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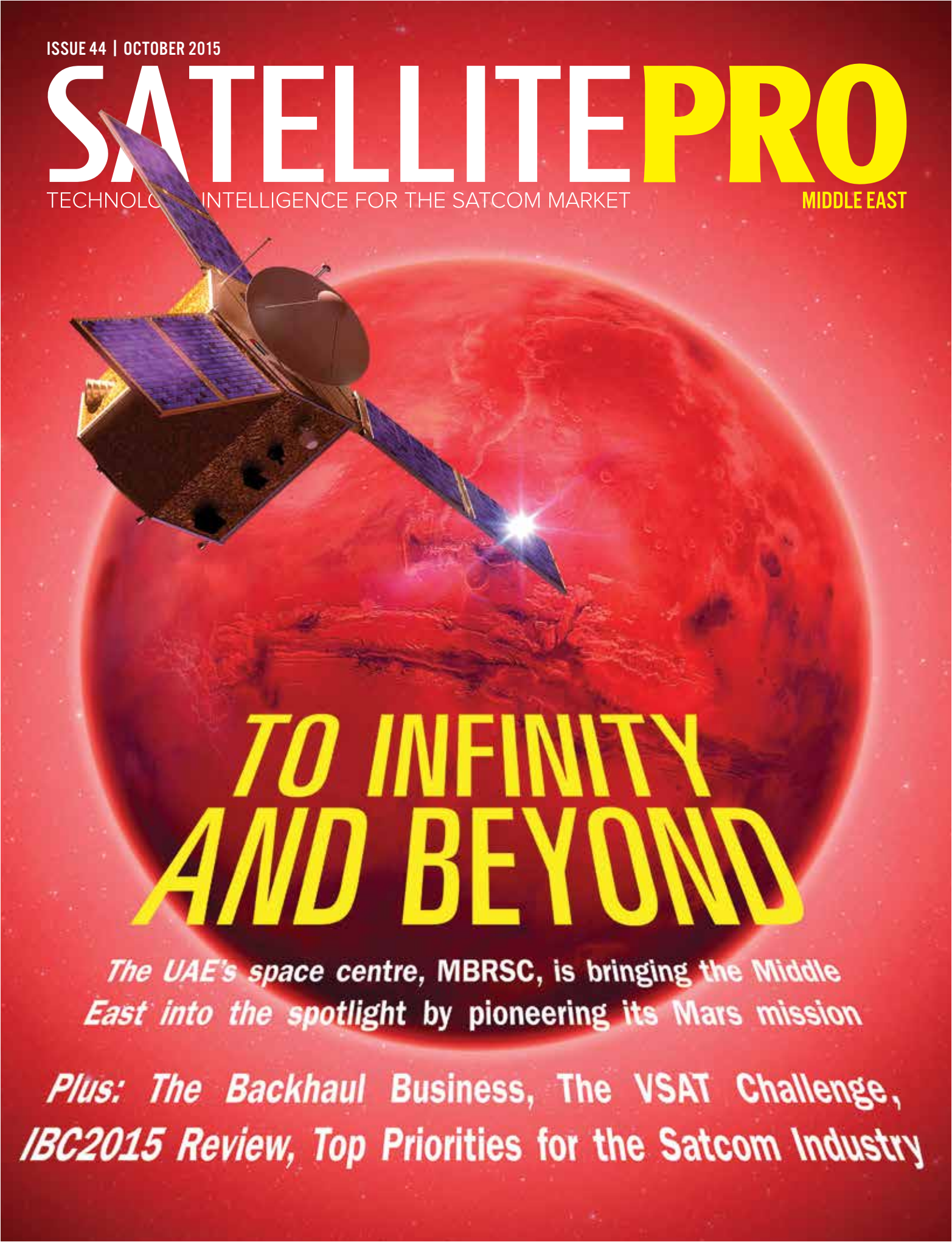
TECHNOLOGY INTELLIGENCE FOR THE SATCOM MARKET

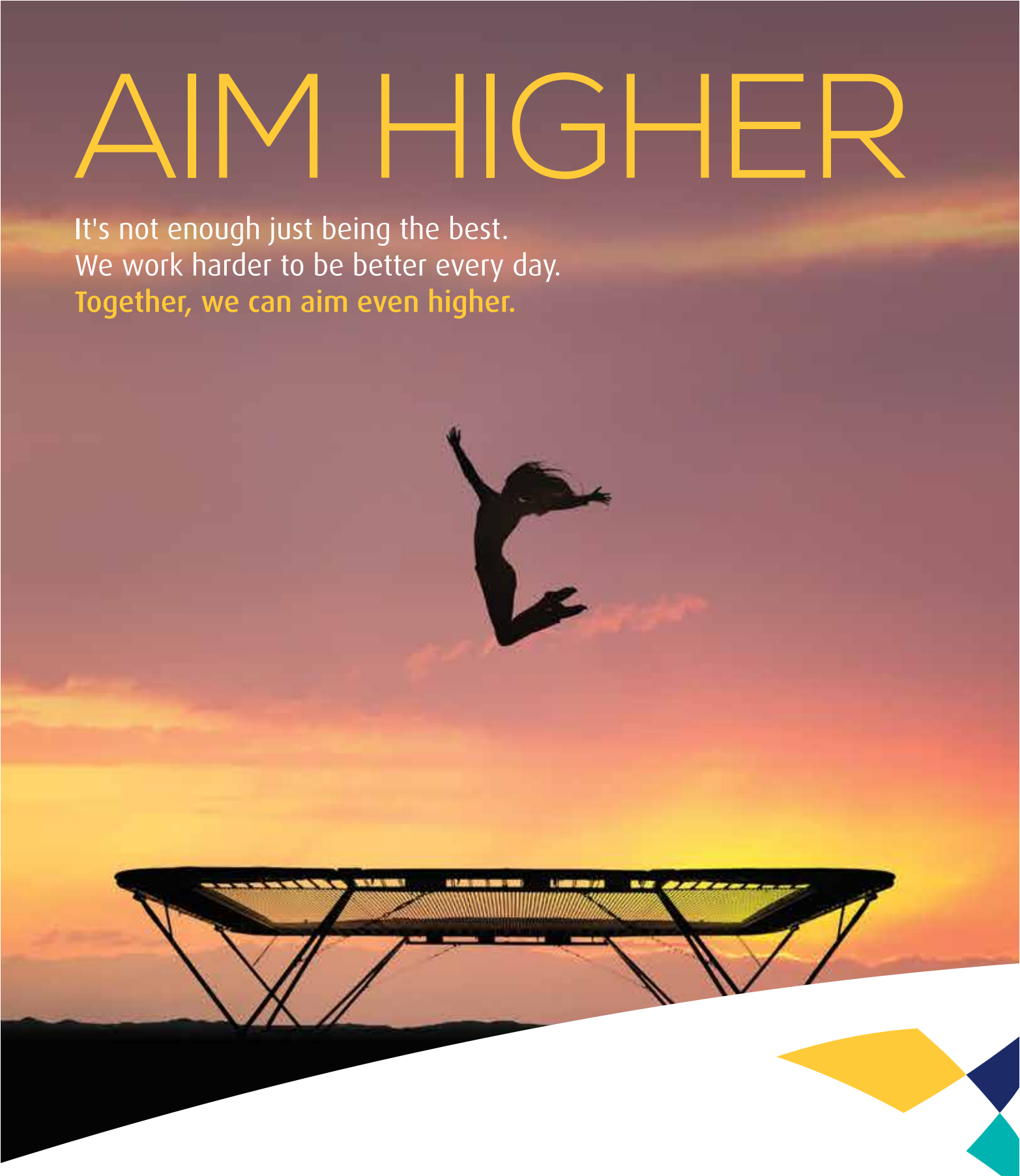
MIDDLE EAST



TO INFINITY AND BEYOND

The UAE's space centre, **MBRSC,** *is bringing the Middle East into the spotlight by pioneering its Mars mission*

Plus: The Backhaul Business, The VSAT Challenge, IBC2015 Review, Top Priorities for the Satcom Industry



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Mapping Mars

Wow, what a show! This year's IBC was the best ever. It was great to meet all our friends in the industry and learn about new technologies and upcoming satellites. The excitement and energy at the show was amazing, and the halls were filled with passionate exhibitors who had the latest and greatest innovations on show. We wore our trainers thin as we paced through the halls, and by the end of the day, everyone's feet were sore.

All said and done though, none of this mattered, because, come morning, we were back at the RAI completely rejuvenated. The IBC Awards were a hoot and amongst many deserving candidates, Es'hailsat took away the prize for the best stand design.

