and seize the opportunities it offers. PRO

THE ALLURE OF LEO

Ronald van der Breggen, Chief Commercial Officer, LeoSat Enterprises, speaks exclusively with ***SatellitePro ME*** about how low-Earth orbit satellites are becoming a key differentiator for telecoms services

How is satellite now becoming relevant for telecom market development?

In terms of network deployment, mobile operators typically have four options for standard backhaul connectivity: copper, fibre, microwave and satellite. Previously, mobile operators looking for service expansion in more remote areas found solutions by complementing the terrestrial network in urban areas with satellite service for the semi-rural and rural locations. This has allowed them to expand to previously unconnected areas.

Growth for mobile operators in coverage areas and services has led to increasing bandwidth demand. This has developed to a point where satellite could not provide the solutions. Alternatives were found in microwave solutions, or in urban areas fibre was used as a backhaul. While this certainly addressed the issue of capacity, it also introduced new obstacles: long lead times to install, which was particularly an issue with customer implementations, and high up-front costs.

Now, with the new developments in LEO satellite constellations, there is a better alternative for [mobile] telecom operators in search of growth and customer network implementations. Far from being the last choice for network connectivity when terrestrial infrastructure is not available, LEO will change the perception of satellite for telecoms services as it offers the benefits of high speed, low latency and rapid deployment, and with it previously unavailable levels of network performance combined with worldwide reach.

What impact does the enormous growth in data creation and usage have on telecom services, and how is the satellite sector responding?

It is clear that the world is increasingly inter-connected, cloud-based and data-driven, creating an ever-growing demand to move large quantities of data quickly and securely around the globe. With the need for instant infrastructure and a new broadband paradigm, there is a clear focus in the satellite sector on offering better data services.

In the satellite sector, traditional GEO satellite operators are adding power to their spacecraft to facilitate high-throughput capabilities (HTS), further facilitated by deploying spot beams allowing that power to be more concentrated in smaller areas. To further improve data services, latency must be reduced as well, which has led to the (planned) deployment of constellations in lower orbits: MEO (12,000km –


An artist's impression of a Low Earth Orbit satellite.

> "Now with the new developments in LEO satellite constellations there is a better alternative for (mobile) telecom operators in search of growth and customer network implementations"
>
> Ronald van der Breggen, Chief Commercial Officer, LeoSat Enterprises

latency within beam 135ms) and new-generation constellations are being prepared for even lower orbits such as LEO (1,200-1,500 km). The lower orbit allows high throughput and latencies (within beam) below 30ms.

The newest innovation is adding inter-satellite connections that allow low latency on long distances (> 6,000km). Using this architecture, which is fundamentally different from satellite's traditional 'bent-pipe' architecture, there is no need to downlink to gateways to terminate traffic. If beyond the inter-satellite links the space is also equipped with routing and switching capabilities, then a direct point-to-point spatial MPLS network can be deployed in a very short timeframe. With these capabilities, native IP is supported in an MPLS configuration.

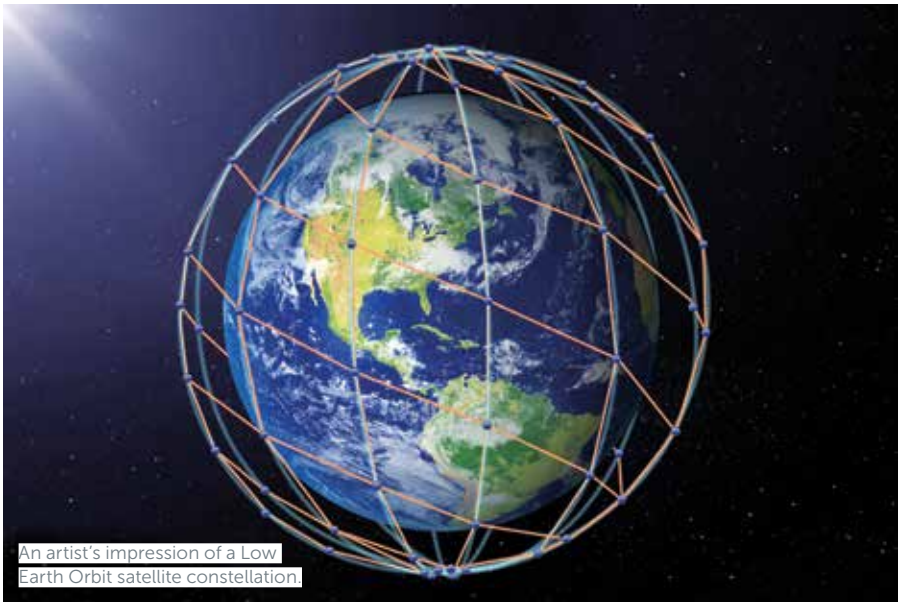
LeoSat Enterprises is preparing to launch this type of constellation to offer high-throughput low latency link services (HTS-LoLa). The LeoSat solution can deliver 1Gbps (combination of links up to 10x is possible) with latency below 30ms for domestic links (within the satellite beam area). For distances above 6,000km, the total latency is better than the capabilities offered via fibre connections. This is the result of the lower propagation delay of the signal in free space than through fibre.

Traditional satellite (GEO) links have a domestic latency of around 500ms. The latest generation MEO (medium-Earth orbit) is closer to Earth and can therefore achieve better latency (130ms) when compared to GEO satellites. The LEO constellations are even closer and are therefore in a position to operate with latency below 30ms.

What do you see as new opportunities for telecom operators?

The focus on growth for mobile operators has been targeted at growing the size of the coverage areas and the size of the addressable market, with new services introduced to increase usage and revenue per subscriber. Now, one of the key drivers for maintaining the customer base and ARPU is customer experience and expanding where possible with the new generations of telecom standards (4G, LTE, 5G).

