

ISSUE 63 | JUNE 2017

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COMMUNICASIA REPORT

A look at what this year's CommunicAsia had on show



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Increasing demand for seamless, reliable connectivity is driving airlines to provide satellite broadband internet to passengers

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Founder

Dominic De Sousa (1959-2015)

Printed by

Printwell Printing Press LLC

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Thank you Singapore

Welcome to the June edition of *SatellitePro ME*. Last month, we were in Singapore, attending CommunicAsia. This show was probably one of the biggest since its inception. In the past, BroadcastAsia and CommunicAsia were at the same venue at Marina Bay Sands, but this year CommunicAsia took place at Marina Bay Sands, and BroadcastAsia at Suntec. This is a sign that more room was needed to fit in the influx of exhibitors and visitors coming to the show, and the fact that I had to wait in a long taxi queue every single day at the end of the show is also testament to this.

The conferences were very interesting, with topics like 5G, AI, Augmented Reality (AR) and IoT being the golden children. Advances in AI will need computers to have access to data – a lot of it. In essence, data collection and its computation will be like the 'brains' of robots, which will then access this information, compute and suggest the most accurate outcome. These systems are still fairly new though, and there is no real litmus test to see whether they can make fair decisions that are as good as those of humans, as they lack emotional intelligence.

It was a real pleasure to meet you all at the show. As always, it was lovely to get together and discuss the challenges in the industry and how the entire supply chain comes together to solve them. Boy, am I proud to be part of our little world of magic!

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

Clayton Vallabhan
Editor

In this edition:



"All providers today have options for providing news and sports channels to airlines if they require them"

Jags Burhm, SVP Aero and Global Mobility, Eutelsat

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"Pricing, when compared to BGAN or traditional SCPC transmission, was significantly lower from the start, allowing IP-SNG to emerge and grow"

Hans Massart, Market Director - Broadcast, Newtec

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"As we all experience every day, wireless technologies do not have ubiquitous reach"

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

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"Orbital debris as small as 20cm in size is capable of inflicting serious damage. Current systems lack the ability to accurately track these small objects"

Mark Dickinson, Chairman, Space Data Association

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ASBU presents

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Congestion in Space

Mark Dickinson, Chairman of the SDA, says congestion in space is set to increase further, creating the need for accurate data that can be easily accessed

Euronews' new frequency launches on BADR-4

Arabsat has announced the launch of a new Euronews frequency on its BADR-4 satellite, to join other tier-1 regional and international news channels on Arabsat BADR-4 news frequency 11996 MHz. The original Euronews frequency will remain active until the end of May 2017, while Arabsat viewers are informed about the change via Arabsat linear and non-linear media distribution networks.

"Arabsat is a long-standing partner for Euronews, and we warmly thank all the team that supported the launch of the Euronews English frequency to cover this key region," said Michael Peters, Euronews CEO.

"With Arabsat, we are guaranteed to reach a wide audience which is, in common with our consumers across EMEA, composed of curious and open-minded leaders, interested by our unique positioning."

+ www.euronews.com

+ www.arabsat.com



Michael Peters,
CEO, Euronews.

UAE AND ALGERIAN SPACE AGENCY SIGN MOU

The UAE Space Agency has signed a Memorandum of Understanding with its Algerian counterpart, the Algerian Space Agency. The MoU defines a framework for collaboration in the peaceful use of space, in line with the UAE Space Agency's strategic plans to enhance collaboration with international stakeholders in the sector.

The MoU was signed at the Algerian Ministry of Foreign Affairs by HE Dr Mohamed Al Ahbabi, Director General of the UAE Space Agency, and Dr Azzedine Oussedik, Director General of the Algerian Space Agency. The signing was attended by HE Abdelkader Messahel, Algerian Minister for Maghreb, African Union and Arab League Affairs; HE Dr Khalifa Al Romaiti, Chairman of the UAE Space Agency; and other senior representatives from both parties.

The MoU covers various aspects of the peaceful use of outer space, as well as collaboration.

+ www.space.gov.ae

ARABSAT AND ATS HOLD WORKSHOP IN ALGIERS

Arabsat, in coordination with Algeria Telecom Satellite (ATS), held a workshop in Algiers from 15-16 May 2017. Arabsat showcased its satellites' latest capabilities and how it can provide up-to-date technical solutions for satellite telecommunications and internet services covering the entire Algerian territory.

The workshop was attended by several figures and entities working in the satellite telecommunications sector in Algeria, from both the public and the private sector.

+ www.arabsat.com



EUTELSAT SELLS STAKE IN HISPASAT TO ABERTIS

Eutelsat Communications and Abertis Group have reached an agreement on the sale of Eutelsat's 33.69% stake in Hispasat to Abertis.

This follows the initiation of the process in July 2016, when Eutelsat exercised the put option granted in 2008 by Abertis, Hispasat's majority shareholder.

The agreed price for Eutelsat's stake is \$338 million, representing an EBITDA multiple of 7.1x, based on Hispasat's 2016 results. The closing of the transaction is subject to Spanish government approval and other customary conditions, and is expected in the second half of 2017.

The divestment of the stake is consistent with Eutelsat's strategy of rationalising its portfolio of assets in order to maximise cash generation.

+ www.eutelsat.com

+ www.hispasat.com

MBC starts broadcasting on Arabsat

» The MBC HD bouquet and MBC PRO SPORTS are being exclusively broadcast via Arabsat's satellite fleet on the orbital position 26°E, with full coverage over MENA, switching off any broadcast of these channels on other satellite operators over the region. This shift is an incremental step for all MBC channels to be broadcast on Arabsat satellites, based on the strategic partnership agreement signed by Arabsat and MBC Group back in August 2016.

"Today we are proceeding with what we started back on August 2016 when we inaugurated our strategic partnership with Arabsat, by broadcasting the MBC HD bouquet and MBC PRO SPORTS exclusively on Arabsat satellites, sustaining the shift process of broadcasting MBC channels on Arabsat," said Sam Barnett, CEO of MBC Group.

"We are extremely proud of MBC's trust in Arabsat satellites' capabilities, and extremely happy at the same time with the developing of our strategic partnership



Sam Barnett,
CEO, MBC Group.

with the Group, that goes back to the beginning of TV satellite broadcasting in the region. This agreement will further grow our HD neighbourhood and will reinforce our HD dominance in MENA, turning our exclusive orbital position 26-degrees E into the favourable destination for the Arab viewer. We are currently working closely with many other TV entities to broadcast exclusively on Arabsat satellites," said Khalid Balkheour, President and CEO of Arabsat.

+ www.arabsat.com

NEWTEC'S DVB-S2X TECHNOLOGY USED AT TELEVISA

Newtec announced its DVB-S2X broadcast technologies are being used in Televisa's nationwide end-to-end primary distribution system, with its MCX7000 multi-carrier satellite gateways playing a key role. The latest Satcom transmission standard, DVB-S2X, enables Televisa to offer six HD channels and improved picture quality using a 36MHz transponder.

"The deployment of the MCX7000s featuring the DVB-S2X standard in Televisa's network ensures our customer is achieving the highest possible performance," said Ramon Ertze, Regional Sales Director at Newtec.

Up to 51% additional bandwidth can be generated by the modem, which features multistream as well as Newtec's Clean Channel Technology and its linear and non-linear pre-distortion technology Equalink 3, designed to compensate for the effects of imperfections.

+ www.newtec.eu



Thuraya's WE satellite and
LTE modem.

THURAYA LAUNCHES WE SATELLITE AND LTE HOTSPOT

Thuraya Telecommunications Company has announced the launch of the Thuraya WE satellite and LTE portable Wi-Fi hotspot to meet the growing global demand for wireless data connectivity. Developed in collaboration with Beam Communications, Thuraya WE bridges the gap between satellite and GSM broadband services. It is the world's first dual mode hotspot that keeps users in contact with family and friends, no matter where they are.

The terminal facilitates seamless roaming for consumers, from satellite to terrestrial LTE services or vice versa, either via a Thuraya SIM card or a standard GSM SIM card from any of Thuraya's 395 worldwide GSM roaming partners, enabling users to use the most suitable option available.

Weighing only 1kg, Thuraya WE is compact, light and portable, and offers voice and data connectivity on-the-go. It transforms any area into a Wi-Fi hotspot.

+ www.thuraya.com

Arianespace successfully launches SES-15 on Soyuz rocket

The launch of SES-15 from the spaceport in French Guiana.