In other news I visited the Mohammed bin Rashid Space Centre, in Dubai, to learn more about the UAE's Mars mission, and other projects that were being developed in its newly inaugurated cleanrooms. The 'Hope' probe, as it's known, will be the first probe ever, to map the entire atmosphere of Mars. Previous missions have looked at particular areas of the red planet, and concentrated on specific monitoring, but never has the entire atmosphere been studied. NASA's announcement of flowing streams of water makes Mars missions even more interesting. With water being a major building block of life processes, is it finally possible to determine that we are not alone in the universe? The UAE's mission, scheduled to be launched in 2020, will truly make the Middle East a force to be reckoned with, in the space community. Read more about it on page 12 of the magazine.

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

Have a fantastic October!

Clayton Vallabhan
Editor

In this edition:

"Getting injected into the orbit of Mars is one of the key aspects of the mission."
Salem Humaid Al Marri Assistant DG, Scientific and Technical Affairs, MBRSC
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"HTS deployments rely on the satellite launches and the ability for satellite operators to demonstrate the benefits."
Semir Hassanaly, Director Cellular Backhaul and Trunking, Newtec
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"M2M solutions over VSAT supporting production site monitoring are in great demand."
Oscar Garcia. SVP Business Marketing, Etisalat
Page 22

"A combination of technologies allows throughput to be increased by up to 50%."
Mather Al-Ali, Regional Sales Director at Newtec
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SkyStream
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Today Sky Stream has established itself as a leading provider of managed and turnkey VSAT solutions across the Middle East, North Africa and South-West Asia for customers engaged in the Marine, Military and Oil and Gas sectors. Sky Stream provides flexible solutions to meet the ever changing demands of its customers, including the design, build and operation of networks. Its state-of-the-art control centre and hubs are complemented by a highly qualified and experienced team of engineers, project managers and customer service personnel.

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Fibersat signs deal with Arabsat for coverage in Africa

Fibersat S.A. has announced that it has signed a framework agreement with Arabsat for the acquisition of a HTS hosted payload in Ka Band on upcoming Arabsat satellites. These new satellites will have extensive coverage over African Markets. Fibersat is expected to commence operation in 2018.

The acquisition of this hosted payload is a major step forward for the new satellite operator. Fibersat has already signed up significant pre-launch orders with key telecommunication operators providing network services in Africa. At launch, Fibersat will be able to provide affordable internet access services to remote locations across the continent using low cost commercially available VSAT terminals.

"Fibersat has now taken the first step in realising the dream of ultra-low cost broadband in Africa", said Christof Kern, CEO of Fibersat. "By combining the benefits of a power-optimised HTS design and leveraging a hybrid satellite architecture, Fibersat will be able to offer customers unprecedented price levels for satellite services which is key in price-sensitive markets like Africa. This is the only way to meet the exploding demand for Internet in Africa, the fastest growing market in the world."

Khalid Balkheyour, President and CEO, Arabsat.

"This cooperation with Fibersat will position Arabsat as a major service provider to the growing markets of sub Saharan Africa, with a portfolio of broadband and telecom services. By employing an innovative payload design in Ka-band, Arabsat will have blanket coverage over the MEA region" said Khalid Balkheyour, CEO of Arabsat.

"We look forward to the Fibersat and Arabsat alliance to lead the African market for Ka-band HTS bandwidth leveraging their significant pre-launch orders and look forward to their success in the African market"

+ www.fibersat.com

+ www.arabsat.com

ECLIPSE AND NSSL GLOBAL CREATE AEROSATCOM

Aeronautical satcom specialist Eclipse and independent satcom provider NSSLGlobal, have announced the formation of Aerosatcom, created to address the needs of the rapidly-expanding government airborne satellite communications market.

This new joint venture benefits from Eclipse's strong history of provisioning airborne satellite communications solutions in combination with NSSLGlobal's extensive partner network and infrastructure, making Aerosatcom an immediate contender when considering airborne satellite communications.

Aerosatcom will support resellers to provide global and regional solutions to their government customers.

The airborne satellite communications sector has recently received a great deal of focus in military and government markets. In recent years the market for such solutions has seen substantial growth, with a predicted growth of 14% for L-Band and 24% for Ka-Band.

+ www.nsslglobal.com

NASA AND HARMONIC PARTNER TO LAUNCH UHD CHANNEL

Harmonic has partnered with NASA to launch NASA TV UHD, the first consumer UHD channel in North America. Utilising an end-to-end UHD video delivery system from Harmonic, NASA can deliver live and linear 2160p60 video content, enabling consumers to enjoy crystal-clear footage on a wide range of television and IP-connected devices.

"As NASA reaches new heights and reveals the unknown, the NASA TV UHD channel can bring that journey to life in every home. And as organisations at the forefront of innovation, together we are leading the adoption of this exciting technology," said Peter Alexander, CMO, Harmonic.

+ www.harmonicinc.com

Peter Alexander, CMO, Harmonic.

SAUDI ARABIA TO LAUNCH A SATELLITE EVERY TWO YEARS

King Abdulaziz City for Science and Technology has designed a 12-year space program including the launch of a small satellite every two or three years.

Prince Turki bin Saud bin Mohammed, President of KACST, made the disclosure in a speech before a ceremony recently held by NASA to mark the 30th anniversary of launching Discovery.

He said that KACST is scheduled to implement a satellite launching programme starting from 2019 through 2020 and 2023, in collaboration with a team composed from NASA, Stanford and the German Space Agency.

Following the first two launches, the university will enter into its long-term programme of developing MDSS small satellite systems.

He also briefed the audience on the efforts of the Kingdom of Saudi Arabia in the satellite field over the last 30 years.

KACST was established in 1977 as the Saudi Arabian National Center for Science and Technology.

+ kacst.edu.sa

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Quantis orders Newtec Dialog platform

Quantis has ordered a Newtec Dialog multiservice platform to complement its existing satellite infrastructure and enable more advanced, customized services for its customers.

The new Newtec Dialog hub – provided by Newtec will enable Nortis, a Quantis subsidiary based in Morocco, to deliver satellite broadband services.

One upcoming project will see Nortis deliver its service to 4,000 schools. Nortis has been awarded this contract by the Morocco Ministry of Education as part of the GENIE project. The service will provide Internet access for students, while teachers will be able to benefit from courses through distance learning.

Additionally, the new multiservice platform enables Quantis to enter high-value markets.

"In recent years, satellite telecommunications has experienced an unprecedented technological and commercial revolution," said Quantis CEO, Aquilino Antuña. "Quantis is now a player of utmost importance in the European and African markets and is one of the few telecommunications satellite service providers that operates its own hubs in order to manage end-to-end the quality of services offered to the customer. With the new multiservice platform, we are able to offer ever-better managed services to our customers."

+ www.newtec.eu

Serge van Herck, CEO, Newtec, with representives from Quantis.

WTA LAUNCHES TELEPORT CERTIFICATION PROGRAMME

The World Teleport Association (WTA) has announced the launch of its Teleport Certification programme at a press briefing event at IBC Show 2015.

WTA's Teleport Certification Program aims to serve both teleport operators and their customers by creating an objective, transparent, and internationally accepted method for teleport operators to document the quality of their operations for customers and strategic partners. It also aims to provide a means for customers to select teleport vendors delivering the price-performance level that is appropriate for their applications.

"This is the most important program WTA has introduced since the annual Satellite Operator Benchmarks survey, which measures teleport operator views of satellite operator commercial and operational practices," said WTA executive director Robert Bell.

"Promoting excellence in business, operations and technology is a key part of our mission, and Certification has the potential to improve the performance of every teleport operator in the market."

+ www.worldteleport.org

MBRSC SIGNS MOU WITH ABU DHABI AIRPORTS

The Mohammed Bin Rashid Space Centre (MBRSC) announced the signing of an MoU with Abu Dhabi Airports. The MoU will facilitate cooperation, information and data exchange between the two organisations, in the fields of satellite imagery applications, knowledge and experience transfer, and human resources development. The MoU was signed by Salem Humaid Al Marri, Assistant Director General for Scientific and Technical Affairs at MBRSC on behalf of the Centre's Director General and Eng. Ahmad Al Haddabi, COO at Abu Dhabi Airports, on behalf of the company's CEO, and was attended by a number of high level management from both sides.

+ mbrsc.ae

ARABSAT TO HOST CUSTOMER FORUM IN MOROCCO

The Arabsat Broadcasting Customer Forum will be hosted October 19-21, 2015 at the Savoy Le Grand in Marrakech, Morocco. The event, initiated 10 years ago for the media industry with the idea of bringing together Arabsat customers, has been revamped and redesigned this year under new name Atheer and is expected to host more than 120 guests.

The Arabsat team will escort invitees through two days of seminars, flavoured with an informative agenda that explores market challenges and discusses customer experiences.

