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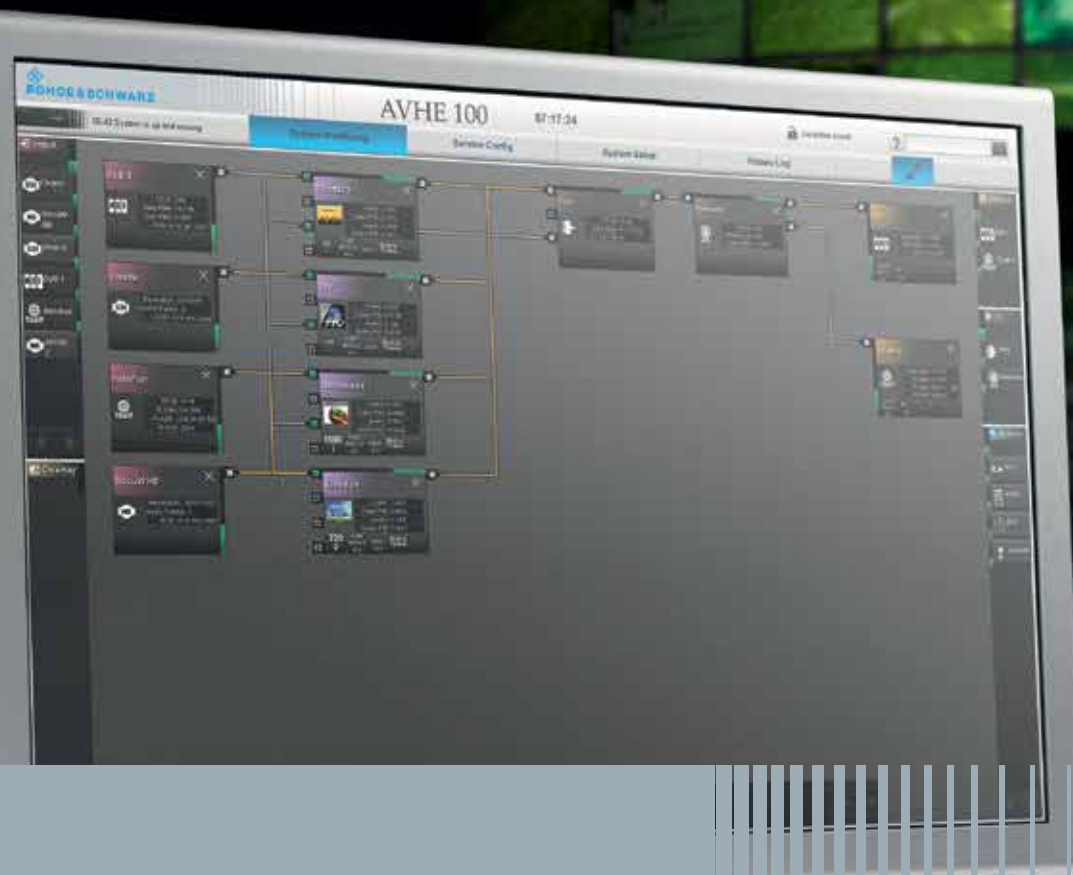
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WELCOME



Greetings!
This is the
end-of-year
edition of
SatellitePro

ME. I can hardly believe a whole year has gone by. With the fast-paced industry we work in, I should hardly be surprised, but with operators and providers launching new satellite and products, a point of saturation will soon come.

Oversupply of capacity is definitely an issue, and if we don't come up with new applications to take advantage of this capacity, the industry will face stagnation. Yahsat trialled a 50Mbps in-flight connectivity test, which was also showcased at the Dubai Airshow. Much needed connectivity throughout Africa too is incentive enough for operators to jump in. What we must understand is that there is a piece of the pie for everyone, and undercutting prices will negatively impact everyone's business.

In other news, CABSAT

is just around the corner, and with its revised dates this year, it would be interesting to see how much of a difference it makes to exhibitors. Previously, there was always an overlap with Satshow in Washington, but moving the exhibition earlier will resolve the conflict and allow for a smoother calendar of events.

Lastly, I would like to thank all of you for making the ASBU BroadcastPro Summit and Awards a resounding success. We saw the biggest crowd ever in the history of the event, and this is testament to the amazing industry we are part of.

CLAYTON VALLABHAN
Editor
SatellitePro ME

SATELLITEPRO

MIDDLE EAST

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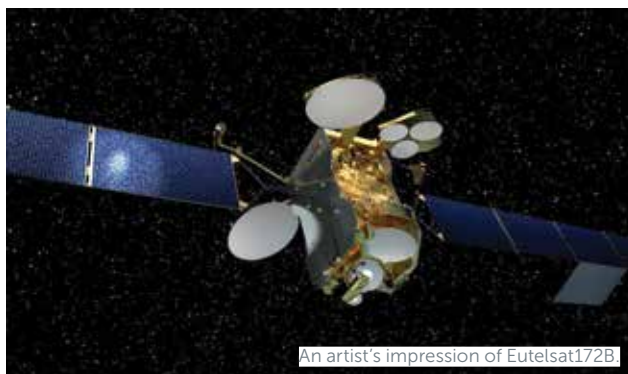
Horizon will continue to work closely with its customers, focusing on their objectives and creating solutions that ensure continued success in their mission critical applications.

Eutelsat 172B starts commercial service

NEW SATELLITE

The Eutelsat all-electric EUTELSAT 172B satellite that went into full commercial service earlier last month is now offering greatly enhanced flexibility, power and connectivity for users in a vast region stretching from the west coast of the Americas to Asia, Oceania and across the Pacific.

The transfer of services to EUTELSAT 172B from EUTELSAT 172A was completed seamlessly in a series of overnight manoeuvres, releasing EUTELSAT 172A for an alternative orbital position to serve customers in the Asia-Pacific region.



An artist's impression of Eutelsat172B

Its high-throughput payload, consisting of 11 spotbeams, will transform efficiency by enabling power to be dynamically allocated as aircraft fly high traffic routes in the Asia-Pacific region. This will allow Panasonic, the major client of the HTS payload,

to better meet passenger demand and cost-effectively ensure consistently high levels of service to airlines.

In addition to the HTS payload, EUTELSAT 172B significantly increases regular bandwidth at the 172° East position, with C-band capacity as

well as flexible Ku-band capacity spread across five interconnecting widebeam service areas. Beyond maritime, video, enterprise, cellular backhaul and government services, the Ku-band capacity will serve as an overlay to economically deliver live television to passengers in-flight.

Rodolphe Belmer, Eutelsat CEO, said: "As EUTELSAT 172B begins commercial activity that will stretch into the 2030s, this is a key moment to thank the men and women at Eutelsat and our colleagues at Airbus for collaborating passionately on a programme that sets a new industry standard."