» For its fifth launch of the year, Arianespace used a Soyuz launcher to orbit SES-15 – the first all-electric geostationary satellite for the European operator SES. This marked the second mission in 2017 to geostationary transfer orbit performed by Soyuz from the Guiana Space Centre. The launch was scheduled from the Soyuz Launch Complex (ELS) in Sinnamary, French Guiana.

SES-15 is the 40th satellite to be launched by Arianespace for European satellite operator SES, following ASTRA 5B, orbited by an Ariane 5 on March 22, 2014.

As the first hybrid satellite in the SES fleet, SES-15 offers a mix of wide-beam coverage and HTS capacity. The satellite will provide additional Ku-band wide beams and Ku-band HTS capability, with connectivity to gateways in Ka-band. It will serve the thriving aeronautical sector and enable other traffic-intensive data applications.

+ www.arianespace.com

FLEET XPRESS SURPASSES 10,000-SHIP MILESTONE

Fleet Xpress from Inmarsat has secured commitments covering in excess of 10,000 ships within 12 months of launch. The milestone has been reached as a result of contracts with individual ship owners, commitments from strategic partners and transitioning agreements with existing Inmarsat customers.

“The demand for Fleet Xpress has been unprecedented since its launch at the end of March 2016, demonstrating that the market has been truly ready for the connected ship and the network supporting maritime business applications,” said Ronald Spithout, President, Inmarsat Maritime.

“Crew welfare and operational efficiency are at the heart of the award-winning service, which is why shipping is coming to see high-speed and continuous connectivity plus exceptional and guaranteed performance across the world’s oceans as imperatives, rather than aspirations.”

+ www.inmarsat.com

GLOBAL TELEPORTS PROVIDES BROADBAND FOR SUPPORT AIR

Support Air Ltd has announced that it is using Global Teleports’ recently launched occasional-use broadband service on SES satellite capacity to carry out aircraft repairs in Kaliningrad. VipNet Event, launched this month, enables companies such as Support Air Ltd to use a temporary service for the duration of a project or event. It was launched using the Newtec Dialog multiservice platform.

Support Air Ltd was tasked with providing a fast broadband service for at least two months at a cost that competes with 4G. It will bring much-needed connection throughout the important aircraft repairs.

Support Air Ltd is using a Holkirk TP120 auto-point flyaway antenna system equipped for Ka- and Ku-band operation. This supports 4Mbit/s uplink and an incoming stream at 20Mbit/s.

+ www.supportair.co.uk

+ www.globalteleports.com

EUTELSAT APPOINTS DEPUTY CEO



Yohann Leroy,
Deputy CEO, Eutelsat.

The Board of Directors of Eutelsat Communications has appointed Yohann Leroy Deputy CEO in addition to his function as Chief Technical Officer, alongside Michel Azibert, Deputy CEO and Chief Commercial and Development Officer.

Rodolphe Belmer, Eutelsat CEO, said: “Yohann has made a significant contribution to Eutelsat’s development and to our senior leadership team. His appointment as Deputy CEO, alongside Michel Azibert, reflects both his talents and the breadth of his skills.”

+ www.eutelsat.com

Inmarsat-5 F4 launches successfully

» Inmarsat has confirmed the successful launch of the fourth high-speed broadband communications satellite in its Global Xpress (GX) constellation. Inmarsat-5 F4 (I-5 F4) was launched by SpaceX on a Falcon 9 rocket at 2321 GMT from the historic launch pad 39A at NASA's Kennedy Space Center in Florida. Following satellite separation at 2353 GMT, the team acquired telemetry from its Perth ground station at 0004 GMT.

Inmarsat GX is the world's first globally available broadband connectivity service, created to enable communities across the world to benefit from

the emerging digital society.

The launch team from Inmarsat and Boeing Network & Space Systems, the manufacturer of I-5 F4, is now raising the spacecraft to a geostationary orbit, at which point the satellite will deploy its solar arrays and reflectors, and undergo payload testing.

I-5 F4 joins the three GX satellites already in orbit, which since December 2015 have been delivering unprecedented service speed, global coverage, reliability and security to users on land, at sea and in the air.

+ www.inmarsat.com



Rupert Pearce, CEO, Inmarsat.

SKY PERFECT JSAT AND LEOSAT SIGN INVESTMENT AGREEMENT

LeoSat Enterprises, which is launching a constellation of up to 108 low-Earth-orbit communications satellites that will provide the fastest, most secure and widest coverage data network in the world, has announced that SKY Perfect JSAT Corporation (SJC) has entered into an agreement to invest in LeoSat. With this agreement, SJC will be the first Asian satellite operator to pursue the development of low-Earth-orbit capabilities.

This investment underlines SJC's strong belief in LeoSat and the unique attributes of its new low-Earth-orbit network architecture, which uses inter-satellite

laser links to create an optical backbone in space, providing fibre-like low latency and gigabit-per-second data delivery. The investment in LeoSat and the agreement to jointly market this new system allow SJC to pursue new business opportunities in the data and mobility markets in sectors such as telecommunications, multinational enterprise, maritime and government services, by providing previously unavailable levels of network performance and worldwide reach.

+ www.sptvjsat.com

ETHIOPIA'S INSA SELECTS EUTELSAT FOR FTA TV



Michel Azibert,
CCO, Eutelsat.

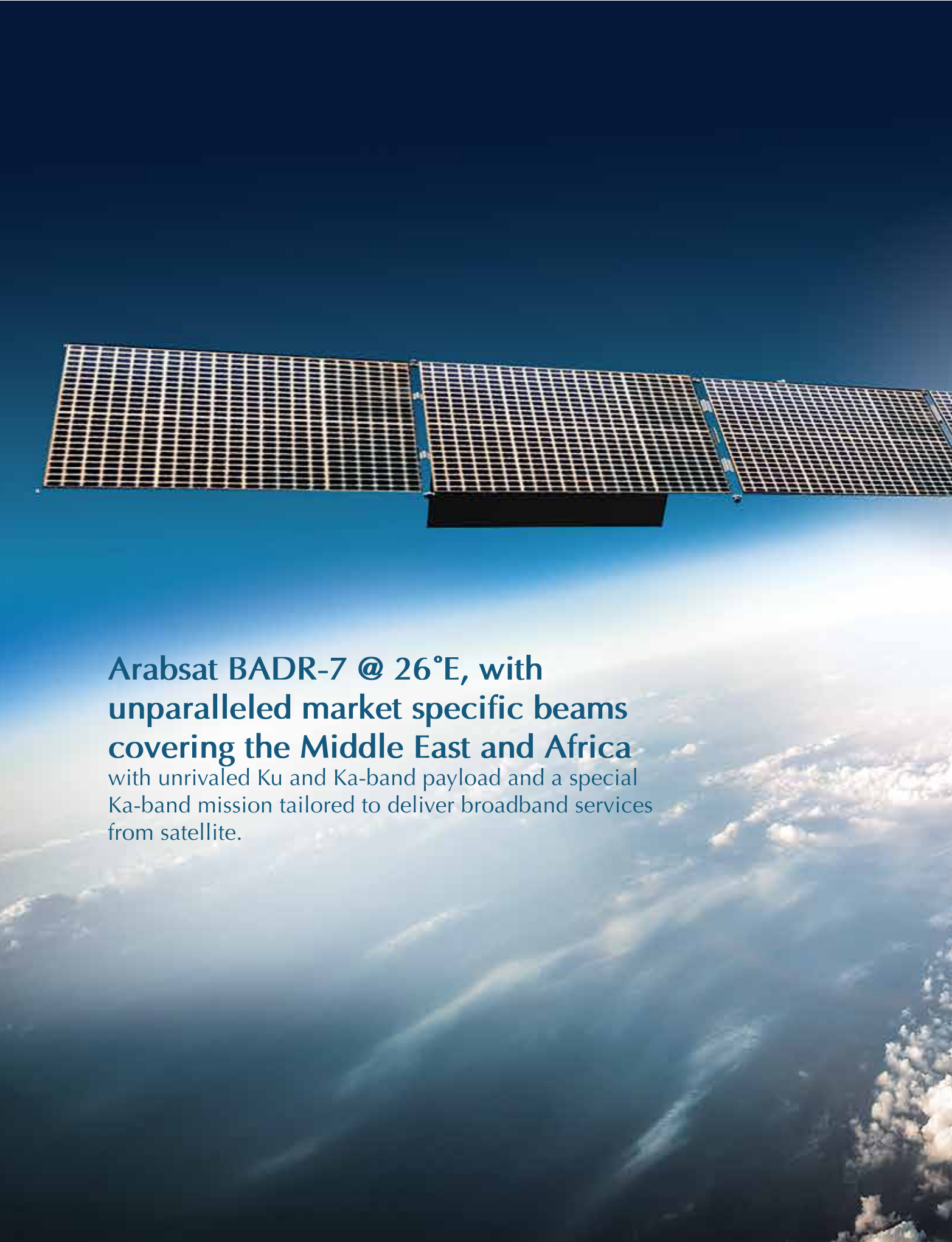
Ethiopia's Information Network Security Agency (INSA), in charge of the transformation of the country's high-tech and security industry, made official the launch of Ethiosat, its new TV platform. INSA has inked a multi-year contract with Eutelsat Communications for capacity at its 7/8° West neighbourhood. Launching with nine national channels, Ethiosat will progressively ramp up with additional content.