Arabsat was the first to bring digital broadcast technology to the region. It also helped transform satellite TV into a potent tool for promoting economic, social, cultural and political progress in the MENA region.

+ arabsatatheer.com

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Es'hail 2 clears CDR to move to assembly phase

Es'hailSat has announced that Es'hail-2, the company's second satellite, has cleared its Critical Design Review (CDR), permitting the spacecraft to move into the assembly phase and remain on schedule for a Q4 2016 launch.

Mitsubishi Electric Company (MELCO) is building Es'hail-2, a high-performance satellite that will be positioned at the 26 degrees East hotspot position for TV broadcasting, significantly adding to the company's ability to provide high quality, premium DTH television content across the Middle East and North Africa.

Es'hail-2 will have Ku-band and Ka-band capabilities and will provide TV distribution and government services to strategic stakeholders and commercial customers who value broadcasting and communications independence, interference resilience, quality of service and wide geographical coverage. Moreover, Es'hail-2 will provide the first Radio Amateur Satellite Corporation (AMSAT) geostationary communication capability that connects users across the visible globe in one single hop and in real-time. It will allow also the AMSAT community to validate and demonstrate their DVB standard.

Ali Al Kuwari, Chief Executive Officer of Es'hailSat, commented: "Passing Critical Design Review validates that Es'hail-2 will meet our requirements and perform as expected for our stakeholders and customers. We are pleased to be moving forward with our satellite build program with MELCO as Es'hail-2 plays a key role in our commitment to providing premium satellite capacity for the MENA region".

+ eshailsat.qa

Ali Al Kuwari, CEO, Es'hailsat.

HELLAS SAT CHOOSES NEWTEC FOR DTH EARTHSTATION

Hellas Sat, a subsidiary of Arab Satellite Communications Organisation has announced it has chosen Newtec's solutions to power a new multi-million Euro Direct-to-Home (DTH) earth station.

Located in Cyprus, the earth station will broadcast up to 70 TV channels, ten percent of which will be delivered in High Definition (HD). Most of the content will be received via different Television Receive-Only (satellite dishes) (TVROs) and all content will be transcoded and re-multiplexed into different bouquets, which are then uplinked via Arabsat's BADR satellites.

Newtec will be the prime contractor, designer and integrator of the earth station.

+ www.hellas-sat.net

Christodoulos Protopappas, CEO, Hellas Sat and Serge Van Herck, CEO, Newtec.

ST TELEPORT EXPANDS CAPACITY AND PARTNERSHIP WITH ASIASAT

AsiaSat has announced that ST Teleport, a full-service satellite and fibre communications solutions provider based in Singapore, has expanded its capacity commitment and strategic partnership with AsiaSat to enhance service offerings to the VSAT and media sectors.

ST Teleport recently expanded its C-band capacity in Asia with a new dedicated antenna for AsiaSat 4 at the orbital location of 122°E to provide satellite-based service solutions for maritime, oil and gas, enterprise, and media businesses. In response to strong user demand for high-quality connectivity solutions for data and video services in Asia, both companies have further strengthened their collaboration to offer enhanced land/sea/air based VSAT services.

ST Teleport's advanced earth station complex facilities in Singapore is now capable of connecting to AsiaSat's comprehensive fleet of satellites, including the new Ku-band capacity on AsiaSat 8's South East Asia and Middle East beams, to offer more choices to customers. The extension of the partnership will accelerate growth opportunities.

+ www.asiasat.com

AXESAT SIGNS TRANSPONDER DEAL WITH EUTELSAT

Axesat, an enterprise connectivity provider in Latin America, has signed a multi-year, multi-transponder agreement with Eutelsat Americas, part of Eutelsat Communications, to provide corporate services in key South American countries. Axesat has chosen the next-generation EUTELSAT 115 West B satellite to support its new phase of expansion. The all-electric satellite is on track to enter service next month.

Axesat will leverage the new satellite's South American footprint that spans from Colombia to Chile, to enable customers in energy, agricultural, financial, educational and government sectors to remain connected, even in the most remote locations. Axesat will also use the EUTELSAT 113 West A satellite to provide corporate connectivity solutions in Mexico for the banking and retail industries.

Patricio Northland, CEO Eutelsat Americas, said: "I am delighted that Axesat and Eutelsat are strengthening their relationship and that a key provider of corporate connectivity is entrusting us with additional business on two Eutelsat satellites."

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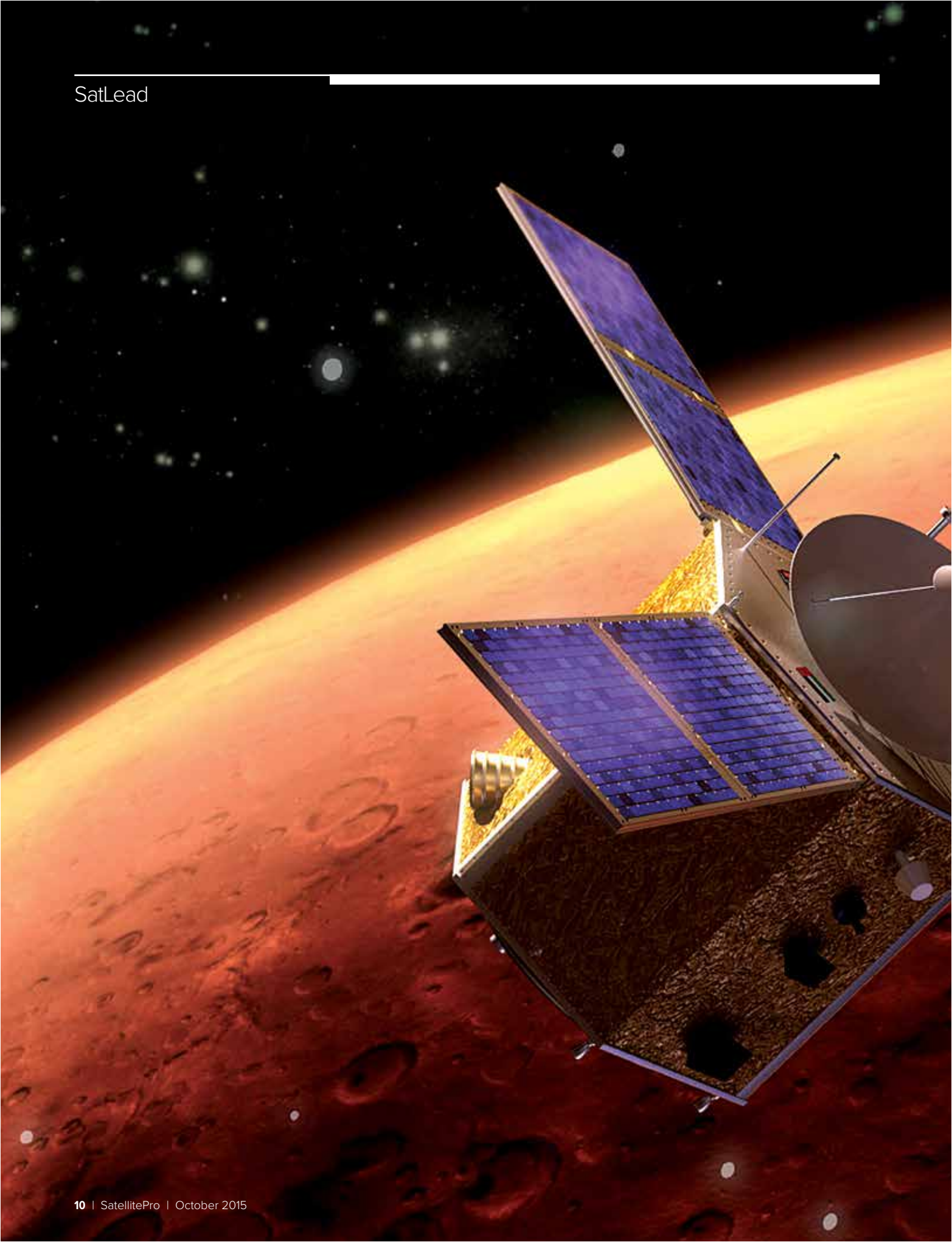
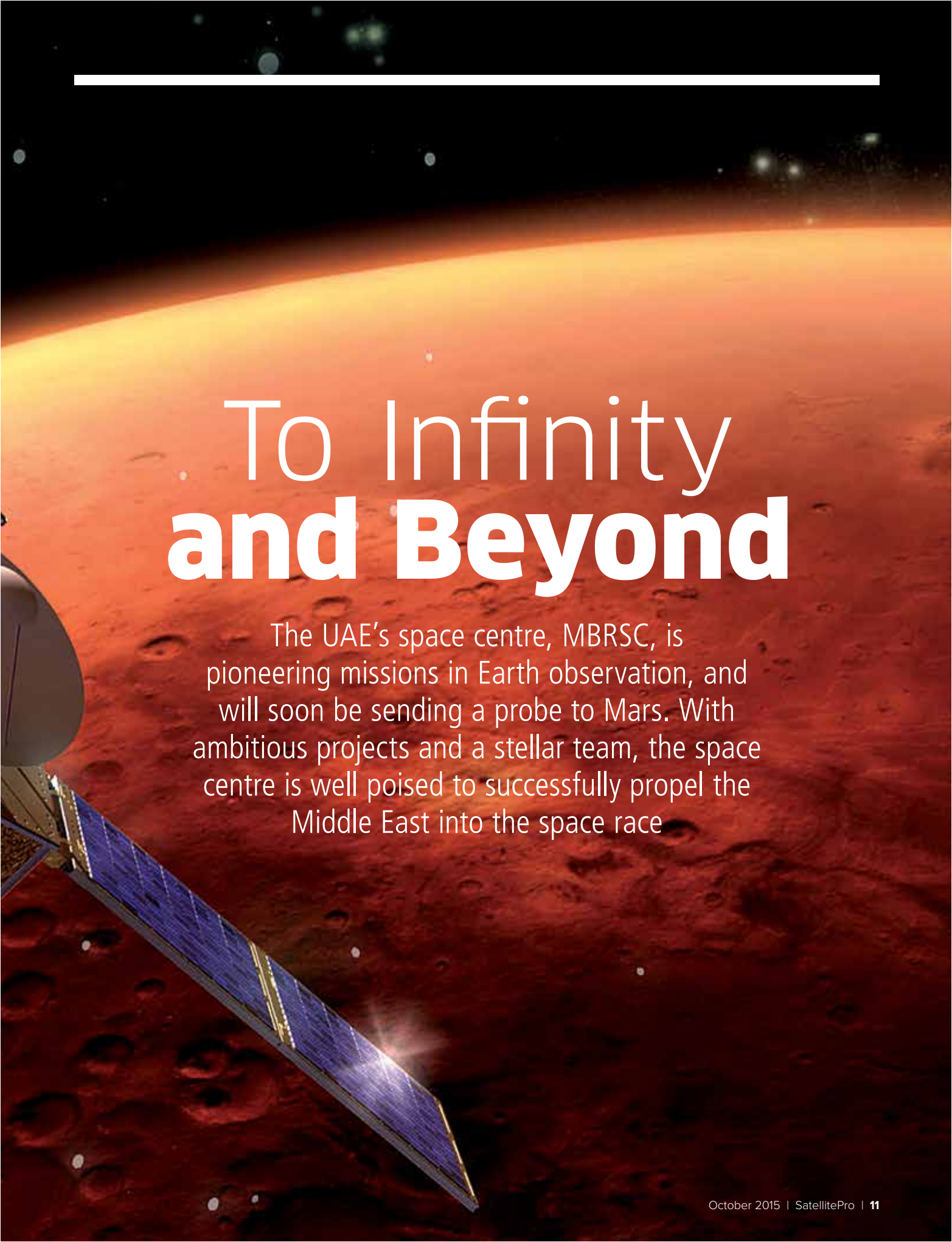