SKY Perfect, KVH offer maritime broadband

PARTNERSHIP

KVH Industries announced that it has concluded arrangements with SKY Perfect JSAT (SJC) to work together in delivering next-generation maritime broadband services.

KVH's advanced mini-VSAT Broadband service will incorporate capacity from SJC's satellites covering the Asia-Pacific and Indian Ocean regions, inclusive of unique southern Indian Ocean coverage. This new-generation maritime broadband service is designed to achieve maximum

data speeds of 10Mbps download and 3Mbps upload, using the new KVH TracPhone V7-HTS, a 60cm Ku-band maritime satellite antenna system that KVH designed for the advanced network.

In addition, SJC will be marketing and selling the next-generation service in Japan under the name OceanBB. According to SJC, entering into these agreements with KVH enables SJC to accelerate its development and provision of next-generation services that will meet the ever-growing demand for maritime broadband.

NASA launches weather monitoring satellite

LAUNCH

NASA has successfully launched the National Oceanic and Atmospheric Administration (NOAA), the first in a series of four highly advanced polar-orbiting satellites equipped and designed to improve the accuracy of US weather forecasts out to seven days.

The Joint Polar Satellite System-1 (JPSS-1) lifted off on a United Launch Alliance Delta II rocket from Vandenberg Air Force Base, California, at 9:47am GMT on 18 November. Approximately 63 minutes after launch, the solar arrays on



The launch of JPSS-1

JPSS-1 deployed and the spacecraft was operating on its own power.

Following a three-month checkout and validation of its five advanced instruments, the satellite will become operational.

Eutelsat appoints VP for Global TV and Video

APPOINTMENT

Eutelsat has appointed Gerry O'Sullivan Executive Vice President, Global TV and Video. In his new role, he will drive the product development strategy to ensure Eutelsat continues to offer customers the most innovative video services across its global footprint.

Video, Eutelsat's most longstanding activity, accounts for 65% of the group's business. Eutelsat's neighbourhoods broadcast 6,700 TV channels, of which 1,200 are in HD, to more than a billion viewers around the globe. The company is a pioneer in ultra-HD broadcasting and is actively strengthening its digital content strategies in order to accompany pay-TV operators, broadcasters and entertainment companies as they expand their customer proposition.

O'Sullivan is an international media executive with extensive experience in commercial, marketing, operational and technical strategies for a range of broadcasters and system operators.

UAESA and SMG launch Young Leaders Advisory

ADVISORY BOARD

Young space minds gathered for the region's first ever Young Space Leaders Advisory Board, an initiative launched by the UAE Space Agency and the Global Aerospace Summit, on 11 November. The youngsters convened at the UAE Space Agency stand at the Dubai Airshow to discuss the opportunities they see for the growth of the space sector, who inspires them in the industry and what they would like to achieve in the next ten years. The Advisory Board addressed the challenges and obstacles young students face, and how they believe they can overcome them.

The Young Space Leaders Advisory Board, composed of students and young professionals under the age of 30, was moderated by Alia Al Mansoori, who rose to fame in the UAE as winner of the Genes in Space competition.

The event also included participation from Heyam Al Balooshi, Design Engineer at the UAE Space Agency, as well as representatives from Yahsat and Khalifa University's Masdar Institute and Petroleum Institute campuses.

Key recommendations taken from the session include creating stronger cooperation between schools and space organisations, as well as the need for more investment in scientific experiments and projects. There was a call for more educational tours in the region to create awareness around the sector, particularly focusing on areas that can support the growth of the industry, such as agriculture, biology and physics.

Growing the private sector presence within the UAE was also raised as an important challenge to help create job opportunities for the future.



MBRSC takes part in Dubai Airshow



AIRSHOW

MBRSC participated at Dubai Airshow 2017, which ran 12-16 November. It showcased the Emirates Mars Mission's Hope probe model for the first time and its plan to host the International Astronautical Congress 2020 in Dubai, as well as other programmes.

HE Yousuf Hamad Al Shaibani, Director General of MBRSC, said: "MBRSC's participation in this edition of Dubai Airshow gives us a valuable opportunity to highlight the National Space Programme, mainly one of its ambitious programmes, the Emirates Mars Mission, which is the first Arab and Muslim project to explore outer space. The Emirates Mars Mission is a project of great importance, as it further boosts the UAE's presence among the international space community."



Intelsat and Coca-Cola connect Africa

PARTNERSHIP

Intelsat and Coca-Cola are working together to bring satellite-enabled Wi-Fi services to remote communities across Africa. The partnership will support both companies' future business plans and their mutual efforts to promote sustainable development, especially in underserved communities.

Internet access is a proven tool for stimulating economic growth in developing countries, with the World Bank reporting that a 10% increase in broadband penetration correlates to a 1.38% increase in GDP growth. With Intelsat's satellite broadband services, connectivity can be delivered to rural areas where there is limited or no terrestrial or wireless connectivity, opening up a host of additional opportunities for social and economic development.

MBRSC hosts the UN/UAE High Level Forum

UN FORUM

A UN/UAE high-level forum, 'Space as a Driver for Socio-Economic Sustainable Development', was hosted by the Mohammed bin Rashid Space Centre (MBRSC) in Dubai and jointly organised by the UN Office for Outer Space Affairs (UNOOSA) and the UAE Space Agency (UAESA).

The forum was attended by HE Yousuf Hamad Al Shaibani, Director General, MBRSC; Simonetta di Pippo, Director, UNOOSA; and HE Dr Mohammed Nasser Al Ahbabi, Director General, UAE Space Agency, with the participation of more than 150 representatives from academic institutions, international organisations, NGOs, government entities, space agencies and the private sector, from around 50 countries.

During the forum, the space community from around the world

discussed the benefits to society of space and international cooperation and coordination in the peaceful uses of outer space. They also addressed the importance of space in achieving sustainable development goals and engaging further in the cross-sectoral areas of the four high-level forum pillars of space economy, space society, space accessibility and space diplomacy.

MBRSC hosted the UN/UAE high-level forum for the second year in a row, part of a series that will contribute to UNISPACE+50, to be held in Vienna in June 2018.

Under UNOOSA's leadership, the first substantive high-level forum was organised last year and delivered the Dubai Declaration, which urged all parties to further use the space sector as a driver for economic and social development.



The UN/UAE high Level Forum.

RSCC and Chronosat pen agreement



PARTNERSHIP

Cooperation between the RSCC and Chronosat (Germany) began in 2017, and now a strategic agreement worth more than \$14 million over the next five years has been reached on the use of the RSCC spacecraft capacity.

Yuri Prokhorov, RSCC General Director, noted: "RSCC has a long record of successful operations in the Middle East and Europe, where we have built long-term relations with large consumers of satellite communications services.