Ethiopia's national satellite TV landscape currently features more than 30 channels that broadcast from multiple satellites. The new platform offers licensed channels the opportunity to broadcast on a single platform, ensuring easy reception for TV homes across the country and accelerating digital take-up. The first channels, including EBC (Ethiopian Broadcasting Corporation) and Oromia TV, are available to homes on a free-to-air (FTA) basis. Multiple national and regional channels, as well as commercial broadcasters, are also candidates for inclusion on the flagship platform.

Viewers can access Ethiosat using a single gcom antenna and set-up box rather than sourcing content through multiple providers at multiple orbital positions. The new platform also taps into the installed base of antennas already equipped for reception from the popular 7/8° West neighbourhood.

Michel Azibert, Eutelsat's Chief Commercial and Development Officer, said: "This contract puts Eutelsat 8 West B firmly on Ethiopia's broadcasting map and is indicative of a new wave of growth in the country's digital TV market. The pull of our 7/8° West neighbourhood is driven by a strong channel line-up of over 1,200 channels."

+ www.eutelsat.com



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30

Transponders in
Ku-band



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SURFING ***IN THE SKY***

Increasing demand for seamless, reliable connectivity is driving airlines to provide satellite broadband internet to passengers



With our increasingly connected lives, satellite internet on aircraft is no longer just a desire, but a necessity. People want to be always connected when they travel, and they want to pay close to nothing for it. This has made airlines invest heavily in installing onboard modems and antennas to facilitate broadband internet connectivity, so that passengers can enjoy uninterrupted service in the sky.

For the majority, the costs are absorbed by the airline, but some impose minimal tariffs for passengers who want a certain allocation of bandwidth or data caps. Another scenario is where the airline offers the passenger a set number of hours of free internet usage, and then charges if the user requires more.

Mark Rasmussen, VP and GM, Mobility, Intelsat, says: "While passengers used to see broadband connectivity as nice to have, they are now becoming more demanding, expecting a high-quality, seamless experience. According to a 2014 report from Honeywell Aerospace, 66% of US passengers cited the availability of Wi-Fi as one of the most important factors when choosing which airline to fly."

Furthermore, says Ramussen: "Satellite technology enables airlines to offer their passengers Wi-Fi and broadband access so that they can surf the web and send emails and texts. As more bandwidth becomes available through high-throughput satellites such as Intelsat Epic^{NG}, users expect to be able to access large files such as business data, or download HD video."

Ben Griffin, Regional Director, MEA, Inmarsat Aviation, explains that airlines have been providing services to passengers through satellite for some time. These range from seatback phones to seatback SMS/email, in-flight GSM from 2008 and, most recently, broadband Wi-Fi such as GX Aviation, along with some TV services. Providing the connectivity is the backbone to enabling any connected service, either through a browser or a passenger's own apps.

He says: "In-flight connectivity (IFC) has already made a real impact upon the passenger experience, and airlines are recognising its huge potential. As such, it is now a significant focus



Mark Rasmussen, VP and
GM, Mobility, Intelsat.



Jags Burhm, SVP Aero
and Global Mobility, Eutelsat.



Ben Griffin, Regional
Director, MEA,
Inmarsat Aviation.

at all levels of most airlines – it is a considerable investment, after all. Most importantly, IFC enables passengers to stay connected during all stages of their journey, enriching their experience.”

“Our latest service, GX Aviation, is the world’s first in-flight broadband solution with seamless global coverage delivered through a single operator. Its unprecedented capabilities allow passengers to browse the internet, stream videos, check social media and more, with connectivity on par with broadband on the ground. Qatar Airways was recently unveiled as the Middle East launch customer of GX Aviation.”

Per Northern Sky Research, some 26,000 mobile aero terminals are expected to be in service by 2025, compared to 2,700 today. In addition, Euroconsult estimates that revenues from in-flight connectivity will reach \$6.5bn by 2026, up from \$1bn in 2016. With more passengers demanding seamless connectivity, the future experience of connected mobility across all facets of travel will ensure that new revenue-generation opportunities continue to emerge.

Jags Burhm, SVP Aero and Global Mobility at Eutelsat, thinks broadcast content may develop into a mobility value-add area in the future, as satellite providers continue to

build solutions that deliver enriched media direct to user devices and their seatbacks.

“All providers today have options for providing news and sports channels to airlines if they require them. Eutelsat already serves this market, notably through its long-term commercial relationship with Panasonic. The worldwide provider of in-flight entertainment and communications is a regular user of Eutelsat’s fleet for Ku-band capacity used as an overlay to

“All providers today have options for providing news and sports channels to airlines if they require them. Eutelsat already serves this market, notably through its long-term commercial relationship with Panasonic”

JAGS BURHM, SVP Aero and Global
Mobility, Eutelsat

broadcast live TV to aircraft. Panasonic’s live TV service offers passengers curated content as well as live channels such as Al Jazeera, BBC World News, CNBC, CNN International, EuroNews, NHK World Premium and Sky News Arabia. The licensing fees are typically the barrier for most airlines, as these can be quite high when channels are to be provided on an international basis.”

Rasmussen adds that the 2014 World Cup was made available live in mid-air on seven airlines signed up to show a live sports channel on long-haul. He says this is limited to a few channels but is a real opportunity for airlines in the future.

The terminals on aircraft vary, but they all need to achieve one thing – reliable, seamless connectivity. Upload and download speeds may change, based on the type of satellite connectivity as well as whether the aircraft is flying near the fringes of beams. The speeds also depend on the level of service an airline wishes to provide and what the user wants to do while connected.

Burhm says: “The systems comprise a SATCOM system with externally mounted antenna and an internally fitted media server with multiple wireless access points. Essentially, these operate like a ground-

based hotspot that uses satellite broadband for the connection to the internet. The primary difference is that the aircraft is moving and needs to track the satellite to maintain the connection. For passengers, the experience is very like going to a hotel and signing up for a temporary service. They connect to a Wi-Fi network and then either pay to access the internet or benefit from free access, depending on the airline."

According to Rasmussen, Intelsat is working with antenna manufacturers to fully optimise the performance of the Intelsat Epic^{NG} fleet and simplify access to the satellite technology.

"Kymeta's flat, thin, light and low-cost satellite tracking antennas will provide complete flexibility to establish connectivity via any device, while Phasor's ultra-thin, fuselage-mount active array antenna will deliver significantly higher broadband speeds to civil and government

"Now the data speeds offered by IFC services are catching up, making connectivity comparable to that experienced on the ground a reality. That said, providing technology to keep up with terrestrial trends is far from easy"

BEN GRIFFIN, Regional Director, MEA, Inmarsat Aviation

small jets via Intelsat Epic^{NG} satellites.

"During a recent test flight aboard Gogo's Airborne Test Lab, passengers

connected to the Internet via Intelsat Epic^{NG} Gogo reported that guest use varied from speed tests to streaming Netflix movies and streaming live video to Facebook and Twitter. With more than 50 devices online, passengers reported download speeds on average of 50Mbps, using a variety of devices, and some tests recorded speeds of more than 100Mbps. Upload speeds were reported at up to 8Mbps."

Obtaining sufficient bandwidth has been a key challenge for IFC service providers to date; available bandwidth varies depending on the region and the number of people wishing to connect. Griffin of Inmarsat Aviation says it has been important to manage passenger expectations and difficult to offer passengers complete freedom to do what they want once connected.

"Now the data speeds offered by IFC services are catching up, making

An Inmarsat GX Aviation installation.