To Infinity **and Beyond**

The UAE's space centre, MBRSC, is pioneering missions in Earth observation, and will soon be sending a probe to Mars. With ambitious projects and a stellar team, the space centre is well poised to successfully propel the Middle East into the space race

The planet Mars has always been a major topic of interest for the space community. Countless missions have been launched, by different countries, to explore the atmosphere, conduct experiments and search for signs of life on the planet.

The Mohammed bin Rashid Space Centre (MBRSC) is working on the recently announced UAE's Mission to Mars. This mission will be solely funded by the UAE Space Agency, and implemented by the space centre.

Salem Humaid Al Marri is the Assistant Director General for Scientific and Technical Affairs at MBRSC. He explains that the 'Mars Hope probe' is a pioneering project from the country's leadership, and that HH Sheikh Khalifa bin Zayed Al Nahyan and HH Sheikh Mohammed bin Rashid Al Maktoum have given the space centre a very strong direction, and a very concrete goal to achieve. The objective is to reach Mars by 2020.

"We were chosen to implement this project due to the extensive experience we have, the engineers we have and the previous experience in terms of projects. This is a big achievement for the centre and something that we will learn from. This will basically catapult us to the next level. We started working on this mission and we should be ready to launch by 2020," says Al Marri.

When quizzed about how MBRSC will achieve this challenging mission, Al Marri says: "What we are doing is more of the same of how we developed DubaiSat-1 and DubaiSat-2. The great thing is now we have around 100 engineers that have space experience, and can give back to such projects. That team is taking a lead, and the project manager Omran Sharaf was one of the first members who went to South Korea and did technology transfer on DubaiSat-1. He has 10-years' experience and four missions under his belt. The team under him also have extensive experience in our projects, and this strong team is taking a very strong lead in developing this mission, while focusing on all aspects of the mission."

> **"This is a big achievement for the centre and something that we will learn from. This will basically catapult us to the next level"**
>
> SALEM HUMAID AL MARRI, Assistant Director General for Scientific and Technical Affairs, MBRSC

The space centre has also partnered with academic partners in the United States, who can assist the core team on aspects that are unknown to them about Mars. MBRSC is looking at striking a strategic partnerships that its team can learn from as well as making sure that its own knowledge is very well used in this project.

"Our team is going to be participating in the development of this mission and a lot of activity is going to be taking place over here in the UAE in our cleanrooms. We definitely are on schedule and we believe we can achieve this launch by 2020," says Al Marri.

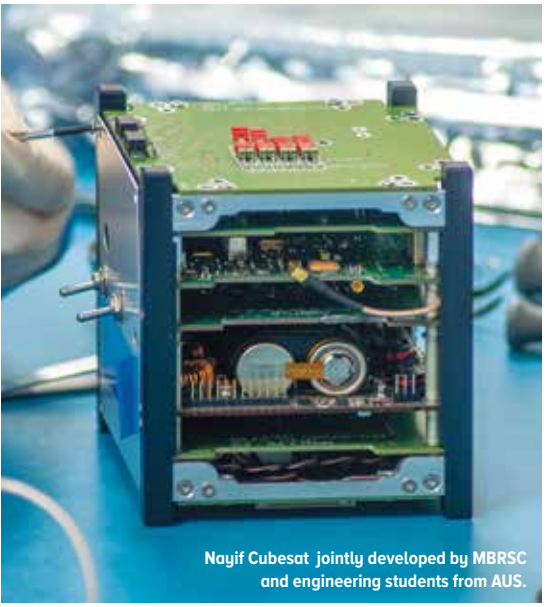
Furthermore, the road ahead is not without hurdles. Besides the lack of a local space community, Mars poses challenges of its own.

"With Mars it's a different sort of playing field. It is very far away, around 225 million kms from Earth, and it takes nearly nine months to get there. The guidance and navigation of how to get to Mars and stay on the right path is very critical to any Mars mission. If you look at previous missions, it is this aspect that is the make or break of the mission. Any slight movement on your path towards Mars can put you on a different trajectory. Getting injected into the orbit of Mars is one of the key aspects of the mission.

"Furthermore, your technology has to be very smart and robust so it can survive in the harsh environment of space. It needs to work autonomously when needed. In fact just sending a signal from Earth to Mars takes about 20-minutes to get there and another 20-minutes to get back. By the time you've sent a signal and got the response, it's nearly an hour gone by. These challenges mean that you have to develop a very capable

KhalifaSat being developed in the cleanroom at MBRSC.

The satellite control room at MBRSC.



Nayif Cubesat jointly developed by MBRSC and engineering students from AUS.

Scientists and engineers working in the cleanroom facility.

agile system that can work and perform on its own under these harsh environments. So getting there is one challenge, and when you reach there to be able to perform is the other challenge," explains Al Marri.

Once the probe reaches Mars, it will look at the overall atmosphere of the planet. The Hope probe will provide the first global atmospheric map of Mars. In the past, missions have been looking at certain sections of the atmosphere at certain times, but the UAE's mission will provide a global picture of the atmosphere. This is significantly playing into where science has led off, and MBRSC is aiming to build on existing information by discovering new things about Mars.

"Under the directives of HH Sheikh Mohammed bin Rashid Al Maktoum, this mission is a gift from the UAE to the world. At the end of the day, we want to develop our scientific capabilities by analysing this data over here in the UAE. This is a key strategic objective of this mission, however there are capabilities around the world that are developing in planetary sciences around the world, especially with Mars, and we want to make sure this data gets to them and we are able to jointly work with them on analysing this data. This data will be given free of charge and will be given to the people who need it the most," says Al Marri.