"We hope that our cooperation with Chronosat and the agreements reached today will strengthen the positions of the RSCC, including on the African continent."

RSCC's satellites will be used to boost Chronosat's business in the Middle East and Africa.

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THE BEST OF THE BEST

The **ASBU BroadcastPro ME Selevision Awards** acknowledged the efforts of some of the most talented players in the industry. These are this year's winners



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MSS OPERATOR OF THE YEAR

Thuraya

SatellitePro ME's 'MSS Operator of the Year' was awarded for the largest ever deployment of 2000 satellite terminals that helped facilitate seamless connectivity for a key government project in Kenya. The company empowers people with tools to bring the organisations and communities they serve closer together. Ahmed Al Shamsi, Acting CEO of Thuraya Telecommunications Company accepted the award on behalf of the entire team.



TELECOM INITIATIVE OF THE YEAR

Etisalat

SatellitePro ME's award of 'Telco Initiative of the Year' for the execution of a multi-million dollar project for offshore communications and ICT infrastructure, delivered to one of the biggest oil & gas clients in the UAE goes to Etisalat. The award was received by Abubaker Mohamed Almarzooqi, Senior Director, Government Sales-Security Entity (pictured); Ibrahim Mohammed Hassan, Sales Manager, Government Sales-Security Entity and Nadim Katayeh, Client Director, Energy & Utilities, Etisalat.



BEST SHORT PRODUCTION
OF THE YEAR

Electric Films & Mubadala

Untold Stories from Electric Films & Mubadala was chosen unanimously by the judges for being "slick, impressive and engaging".



EXCELLENCE IN VFX

Dubai Media Inc.

The Dubai Racing Channel Identity Video by Dubai Media Inc. has used VFX as an organic element in narrating the story making the content compelling and immersive. The riveting scenes of horses, camels and the flight of a bird combined with the dramatic music score had our judges captivated.



BEST LONG PRODUCTION OF THE YEAR

Nomad Productions

Each of our entries this year was an orchestration of great production values. The winning entry, *Fighting Fit Dubai* from Nomad Productions, however, edged out competition as it was found to be the most engaging in terms of content, pacing and cinematography.



TVC OF THE YEAR

SocialEyez

This winning entry titled *Canon Live for the Story*, from SocialEyez, a Dubai-based digital engagement agency, caught the attention of the judges for being both visually evocative as well as telling a story well.



STUDIO OF THE YEAR

MBC Group

MBC's Dubai Studio City facility stood out in terms of its sheer size at 25,000sqft with many set designs to accommodate different programmes for various channels. The incredible mix of multi-tiered studios with interactive technologies made this an outstanding facility.



BEST ANIMATED WORK OF 2017

Real Image Production

This stunning opener was produced for DUBAI CHAMBER for the MRM Awards 2017 ceremony and required an output resolution that is four times the width of full HD. This entry was unanimously chosen by the judges.



BROADCAST PROJECT OF THE YEAR

Kuwait TV

Kuwait TV has deployed 4K infrastructure at its facility for its news studio and production environment. Both projects were integrated by INC System Integrations and several manufacturers were involved in these projects including EVS, Tedral, SAM, Avid, Calrec, SGL and Vantage.



OTT TRENDSETTER OF THE YEAR

Z5X Global

The Zee Weyyak platform was chosen for the unique way in which it has acquired and provided premium exclusive content to Arab online viewers. 45% of its content is from Bollywood that is part of its own brand and, therefore, not available on any other platform.



BROADCASTPRO ME INNOVATIVE PROJECT OF THE YEAR

Blink Studios

Blink Studios is an innovator that has demonstrated the courage to take on the relatively unknown. Blink experimented with and developed solutions around mixed reality to create content here in Dubai. The result was the totally enthralling *Karim and Noor*.



BEST DIGITAL STRATEGY OF 2017

Dawri Plus, Intigral

500,000 active users in one day, 1.6m total active users in one month, 3m+ downloads of the app, 1.8m registered users, 10+m hours of video content has been streamed over the past three years, 7m GB of overall data consumption and 220k users on its gaming platforms. Need we say more?



BROADCAST EXECUTIVE
OF THE YEAR

Sanjay Raina

GM and VP, Fox Networks Group, Raina has demonstrated a leadership role by strengthening the pay-TV ecosystem across the region, where FTA has always been the norm. He has done a number of trendsetting deals that has made him the envy of the broadcast community.



OUTSTANDING DOCUMENTARY
PRODUCTION

TRT World

Fitting well into the documentary genre were a number of human-interest stories on children as the victims of war and the rebuilding of cities destroyed by military forces. *Rising From the Ashes* was especially award winning.



SYSTEMS INTEGRATOR
OF THE YEAR

TSL

Television Systems Ltd. stood out for many reasons: the sheer size of the project it undertook, the complexity of connecting two different sites, managing several vendors and addressing complex requirements within a rigorous timeframe.



SPECIAL RECOGNITION AWARD

CMT Technologies

CMT Technologies' outstanding work in providing OTT solutions in the region is truly award winning. CMT recently deployed a fully customised end-to-end OTT solution for Saudi Broadcasting Corporation with nine HD channels & six radio channels.



TECH ACHIEVER OF THE YEAR

Bassam Alsaqqa

Bassam Alsaqqa, Broadcast Engineer at Palestine TV, is a go getter. When the TV station needed an OB van to cover news, Bassam didn't just have to design a vehicle that could successfully run on the road, he also had to identify local resources and oversee the building and integration of a broadcast van.

OUTSTANDING ACHIEVEMENT
IN STUDIO SET AND BUILD

twofour54

twofour54 Abu Dhabi began the construction of a new outdoor set spanning 20,000 sqm at the beginning of 2017, bringing the total space occupied by the backlot facility to 150,000 sqm. The recent construction was used for Bollywood movie *Tiger Zinda Hain*.



OTT PRODUCTION OF THE YEAR

iflix MENA

The Egyptian comedy *Waklinha Walaa* from iflix MENA won this award hands down for its content and production value. It was co-produced by Shadows, Front Row, the Kuwait National Cinema Council and iflix.



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STC joins Brightline Initiative

PARTNERSHIP

The Brightline Initiative has announced that STC is joining the Brightline Initiative coalition to help advance the discipline of strategic initiative management and bridge gaps between enterprise strategy design and delivery. The agreement was signed by STC Group CEO Dr Khaled Biyari and by Brightline Executive Director Ricardo Vargas.

Launched early in 2017 by the Project Management Institute (PMI), the Boston Consulting Group (BCG) and the Agile Alliance, the Brightline Initiative is a non-commercial coalition



dedicated to helping executives bridge the expensive and unproductive gap between strategy design and delivery.