Internet connectivity on airplanes is a must-have for modern passengers.

connectivity comparable to that experienced on the ground a reality. That said, providing technology to keep up with terrestrial trends is far from easy, especially when the satellites supporting the services are worth upwards of \$300m and reside 36,000km above the surface of the Earth,” he explains.

Burhm says satellite operators have seen the capacity for in-flight connectivity double in the last two years, and this trend is not going to stop.

“The airplane of tomorrow will be smart, highly connected and always on, generating massive volumes of data and managing passenger and flight crew communications. Major airlines are expecting an explosion of information, reaching half a terabyte of data per flight, generated from a growing number of sources, from employees and customers to cargo containers and components.

“Eutelsat will step up to this growth through strong partnerships and technologies that drive down cost and drive up flexibility and scalability. Wideband coverage, multi-band capacity,

“While passengers used to see broadband connectivity as nice to have, they are now becoming more demanding, expecting a high-quality, seamless experience”

MARK RASMUSSEN, VP and GM,
Mobility, Intelsat

high-throughput satellites and software-driven satellites are just some of the solutions on our flight path that will make in-flight connectivity as normal as and as available as the in-flight magazine and the complimentary drink.”

He also thinks in-flight connectivity through satellite will continue to grow significantly over the next 10 years. A lot of airlines have ordered high-speed

systems, and connectivity for passengers and operational processes are expected to deliver greatly improved passenger experiences, along with monetisation for airlines through operational cost savings.

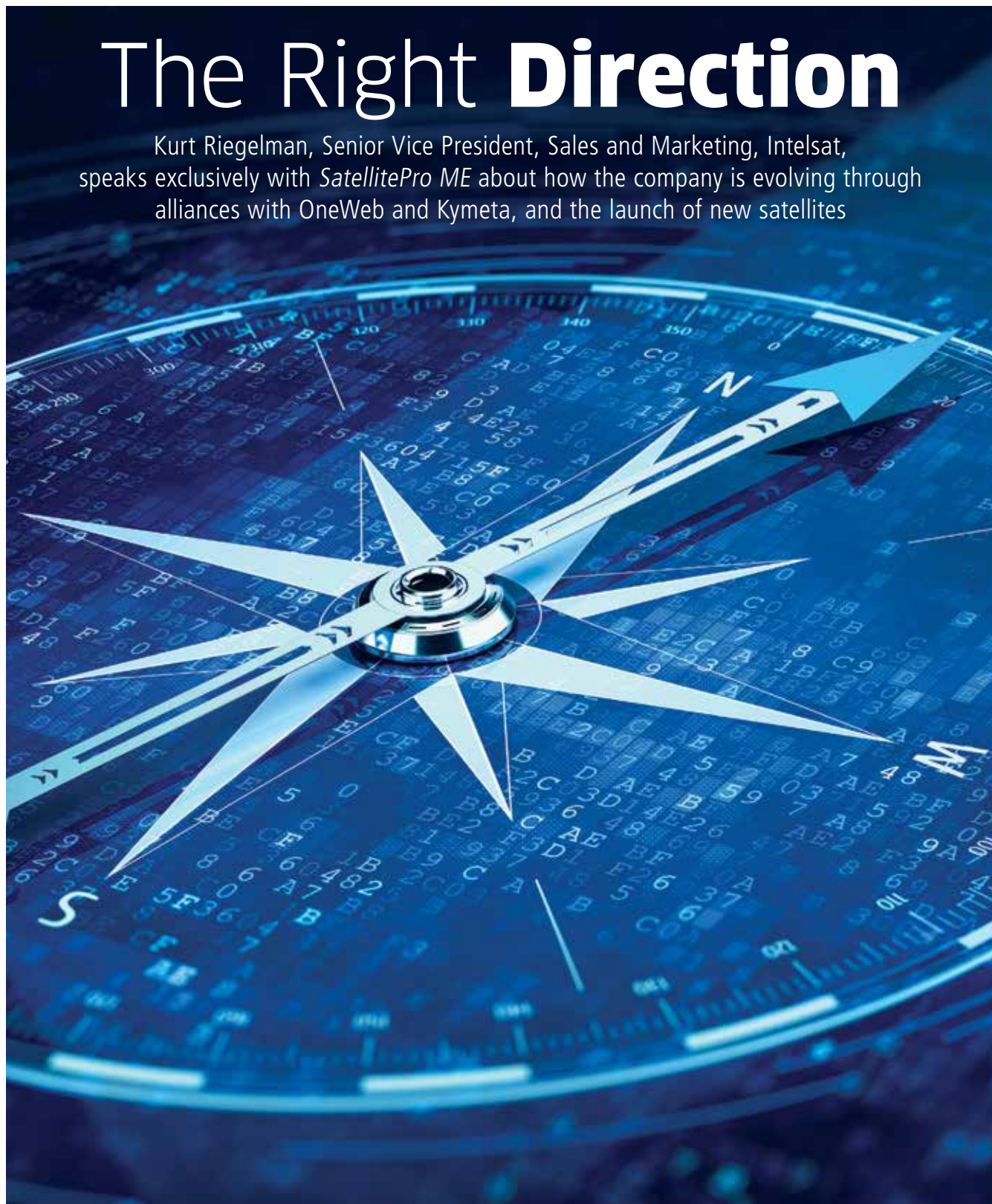
Generating revenue through connectivity enablement is already happening today, but is expected to increase dramatically as airlines and suppliers find more ways to monetise these types of services.

Rasmussen thinks opportunities in the in-flight connectivity arena are endless.

“Increased connectivity has the potential to advance aircraft functionality across an array of areas, from speed issue resolution to enhanced cabin service and improved cabin control. Advancements in connectivity will also have an impact on the passenger experience inside and outside the aircraft, enabling passengers to track their luggage and offering a door-to-door experience. Air travel will continue to evolve and Intelsat Epic^{NG}, ensuring enhanced performance, better economics and easier access to the technology, is ideally positioned to respond to these growing requirements, today and in the future,” he concludes. **PRO**

The Right **Direction**

Kurt Riegelman, Senior Vice President, Sales and Marketing, Intelsat, speaks exclusively with *SatellitePro ME* about how the company is evolving through alliances with OneWeb and Kymeta, and the launch of new satellites



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

“Intelsat works with the world’s leading content owners, distributing their content on six continents. From our vantage point, it is clear that the advent of the multiscreen environment is adding complexity to the operations chain”

KURT RIEGELMAN, Senior Vice President,
Sales and Marketing, Intelsat



With Intelsat’s alliance with OneWeb, what direction is the company taking? GEO and LEO orbits combined?

We believe that combining Intelsat with OneWeb will create an industry leader unique in its ability to provide affordable broadband anywhere in the world, including in the Middle East. Intelsat’s globalised network already provides many options, on many satellites, that blanket the Middle East with capacity. The big difference will be a user terminal that is lower-cost, smaller in size and thus able to be utilised in new applications, as compared to today.

Remote operations and connected machines are part of the next generation

of devices, all of which need connectivity. As we all experience every day, wireless technologies do not have ubiquitous reach. Many connectivity solutions will be needed in the future to address the demand for a fully connected world. We believe that by merging OneWeb’s LEO satellite constellation and innovative technology with Intelsat’s global scale, terrestrial infrastructure and GEO satellite network, we will be positioned to play a much larger role in the communications landscape. Consumers will find themselves using satellite more and more.

With the launch of IS-33e, what percentage of bandwidth gains have

your customers experienced?

At SET Expo 2016, Intelsat further demonstrated how next-generation satellite technologies for Ku-band distribution will deliver greater efficiencies and a more immersive viewing experience for audiences. The higher performance and efficiency of Intelsat Epic^{NG} enables satellite links with higher order modulation standards such as DVB-S2X, resulting in spectral efficiency gains (bits/Hz). Combining the innovations of Intelsat Epic^{NG} with Newtec’s next generation of ground technologies resulted in a 4K UHDTV signal transmission at 20Mbps, using only 5.8MHz of bandwidth – up to a 30% efficiency gain in a typical distribution

network. This means increased cost savings, profitability, interoperability and growth for media customers.

What do you think HTS 2.0 will be like? Can more applications and demand be created?

HTS 2.0 will increase responsiveness to the market through features such as software-definable payloads and steerable beams. Fifteen years is a very long time to keep an asset relevant. Those features will result in more agility with respect to satellite solutions and address the long-term business case.