For existing and emerging market telecom operators, LEO offers latency, timing and transport that complies with the network standards of newer 4G, 5G and LTE cellular systems. With the continued growth in internet use, streaming media, mobile apps and IoT, the low latency of the LEO


An artist's impression of a Low Earth Orbit satellite constellation.

www.gitexfuturestars.com

GITEX FUTURE STARS

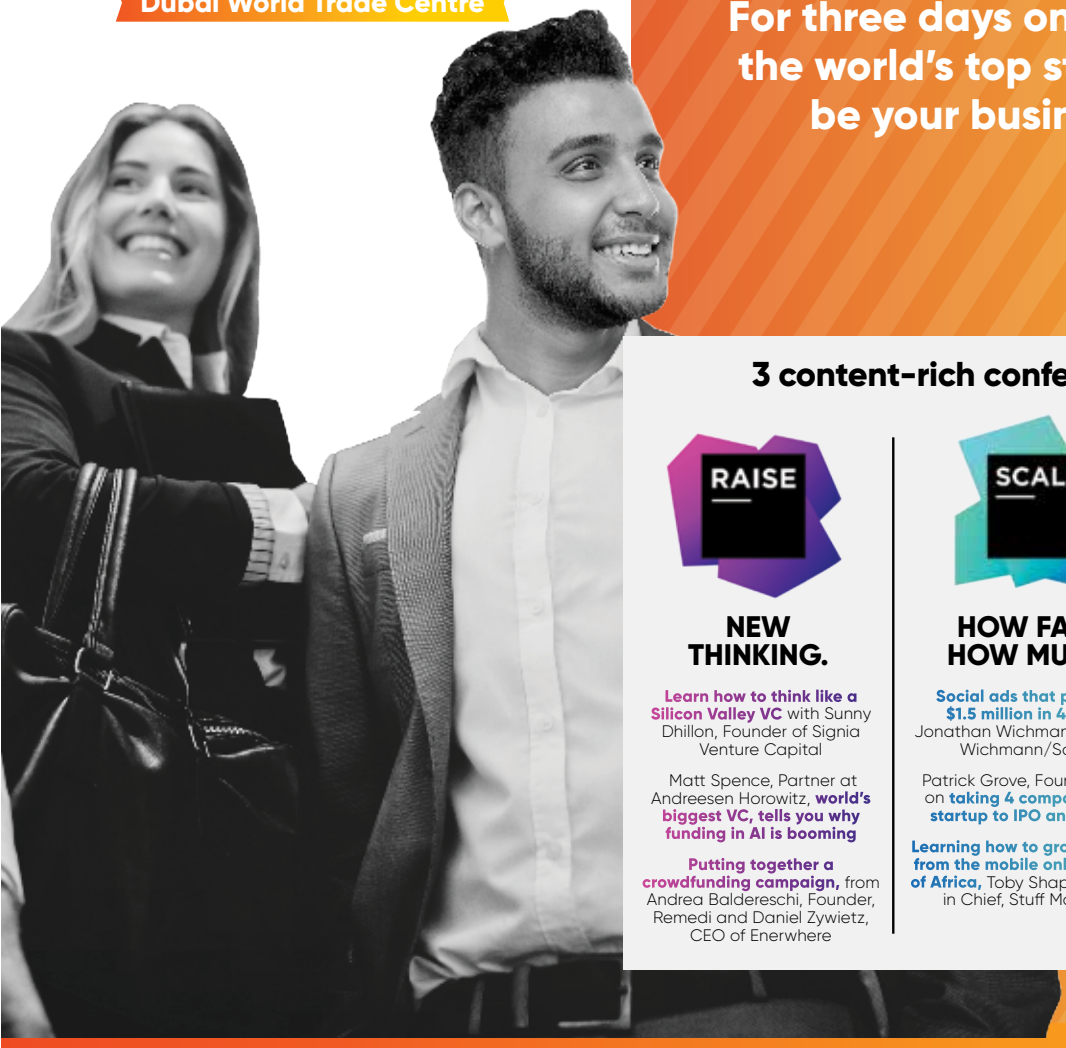
Startups.
Dream Makers, Rule Breakers
& Game Changers.

8-12 Oct 2017

Dubai World Trade Centre

Dubai in Conversation with 150+ Global & Silicon Valley Leaders

For three days only, we're bringing the world's top startup experts to be your business advisors.



3 content-rich conferences covering:

RAISE

NEW THINKING.

Learn how to think like a Silicon Valley VC with Sunny Dhillon, Founder of Signia Venture Capital

Matt Spence, Partner at Andreesen Horowitz, **world's biggest VC, tells you why funding in AI is booming**

Putting together a crowdfunding campaign, from Andrea Baldereschi, Founder, Remedi and Daniel Zywietz, CEO of Enerwhere

SCALE

HOW FAST, HOW MUCH.

Social ads that pooled in $1.5 million in 4 weeks, Jonathan Wichmann, Founder, Wichmann/Schmid

Patrick Grove, Founder of iflix, on **taking 4 companies from startup to IPO and beyond**

Learning how to grow business, from the mobile only continent of Africa, Toby Shapshak, Editor in Chief, Stuff Magazine

DISRUPT

WHAT'S NEXT.

Explore how blockchain can liberate the music industry with Benji Rogers, Founder of PledgeMusic

The journey of foldable smart scooters – **from crowdfunding to selling on Amazon**

Say hello to **Nadia, an emotionally intelligent chatbot** built by Soul Machines

Save AED 600! Book with promo code STARS
Visit www.gitexfuturestars.com/SPConfReg

Organised By

Co-Located with

Official Travel and Tourism Partner

Collaboration Partner & Innovation Cup Sponsor

Startup Robotics Sponsors

Best Arab & African Startup Sponsor

Entrepreneurship Enabling Sponsors

Talent Partner

Official Investment Media Partner

Event Partners

Knowledge Partner

Investment Knowledge Supporter

Startup Movement Supporter

Official Business Publication

Official Business Website

systems offers telecom operators an attractive alternative to the high latency of GEO systems.

The first opportunity we see is backhaul towards remote locations. Satellite services are used to support revenue development in remote areas until lower cost alternatives such as microwave solutions for rural or semi-rural areas or fibre for urban locations become available. With the development of HTS satellite solutions, these more remote areas will now also be able to enjoy mobile services beyond 2G. The continuously growing demand, typical for the mobile industry with its growing penetration rates of smartphones, will require mobile operators to further expand their capacity.

There is also backhaul towards mobile base stations. A typical network has base stations in fixed locations. Specific (large) customer requirements could be served through a local infrastructure that is (semi-) mobile, such as open mining sites which are moving during the course of operations. Very often the large-scale operations employ a workers community that is large enough to make a viable business case for mobile operators. Using a satellite link, mobile operators can now consider moving their backhaul capacity along with the base stations as part of changing the location of the operation.