"STC has profound expertise and renowned

success in building and executing strategies. We are looking forward to joining a coalition that brings together leading organisations and academics worldwide to address the

critical business issue of successful strategy delivery," said Dr Biyari. "For STC, this capability is core to capturing emerging opportunities in the MENA while remaining a leader in ICT."

A report conducted by The Economist Intelligence Unit (EIU) and commissioned by the Brightline Initiative found that nearly 90% of global survey respondents admit they fail to achieve all their strategic goals because they don't implement well, and more than half (53%) agree that inadequate delivery capability puts them at a competitive disadvantage.

Du signs MoU with ADGM Financial



Fahad Al Hassawi,
Deputy CEO, EITC.

MOU

Du recently signed an MoU to promote a FinTech ecosystem in the UAE with Abu Dhabi Global Market Financial Services Regulatory Authority at the FinTech Abu Dhabi summit.

"Our partnership with the Abu Dhabi Global Market Financial

Services Regulatory Authority will help us establish the FinTech ecosystem in the UAE.

"This partnership will allow us to create the infrastructure and enhance new environments with ecosystems and stimulate technological innovation," said Fahad Al Hassawi, Deputy CEO, EITC.

Zain Group rolls out DDoS offering

SERVICE OFFERING

Zain Group's fully owned global services subsidiary Mada Communications announced that it is rolling out a new distribution denial of service (DDoS) mitigation offering to its country operations and international roaming customers. An agreement with application security experts F5 Networks will see Zain benefit from next-generation, cloud-ready DDoS mitigation technology.

The Middle Eastern telecommunications pioneer's international roaming and wholesale division is delivering a

centralised 'scrubbing' service that processes incoming traffic to detect, identify and mitigate threats in real time.

The deal directly addresses an intensifying industry threat that saw DDoS attacks greater than 1Gbps grow 172% last year. It also helps Zain Group build on its position as one of the Middle East's leading internet providers, with over 45 million active customers across eight countries.

"DDoS attacks are increasingly prevalent and challenging to manage," said Henri Kassab, MD, International, Wholesale & Roaming at Zain Group.



Du trials Nokia SDAN

SERVICE SOLUTION

Du has announced that it is the first provider in the Middle East to trial SDAN technology on NG-PON and establish an intelligent network capable of supporting future needs. Using Nokia's SDAN solution, du can accelerate innovation through a more open, automated network environment that makes it easier and faster to create and deploy new intelligent services.

Federico Guillén, President of Nokia's Fixed Networks Business Group, said: "Dubai has a long history of pioneering technology transformation. This will require having smart networks that can connect everyone to everything, accelerate innovation and instantly deliver new services that meet evolving needs. SDAN enables this and provides an open, automated and intelligent network environment that makes futuristic cities possible."

Ericsson predicts 17m 5G subs in MENA by 2023

REPORT

According to the latest regional appendix to the Ericsson Mobility Report, the first 5G subscriptions in the MENA region are expected during the period 2020 to 2022, reaching around 17 million subscriptions by 2023.

The Middle East and Africa (MEA) region, which encompasses more than 70 countries, faces extreme market variations in terms of information and communication technology (ICT) maturity, but Ericsson's Mobility Report nonetheless predicts a region-wide growth in mobile subscriptions from 1.59 million to 2.03 million by 2023. Furthermore, the MEA region will witness a nearly five-fold increase in LTE subscriptions, from 190 million to 860 million,

in the same timeframe.

Rafiah Ibrahim, Head of Ericsson Middle East and Africa, said: "Total mobile traffic for the region is forecast to grow by around 49% annually between 2017 and 2023. This rapid growth is seeing operators increasingly exploring methods of optimising their networks with more capacity and coverage. We are supporting operators across the region throughout the different phases of the network evolution, enabling best performing networks and differentiated customer experience."

The MEA region has a young and growing population with a median age of 21. Combined with its improving economy and favourable policies, this creates potential for continued growth.



Rafiah Ibrahim, Head of Ericsson, MEA.

Zain Group records Q3 net income of \$133m



FINANCIALS

Zain Group has announced its consolidated financial results for the nine-month and third-quarter periods ended 30 September 2017. The company ended the period serving 45.3 million customers.

For Q3 2017, Zain Group generated consolidated revenues of \$860 million, down 6% YoY. EBITDA for the quarter was \$346 million, down 23% YoY, a 40% EBITDA margin. Net income amounted to \$133 million, a 6% YoY decrease. Earnings per share for the quarter was \$0.03.

For Q3 2017, foreign currency translation impact, predominantly due to the 63% currency devaluation in Sudan, cost the company \$148 million in revenue and \$20 million in net income. Excluding the currency translation impact, YoY revenues and net income would have grown by 11% and 9% respectively.

Omantel appoints four new members to Zain board

APPOINTMENTS

Omantel announced the nomination of four new members to the Board of Directors at Mobile Telecommunications Company KSCP (Zain).

Including the appointment of Talal Al Mamari, CEO of Omantel, as a Non-Executive Director, Omantel will have a majority on Zain's board with five of the eight seats.

Talal Said Marhoon Al Mamari, CEO, Omantel and Non-Executive Director of Zain, said: "We welcome the nomination of the four new members to Zain's Board of Directors. We look forward to working closely with the management teams and our fellow board members with the aim of bringing our two complementary businesses together and creating a new digital telecom powerhouse in the region. The new group has a balanced and diversified portfolio of growth and cash generative assets across nine

markets. Bringing these assets together will generate synergies across wholesale, procurement and knowledge sharing, along with increased collective exposure to high growth potential markets."

On 12 November, Omantel won the bid to acquire 12.1% of the issued share capital in Zain, making it the second largest shareholder in Zain, with a 21.9% stake. The total equity value is \$2.19bn and includes the previously announced acquisition on 24 August of 9.84% of the total fully paid and issued share capital.

The new group will be the third largest telecoms group in the MENA, with over 52 million customers. This transaction propels Omantel and Zain into a new era, bringing together a portfolio of telecom operations with balanced assets for profitability and growth. The transaction will bring economies of scale and sizable synergies, making the new group more agile and efficient.

Synergies will come from integrating the wholesale network with Zain's, merging operations such as procurement, cooperating across commercial activities and through shared investments in research and development. Omantel is targeting run rate synergies of over \$80 million per annum.



Talal Said Marhoon Al Mamari, CEO, Omantel



Omantel and Ericsson conduct 5G showcase

5G TRANSMISSION

Omantel and Ericsson have successfully conducted a live 5G showcase at the Omantel head office in Muscat, Oman that displayed 5G capabilities in a real-world environment, including tests on speed, mobility and latency. The showcase was the first in a series of trials that Omantel and Ericsson have agreed to conduct to prepare the network for the 5G evolution.

The 5G showcase, which used advanced 5G features such as beam forming and beam tracking, gave a peek into the future transformation of Omantel's network that can help put the operator at the forefront of technology innovation and leadership in the region. The results of this 5G trial were announced during the Technology Days event held November 12-14.