MBRSC's mission is to nationalise the development of space capabilities to UAE nationals. The wider goal is to develop its own projects and satellites through its employees. Other objectives stem from launching missions that the government can benefit from in terms of applications, and from furthering the development of the people of the UAE, so they can continue to develop their skills in the space sector.

Al Marri says: "In the last couple of years we've shifted from a single project entity to a multi-project entity. In 2009, we launched DubaiSat-1, followed by DubaiSat-2 in 2013. We've been working on KhalifaSat, which is the culmination of this work, and that is nationalising the development of KhalifaSat in the UAE. We started in 2012, and we are planning to launch this satellite in Q1 2018.

"KhalifaSat is very special for us, because this is the first satellite which will be developed and built in the UAE. It also holds the name of our President. In terms of what it will achieve, it's an earth observation satellite and will continue the development of what we have done with DubaiSat-1 and DubaiSat-2. It's very important to have continuity," says Al Marri.

The satellites now have customers who use its imagery and depend on them. Marri says that as MBRSC improves on its projects, it is always looking at providing better data, and more clear data. KhalifaSat will be doing exactly that, and will double the capabilities and capacity of DubaiSat-2.

However, not everything is smooth sailing for MBRSC, and there are a number of challenges to be faced during implementation of its projects.

"The first challenge is tackling the aspect of developing things locally. Since it's the first time we are doing this, we don't have a community of sub-contractors or corporations that can assist in developing things with us. We don't develop everything. There are components that we need to procure and outsource from abroad.

"If you have an industry around you, then that can make things easier. However, these are challenges that we are working very strongly to overcome, and there's a big emphasis on us over the next 15-years to build a community around us that will ease the nationalisation of such technologies," continues Al Marri.

Another experiment that the space centre ran with Airbus Corporation was to try a testbed of a completely solar aircraft that can fly for 24-hours around the skies. The High Altitude Pseudo Satellite (HAPS) flies at a very high altitude, up to 65,600 feet above air traffic, making it a robust system to handle various applications. The payloads on the system can be changed on the ground to fit with different applications. Some of these include thermal imaging, full-HD video imaging, creating temporary communication networks and strengthening navigation systems. Al Marri says that the centre looked at this as a concept and wanted to do a flight trial in the UAE. It is now looking at other concepts of how to go forward in the future, either with Airbus or with other companies.

There are other smaller projects that MBRSC has worked on, like the Nayif Cubesat project which is more of an educational and outreach project. The objective of Nayif was creating a small communications satellite, which can send SMS messages when it travels over the region. A bit like an amateur radio satellite.

"KhalifaSat is very special for us, because this is the first satellite which will be developed and built in the UAE"

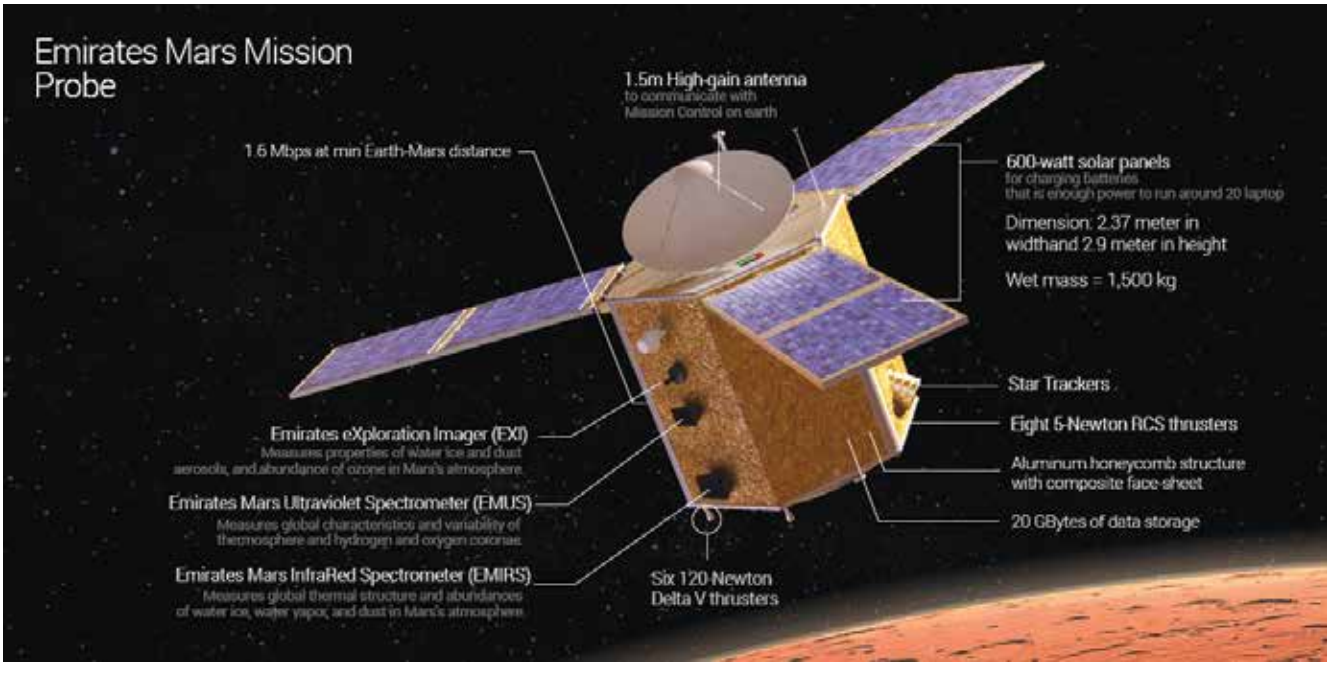
SALEM HUMAID AL MARRI,
Assistant Director General for Scientific and Technical Affairs, MBRSC

"Cubesat is a strategic alliance between us and the American University of Sharjah. We got together a few students and started to work with them on the cubesat project. What we wanted to achieve from this was to get students involved in these projects to bridge the gap between what they're learning in engineering and doing something practical. The second objective is when these students work with space technology and get excited about satellites, they can come and work for entities such as MBRSC, UAE Space Agency, Thuraya or Yahsat, anywhere that they want to go and they can develop their skills there.

"These were our two main objectives and we've got seven young engineers who have graduated now and are finishing this project. They are going to be joining MBRSC and other entities, and we are now looking at starting a sustainable programme with multiple universities in which we start to design new experiments on these missions," explains Al Marri.

The space centre also has now developed its own cleanroom facilities.

"We've just completed the first phase of our cleanroom, and now we're starting the second phase which is the 'High Bay', and this is where these projects will be built and developed," concludes Al Marri. PRO



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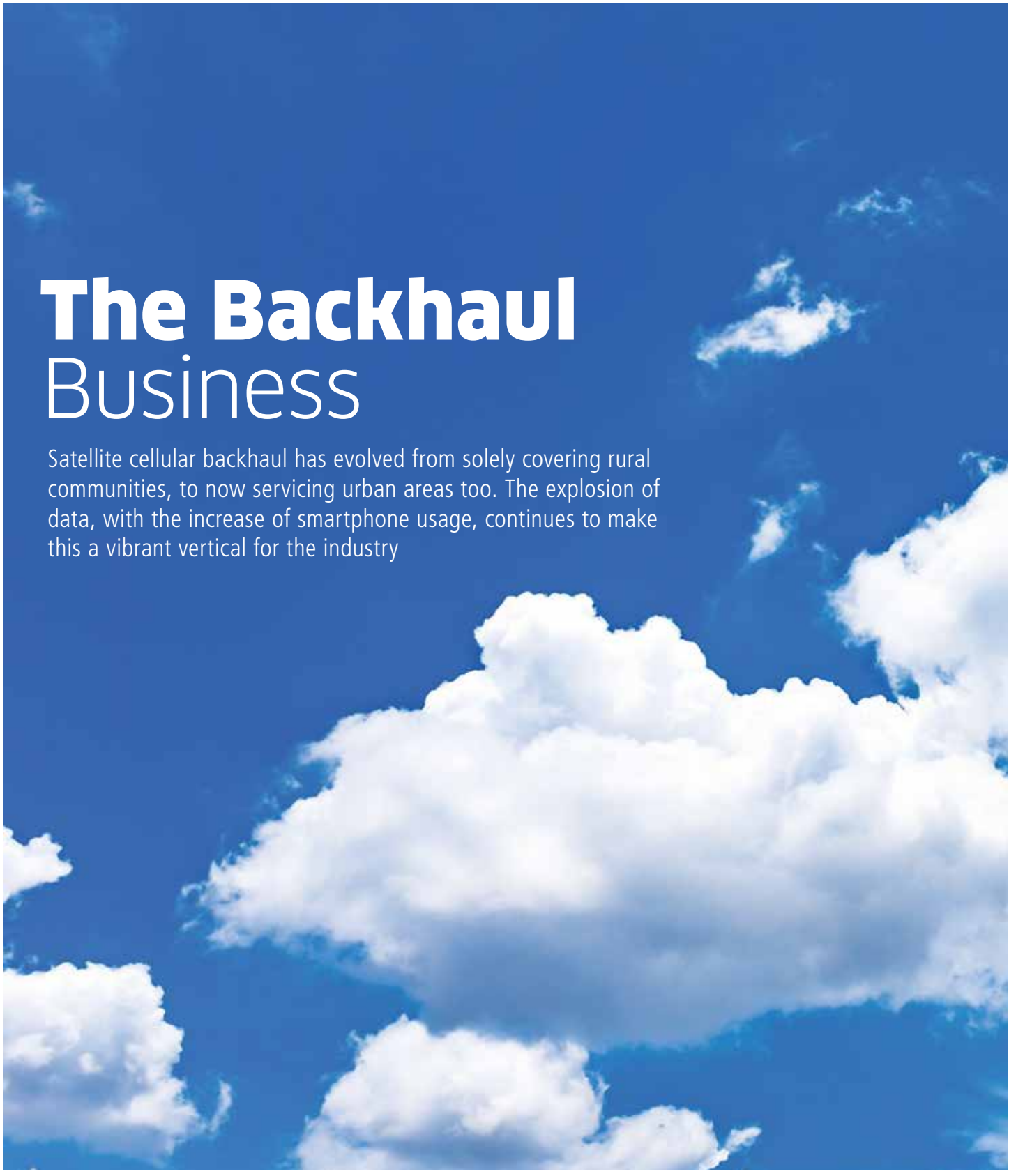