Another important opportunity is for event-ready backhaul and seasonal hotspots. In support of specific events or busy seasons when a surge in capacity is expected, mobile operators have used cells on wheels (COWs) to cover for this. For concerts, sports events, etc, the customer expects the same quality of service as he normally receives, arguably even more, given that more online interaction with social media is to be expected during such events. These high expectations can be met using a satellite link that can backhaul large amounts of traffic. On top of that, these satellite services can be deployed rapidly, totally fitting the nature of these events.


Ronald van der Breggen, Chief Commercial Officer, LeoSat Enterprise.

> "LeoSat's 'backbone in space' will provide a new data architecture capable of responding to high bandwidth demand and flexible 4G and 5G technologies"
>
> **Ronald van der Breggen, Chief Commercial Officer, LeoSat Enterprises**

Service hubs is another prime area for a satellite solution with low latency and high throughput. Mobile operators that operate in different markets often centralise provisioning services or price plans and real-time charging. Using the very low latency offered by LeoSat, the location of the service centre can be completely flexible. Centralising for rapid deployment is one aspect. Redundancy and fast recovery when something goes wrong in one specific location is another. This can be achieved by having two service centres operating as fully redundant operations.

Business customers and enterprise backhaul are important sectors where telecom operators offering ICT services to larger business customers have also used mobile networks to provide data access services in specific verticals. To grow the service revenue from this developing business segment, more high-throughput services cannot be provided via existing 3G/4G networks, as this leads to service degradation mostly felt by consumers at the business locations. Operators are finding alternatives in local point-to-multi-point wireless solutions.

Lastly, edge caching support in semi-rural areas is key to optimising both trunking and backhaul capacity. Growing into LTE and later towards 5G in dense areas, caching even closer to the customer will be required to meet the quality of service expected. This will bring new bandwidth challenges and as such opportunities for satellites to create specific hotspots with flexible, high-quality backhaul characteristics.

What does the future hold?

Looking at the different solutions available today and the expected developments in the mobile industry via LTE to 5G, a LEO satellite solution combining the good things fibre has to offer – speed and capacity – with the good things satellite has to offer – rapid deployment, ubiquity and security – will become a key differentiator. With existing and emerging market telecoms operators seeking a sustainable growth path, LeoSat's 'backbone in space' will provide a new data architecture capable of responding to high bandwidth demand and flexible 4G and 5G technologies. PRO

BROADCASTPRO MIDDLE EAST SATELLITEPRO MIDDLE EAST

PRO50

TOP 50 COMPANIES YOU NEED TO KNOW

PRO50 has all you need to know about the top players in the region's broadcast and satellite market. A compilation of profiles of 50 broadcast and satellite companies in the GCC, the hardback coffee table book is a valuable resource for not only business entities but also customers looking for a ready reckoner of key industry players.

- Print run 15,000 copies
- E-version
- Four pages company profile
- Seventh edition

For Advertising opportunities, contact:

Raz Islam
Publishing Director
Tel: +971 4 375 5471
raz.islam@cpimediagroup.com

Sandip Virk
Group Sales Director
+971 50 929 1845
sandip.virk@cpimediagroup.com

Lionel Matthews
Sales Manager
+971 55 775 8927
lionel.matthews@cpimediagroup.com

E-marine restores EASSy subsea cable

SUBSEA CABLE

E-Marine, a company specialising in submarine cable installation, repair and maintenance has successfully restored the 10,000kms underwater 'EASSy' cable that runs the length of Africa's east coast.

The EASSy cable (Eastern Africa Submarine Cable System) was out of service as it was damaged of around 4kms offshore Mogadishu, Somalia. E-Marine played an integral role in restoring the service by conducting the required tests and an in-depth analysis of the fault location.

CS Maram, the first green cable ship was deployed to conduct the repair in a rugged terrain with adverse monsoons and wind speeds touching nearly 100km/hr and waves reaching a height of 8-9 metres. CS Maram is the best-in-class cable ship today designed to manage the installation and maintenance of all types of submarine cables, including fibre optic telecommunications cables and energy cables.

Omar Jassim Bin Kalban, Managing Director and Chief Executive Officer of E-marine.

Omar Jassim Bin Kalban, Managing Director and Chief Executive Officer of E-marine said: "E-marine is committed to provide world-class service to its clients and maintaining their cables in proper order. Since we are strategically located in the region, and have specialized submarine cable equipment and infrastructure, we offer repairs in the quickest possible time to ensure fast restoration of the affected cable. This operation proves that E-marine is committed to offer world-class repairs in the most efficient and timely manner to clients based across the region."

E-marine is part of Etisalat Services Holdings, part of Etisalat Group companies incorporated in 2007, currently comprising of seven portfolio companies focused on non-core telecom services with clients across emerging as well as developed markets.

The company has a fleet of four fully equipped cable ships, one Multi-Purpose Vessel and a special purpose vessel.

Bahrain improves QoS for mobile data

QUALITY OF SERVICE

Bahrain's Telecoms Regulatory Authority's (TRA) Broadband Quality of Service Report for the first half of 2017 notes a rise of LTE mobile data performance across the sector from Q1 to Q2 2017. Where average performance dropped to 16.6Mbps in the first quarter, averages rose back to 23.4Mbps in Q2 2017.

"We noticed an overall performance drop of nearly 26% between Q4 of 2016 and the first quarter of this year, and are glad to see that data performance has bounced back," said Ahmed Bin Isa bin Duaij Al Khalifa, TRA's Manager of ICT. "This report is published regularly to keep consumers informed of the most current performance conditions in their areas. Consumers can also expect that we are in the process of publishing an updated regulation on the quality of service, to ensure users enjoy the best service possible."

The broadband report includes several technical indicators for the use of wireless and wired broadband services that will provide residential consumers and businesses with information to determine which service provider is best suited to each consumer.

The average HTTP download speed for regular, fixed-line residential packages performed at an average of 6.5Mbps, remaining unchanged between Q1 and Q2 of 2017. High-speed residential packages, on the other hand, have had varied results. 8Mbps packages rose to 13Mbps on average in Q2, compared to 7.7Mbps in Q1, while 25Mbps packages slightly dropped to 22.3Mbps on average compared to 24.3Mbps in Q1, and 100Mbps packages dropped to an average of 88.2Mbps in Q2, compared to 94.1Mbps in Q1.