Etisalat makes VoLTE call on Cat-M1

VOLTE TRIAL

Etisalat UAE announced its first VoLTE call over Cat-M1 IoT network in the region, setting the future roadmap to deploy advanced networks to meet demand for diversified mobile broadband and communication services for IoT. Etisalat maintains a strong leadership position in IoT technology and solutions with a history of firsts, including the first deployment of a nationwide LTE Cat-M1 network in July this year. This deployment was a revolutionary change and set a benchmark in the IoT ecosystem.

A game changer for the industry, Cat M1 (Category M1) is a new class of LTE chipset designed for sensors. They require less power, offer extended battery life, wide coverage, flexible deployment and low latency, and support an array of use cases ranging from water meters to asset trackers to consumer electronics.

The demonstration was conducted in partnership with Qualcomm Technologies, using Etisalat's IoT and VoLTE-capable network infrastructure IoT devices with Qualcomm MDM9206 global multimode LTE IoT modems.

A SHOW FOR THE INDUSTRY

With a renewed timeframe, CABSAT 2018 looks ready to bring out the big guns to tackle the issues in the industry. We give you a sneak peek at what some exhibitors will be showcasing

Newtec to showcase range of solutions

At CABSAT 2018, Newtec will demonstrate its multi-service VSAT platform Newtec Dialog, which offers voice service quality control, guarantees high service availability, ensures a high number of HTTP connections and downloads, and

minimises retransmissions in the mobile network. This allows mobile operators to meet stringent service level agreements and offer numerous mobile and fixed services from one platform.

Release 2.1 of Newtec Dialog delivers high-throughput, high-density and carrier-grade solutions to ensure flexibility, scalability and efficiency. The platform's latest upgrades – including the Newtec Dialog XIF hub and MDM2210 and MDM3310 IP satellite modems – are geared towards the multi-service era.



Sat-Lite to show range of antennas

For CABSAT, Sat-Lite will be displaying its 80cm one-case carbon fibre flyaway antenna, as well as its 1.2m vehicle-mounted SNG antenna with auto locate control system.

Sat-Lite Technologies has quickly established a reputation for delivering antennas and equipment of the highest quality and reliability. It has a wide product line of vehicle-mounted SNG and transit case-based flyaway antennas, ranging in size from 80cm to 2.4m, as well as the expertise to design custom one-off satellite antenna products. Also designed and manufactured in-house are RF feed components (horn, OMT) in C-, X-, Ku-, DBS- and Ka-bands.

Antennas range from budget-friendly VSAT-style to ruggedised high-performance carbon fibre solutions. All highly configurable flyaway antennas are available as manual or motorised auto-acquire and are field upgradeable – a manual antenna can be converted to auto-acquisition without any modifications.

Its partner in the region, Decibel Systems, will also be with Sat-Lite to offer its expertise in systems engineering, teleport support and maintenance, and its full complement of SATCOM products.

Eutelsat to promote communication satellites

Eutelsat will be promoting its communications satellites. Covering the Middle East, Europe, Africa, Asia-Pacific and the Americas. These satellite enable video, data and broadband communications to be established wherever users are located, whether on land, in the air, or at sea.

In the MENA region, the 7/8° West Eutelsat-Nilesat

constellation is a very powerful TV neighbourhood, reaching over 56 million homes. It is an important hub for HD channels, broadcasting 58% of HD channels in the region.

Eutelsat has also recently consolidated its presence in MENA with the integration of NOORSAT, one of the largest distributors of Eutelsat capacity in the region.



Rohde and Schwarz to focus on IP-based technology



At CABSAT, Rohde and Schwarz will showcase a number of new and enhanced ingest, production, monitoring and OTT distribution workflow solutions. Rohde & Schwarz offers future-proof migration pathways to multi-platform IP-based broadcast operations.

Rohde & Schwarz presents R&S VENICE channel payout, a new approach to live ingest, media processing and channel payout that cost-effectively bridges hybrid SDI and IP. It enables immediate application within existing SDI baseband architectures, and future-proofs them by offering the flexibility and sustainability of IP-based broadcast infrastructure and workflows. The designated R&S VENICE software-based media processing and distribution platform is so stable that medium and large broadcasters can use it as a channel payout solution in 24/7 operation. The integration of the proprietary Rohde & Schwarz virtual storage access technology ensures reliable on-air operations even in the most mission-critical applications.

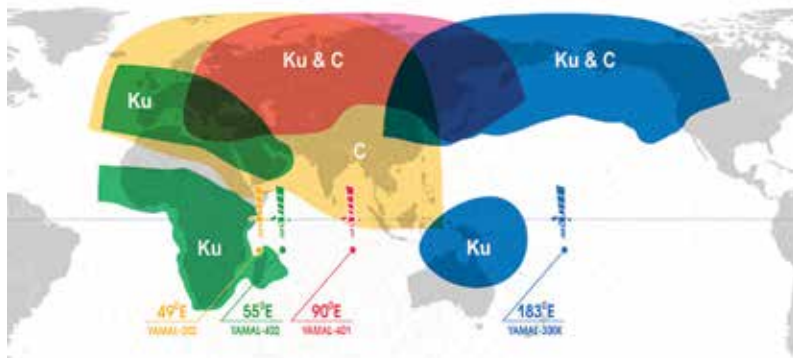
Another highlight is the R&S AVHE100 system, a compact yet flexible and scalable transcoding, encoding and multiplexing solution. Rohde & Schwarz has enhanced its successful solution by adding premium-quality adaptive bitrate (ABR) encoding as well as packetising for all established formats for OTT live streaming. It offers best-in-class video quality for premium content distribution.

GSS to present its Yamal fleet

Gazprom Space Systems (GSS) will be speaking about all of its Yamal satellite fleet, consisting of four satellites positioned between 49E and 183E as well as advanced ground telecommunications infrastructure at CABSAT 2018.

The C-band payload of Yamal-202 (49E) has wide coverage over the Eurasian continent, in particular the MENA. The satellite supports a range of point-to-point connections and VSAT

networks for corporate customers. It is optimal for arrangement of communication links and data transmission in the interest of government authorities, for TV distribution, and for arrangement of trunks between centres of information resources concentration (mainly in Europe) and centres of consumption (the Middle East and Asia). In 2019, Yamal 202 will be replaced by new HTS satellite Yamal-601.



Globecast to highlight telco services

Globecast will be highlighting the latest advances in its telco services at CABSAT 2018. To help channels gain coverage with the world's leading pay-TV and telco platforms, Globecast aggregates and distributes premium worldwide content for the international marketplace.

More than 60 TV channels are currently acquired, processed and delivered for broadcast as part of the line-up of several pay-TV platforms worldwide, including tier-one telco and cable operators such as Orange and Virgin Media.