The Backhaul Business

Satellite cellular backhaul has evolved from solely covering rural communities, to now servicing urban areas too. The explosion of data, with the increase of smartphone usage, continues to make this a vibrant vertical for the industry

Satellite cellular backhaul initially covered rural areas and provided 2G voice connectivity through macro cells in C band. With time, newer technology allowed for increasing data service, higher speeds and all-IP infrastructures. Nowadays, the explosion of smartphones and social media has radically changed usage habits, and satellite cellular backhaul coverage has expanded to sub-urban areas.

Semir Hassanaly, Market Director Cellular Backhaul and Trunking at Newtec, says that while satellite backhaul was primarily destined for emerging countries, it is now addressing industrialised lands thanks to small cells, 4G LTE, High Throughput Satellites (HTS) and increasingly advanced technology.

Jean Philippe Gillet, VP of Sales, EMEA at Intelsat, says the satellite backhaul market continues to be a vibrant vertical, with the majority of growth coming from Africa as well as Asia and Latin America, according to reports by Euroconsult.

Hassanaly adds that there are also a few deployments in the US, where wide distances and mountainous regions are suited for satellite backhaul. Furthermore, there are newer business opportunities arising in Western Europe and Asia where customers want to provide affordable bandwidth in spot areas through small cells and HTS.

With so much data being exchanged, the backhaul industry is in a phase of evolution, where more information is being delivered to many more devices. The fact is that the demand for a lot more capacity doesn't seem to be levelling off, in fact it's quite the opposite.

According to iGR Research, in 2012, smartphones and other mobile devices generated 899,000 terabytes of data, a massive volume that defies easy comparison. Data volumes are expected to grow 11 times, to 10.3 million terabytes by 2017.

The GSMA also describes, in its report titled, "Arab States Mobile Observatory", that growing smartphone penetration and mobile broadband is forecast to exceed 20% in most Arab states by 2016, with rates as high as 70% in Saudi Arabia.

Gillet says: "Mobile networks that provided basic voice and text service have evolved into ones that deliver a rapidly growing amount of data and video to end users regardless of location, including the most remote areas. Many of these are multimedia services, such as mobile Internet and video, require large amounts of bandwidth, meaning cellular providers are expanding and upgrading their networks to handle the greater amount of data being exchanged.

Semir Hassanaly, Market Director, Cellular Backhaul and Trunking, Newtec.

"The industry has addressed these challenges by providing a wide product offering from several vendors, which address low CAPEX/low requirements equipment, to highly efficient platforms"

SEMIR HASSANALY, Market Director, Cellular Backhaul and Trunking, Newtec

"Satellite backhaul services are evolving to meet this need by providing the throughput and coverage needed to serve end users, particularly in remote areas where terrestrial infrastructure is unavailable," adds Gillet.

Kai Honetschläger, Director, Sales and Marketing at Quintech says he is seeing an increasing activity in consolidation in the cellular market worldwide.

"Not only do mobile operators merge across the continents but multi-national players also expand their footprint into new geographical areas. This geographical span and growing demand in emerging markets in combination with the increasing consumption of mobile data is leading to a higher need for reliable backhaul availability via satellite."

Gillet says that the satellite industry is diving head first to service mobile operators, and provide them with an adequate solution.

He says: "We think wireless operators are trying to solve three imperatives: capability, reliability and flexibility. Given this surge in demand, mobile network operators (MNOs) need to be able to capture new subscribers, manage the increase in traffic and ensure service reliability to both new and existing subscribers. The satellite sector has responded by delivering improved coverage, throughput and power. This enables MNOs to use more efficient equipment at the base stations, meaning they can be set up quickly and easily, and by cutting the amount of power required for operations, including developing solar-powered options."

He continues by saying this will help increase reliability, while cost will be reduced. The simplified hardware and installation also means that if the station is not meeting expected revenue forecasts, the equipment can be relocated to another site with minimal cost and labour.

Honetschläger says that with growing bandwidth demands, the customer's expectation too has changed dramatically over the last two to five years.

"As data driven applications such as video services are used on mobile handsets on a daily basis, also latencies and reduced quality of service are not tolerated anymore by end users. Providers of mobile backhaul via satellite have to address these issues and have to make sure to deliver top quality to their customers," he adds.

So how can the satellite community solve this conundrum?

According to Hassanaly, there are many challenges in satellite backhaul which must be addressed, and each of them require a specific set of solutions to be effective.

There are a large variety of projects types such as Universal Service Obligation (USO), small cells, backup, trunking. Each of these have different objectives (low CAPEX, architecture, throughput etc.), which require different features and capabilities. There are also different mobile architectures involving TDM circuit-switch, ATM, 3G iub, HSPA with varying interfaces, 4G LTE, VoLTE. Hassanaly explains each of these have different behaviours and characteristics, which must be taken into account.

Jean-Philippe Gillet, VP EMEA sales, Intelsat.

"Intelsat enables network operators to economically expand to remote locations that previously could not even be considered due to the high cost of terrestrial infrastructure"

JEAN-PHILIPPE GILLET, VP EMEA Sales, Intelsat

Moreover, usage is changing. Firstly from voice centric, where latency and jitter matter extremely, to data/video/P2P and mobile broadband from rural and extremely rural to semi-urban. All this, he says, has a consequence on traffic patterns, which are also changing from symmetric to asymmetric, with more data and more bursts.

Lastly, the Industry has traditionally been entangled in the SCPC/TDMA return technology battle for several years.

"The industry has addressed these challenges by providing a wide product offering from several vendors, which address low CAPEX/low requirements equipment to highly efficient and performing platforms. Specific solutions have been developed around the satellite offering to take care of the efficiency, of the TCP latency, and of mobile user experience.

"Newtec's patented Mx-DMA for instance is a market solution which is really tailored for low-to-high throughput backhaul traffic requirements, for voice and data, for High Throughput Satellite (HTS) and C/Ku/Ka band.The solutions are therefore totally different from the early 2G centric to today's 4G," says Hassanaly.

Can HTS calm the storm?

Honetschläger explains HTS can provide the required high throughput, while also reducing significantly the cost per bit, which is one of the key criteria for mobile operators in order to provide services in an economical way.

As satellite communication systems do not rely on existing communication infrastructures, like electrical or optical cable networks, basically all regions of the world can be reached independent of their specific geographical location.

The challenges, however, he points out, are when using Ka-Band.

"This is highly sensitive to bad weather conditions and conventional fade margin approaches are not applicable. Consequently, suitable system architectures are deployed to provide uninterrupted services," says Honetschläger.

Gillet says with the introduction of Intelsat Epic^{NG} satellites, the operator will deliver additional throughput to

Kai Honetschläger, Director, Sales and Marketing, Quintech.

"As data driven applications such as video services are used on mobile handsets on a daily basis, also latencies and reduced quality of service are not tolerated anymore by end users"

KAI HONETSCHLÄGER, Director, Sales and Marketing, Quintech

enable the expansion of 4G networks and faster speeds to the end user.