MTS trials Licenced Assistance Access

TELECOM TRIALS

MTS and Qualcomm Technologies have conducted the first successful live trial with a commercial small cell product of Rel-13 Licensed Assisted Access (LAA) technology in Russia. The demonstration was conducted in an MTS test lab over a live network and used Ericsson's Pico RBS 6402 small cell and a Qualcomm Snapdragon X16 LTE mobile test device. With LAA, data speeds are boosted using unlicensed spectrum together with licensed spectrum.

The amount of licensed spectrum is limited, and the need for spectrum is huge. The latest Ericsson Mobility Report forecasts that smartphones will be using 11GB of data a month by 2022. This puts enormous strain on operators to meet customer demands in mobile connectivity.

Du welcomes Zain staff for Exchange Programme

PARTNERSHIPS

Du welcomed two Saudi Zain Telecom employees to its offices in Dubai as part of the Exchange Experience Programme between the two telecom providers announced last November. In line with the programme, Ibraheem Gharwi, Training and Quality Assurance Manager and Yazeed Alsalmi, VVIP Contact Centre Manager at Zain had a unique opportunity to experience du best practices and indulge in knowledge sharing sessions with du employees, in addition to the field visits to du Call centers in Fujairah and retail shops.

"As we move towards achieving Vision 2021 goals of building a competitive economy driven by knowledgeable and Innovative Emiratis, cooperation amongst various industry partners becomes an imperative for achieving excellence and ensuring that we deliver best practices and add value to our customers," said Ibrahim Nassir, Chief Human Capital and Administration Officer at du. "Last year two of our colleagues from du travelled to Saudi Zain Telecom, they were given the opportunity to further enhance their skills, as well as the communication and interaction between our two companies. Today, we hope to offer Saudi Zain Telecom a similar experience; while simultaneously enhancing both companies' creativity and innovation throughout our operations."

This is the second exchange experience that has occurred since the MoU between the two parties was signed in Q3, 2016.

Du welcomes Zain staff for second exchange programme.

Ericsson may lay off nearly 25,000 staff

FINANCIALS

Ericsson may lay off around 25,000 employees outside Sweden as part of its savings programme, according to Reuters, citing unidentified sources at the company. Ericsson said in July that it would accelerate measures to meet a target of doubling its 2016 underlying operating margin of 6%, and that it aimed to reach an annual cost reduction run rate of at least $1.2 billion by mid-2018. The firm said action will be taken primarily in service delivery and common costs, while research and development will be largely unaffected.

The company faces mounting competition from China's Huawei and Finland's Nokia, as well as weak emerging markets and falling spending by telecoms operators, with demand for next-generation 5G technology still years away.

Ericsson has around 109,000 employees.

Top Saudi students complete Huawei's ICT programme

EDUCATION

The third cycle of Huawei's global CSR programme for top Saudi students, Seeds of the Future, has recently culminated in China. Launched in collaboration with the Communications and Information Technology Commission (CITC), Huawei Tech Investment Saudi Arabia's initiative aims to cultivate future Saudi ICT leaders who will carry on the responsibility of the anticipated digital transformation, a key pillar of the Saudi vision.

During the two-week educational trip, the students visited facilities throughout Beijing and received extensive training courses at Huawei's state-of-the-art laboratory in Shenzhen.

HE Dr Abdulaziz Bin Salem Al Ruwais, Governor of CITC, explained: "The Kingdom is continuing to invest in its citizens in order to achieve our Vision 2030 goals and establish a vibrant, tech-savvy citizenry and knowledge-based economy. The CITC is very proud of the work we do with Huawei, and happy that yet another round of students has been exposed to technology and knowledge that will assist them in securing a bright future for both themselves and their nation."

While in China, the students were received by Saudi Arabia's Ambassador to China, HE Turki bin Abdullah Al Madhi, who was excited to hear about the young Saudis' experiences: "So far, 34 of Saudi Arabia's top students have benefited from this world-class programme. When I met them, they beamed with excitement, having been exposed to and trained on technologies and concepts that will serve them well as they enter the workforce and begin the path to becoming the Kingdom's future ICT leaders and innovators."

Top Saudi students were trained in Huawei's 'Seeds of the Future' programme.

Djibouti Telecom signs contract with France IX

PARTNERSHIPS

Djibouti Telecom has signed a contract with France-IX, the leading internet exchange in France, to peer its IP traffic through France-IX's IXPs in Paris and Marseille.

With this agreement, Djibouti Telecom enhances its network performance for its customers by decreasing latency on its IP network.

For Djibouti Telecom's network customers, this will deliver a significant improvement in quality of service, with faster and more stable access to a large amount of French-language content.

The France-IX internet exchange platform connects several hundred telecommunications operators, service providers and content delivery networks that have significant traffic in France.

SKY chooses Bwtech's NetChart

PARTNERSHIPS

Pay-TV operator SKY in Brazil operates an LTE network in 23 of 26 Brazilian states and the Federal District. After analysing the various solutions available in the market, SKY chose Bwtech to implement an end-to-end vision of its 4G network.

On a single platform, SKY engineers can quickly and easily monitor all network elements, from access and backhaul to core elements. Equipment from different vendors is monitored through a user-friendly, flexible interface.

"NetChart is the kind of solution which network engineers are always looking for and rarely find," said Isidoro Ferret, Director of SKY Broadband Engineering. "All data on the network is imported automatically and transparently, and we visualise everything in a single interface."

Ferret points out that the advanced parameter check features, logical alarms and quality indicators help SKY optimise its LTE network: "With NetChart, our engineers detect more problems with greater agility. We gain in productivity and the result is a faster and higher quality network."

Ericsson joins consortium led by Zain

PARTNERSHIPS

Ericsson has become a member of a consortium led by the operator Zain in Kuwait to carry out a large digital transformation project for local utilities. The project will be completed by 2024 and as the sole technology partner, Ericsson will deploy a new smart metering solution.

Ericsson joins consortium led by Zain in Kuwait to carry out a digital transformation project for local utilities.

The enterprise and cloud billing solution implemented by the consortium will make it easier for the Ministry of Electricity and Water to collect revenue and distribute energy consumption over time. It will also improve the accuracy of invoices and give customers access to real-time usage information. Around 800,000 new smart meters for electricity and water will be connected over Zain's upgraded infrastructure.