Globecast is also announcing its new cloud channel payout solution for SD, HD and 4K channels. This solution significantly enhances

service deployment efficiency, reduces time-to-market and allows broadcasters to reach new international markets with lower up-front investment. With this approach, flexibility is very high. The number of channels can be increased or reduced within days, and the channel branding mix can be reshuffled for particular audiences and events.

The new Globecast cloud channel payout offer also provides broadcasters with an opportunity to increase revenue from international markets, through localisation of advertisements, programming and channel branding at a country level, or even at a per-affiliate level, based on local consumer needs.

HD VIEWING ON THE RISE

Claudia Vaccarone, Head of Market Research and Customer Experience at Eutelsat speaks exclusively to *SatellitePro ME* about how market trends for HD viewership are changing in the MENA



The Eutelsat TV Observatory, is a consumer research tool through which Eutelsat

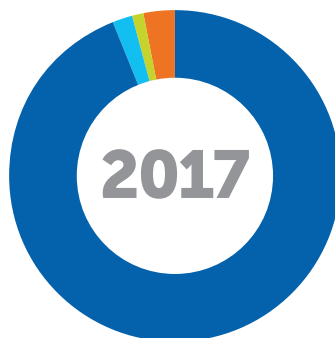
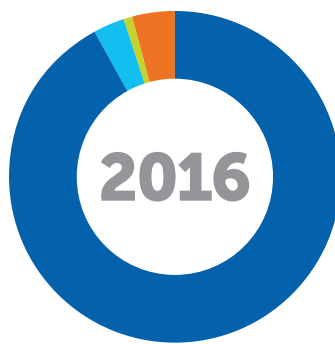
monitors TV reception trends in 51 countries. Originally covering Eutelsat's Hotbird satellites, the research has progressively expanded and since 2010 has also taken in the MENA region.

"This research is designed to measure the reach of our satellites to gain valuable insight into TV trends in different countries, as well as to understand how TV signals reach consumer homes," says Claudia Vaccarone, Head of Market Research and Customer Experience, Eutelsat.

Eutelsat collected data of TV reception modes and resolution of channels watched in households across the 14 Arab speaking markets that it monitors, namely, Morocco, Algeria, Saudi Arabia, Egypt, Tunisia, UAE, Libya, Lebanon, Jordan, Iraq, Yemen, Oman, Kuwait and Syria.

The footprint of 7/8-degrees West goes beyond that, as it also reaches into Sudan, Eritrea and other markets where it is more challenging to gather

SATELLITE VS OTHER TV RECEPTION MODES



■ Satellite
■ IPTV
■ Exclusive DTT
■ Exclusive Terrestrial

consumer insights. However, these 14 markets are core for the Arab speaking population. For 2017, Eutelsat updated its study in Morocco, Algeria, Egypt and Saudi Arabia that together represent 70% of TV homes in the region. While the UAE market is extremely dynamic, it was covered by Eutelsat in its 2016 survey so didn't require a new wave of research.

"We have seen significant demographic growth in the four countries surveyed this year which has been particularly valuable for assessing the engagement of younger audiences with TV viewing

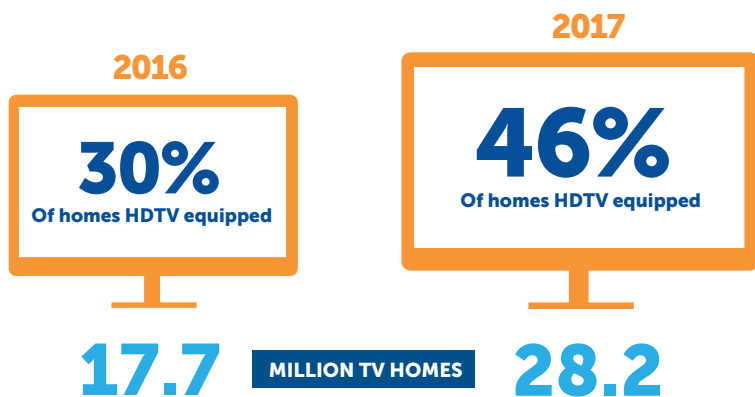
"The MENA market is growing, from 64.3m homes to 66.2m homes in a year. Within that overall context the average percentage of TV set ownership has gone up by 1% to 95% in 12 months. In the UAE and Saudi Arabia, this number is virtually 100%, while it varies in other markets. The number of TV homes has consequently gone up, by 4% to 62.6m homes," adds Vaccarone.

Another finding, which comes as no surprise, is that satellite reception is still the leader in



Claudia Vaccarone, Head of Market Research
and Customer Experience, Eutelsat

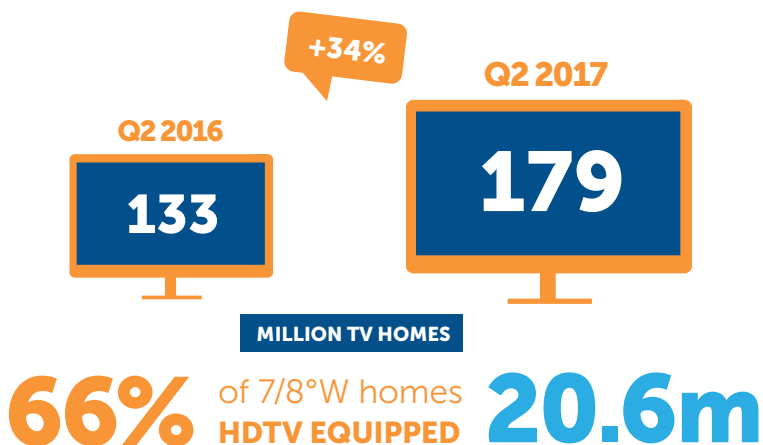
MENA: HDTV EQUIPMENT



2017: 7/8° WEST CHANNEL LINE UP



7/8°W HDTV CHANNELS & HOMES



helping channels reach viewers. It remains the main digital TV platform chosen by consumers and Vaccarone says it has conquered 100% of the growth in TV homes. All of the new 1.8m TV homes in the region are now equipped to receive TV via satellite, and this includes TV homes that previously received only terrestrial television, be it analogue terrestrial or DTT. The overall share of IPTV homes saw a dip of 1% compared to last year due to the growth of satellite TV in some of the largest countries covered by the survey. There are about 1.5 million TV homes equipped with IPTV in 14 Arab-speaking countries, with the UAE being the biggest market with 1 million TV homes. The rest are mainly in Saudi Arabia, with a few thousand homes in Morocco and Egypt.

"There are 58.9m TV homes reached by satellite, which accounts for 94% penetration and an overall growth of 7% in one year. The majority of these homes are served by 7/8-degrees West according to Vaccarone, where 56.2m TV homes prefer the Eutelsat/Nilesat orbital position. This is a growth of 3.1m homes in one year.