"Intelsat Epic^{NG}, which is backwards compatible, future-proofs wireless infrastructure with extension solutions that can be upgraded seamlessly as HTS capacity comes into service as an overlay to our existing infrastructure, providing MNOs with greater throughput per site, flexibility, coverage and choice. By reducing the capital expenditures often required with expansion via terrestrial infrastructure, MNOs can focus on introducing new connectivity services.

"In combination with our recent initiatives with ground and antenna

technology providers, Intelsat Epic^{NG} delivers higher performance, better economics and simplified access, providing the opportunity for profitable revenue growth and a return on their investment. In the second half of 2016, Intelsat 33e, the second of our Intelsat Epic^{NG} satellites, is scheduled to be launched, and once in service, will deliver the benefits of HTS throughout Africa and the Middle East," says Gillet.

However he also warns that for MNOs, the challenge is balancing network expansion with profitable growth. Satellite, due to its ability to provide ubiquitous service with impressive throughput and efficiency, remains one of the most cost-effective ways to bring mobile communications to all of Africa and the Middle East.

"Intelsat enables network operators to economically expand to remote locations that previously could not even be considered due to the high cost of terrestrial infrastructure. By enabling the use of solar-powered base stations that are significantly smaller than today's base station set-up, satellite connectivity enables the use of equipment that consumes less power and is quicker and easier to deploy. This enables the expansion of networks and the ability to address new markets, and in the end, profitable growth for the MNO," says Gillet.

"On the technical side, wideband capacity, multiple beams, high throughput and Ka band operation require relevant features and agility to provide seamless service with top QoS"

SEMIR HASSANALY, Market Director, Cellular Backhaul and Trunking, Newtec

Hassanly is of the opinion that HTS is a key player in driving down the cost of satellite bandwidth and make this technology ubiquitously available worldwide. While satellite quality of service and user experience has improved significantly over the years, the main issue related to OPEX is still being seen as a show stopper.

He says: "The HTS, small cells and Mx-DMA combination provides an optimised CAPEX/OPEX/QoS which is now extremely appealing to mobile operators and mobility markets.

"HTS deployments rely on the satellite launches and the ability for satellite operators to demonstrate the benefits to the end customers. As projects in this space traditionally require a very long cycle, some delay has affected the availability of the promised services. However the needs are ever demanding in terms of bandwidth and costs: HTS is poised to succeed!"

"On the technical side, wideband capacity, multiple beams, high throughput and Ka band operation require relevant features and agility to provide seamless service with top QoS and subscriber satisfaction. The technology is here: it is now a matter of time to reap the fruits of the HTS promise," concludes Hassanly. PRO

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The VSAT Challenge

Etisalat's VSAT services are used by customers across a variety of different verticals, through partnerships in a number of countries. Oscar Garcia, SVP Business Marketing of Etisalat, speaks in an exclusive one-on-one with *SatellitePro ME* about how its VSAT services support the industry

How is Etisalat leveraging its VSAT services portfolio? How long has it been active?
Etisalat has been providing VSAT services to our customers for more than 20 years now.

Etisalat offers fully integrated end to end managed service for our customers such as data, Internet, voice, video conferencing and mobile over VSAT. Our portfolio of VSAT services include customised maritime solutions, oil and gas specific services, aviation solutions and M2M services.

Etisalat has been the market leader in the VSAT services space in UAE operating out of three teleports with a dedicated team of VSAT professionals supporting these services 24x7x365. Etisalat's state of the art teleport facilities are equipped with the latest and the best of class VSAT platforms that allow us to extend the whole portfolio of our IP services over VSAT.

Being an ICT operator in UAE and the region, enables us to offer end to end fully managed and highly reliable VSAT solutions for our customers comprising of multiple service flavours across TDMA and Dedicated IP platforms

These capabilities allow us to offer cost effective, reliable and flexible VSAT solutions for our customers tailored to their specific needs.

What verticals does Etisalat address through its VSAT services?
We work across many different verticals for our VSAT customer base. These include oil and energy, construction, aviation and logistics, government entities, defence, utilities management, maritime and finance and banking.

We also cater for VSAT service requirements of regional and international partner operators serving a broad array of customer base under our wholesale agreements.

How are you working with Government customers? Why do they use VSAT services, and what can be done with these?
We facilitate the reach and connectivity of government customers beyond geographical barriers to empower them with error-free and seamless connectivity combined with a high level of security and reliability.

All VSAT terminals are quick and easy to deploy and come with dedicated 24x7 support across the globe. Etisalat also ensures that disaster recovery of sensitive data is paramount ensuring the success of business continuity.

The government customers use VSAT services to connect their global offices, VVIP missions and other establishments for primary connectivity in difficult terrains, business continuity and data security. We are also proud to be part of the national disaster recovery plan where our teleports play an important role in providing backup connectivity and services for government services continuously.

What are the requirements of some of your oil and gas customers?
Oil and Gas customers have varying


VSAT services are deployed on oil fields for connectivity and crew welfare.


Oscar Garcia, SVP Business Marketing, Etisalat.

connectivity requirements from data collection, remote application monitoring to Internet connectivity for business and employee productivity. M2M solutions over VSAT supporting production site monitoring are in great demand. Furthermore, 2G/3G/4G connectivity and voice services at off-shore platforms is also a very critical business need.

How are you working with banks and financial institutions? What solutions have you deployed?

We facilitate data connectivity over VSAT for banks and financial institutions at remote or hostile locations where regular networks are not feasible. Etisalat VSAT services are also used by leading financial institutions for redundancy and disaster recovery purposes.

We have deployed solutions such as data connectivity between the corporate head office and branches; Internet access, connectivity for ATMs and POS terminals for M2M services, and lastly redundant connectivity for disaster recovery.

What are some challenges you are facing whilst deploying VSAT solutions in the region?

Inaccessibility of offshore locations; harsh climatic conditions in the region and difficult terrain sometimes pose challenges in deploying VSAT services for our customers. The highly sensitive and secure nature of the services requires Etisalat to work with government agencies to acquire service clearances, which results in a longer service delivery cycle compared to global standards.

The menace of illegal operators offering illegal VSAT services results in huge revenue losses for Etisalat as a licenced operator and we work closely with the regulator to remove such VSAT deployments from UAE territory.

How about customers in Africa? How are their requirements different?

Customers in Africa predominantly have requirements cropping from unavailability of basic terrestrial networks, either due to harsh terrain or political instability of these countries. Etisalat offers fully managed VSAT solutions for our customers and telecom partners in the African region catering for their data, voice and video service requirements.

Our satellite coverage from UAE teleports covers the whole African continent and we take pride in delivering extremely cost-effective and reliable services for this region through a strong network of our VSAT deployment partners.

How are you overcoming these challenges?

For Etisalat, customers come first, and therefore we have introduced a dedicated support and operations team maintaining strict service SLAs for our VSAT customers. There is a constant effort to optimise the VSAT support and service processes to deliver more efficient and reliable services for our customers.

Our dedicated VSAT business and technical teams help ensure that we keep pace with the latest VSAT technology and commercial trends to deliver state of art services for our customers.

We also work hand in hand with the government agencies and regulator TRA to ensure that the service delivery for our customers is handled in the most efficient manner within the regulatory framework of UAE laws.

"Our satellite coverage from UAE teleports covers the whole African continent and we take pride in delivering extremely cost-effective and reliable services for this region"