Furthermore, the Multiservice Delivery Platform will help digitise channels for consumer interaction, offering personalised and user-friendly services for all types of devices through self-service portals. Additional Ericsson solutions will provide important features for areas such as customer care, post- and prepaid services, performance management, event planning and analysis of network data.

Wojciech Bajda, Head of Customer Unit Zain, Ericsson, said: "We have worked closely together with Zain Kuwait from the start of this digital transformation initiative, and we have made a long-term commitment to enable new revenue streams. We really look forward to being part of this project and to helping develop the smart city infrastructure."

Ericsson will also provide a range of managed services for improved network operations and security, and for Internet of Things applications.

Nokia broadens focus on 5G FIRST

TECHNOLOGY

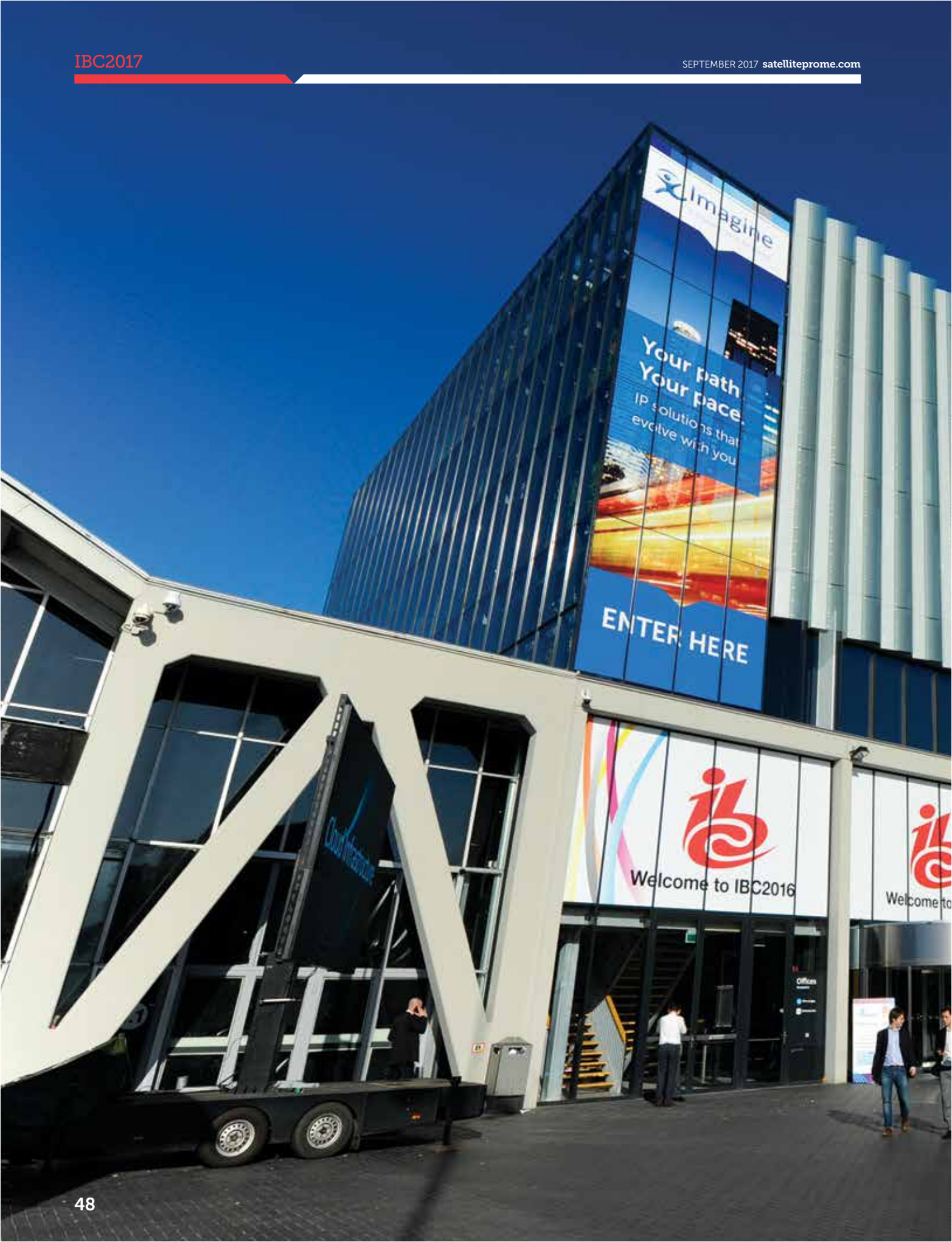
Meeting growing customer interest in 5G, Nokia is broadening its focus into multiple areas of early 5G mobility use cases, including enhanced mobile broadband and ultra-reliable, ultra-low latency communications. Nokia will push for accelerated 3GPP industry standardisation while building on early customer experiences with its Nokia 5G FIRST end-to-end solution, launched in February at Mobile World Congress.

With clear interest for 5G mobility applications already emerging from operators, notably in markets like the US, China, Japan and South Korea, Nokia will implement early 5G specifications, enhancing 5G FIRST with the 3GPP 5G Phase I protocol. This 5G NR (New Radio) air interface standard, due at the beginning of 2018, is designed to support a wide variety of 5G devices and services.

Nokia will continue to evolve and expand 5G FIRST as an end-to-end solution designed to drive broader market adoption of 5G via both mobility and fixed applications, as well as testing multiple 5G use cases. The company is building on extensive field experience already gained with Nokia 5G FIRST, which has generated valuable insights into areas such as use of radio propagation in higher frequencies, massive MIMO and beamforming, integration with existing networks versus standalone implementations, the use of small cells in 5G deployments, and the importance of cloud-native core and cloud RAN technologies.


Marc Rouanne, President of Mobile Networks at Nokia.

Marc Rouanne, President of Mobile Networks at Nokia, said: "There should be no doubt about the huge potential of 5G. Through 5G FIRST, Nokia is evolving its 5G strategy to drive the industry rapidly towards the adoption of standards-based commercial applications – as early as 2019."


Imagine
Your path.
Your pace.
IP solutions that
evolve with you
ENTER HERE
Welcome to IBC2016
Offices

AMSTERDAM BOUND

A sneak peek at what some key exhibitors will be showcasing at IBC, which will take place from September 14-19

WORK Microwave expands A-series range

At IBC2017, WORK Microwave will demonstrate the latest enhancements to its satellite technologies portfolio, including a new high-performance DVB-S2X demodulator for transport stream applications. Using WORK Microwave's analogue and satcom solutions, operators can dramatically increase flexibility, bandwidth and margins while reducing operational costs.