With spot beams, you can individually broadcast content to pinpoint geographies. This will allow advertising on TV to be localised. Have any of your broadcast clients benefited from this, and if so to what degree?

Media organisations can integrate Intelsat Epic^{NG} high-throughput spot beams to more efficiently connect key point-to-point contribution routes (e.g., from venue to studio), use smaller terminals for increased efficiency and agility on the ground and distribute regionalised content for occasional-use and full-time services.

Probably the best example of this is the DTT network that we are supporting in Armenia on Intelsat 33e. Armenia falls perfectly within the footprint of one of the spot beams, creating a very efficient distribution platform for customised content for that small country.

Intelsat was the first satellite operator to provide next-generation, high-throughput satellite spot beams to support occasional-use services at the Summer Games in Rio. KDDI, a Japan-based global telecommunications company, used a regionalised C-band beam on IS-29e for occasional-use contribution services for a Tier 1 global media customer. That enabled a more cost-efficient transport of high-definition video signals from sports venues at the Games to the International Broadcast Centre in Rio de Janeiro.

Intelsat recently acquired a partial stake in Kymeta, and a seat at the board. Why are flat bed antennas of interest for an operator?

Intelsat has said from the outset that to fully capture the promise of high-throughput satellites (HTS), three elements must be present: higher performance, enhanced economics and simplified access.

We know that the site installation is a hurdle to the wider adoption of satellite-based solutions. Kymeta's metamaterial antenna, which will be lower-cost over time and electronically steerable, creates a more favourable form factor and lower operational costs, simplifying access to satellite technology. This partnership and others that we are pursuing, such as our work with Phasor, will yield a range of antenna and terminal products across core application verticals such as mobility, content delivery and wireless backhaul.

How can IntelsatOne Prism help with IP delivery?

Intelsat works with the world's leading content owners, distributing their content on six continents. From our vantage point, it is clear that the advent of the multiscreen environment is adding complexity to the operations chain. At the same time, changing revenue trends emphasise the need for cost efficiency across the programmer's network.

To meet this challenge, Intelsat is offering services, distribution platforms and outsourced operations solutions that emphasise efficiency in the global multiscreen environment. For example, IntelsatOne Prism is an IP media satellite platform that leverages two-way VSAT technology to deliver video, voice, internet and data for remote production, news gathering and network affiliate connectivity – a capability that has not been previously available via satellite for broadcasters. IntelsatOne Prism supports a seamless transition to IP delivery, economically streamlining and integrating with existing video and IT operations.

IntelsatOne Prism will help our customers realise their optimal programming vision. It will help them transition to IP so they can pursue rapid changes in broadcast technology and take advantage of OTT, UHD TV, HDR and other developments.

What is Intelsat's strategy and outlook for the Middle Eastern market?

Our strategy in the Middle East is directly focused on providing high-throughput data services through our Intelsat Epic^{NG} satellite platform. We're working with our partners to distribute a variety of channels from the region to locations all around the world. A great example is our Galaxy 19 satellite, which distributes our ethnic video neighbourhood throughout the United States.

Galaxy 19 is a free-to-air neighbourhood that serves Arab, Farsi and many other communities. There has been an increasing demand to transition to HD content on this satellite, which further adds to its appeal as a highly sought-after neighbourhood.

Can you discuss any new or existing customers in the Middle East?

We enjoy long-term relationships with some of the largest and most established telecom providers in the Middle East, such as Saudi Telecommunication Company and Etisalat. Earlier this year, we announced an agreement with leading broadband service provider Quantis Global to enhance and expand the Quantis network using services provided through Intelsat Epic^{NG} high-throughput satellites and IntelsatOne Flex services, to bring higher performance broadband services across the region. Quantis is incorporating services from Intelsat 33e and Intelsat 37e satellites, Intelsat's managed services and IntelsatOne Flex for Enterprise. The network leverages Intelsat teleports and will serve NGOs, enterprise, embassies, the oil & gas sector, and maritime customers in Europe, the Middle East and Africa. Last year, we announced an agreement extension with Saudi Telecommunication to use connectivity on Intelsat 10-02 for satellite services in the oil & gas sector in the Kingdom of Saudi Arabia. The telecom operator uses multiple satellites in Intelsat's globalised network to provide high-quality broadband networking for corporate customers in the banking, government and oil & gas sectors operating throughout the Middle East and Asia. **PRO**





News from the Field

The emergence of HTS has helped satellite news gathering gain a stronger hold in the field, with more reporters being able to broadcast news at higher speeds from anywhere in the world, at any time

Satellite news gathering (SNG) allows easy newscasting access from anywhere in the world by forming a communication link between mobile equipment and assets, both in space and on land. This essentially equips in-the-field coverage with much of the same scope as newsroom broadcasts.

Najwa Ayoub, Manager – Market Development Media/NGO/Mining at Thuraya, says: “With the growing trend in remote news gathering, journalists are increasingly expected to write, produce and be their own cameraperson for the news they deliver. The products and devices they require for their work must function with ease and excellence. We at Thuraya have invested our efforts in designing mobile satellite equipment that seamlessly meets the needs of our broadcast media customers.”

IP has become the norm to cover live news events for multiple applications, including live video. With the emergence of HTS creating lower costs for connectivity and at the same time allowing more data

to be transferred, a shift is taking place.

Hans Massart, Market Director – Broadcast at Newtec, says: “Focusing on IP links via satellite, the shift towards IP has been initiated with the emergence of HTS/Ka-band satellites. They were the first to adapt an Mbps rather than an MHz business model. Pricing, when compared to BGAN or traditional SCPC transmission, was significantly lower from the start, allowing IP-SNG to emerge and grow. All of the services as mentioned above became possible by this shift towards IP. However, an IP link over satellite does not necessarily have to be set up using HTS or Ka-band frequency.”

“Other services launched a while ago, such as IntelsatOne Prism and Network Innovations Maverick, are comparable to the GEO-HTS services, addressing also the SNG market. These managed services are based on Newtec Dialog, the Newtec VSAT platform. Today they are using traditional Ku- and C-band transponders, but as the Newtec Dialog platform is future-proof it can also support other frequency bands and, of course, HTS.”

The basic equipment required is a video camera and laptop set up to be used with mobile broadcasting software, and a mobile broadband terminal or satellite antenna. Ayoub explains that by linking state-of-the-art ground and space assets, the SNG technology promises a comprehensive end-to-end solution. This ensures seamless wireless capabilities that support journalists in the field – who often work on rough terrain and in perilous environments – in delivering otherwise hard-to-access coverage.

To cover news events in the new way and aggregate enough IP bandwidth to concurrently handle all services a remote location requires, the specialist cellular bonding industry now bonds all available IP networks at a given point in time, whether it is 3G/4G, microwave, Wi-Fi, fibre, Ka- or Ku-band satellite, explains Massart.

“Modern mobile newsgathering kits can accommodate this aggregation. In the race to be first to air, flexibility, agility, efficiency, reliability, compactness or portability, and ease of use are critical. As well as having the breadth of IP-supported media available, an intelligent connection management system handles bandwidth fluctuations over each



Hans Massart,
Market Director-
Broadcast, Newtec.

“As far as SNG trucks go, we see a trend towards downsizing to camera cars and often fly-aways, due to further integration and miniaturisation of products and components”

HANS MASSART, Market Director-
Broadcast, Newtec

medium, taking into account the different quality of service these applications require per terminal. Additionally, this system can flexibly address redistribution of available satellite bandwidth over the concurrently communicating remote terminals,” he says.

So how has equipment changed over the years?

Massart thinks field crews rely more and more on IP technology to transport multiple services concurrently: video, voice, files and general broadband applications. The possibility for broadcasters to choose from satellite, cellular, Wi-Fi or Ethernet IP connectivity on an ad hoc basis provides them with more tools to establish a

Thuraya's IP+
broadband terminals
are IP55-certified.



flexible, reliable and cost-effective way to deliver more content, from more locations and more vantage points.

"As far as SNG trucks go, we see a trend towards downsizing to camera cars and often fly-aways, due to further integration and miniaturisation of products and components but also due to, for example, the advent of Ka-band: a journalist and cameraman are enough to handle the event coverage (mobile journalism). However, for large events which are well planned in advance, larger SNG vans may even be accompanied by OB vans to allow full production on-site. The importance of the covered event, security reasons and even weather conditions will make sure not all SNG vans are replaced by camera cars, fly-aways or drones," he adds.