"The line-up on the 7/8-degrees West neighbourhood has continuously expanded over the years, now reaching 1,208 channels, of which 1,049 are FTA and 159 are pay-TV, in the premium OSN and beIN platforms. 55% of channels are exclusive to 7/8-degrees West," says Vaccarone.

It is also clearly evident that there is a surge in HDTV equipment uptake, which is not surprising as the region's audio-visual landscape is maturing rapidly with high consumer equipment renewal rates.

"Last year, 30% of the homes



in the region adopted HDTV equipment, to reach 17.7m homes. This year 46% of homes are HD-equipped, which translates to 28.2m homes. This reflects 59% growth, showing the significant momentum for HDTV. This is also complemented by the surge of HD channels now available in the region, most of them available free to air” explains Vaccarone.

“This is similar to what was happening a few years ago in more mature markets. There is a natural cycle of every six to seven years when consumers renew their TV sets across all the markets we survey.”

Vaccarone says the installed base of homes connected to 7/8-degrees West has a higher incidence of HD equipment, reflecting an offer of 179 HD channels of which 102 are

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Claudia Vaccarone, Head of Market Research and Customer Experience, Eutelsat

free-to-air. Today, there is a total of 306 HD channels in the region, of which 58% are exclusive to 7/8 degrees West.

“We see a dual trend in HD: on one side both commercial and public service channels are transitioning from SD to HD, for example Alaraby TV, Quran TV and public service SNRT. On the other side, new channels are coming on-board directly in HD format, like beIN Sports Global and Sama Dubai,” says Vaccarone.

Vaccarone concludes that the positive cycle measured by Eutelsat’s survey reflects higher HD awareness and more competitively priced consumer equipment as well as increased availability of compelling HD content. These are the forces accelerating adoption and change. **PRO**



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Over the coming year, it will be more important than ever for the industry to step

up to increased competition and allow constant connectivity while ensuring consistent quality for all applications. Below are a few industry trends, moving forward.

Satellite will continue to have relevance in a wide range of industry sectors

Over recent years, many pundits have hailed the death of satellite, citing the rise of other types of connections while the industry is facing stiff competition and super-fast broadband rollouts are giving consumers access to fibre-to-home in many parts of the world. However, satellite still has an important part to play across a range of sectors.

INDUSTRY TRENDS AND PREDICTIONS

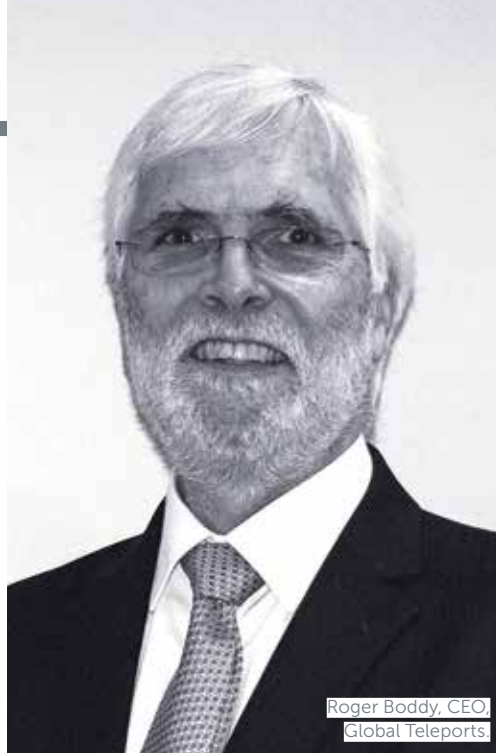
In an exclusive with *SatellitePro ME*, Roger Boddy, CEO, Global Teleports, outlines how the satellite industry is going through a turbulent time with stiff competition from other networks, coupled with the ever-growing consumer appetite for constant connection

Take broadband, for example. In the UK, the government quite happily says 90% of the country has super-fast broadband, but it neglects to acknowledge that is only 35% of the geography of the country. In its latest report, Ofcom even states a widening gap between rural and urban homes and businesses. This is true in almost every country, with rural homes and businesses suffering from a lack of broadband provision. As broadband speeds elsewhere continue to increase, it is making it harder than ever for rural businesses to compete. Satellite has a really important role to play here, but the biggest challenge for the industry is going to be changing consumer perceptions so that satellite is no longer considered the last resort, but a viable alternative to other broadband connections.

In other sectors, the role of satellite is already well established and will continue to be important. For example, in the maritime and oil & gas industries, satellite really is the only option. The broadcast industry is the one where there is a great deal more uncertainty, especially since over-the-top (OTT) services have turned the entire industry upside down. However, satellite continues to be valuable for both linear services and providing the connections for OTT services. While there are a number of experiments into IP news gathering, satellite will also remain important for capturing feeds from the field for the foreseeable future. However, I believe we will see more integration between satellite and IP.

New consumer technology will drive further adoption of satellite

Technology is developing at an astounding rate, with a sharp rise in consumer expectations. What many people, particularly outside the industry, don't consider is that satellite is a key enabler for



“While there are a number of experiments into IP news gathering, satellite will also remain important for capturing feeds from the field for the foreseeable future. However, I believe we will see more integration between satellite and IP”

Roger Boddy, CEO, Global Teleports

many of these advancements. This year, I expect two technologies in particular to drive further adoption of satellite: Internet of Things (IoT) and 5G.

IoT has been slowly gaining traction, with smart devices able to switch the lights off, adjust your heating, tell you what the weather is doing and – perhaps less importantly – tell you jokes! Up until now, these have mainly been gimmicks, designed to do something cool just because they can. I predict that over the coming year, these will get

more clever, with providers increasingly considering how IoT can actually serve a useful purpose. Key to that will be integration across various applications.

For example, when you switch on a film, perhaps the living room lights will dim automatically. The main challenge for IoT right now is the privacy concerns, but as the devices get more useful and these concerns are addressed, I believe there will be a sharp uptake in their use. These data-hungry applications mostly rely on satellite capacity to be delivered.

The other big topic in this area right now is the provision of 5G. There is once again a huge debate over frequency assignments, and it is clear that the mobile industry needs satellite spectrum to be able to deliver 5G. Indeed, the Radio Frequency Spectrum Policy Group, a high-level advisory group that assists the European Commission in the development of radio spectrum policy, has identified a role for satellite in the rollout of 5G services for vehicles on the move and in remote rural areas, M2M, cellular backhaul and fixed broadband.

There will be increased pressure, more launches, and increased interference

This increasing pressure for everything, everywhere, anywhere is already affecting the satellite industry. This heralds the appearance of a huge volume of new LEO constellations, aimed at better serving these new markets.