WORK Microwave will launch its AR-61 demodulator at the show this year.

The company is expanding its A-series IP modem, demodulator and modulator family at IBC2017, with the introduction of the all-new AR-61 demodulator for transport stream applications.

Newtec brings Dialog 2.1 and other technology to IBC

At IBC2017 Newtec will showcase version 2.1 of Dialog, which allows operators and service providers to leverage the power of IP and offer a variety of services on a single platform, while providing a solution to the most common challenges faced by broadcast crews.

The platform allows the satellite link to dynamically scale to higher bandwidths when terrestrial bandwidth becomes congested, while Newtec's Mx-DMA technology combines the flexibility of MF-TDMA and the efficiency of SCPC, avoiding the problems of satellite link outage, packet loss and space segment fragmentation.

The higher bitrates required to deliver 4K and ultra-high definition mean increased efficiency gains will be crucial as service providers look to make the most of their current equipment. Channel bonding is one such method of optimisation, using the DVB-S2X transmission standard.

Dejero CellSat improves remote broadcasts

Dejero announced a partnership with Intelsat to provide broadcasters with a new blended cellular and Ku-band IP solution for live television coverage from remote locations.

Dejero CellSat leverages Dejero's patented network blending technology to combine cellular connectivity from multiple mobile network carriers with Ku-band IP connectivity provided by Intelsat.

This gives CellSat users the required bandwidth and greater confidence to go live from virtually anywhere. If the bandwidth available from cellular connections dips due to network congestion or other factors, CellSat automatically blends in Ku-band IP satellite connectivity to boost bandwidth to the requested level for the live shot.

"We are addressing the dilemma that broadcasters face about which video transport assets to deploy to a news story or live event," explained Bogdan Frusina, founder of Dejero. "By taking advantage of cellular and satellite connectivity, CellSat offers high reliability to our customers, with the convenience of procurement, network management, billing, and support from a single vendor. This is a package that is currently unmatched in the marketplace."

AVIWEST introduces AIR series

At IBC2017, AVIWEST will showcase AIR300 and AIR320, the first two products in its AIR series of high-end, powerful, ultra-lightweight video uplink systems. Integrating best-in-class H.265/HEVC hardware encoders, the series enables flawless HD and SD encoding and exceptional video quality delivery.

Featuring up to four cellular connections, an internal Wi-Fi modem, an internal battery and AVIWEST's SafeStreams technology, the AIR series allows broadcasters to seamlessly stream live video and store and forward recorded content even during unpredictable and unmanaged network conditions. This new transmitter series is the perfect tool for on-the-go video professionals who need lightweight, portable, versatile video solutions.

AVIWEST's HE4000 4K Ultra HD (UHD) HEVC live encoder is ideal for real-time delivery of live UHD or HD content over unmanaged IP networks. The compact, half 1-RU encoder combines 10-bit and 4:2:2 HEVC encoding with the latest generation of SafeStreams technology for delivery of live video content over IP at low latencies and bitrates.

The HE4000 will be demonstrated with the latest version of the StreamHub transceiver and decoder platform, offering integrated 4K UHD HEVC recording and decoding functions.

Utah Scientific's 400 series 3 explores IP for real-time media

Utah Scientific will be participating in the IP Showcase at IBC2017, which brings together the AES, AIMS, AMWA, EBU, IAMB, MNA, SMPTE and VSF to deliver a one-stop destination where visitors can learn to unlock the full potential of using IP for real-time media. It will show the latest developments in its 400 Series 3 hybrid router, and will be one of more than 40 vendors working together to demonstrate real-world IP interoperability.

Utah Scientific's new 400 Series 3 hybrid digital router features a flexible platform designed to accommodate next-generation IP signals along with today's high-density SDI. All within a common frame, the 400 Series 3 can handle any number of IP and SDI signal formats along with audio and data. The new SMPTE ST 2110 and SMPTE ST 2022-6/7 IP formats are supported, together with 3G SDI, analogue, HD, SD and audio signals including analogue, digital AES3, MADI, TDM and AES67.

The 400 Series 3 offers the flexibility of 288 I/Os of standard SDI signals, with in-frame conversion of all signals to SMPTE ST 2110 or ST 2022-6/7 IP, and vice versa.

GCXN uses public internet for distribution services

At IBC this year, Globecast will be showcasing Globecast XN, which will use the public internet for distribution, disaster recovery and monitoring services. This manages the transport of broadcast and media services over the public internet. Allowing very rapid deployment, it enables customers to create and then distribute content wherever they may be.

GCXN is used for primary and secondary distribution with broadcast-grade quality. It comes as a standalone service or as a complementary solution to satellite services.

It can also be used for disaster recovery and monitoring of video services. Using the public internet, GCXN has universal reach that is secure and reliable.

Globecast will also be showcasing its new Media Manager Platform. The new integrated platform enables customers to clip, edit and publish high-quality content instantly across multiple outlets. Customers can create video-on-demand files from live streams and syndicate to multiple online services and across social media.

Globecast's intelligent media management system automatically allows content owners to increase viewer/follower engagement, grow their audience and introduce new monetisation models.

Megahertz touts VSAT- equipped OB vehicle

Megahertz Ltd has announced that a state-of-the-art fast response news-gathering outside broadcast (OB) vehicle will take centre stage at its stand (12.F20) during IBC2017. The featured truck is one of more than 25 vehicles that Megahertz has delivered to a major broadcaster to replace its entire news fleet. It supports quick, simple and reliable on-location content acquisition, editing and transmission for live broadcast missions.

Journalists using the mobile unit can gather content via small handheld cameras or the onboard ENG camera, or source it from other news crews in a mix of file formats. Audio and stills can also be gathered via iPhone or iPad and edited and transferred through the van.

The long-wheelbase Mercedes Vito Dualiner with auto transmission can accommodate a driver and a passenger, along with an extra 100kg of broadcast equipment. It enables the reporting teams to carry out live broadcast-quality video contributions to a variety of destinations, via satellite connectivity.

On the roof, a VSAT satellite-based IP connection can easily be switched between Ku-band and Ka-band. The truck is also fitted with bonded cellular connectivity via a 3G/4G cellular roof-mounted IP connection.