The challenges in the industry remain equipment cost, portability and reliability, which are relative to the setting that the reporters are working in.

Ayoub says: "We face these challenges by working tirelessly to further the existing technology we already offer. Our customers often work in the harshest of environments, from war zones to being in extreme weather conditions at mountain summits. We are aware of these sensitivities, and so we work with top manufacturers worldwide to develop and produce top-of-the-range products that can work well under any circumstances."

"Our current product, the Thuraya IP+, offers best-in-market value and features, as it is the lightest, smallest and most durable broadband terminal, delivering speeds of up to 444Kbps standard and 384Kbps streaming. Additionally, such terminals are certified to IP55 standards and so are guaranteed to withstand tough environments. We also offer an incredibly flexible unlimited pricing plan which allows our customers to use their terminals without the hassle of payment concerns at month-end."

She adds that the main user of Thuraya's equipment are media organisations, broadcast journalists and photographers. With citizen journalism on the rise, media outlets are forced to compete with social media platforms like Facebook, Twitter, YouTube and Snapchat for viewership. Broadcasters do differentiate themselves of course, with their journalism prowess,

Newtec on challenges with SNG and how they are being addressed

SCPC vs MF-TDMA

Current satellite technologies (MF-TDMA and SCPC) either do not adequately support on-demand bandwidth or high efficiency/high bitrate transmissions.

Switching between the two can cause considerable satellite link outage, packet loss and space segment fragmentation. Newtec Mx-DMA addresses these challenges, combining MF-TDMA flexibility at SCPC-like efficiencies on either Ka-band or Ku-band infrastructures.

Deterministic QoS Behaviour

A next-generation VSAT platform features a multi-level deterministic QoS model, providing similar flexibility to terrestrial networks. Newtec Dialog features a multi-level QoS model.

Scheduling System

When a satellite operation is intended to work independently of other IP media, dedicated scheduling software with a customer-friendly graphical user interface (GUI) can be provided. Newtec's SATLink Manager is one example.

Integration into an Intelligent Connection Management System

More know-how on the satellite network's status (e.g., congestion levels) and control over QoS configuration parameters (CIR/PIR) enable connection management systems to act intelligently based on their understanding of all-IP networks. This information is retrieved through a rich API of the VSAT platform, like the one provided by Newtec Dialog.

the gathering of expert opinions and data, and footage quality.

“They do, however, also need to be the first to get to the news source, before it becomes old news; this is a challenge that the technology we deploy helps solve, as our SNG equipment offers always-on coverage to journalists that go into the most remote regions,” says Ayoub.

Massart says large broadcasters often own their own fleet, possibly extended with freelance equipment and services, SNG fleet operators and news agencies.

“Rentals are also possible as part of a managed connectivity service which includes the space segment. When terrestrial links are unavailable, for example in war zones or following a natural disaster, IP satellite is the preferred communication path – when terrestrial links don’t provide enough bandwidth or when bandwidth becomes contended over time, as more news crews arrive on-site to cover an event, when cellular connections suffer from too much jitter, affecting the video quality,” says Massart.

Future Trends

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

Massart says: “The emergence of single all-IP connectivity for both broadcast and data services can address these complex operations, opening up the possibility of using a single multiservice infrastructure for live content, file exchanges, remote monitoring and control, broadband access, access to content archives and media asset management systems, to name a few.

“Another major trend is remote production whereby all camera captures and other relevant data are transported from the event site to a remote studio, which can significantly reduce OpEx, even when large aggregated bitrate streams are transmitted. When these streams are transmitted over satellite, efficient use of the available space segment is paramount. Aside from using the latest DVB satellite transmission standard,

“Now that constant connection is a given, the need for better speeds that can deliver higher quality broadcasts is an increasing necessity”

NAJWA AYOUB, Manager – Market Development Media/NGO/Mining, Thuraya

DVB-S2X, a multiservice IP pipe can also bring additional cost-saving advantages, as a single carrier per transponder can be created, which allows further optimisation.”

Ayoub says access to higher higher data speeds is currently fuelling remote news gathering trends.

“Now that constant connection is a given, the need for better speeds that can deliver higher quality broadcasts is an increasing necessity. We also need to ensure that we integrate mobile broadcast solutions with the latest in encoding technology, a challenge that our industry will no doubt meet with a spirit of innovation and excellence,” she concludes. **PRO**



Najwa Ayoub,
Manager – Market
Development Media/
NGO/Mining, Thuraya.

Batelco and Ericsson conduct first 5G trial in Bahrain

▶ Batelco and Ericsson have joined forces to successfully conduct the first-ever 5G trial in Bahrain at Batelco's Headquarters in Hamala, as part of the Batelco and Ericsson 5G Forum.

Minister of Transportation and Telecommunications H.E. Eng Kamal bin Ahmed Mohammed, Batelco Chairman Shaikh Mohamed bin Khalifa Al Khalifa, eGovernment Authority CEO Mohammed Al Qaed, members of Batelco's Board of Directors, and executive management and officials from Batelco and Ericsson attended the prestigious event.

The trial aims to drive innovation for IoT applications on 5G mobile network technology, based on the market requirements in Bahrain. The trial demonstrated 5G capabilities in a real-world environment and over a live network, including tests of speed, latency and beam steering, reaching a record speed of 25Gbps.

The 5G trial system also demonstrated a vast improvement in performance in comparison to current 4G networks. It was conducted in line with Bahrain's Economic Vision 2030, launched by His



Majesty King Hamad bin Isa Al Khalifa to provide a clear direction for the continued development of the Kingdom's economy. At its heart is a shared goal of building a better life for every Bahraini.

Batelco Bahrain CEO Eng Muna Al Hashemi said: "The trial was a demonstration of our commitment to ensure that we are offering the very best telecommunications services and digital solutions, as well as providing a digital backbone for the Kingdom of Bahrain as it moves to life in the networked society of the future."

During the Forum, a variety of discussions

took place, enabling Ericsson to present the latest technology trends, and for Batelco management to experience these technologies through demos which addressed 5G, IoT, key industry use cases, the cloud and digital transformation, among other topics.

According to Ericsson's 5G Business Potential Report, 5G has the potential to drive \$600 million in 5G opportunities for 5G players in Bahrain.

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+ www.ericsson.com

DU AWARDS SIX AUS STUDENTS SCHOLARSHIPS

In line with its commitment to invest in the education and empowerment of youth in the UAE, American University of Sharjah has chosen six deserving students from five different countries as beneficiaries of the Emirates Integrated Telecommunications Company (du) Scholarship Fund. The students, who hail from Pakistan, Sri Lanka,

Iraq, Somalia and Canada, were chosen based on their GPA scores and financial requirements. The Scholarship Fund will contribute 15% to the overall tuition fees for each student, a total capital fund of \$544,514. The interest earned will be matched by AUS and the collective interest earned will be used to provide scholarships.

Furthermore, the \$544,514 fund provided by du to AUS is for perpetuity, as the capital will be held for years to come and the interest earned will benefit many students in the university.

"We continue to believe that the investment made in our youth today will reap multiple benefits in the future. As a UAE national company, we are committed to supporting educational efforts through our corporate sustainability initiatives," said Abdulwahed Juma, Executive Vice President, Brand and Communications, du.

+ www.du.ae



Abdulwahed Juma,
Executive Vice
President, Brand and
Communications, du.

ETISALAT GROUP SUBMITS BID FOR MOBILE LICENCE IN OMAN

Etisalat Group has announced it has submitted a bid for the mobile licence in the Sultanate of Oman.

The bid is in line with Etisalat Group's expansion strategy, considering the market potential and similarities, footprint proximity to its core market, and likely synergies.

The qualified bidders will be announced on 14 August, 2017 by Oman's Telecommunications Regulatory Authority.

The Telecommunications Regulatory Authority (TRA) is the implementing authority of the Sultanate of Oman's telecommunications policies. It was established in 2002 to liberalise and promote telecommunications services in the sultanate under the Telecommunications Act.

+ www.etisalat.com

+ www.tra.gov.om

Nokia and Zain KSA use MEC to help Umrah and Hajj pilgrims

» Nokia and Zain Saudi Arabia have deployed Nokia's Multi-access Edge Computing (MEC) platform for the delivery of smart applications to subscribers in the vicinity of Mecca, allowing them to navigate the crowds and ensure the best mobile experience during the Umrah and Hajj pilgrimage.