Indeed, the march of new LEO constellations continues, with some 9,000 satellites planned for launch in the next five years. History shows that the best laid plans can be defeated by over-complicated use of technology or failure to meet projected market share when established players in the target market change tactics

to combat their new competitors.

With 640 satellites currently in LEO, we face an increase of 1,500% in LEO hardware, with some doubt whether it will successfully add value. If it does, then we will benefit from enhanced services. If it doesn't, then we will be faced with the cost of maintaining satellites for their orbital lifetime (10 to 17 years), a commitment that is hard to justify in the prevailing financial climate. Whether they are sustainable or not, we are going to have to live with 9,000 LEO satellites in the space debris band between Earth and GEO satellites.

That will have an impact both on other LEO satellites and on those GEO satellites, which will find themselves masked by a very congested space below. This in turn will lead to errors and interference, causing much-feared downtime. Also, the more pressure to provide more services and the more competition in the satellite market, the higher the risk of errors. Unfortunately, I very much expect an increase in interference unless measures aren't taken. Thankfully, some are already underway, in part through the work done by the Satellite Interference Reduction Group in providing a discussion forum and harvesting new technology to help.

With LEO between 20 and 200 miles altitude and GEO at 22,300 miles, the interaction between LEO and GEO satellites viewed from a downlink perspective gives an impression of minimal masking of Earth coverage when a GEO is eclipsed by a LEO satellite.

On the other hand, a LEO satellite of 1m diameter will eclipse between 3.5% and 23.4% of a GEO orbital slot (depending on LEO altitude). This assumes GEO at +/-3 degrees inclination. While it can be argued that this is only between 0.58% and 0.59% of the overall Clarke orbit (between +/-3 degree

limits), the impact of eclipse must be considered on a per location basis. Increasing the diameter of satellites in this analysis increases the eclipsed area of the Clarke orbit.

Regulators will face pressure to come up-to-date

As an industry that started in 1963, it is surprising how few standards have been updated. The LEO constellations about to be launched are a good case in point. There has been very little consideration by the regulators on how this many LEO satellites will impact the GEO arc. With so much having changed since the start of satellite, regulators will need to wake up to this and begin to bring in standards suited to the modern age of satellite communications.

However, sometimes they get those horribly wrong. For example, at last week's Satellite Consultative Committee (SCC) meeting, OFCOM tabled a proposal to charge for satellite filing. This is not currently a recovered cost, but OFCOM spends approximately \$1.59 million per year on satellite filings, doing 10 per year. In the next five years, they are going to have to gear up to complete up to 1,600 filings a year. This equates to costs in the region of \$265 million per year which will have to be recovered.

This is naturally greatly concerning for all operators, especially as the traditional approach of consultation before action will take us up to 2019, by which time the new LEO constellations will be ready for launch. The operators of these satellites need to know what costs they will face as part of their financial planning cycle and whether the costs should be per constellation or per satellite. On the basis of the above numbers, if all 9,000 satellites are filed by OFCOM, each will require a budget of \$29,455. This

equates to \$21.2 million for a 720-satellite constellation.

Aside from that, the SCC has advised UK stakeholders that ITU-R WP4 is developing new software to assess adjacent satellite interference (ASI) as well as interaction between GEO and LEO satellites. This will move away from the current coordination practices (one to one) and hopefully take both directions of transmission into account – currently, the only accumulative assessment is against downlink power flux density.

Working on downlink power alone assumes that we are dealing with TVRO satellites, whereas we are dealing with a growing community of duplex communications satellites. Where the probability of masking of GEO through LEO eclipse used to be likened to searching for a needle in a haystack, with the increasing number of LEO satellites the needle will soon be significantly larger and easier to find!

Satellite will come out on top, but only if the industry fights for it

It is clear that there is a lot of opportunity for the satellite industry right now, with a great deal of existing applications relying on it and many emerging applications where satellite will play a crucial role. At the same time, however, challenges lie ahead, many a result of success. As an industry, we need to carefully consider the impact of new technologies and pressures, then put in place the right standards and regulations, and the right tools and technology. Otherwise, we will simply not be able to keep the right level of consistent service and quality for our customers, and we will be our own undoing.

Those discussions are happening, and I believe we will see many more tools launch over the coming 12 months, to help satellite live on. **PRO**



COLLISION AVOIDANCE

Current collision avoidance systems are not good enough for safety of flight, says Mark Dickinson, Chairman, The Space Data Association



The Space Data Association is working to reduce collision risk, for a safer space environment. However,

with so many processes already in place including the existing Space Data Centre (SDC), and very few incidents to date, it's easy to wonder why we even need to bother.

Current Systems

To properly answer that question, I need to first talk about the existing processes and some of their limitations. The current SDC uses data provided by all members of the Space Data Association. This of course relies on their providing timely ephemeris data with future manoeuvres included, and on the whole most members are good at doing this. We then marry that up with data from the public catalogues, such as that provided by the JSpOC. Operators are alerted of any upcoming conjunction warnings and can take appropriate action as necessary.

There are several problems. Quite simply, the data available today is simply not accurate enough for robust safety of flight. According to Analytical Graphics Inc (AGI), which runs the SDC on our behalf, the public catalogue is missing

an estimated 50% of GEO±100km crossing objects down to 20cm in size. This is significant, because objects larger than 20cm have the potential to cause serious damage if a collision occurs, and could very well further add to the debris population.

One problem is that while an operator's internally-consistent orbit determination processes are often adequate for its own station-keeping operations, inherent biases and offsets in ground networks are often too large for accurate collision avoidance. Consequently, an operator's satellite may actually be located many kilometres from where the operator believes it to be. Even a bias of a few kilometres can seriously limit the ability to undertake meaningful collision avoidance, and hence jeopardise safety of flight.

Without having pinpoint accuracy, you could well end up performing operations that actually increase the risk of a collision. This means the warnings are simply not actionable; we risk doing nothing or even making operational decisions that make the situation worse.

The Data

As part of its technical analysis, the SDA and AGI conducted extensive collision risk and encounter rate

research, drawing upon a combination of data sources and methods. Sources included JSpOC data drawn from 34,000 GEO conjunctions closer than 10km within a three-year period, conjunction data from the Space Data Centre over the same period, and four other independent analysis methods. These results were then compared in aggregate with the findings of eleven published external researcher papers. The comparisons revealed a clear picture of collision risk being as much as four orders of magnitude higher than previously understood, and relative velocities as high as 4km/s were found, far higher than anticipated.

Where do we go now?

We have worked with AGI to develop a step change in capability with the Space Data Centre 2.0. This updated version is capable of tracking much smaller objects, with much better accuracy for both active satellites and debris.

Ultimately, what that means is warnings will be truly accurate and actionable, enabling operators to effectively manage their satellites. We now need all operators to sign up, to fully maximise its potential to serve the industry and protect the space environment. **PRO**

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