Enensys' OneBeam V2 supports DVB-T and T2

ENENSYS will be showing V2 of its OneBeam technology. This system provides the ability to use a standard satellite DTH network to also distribute services to DVB-T/T2 or ISDB-T transmitter sites, saving very significant operator costs. It allows customers to benefit from two important upgrades: it is unified version that supports both DVB-T and DVB-T2 networks, and it also provides the ability to create a terrestrial mux from multiple rather than a single satellite.

The first upgrade is important for networks moving from DVB-T to T2 where there is simulcasting using the two standards, as migration occurs from one to the other. OneBeam V2 allows both DVB-T and DVB-T2 terrestrial services to be created from the satellite feeds.

Content can be taken from different transponders to create the terrestrial service. It's often the case that national services are delivered from one satellite and regional services from another.

Hiltron's Super-HMAM now survives storm conditions

Hiltron Communications has chosen IBC2017 as the venue for the introduction of the Super-HMAM large-capacity motorised antenna mount.

"Produced for two-way VSAT communication or receive-only downlink applications, Super-HMAM was originally developed for a major German customer and is now being added to our catalogue," comments Hiltron Managing Director Jan Molter. "It accommodates satellite transmission antennas of up to 4.9m diameter, compared with the 2.7m maximum antenna capacity of the standard HMAM. Integral to Super-HMAM is a newly developed support structure which can survive the storm conditions experienced at high-altitude relay and transmission locations, where wind speeds can exceed 200km/hr."

RESOLVING INTERFERENCE

Martin Coleman, Executive Director, the Satellite Interference Reduction Group, explains how advancements in technology are helping mitigate interference for broadcasters

As much as OTT delivery is booming, demand for satellite is still high, and much of the broadcasting done across the globe is still very dependent upon it. But interference is the problem that won't go away – something the satellite broadcast industry faces every day, and which inevitably effects the user experience and the generation of revenue. Interference is a global issue, and way back in 2013 one of our surveys conducted in partnership with Newtec found that over half the industry suffers from its effects at least once a month.

Excellent advancements in technology, from the ground to the satellite, are beginning to show promise in terms of prevention and, in most cases, solving interference.

Interference and the Broadcaster

There are some who might say that interference is not as much of an issue as we believe. Indeed, not many cases of interference are ever reported to our regulators. So how do we know? Well, the statistics tell us, but equally, the satellite operator is the only entity that can detect and resolve it in the first place.

All operators are strategically

the best in the game to resolve all forms of interference and as such invest heavily in both manpower and technology, to stay ahead and keep the satellite industry at the top of the communications sector. In general, the only instance in which reports are made is in the case of deliberate jamming, and the operator usually resolves the issue for the affected client.

For broadcasters, it's imperative that interference be resolved as quickly as possible. So let's take a quick look at the factors surrounding interference and the broadcaster.

Most broadcasters have bouquets of services transmitted together. One of the most disruptive factors of interference is that every service transmitted within that one multiplex will be affected. This means that just one incidence of interference can result in the loss of several services, severely affecting the business operation of broadcasters. For those operating in the Middle East, this only serves to increase the appeal of jamming for political or commercial reasons, as preventing DTH transmission of content is a jammer's key aim. Equally, we must realise that interference is mainly caused by ourselves – jamming is a rarity!

A significant problem for the broadcaster is human error, which according to Roger Franklin, CEO of Crystal, "is the most common cause of interference". We most definitely concur, having noticed that poor training or new and inexperienced staff are often cited as causes of human-induced interference.

Using Technology to Tackle the Problem

Interference for the broadcaster is being tackled, and we have come a long way over the last few years in terms of technology that beats the problem. The future looks bright. Remember,

Martin Coleman, Executive Director, The Satellite Interference Reduction Group.

> "Automated preventive measures are being built into equipment all the time, which means that broadcasters will become susceptible to the effects of interference even when it happens"
>
> **Martin Coleman, Executive Director, The Satellite Interference Reduction Group**

solving cases of interference is labour-intensive and often takes a significant amount of time.

2012 saw the evolution and standardisation of carrier ID (CID) within DVB-S, in reaction to the broadcast industry needing a practical solution to satellite interference. Effective detection tools were developed, allowing no interruption of a broadcaster's transmission to identify a carrier, but we still haven't seen CID fully embraced. It has been difficult to encourage broadcasters to make the investment to replace legacy systems with CID-enabled modems, mainly due to the cost involved. Even when they do, most equipment is shipped with the CID option switched off.

To that end, our group is now looking at a low-cost solution to providing CID and instigating a movement to ensure all modems have CID turned on at factory.

From the humble beginnings of CID, manufacturers have started to look deeper into this, as well as similar technologies that would simply eradicate the problem for a broadcaster without loss of service. That's why SigX from Kratos, for example, is an effective product that simply automatically cancels many types of radio frequency interference (RFI) in real time. Simply installed within the communications chain, it adds negligible delay or latency.

Returning to human error, we have already established it is a significant cause of interference for any broadcaster. Although it's doubtful to assume all cases of interference caused by human error can be prevented, many can. VSAT terminals are very susceptible to errors during alignment or set-up, but worse still are now often used for outside broadcast. As broadcast professionals are rarely satellite engineers, this combination can prove disastrous.

Satmotion Pocket, a unique tool from Integrasys, is proving highly effective at preventing broadcast interference caused by VSATs and human error. As a VSAT auto commissioning system, it measures co- and cross-polarisation as well as adjacent satellite interference, and feeds these measurements back to the user via a user-friendly interface. As it can be downloaded as an app, it's accessible from almost anywhere on the globe and assists non-satellite professionals to set up equipment correctly in the first instance, removing the element of human error.

In addition, monitoring technology is working towards solving the issue of inadequately

trained broadcast professionals. An example of this is Integrasys' Vectorsat, which has begun to show promise by offering 24/7 remote monitoring, including frequency and power measurement and RF interference detection, meaning issues can be resolved long before serious disruption has occurred. Without some form of monitoring system, non-satellite professionals usually cannot detect issues quickly enough, and so cases of interference are more troublesome.

Automation goes hand in hand with monitoring, and is a vital ingredient to solving all types of interference. Naturally, a computer is much less likely to misalign a terminal or uplink in the incorrect frequency. It can also warn a broadcast operations team of any equipment issues that may be rising to the surface. IRG member Crystal has been instrumental in developing automation products that do this and much more, with a great deal of success.