Busy events can create challenges

for operators as many people attempt to access the mobile network at the same time. With millions making the Umrah and Hajj pilgrimage each year, this challenge is elevated.

Following a successful trial during the last Hajj, Nokia and Zain have deployed the Nokia MEC platform together with Edge Video Orchestration

over the network, using both macro and small cell base stations to enhance the experience for Zain subscribers.

The Nokia MEC allows applications to be hosted closer to the edge of the network, therefore closer to subscribers, to efficiently use network resources and open up new opportunities for the delivery of compelling, tailored services in high-traffic locations. By combining MEC with Edge Video Orchestration, video feeds can be efficiently broadcast to multiple subscribers' devices simultaneously with millisecond latency. Massive data processing is performed by deploying Nokia AirFrame Data Centre technology.

For the deployment, Nokia also employed network implementation, system integration and network planning and optimisation services.



+ www.nokia.com

+ www.sa.zain.com

TRA UAE WINS GLOBAL AWARD FOR MOBILE GOVERNMENT SERVICES

The Centre of Digital Innovation (CoDI) in the Telecommunications Regulatory Authority (TRA) has won the Global Mobile Government Award organised during the Mobile Government World Summit 2017, held recently in the UK. More than 100 teams from around the world participated in the competition, and the participating UAE Project was ranked first regionally, and second globally, as the best implementer of smart technologies in the development of government services and future-shaping. Eng Majid Al Madhloum, Director of CoDI, received the award on behalf of TRA in the Summit in Jurys Inn Waterfront, Brighton.

Commenting on this achievement, H.E. Hamad Obaid Al Mansoori, TRA Director General, said: "We are proud that the Emirati innovation projects are valued in international forums, which indicates the position of our beloved country. In this framework, we continue to work in accordance with our wise leadership directives, to apply the concepts of creativity and innovation to develop projects, plans

and programmes that contribute in achieving sustainability, and reaching the highest levels of happiness that represents the ultimate goal of the government."

H.E. Al Mansoori added: "I would like to extend our appreciation to the employees of CoDI, and urge them to work more closely with the brothers in government entities, in order to achieve the Centre's objectives



Hamad Obaid Al Mansoori,
TRA Director General.

in establishing a culture of innovation, as well as enhancing national capacities to endure the burdens of major developments of the future, in particular transitioning towards smart cities and intensive utilisation of artificial and digital intelligence."

The Global Mobile Government Awards is a global competitive platform that highlights advanced experiences in technology utilisation to provide government services and develop the public sector. According to the awards website, many of the nominated projects for this year revealed a depth and comprehensiveness in shifting towards smart transformation and dissemination of smart government culture, and the provision of government services through various channels available to all the public segments.

CoDI has been established as part of the implementation of the national government plan in the UAE. It aims to enhance the digital process in the country through research, innovation and education.

+ www.tra.gov.ae

Batelco Group announces financial results

» Batelco Group, with operations across 14 countries, has announced its results for Q1 2017. Batelco Group reported a promising start to the year with net profit and EBITDA showing improvement over Q4 2016.

For the first quarter of 2017, the Group reported gross revenues of \$237.9m, in line with the prior year, with a marginal 1% decrease year-over-year and 5% decrease over Q4 2016.

Revenues continue to be impacted by competitive pressure in a number of markets across the Group.

EBITDA for the period was \$85.7m, representing a margin of 36%. Despite an 8% decline over Q1 2016, EBITDA increased by 7% from the previous quarter. The Group continues to sustain its robust EBITDA margin as a result of its cost containment programmes.

For the period, the group net profit was \$21.8m, a 14% decline compared to Q1 2016 but up by 58% over the previous quarter. Net



Sheikh Mohamed bin Khalifa Al Khalifa, Group Chairman, Batelco.

profit during Q1 2017 was impacted by \$4.0m share of loss from an associate in Yemen.

The Group's balance sheet continues to be strong with net assets of \$1,394.7m and substantial cash and bank balances of \$477.7m.

Batelco Group Chairman Sheikh Mohamed bin Khalifa Al Khalifa, who announced the Q1 2017 financial results following a meeting of

the Board of Directors on May 4 at Batelco's Hamala headquarters, said he was pleased to note a substantial improvement in net profits over the last quarter of 2016.

"We continue to be responsive to changes in the various markets we operate in, and strive to deliver relevant services and solutions that most suit our customers in each location. Strengthening our digital capabilities remains high on the agenda in a number of the Group's operations; accordingly we are investing in fibre networks and the development of our digital solutions portfolio," he said.

"Batelco Bahrain aims to provide high-speed internet for the majority of Bahrain's homes, businesses and government bodies, in line with the Government of Bahrain's fourth National Telecom plan. We are focused on playing our part in ensuring that Bahrain is among the best connected countries in the wider region," Khalifa added.

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GBI SIGNS \$285 MILLION LOAN REFINANCING

GBI has announced the finalisation of a significant loan refinancing deal that will allow the company to explore new business and investment opportunities and further support its successful transformational journey. GBI sealed a \$285m loan refinancing deal with a major financial house in Qatar and the Arabian Gulf.

Abdulla Al Rwaili, Executive Vice Chairman and Managing Director of GBI, said: "The support extended from the financial community demonstrates confidence in our innovative business model and future investment plans. The added liquidity will further support our transformation by enabling sustainable growth and enhanced financial flexibility to launch new strategies for business expansion."

GBI CEO Amr Eid said: "The loan refinancing initiative comes after the capital increase by GBI's major shareholders in Q2 2016 that reflected their confidence and aspirations in GBI's unique transformation into a true global service provider. This loan will be long-term and will accelerate our ability to pursue organic and inorganic business opportunities, across different geographies and verticals."



Amr Eid, CEO, GBI.

+ www.gbiinc.com

ETISALAT OFFERS DISCOUNT ON E-LIFE PACKAGES

Etisalat has announced a limited-time offer for its eLife Entertainment package. Customers who subscribe or upgrade will receive a 50% discount for three months with premium TV channels and no installation charges.

The eLife entertainment package is bundled with a home telephone, 50Mbps broadband and eLife TV with premium TV channels from the region and around the world, plus thousands of hours of on-demand content.

Jonathan Haysom, VP, Home Product Marketing at Etisalat, said: "Etisalat is committed to delivering greater value offers for both our existing customers and to those upgrading to the eLife experience for the first time."

"This new promotion will allow customers to subscribe to one of our most compelling eLife plans at a lower price point and be entertained all summer long."

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What a **Show!**

CommunicAsia brought some of the best players in the satellite market together to discuss the future of the industry. We take a look at some of the highlights

Differentiation **is key for telcos**

Stephane Palomba, VP of Global Cellular Services at Speedcast, spoke at a presentation at CommunicAsia about growth opportunities from recent improvements in VSAT technology, including in cellular backhaul.

Speaking to a full audience of industry professionals, Palomba commented: "In order to differentiate, telecommunications operators must address the trend of bringing connectivity to remote locations... Providing services for rural areas has never been a priority for most operators, as it's challenging to provide connectivity in remote and harsh environments."

"As the industry faces market consolidation, telcos must find a way to differentiate to gain market share, otherwise they risk falling behind.

The future is rural connectivity."

Palomba described several reasons why rural connectivity can now be more easily attained, including new advances in VSAT technology (including the DVB-S2X standard to increase efficiency), the rise of low-Earth orbit (LEO) and medium-Earth orbit (MEO) satellites, and the gradual reduction in the cost of bandwidth. At the same time, SMS and voice services have become commodities and the demand for mobile data has grown.

"Satellite services are becoming more affordable to deploy and with the launch of new constellations, efficiency is increased and latency is reduced, allowing telecom operators to offer a high-quality service to their customers," continued Palomba. "Applications such as

e-banking are in high demand in remote locations, and low latency is needed for them to be successfully used."

Speedcast has been championing cellular backhaul and VSAT technology to connect people around the world for the past 15 years. The rise of LEO and MEO satellites has led to improved connectivity, lower latency and better overall service quality.

Palomba concluded: "Speedcast has the capability to provide seamless communications and IT solutions through cellular backhaul and VSAT services to everywhere in the world because of its expertise and partnerships with global satellite operators. Satellite connectivity has become so reliable that it is driving the shift to rural connectivity, and Speedcast is at the forefront of leading the change."

Dubai Police to deploy O-R3

A Memorandum of Understanding (MoU) was signed between the Dubai Police Force and OTSAW Digital at CommunicAsia this year, to deploy its new O-R3 security robot as part of the Smart Dubai initiative.

Dubai will be the first city in the world to deploy O-R3 robots from end 2017, with a total of 100 robots by 2020 in conjunction with EXPO 2020 in Dubai.

"CommunicAsia has helped OTSAW Digital to reach international clients, gather massive interest – and brought us high-quality leads, with the MOU signed during the event, after they read about us in the news!

"This is a true testament to the importance of CommunicAsia to the region in moving the needle in the implementation of smart city initiatives. A truly fruitful experience!" said Ling Tingming, CEO of OTSAW Digital.

Thuraya launches Aero and Thuraya WE



Thuraya showcased its latest products, solutions and services at this year's CommunicAsia exhibition and conference in Singapore.

Visitors engaged with Thuraya's delegates to gain insight into the new high-tech portfolio of products on display. The highlight of the year was the recently launched Thuraya Aero and Thuraya WE.

Acting Chief Commercial Officer of Thuraya Rashid Baba said: "CommunicAsia is an important platform for Thuraya

as it allows us to continue developing our strong presence in Asia."

"We are showcasing and demonstrating our latest products, meeting with several key partners, customers and industry leaders during this dynamic event to discuss the capabilities and diverse possibilities of our products and services."

Thuraya Aero is an advanced airborne satellite communication service that enables in-flight connectivity for internet access, voice calls, text messaging, HD video streaming and other high-speed data applications on board small to medium sized aircraft. It delivers real-time communication from the air via Thuraya's extensive and reliable satellite network.

Thuraya WE is the world's first dual mode satellite and LTE hotspot that enables Wi-Fi access in any area. WE seamlessly extends the range of terrestrial GSM coverage via Thuraya's satellite network for uninterrupted connectivity.

Inmarsat presents entire portfolio at the show

Inmarsat returned to CommunicAsia this year and showcased the latest satellite services and solutions powering the Internet of Things (IoT) and enabling the emerging global digital society.

"Asia-Pacific is a crucial market for Inmarsat across aviation, enterprise, government and maritime industries. With the successful launch of our fourth broadband satellite in the GlobalXpress (GX) constellation last week, we expect the demand for satellite communications to increase.

"This further reinforces Inmarsat's commitment to providing reliable, resilient and high-speed satellite

connectivity globally," said CEO Rupert Pearce.

The latest updates included the recent launch of the fourth Inmarsat-5 (I-5 F4) satellite and other equipment including FleetOne, IsatHub, BGAN terminals, the Fleet Xpress terminal and L-TAC.

As part of the SatComm 2017 programme, Todd McDonnell, Vice President of Inmarsat Global Government Solutions, was on an expert panel that covered topics such as how IP and hybrid networks are set to change the satellite industry, how content delivery will evolve, and how best to meet customer expectations for video on demand.

ETL debuts Hurricane Matrix



ETL Systems showed its latest RF technology at CommunicAsia2017. ETL's presence at the show highlighted its commitment to the Asia-Pacific region and followed recent major orders placed by operators in the region. Among these operators is Malaysia-based regional communications satellite operator MEASAT, which ordered Scorpion passive splitters/combiners as well as Victor switch matrix/routers for carrier monitoring from ETL Systems. MEASAT uses both products to provide highly reliable value-added services and to enhance operational efficiency in monitoring services across multiple antenna platforms.

The event also marked the debut of its newest RF switch matrix, the configurable 64 x 64 Hurricane Matrix, in the Asian market. The customisable Hurricane RF matrix is designed to change and adapt with the ever-changing requirements of the latest satellite teleports. Input and output modules can be configured with features to suit specific RF needs for each satellite feed, including fixed gain, variable gain, LNB powering and fibre inputs. Not only is the Hurricane flexible and future-proof, but it also features no loss of service, power consumption reduction and improved RF performance.

"We have numerous partners in Asia and so CommunicAsia is a very important show for us, as it enables us to network with current and future customers," said Andrew Bond, Sales Director at ETL.

Edgecore promotes high-gain antenna



Edgecore Networks showcased the ECWO7220-L, 802.11ac dual-band wireless controller-based outdoor access point at CommunicAsia. The ECWO7220-L is an 802.11a/b/g/n/ac enterprise access point with a 3x3 MIMO configuration design. The gigabit Ethernet backhaul port includes an 802.3at/af PoE function that enables the AP to be powered remotely from a PoE switch. The product is suitable for deployment in metropolitan areas,

such as in parks, on campuses, etc.

The ECWO7220-L uses 802.11ac MIMO wireless technology, and the AP supports three transmitting and three receiving antennas that extend the range and increase the throughput by up to nine times that of existing Wi-Fi. With advanced traffic management, the AP supports up to sixteen virtual access point (VAP) interfaces per radio, allowing traffic to be separated for different user groups within the same service area. Each radio can support up to 100 wireless clients, shared between all VAPs, and the clients associate with each VAP in the same way as they would with physically separate APs.

The ECWO7220-L, which can be managed by the Edgecore wireless controller (EWS4606), has six built-in omnidirectional high-gain antennas. Through optimised RF tuning and output power, the AP is ideal for users that require high throughput and stability. The AP includes robust wall- and pole-mount accessories that meet any kind of deployment environment. The ECWO7220-L is an excellent outdoor wireless LAN solution for hotspot applications and high-density environments, such as large campuses and wireless cities.

Time to **Party**

BroadcastPro ME's seventh anniversary bash was a huge success, with over 140 guests from the broadcast and satellite industry coming together for an evening of fun and frolic





Congestion in Space

Mark Dickinson, Chairman of the Space Data Association, says congestion in space is set to increase further, creating the need for accurate data that can be easily accessed

For those in the industry, it's obvious that the space environment has altered significantly, as the number of satellites being launched continues to increase. Naturally, more satellites means less space, and an even more crowded space environment leads to an increase in close approaches. The Space Data Centre has been successful in terms of bringing potential collisions to the attention of operators, and as such, the space environment is safer. But congestion looks set to increase further still, highlighting the need for actionable operational information as well as easily accessed and accurate data.

Evaluating the risks

Although all satellite operators recognise the need to invest heavily in collision avoidance, they also know that avoiding collisions for their own fleet is just one piece of the puzzle. Any collision within the space environment has the potential to have very significant political, business and legal consequences, not to mention the effects of the debris left behind, which will cause problems later down the line.

In fact, extensive analysis and data collected by the Space Data Association (SDA) has revealed that the risk of collisions is higher than previously thought and continuing to increase. This conclusion was reached collectively by all those in the SDA, after evaluation of the various risks to operators and the tools currently in place to mitigate them. As a result, it was unanimously agreed that more needs to be done to reduce these risks and improve the overall situation.

Orbital debris as small as 20cm in size is capable of inflicting serious damage. Current systems lack the ability to accurately track these small objects, and the effects of a collision with these objects could be very significant, with many more debris objects generated. Given that the public catalogues only contain objects in the geostationary



"Orbital debris as small as 20cm in size is capable of inflicting serious damage. Current systems lack the ability to accurately track these small objects"

MARK DICKINSON, SDA Chairman

arc which are larger than 1m in size, these observational services are certainly in need of very significant improvement.

Looking to the future

The SDA's tireless review of the current collision risks has lasted well over a year, and has allowed us to better understand the current situation as well as the most effective ways of improving it. Our comprehensive research has developed a cost-effective strategy which will allow the acquisition of independent, high-quality information to provide actionable safety for flight services. The strategy is based on an agreement with Analytical Graphics Inc (AGI) to build an updated version of the Space Data Centre, known as SDC 2.0.

The updated Space Centre will be based on a highly accurate, independently generated catalogue of space objects, including those as small as 20cm that traverse the geostationary arc. Operators will receive transparent and actionable warnings to prevent future collisions. A carrier ID (CID) database and construction of geolocation scenarios will also facilitate the ability of SDC 2.0 to combat radio frequency interference.

As a rule, with any type of accident, whether it be a road accident or a health and safety issue in the workplace, preventative measures are often only implemented following an incident. SDC 2.0 provides a highly cost-effective and technically effective way for those operating in the space environment to prevent potential debris generating and polluting events. But for this to become reality, it will require the space operating community to collaborate as a whole.

SDC 2.0 provides a collaboration environment that all operators can safely work within. Coupled with very significant technical advances, it provides a highly effective way to maintain the space environment now and, very importantly, in the future. **PRO**

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