More innovation is coming. A new pioneering package of advance mitigation tools from NovelSat was released late last year. By acting in conjunction, the tools improve bandwidth efficiency and signal resilience by reducing the effects of numerous interference types. Again, this means satellite services can continue even in the presence of interference, a feat once thought impossible. In fact, this reflects exactly the evolution of interference mitigation technology that our group promotes.

Add to this mix of technology innovation the new breed of satellites such as Eutelsat's Quantum or Intelsat's EpicNG, and the broadcaster can now be assured that interference in general and jamming in particular are being tackled. I'm sure these issues will be reduced significantly in the very near future.

And finally, as all broadcasters know, VSAT Network interference has always affected many transponders with degraded services, and finding these sources has always proved to be nearly impossible for a satellite operator. That is, until now, thanks to the development of a product called SatGuard from Kratos.

This real-time VSAT interference monitoring system can identify and geolocate terminals causing interference within minutes, without interaction with the VSAT network operator. Using its unique ability to receive and decode the burst time plan of the network and associated terminal IDs, it can compare any rogue VSAT transmission with that plan and accurately match its location and ID. This has proved to be ground-breaking technology and has finally given a satellite operator the power to resolve the problem accurately and quickly for all concerned.

A note of optimism for all broadcasters thinking about CID. If we all use this for all other transmissions, just as SatGuard has done for VSAT, then the same techniques can be applied to all types of transmission. So the lesson here is: implement and turn on carrier ID now!

VSAT terminals are very susceptible to errors during alignment or set-up, making the chances of interference quite high.

The Future of Interference Mitigation

IRG's continued goal is to facilitate the collaboration of the satellite industry's most innovative players and solve the far-reaching and disruptive problem of interference once and for all. As we pass the midpoint of 2017, there is a positive mood in the air. We're building smarter products, and technological advancements are giving us more options. We are already looking at the use of our data and adding such techniques as machine learning and augmented intelligence to be our next set of tools in the mitigation toolbox.

Just think, it's now possible to imagine solving interference, not just by getting rid of its existence, but by being able to operate in its presence! Automated preventive measures are being built into equipment all the time, which means broadcasters will become less susceptible to the effects of interference even when it happens.

Consumers must be sure of satellite reliability, or we risk the validity of our industry. PRO

BUILDING BRIDGES WITH BACKHAUL

Semir Hassanaly, Market Director, Cellular Backhaul and Trunking at Newtec, explains how cellular backhaul over satellite is keeping people connected

As markets mature and governments begin to enforce universal service obligations (USO) to bridge the digital divide, mobile operators in emerging markets find themselves under increased pressure to extend their services in rural areas.

In these remote regions, cellular backhaul over satellite is allowing people to remain connected and keep pace with the fast-developing technology landscape. Satellite backhaul provides reliable connectivity with the quick roll-out that mobile operators crave, but brings with it increased latency and operational costs which must be mitigated with the right solutions.

2G and 3G voice and data are still the main revenue sources and primary mobile services deployed, but changing user habits are creating significant demands on the network, forcing mobile operators to find ways to deliver a 4G mobile broadband offering via satellite.

The 4G Question

As user habits change, the demand for 4G backhaul is also growing in industrialised markets this time, for universal service obligation, first responder networks and wireless broadband.

4G's emergence onto the market is happening at a faster pace than seen with any previous generations. Carrying the promise of a true mobile broadband experience, 4G is delivering higher speeds with more cost-effective equipment, blurring the lines between cellular and Wi-Fi. But 4G consumption of significant volumes of data brings an added need for efficiency and enhanced quality of experience (QoE) for the end user. At the same time, services must still cater to those using 2G and 3G for voice and basic data.

A Changing Picture

All of this comes at a cost, at a moment when mobile operators are increasingly looking for OPEX savings while still guaranteeing that their voice traffic receives the necessary bandwidth. The best way of doing this is to find a balance in the return link between the service availability and efficiency of SCPC and the flexibility of TDMA, which will allow evolution from symmetric voice-centric traffic towards a more asymmetric profile with increasing data.

Key to this is the use of the latest Mx-DMA technology, a unique technology by Newtec which combines the benefits of SCPC and TDMA, ensuring that all the traffic is accommodated at each remote base station while multiplexing the bandwidth very efficiently between these remotes to decrease operating costs.

Through seamless, continuous adjustment of the whole carrier plan to adapt to real-time network conditions, Mx-DMA also ensures the highest QoS is available at all mobile base stations with the lowest jitter and delay, meaning any mobile traffic is guaranteed the best service at any time.

By using this technology, satellite backhaul is repositioned for maximised efficiency, leveraging Mx-DMA to support the widest range of required mobile services.

An Eye on the Future

The landscape is changing radically, with the advent of high-throughput satellites (HTS) and newer constellations in the MEO and LEO spheres. It will be crucial to use new technologies like Mx-DMA for the delivery of backhaul services going forward, and for the upcoming 5G. Cellular backhaul will certainly have a role as this exciting new technology develops. Newtec is working closely in this area with 15 other space industry leaders within the European Space Agency (ESA), defining solutions and investigating opportunities for satellite to support 5G across expanded vertical industries. PRO

STN

SERVICE AT ITS FINEST

GLOBAL BROADCAST & MEDIA SOLUTIONS

- Worldwide Satellite & Fiber Distribution
- Media, Playout & OTT Services
- Highest Quality Assured
- Swift & Flexible Service Solutions

www.stn.eu | +386 1 527 24 40 | sales@stn.eu

AWARDED INDEPENDENT TELEPORT OPERATOR OF THE YEAR 2016

MEET NEWTEC DIALOG THE PLATFORM THAT EMBRACES CHANGE

FLEXIBILITY • SCALABILITY • EFFICIENCY

NEW RELEASE 2.1
HUB PORTFOLIO FOR
SMALL TO MULTI-SERVICE
HTS & GLOBAL NETWORKS

NEW COMPLETE
DVB-S2X WIDEBAND
MODEM PORTFOLIO

VISIT US AT

IBC 2017
SEPTEMBER 15 - 19
BOOTH 1A49
AMSTERDAM

#NewtecDialog
www.newtec.eu
Follow Newtec Satcom on

Newtec Dialog®