OSCAR GARCIA, SVP Business Marketing, Etisalat

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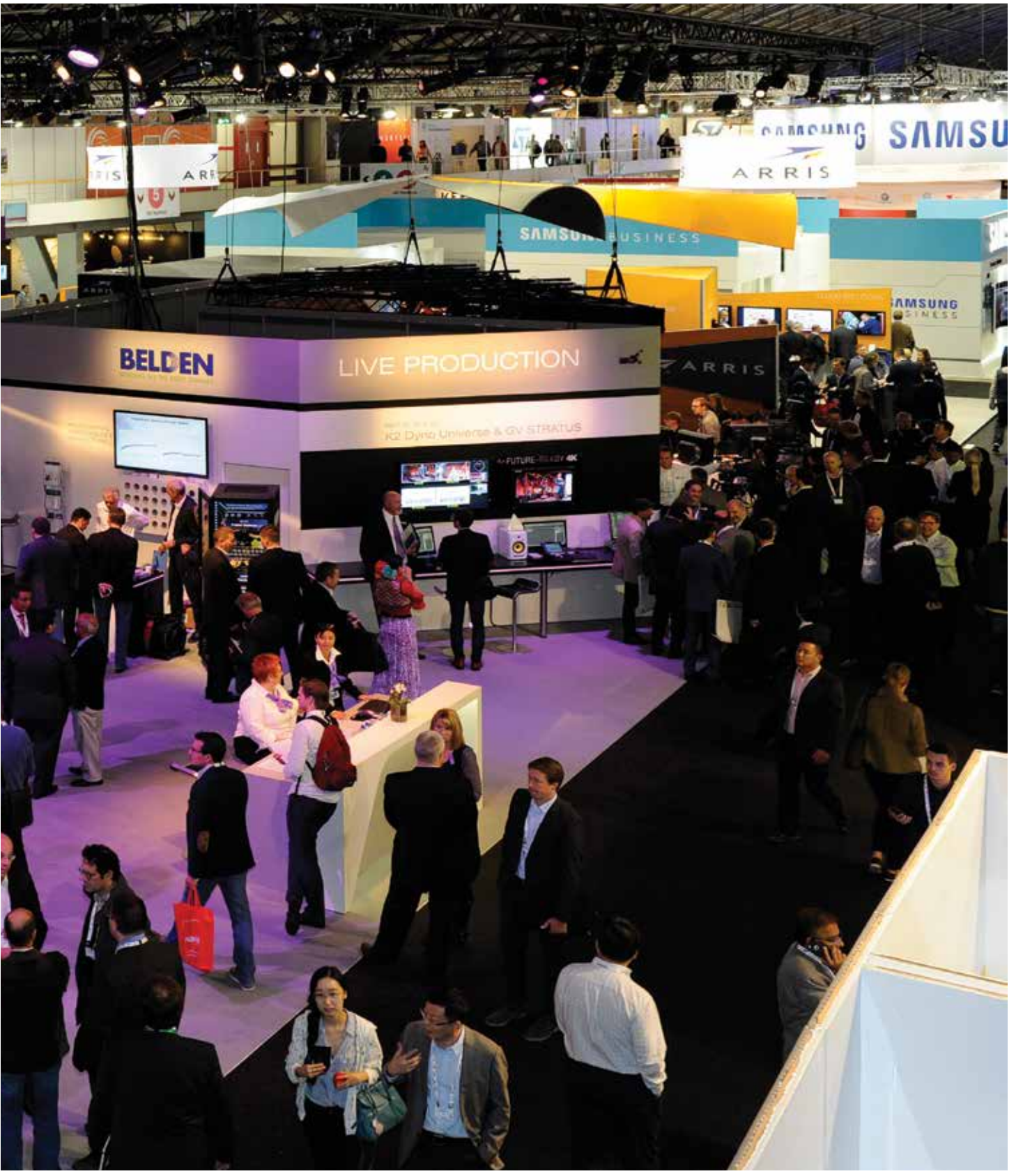
A Message **from Amsterdam**

IBC 2015 drew more than 55,000 visitors, 1,800 vendors, and more than 250 top level speakers at the conference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IBC 2015 drew in 55,128 visitors, well exceeding the record-breaking attendance in 2014. The event found ever more ways to engage with the community, ensuring that everyone who attended joined the debate about the future of electronic media.

At the centre of that debate was the future of media in an age of disruption. Speaking in the opening conference session, David Butorac of OSN said: "We have to adapt, we have to recognise that the consumer is now in charge, but the future is bright for broadcasters." Fran Unsworth, the Director of BBC World Service, added "The future is digital and we need to expand it – but not at the expense of television and radio."

This confidence that top quality content aimed at a broadcast audience can exist alongside YouTube and TV Everywhere was also reflected on the show floor. A record-breaking 1,800 exhibiting companies brought the latest in every aspect of the technology, from cameras to codecs, workflows to wearables, virtualisation to virtual reality.

"The media industry today is radically different from where we were even five years ago," said Michael Crimp, CEO of IBC. "We have gone from an industry that was defined by technology to one where we demand new functionality from our vendors; from an industry where broadcasters told us what we were going to watch to one where consumers call for content wherever and whenever they want.

"All that inevitably brings seismic shifts on every level," he said. "IBC provides the independent forum for the conversation. We have worked hard to bring everyone together: the telcos, the social media and the innovators; and everyone from the CEOs who attend our Leaders' Summit to the engineers and creative artists who walk the show floor and learn in the conference. Only IBC provides this comprehensive platform – this is where the real debates take place."

Taking place for the fifth year, the IBC Leaders' Summit was a behind-closed-doors day for senior executives from media companies around the world to talk strategically about the real issues facing them. This year close to 150 invited delegates debated the theme "leading through a changing media ecosystem".

"IBC provides the independent forum for the conversation. We have worked hard to bring everyone together: the telcos, the social media and the innovators; and everyone from the CEOs who attend our Leaders' Summit to the engineers and creative artists who walk the show floor and learn in the conference. Only IBC provides this comprehensive platform – this is where the real debates take place"

MICHAEL CRIMP, CEO, IBC

At the other end of the career path, IBC hosted its Rising Stars, another well-established programme. This brings together over 200 young professionals entering the industry, in a programme of specially tailored conference sessions, networking opportunities with senior figures, and a legendary party.

On the show floor, the added value of debates and demonstrations in dedicated theatres was expanded, with a new Technology in Action Theatre alongside the IBC Content Everywhere Hub. The IBC Big Screen Experience hosted demonstrations, conference sessions and two movie screenings. Packed audiences enjoyed 'Fantastic Four' and 'Inside Out' using the high-brightness Christie 6p laser projector. 'Inside Out' was seen in a specially-created version for IBC which emphasised the full capabilities of an extended colour gamut.

The Big Screen was also host to the IBC2015 Awards Ceremony. This year's International Honour for Excellence went to embedded processor pioneer ARM, with the judges' Prize going to the International Olympic Committee for its work on preserving its archive, going back more than 100 years. PRO

Intelsat demonstrates **services with partners**

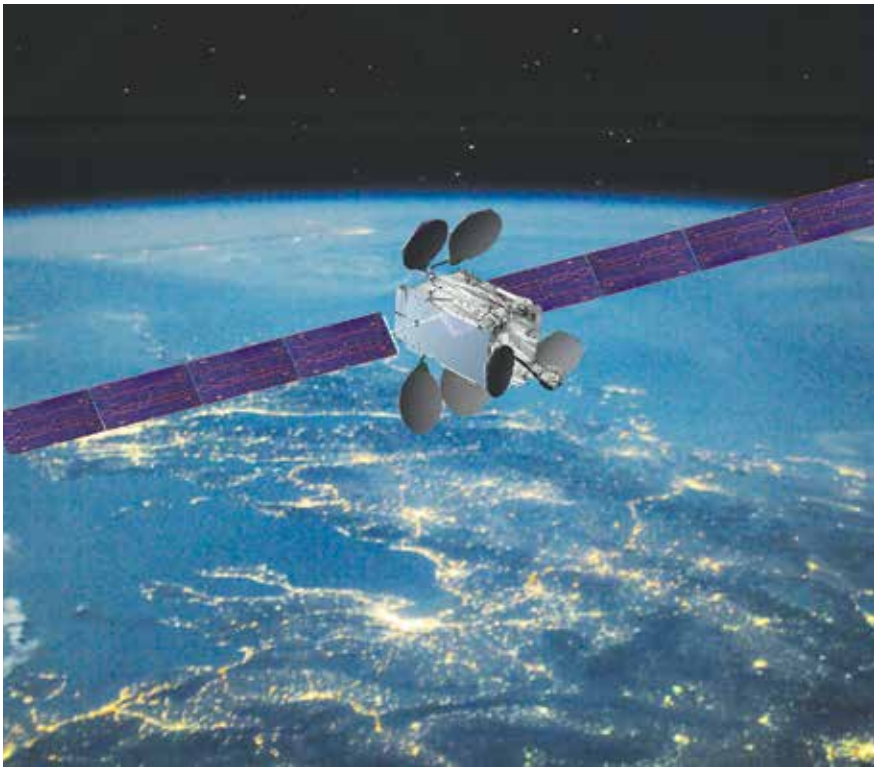
At IBC this year, Intelsat was demonstrating its services that it is providing to media and non-media customers. There was one demo with Ericsson and another with Harmonic.

"With Ericsson it's really around HDR, and the demo is on their booth. They are producing a feed that we uplink to our satellite and then downlink to the receiver. HDR is one of the components of 4K.

"With Harmonic we are showing a 4K channel that is being distributed in the US, and we have brought here for the show. We feel this is the way to demonstrate 4K channels so customers can see the quality," said Jean-Phillippe Gillet.

Intelsat is also helping its customers convert from analogue to digital, and while in Western Europe a lot of countries have done this, there are still many more countries that need to convert their channels.

Gillet also said that Intelsat was in the process of prepping for the launch of its Epic satellites.



Thuraya promotes **SatSleeve Plus and Hotspot**

Thuraya returned to IBC this year and had two new products on display. SatSleeve Plus and SatSleeve Hotspot.

John Huddle, Head of Media and Broadcast at Thuraya said that Thurya comes to IBC because its one of the largest meeting points globally for the broadcast and media world. A lot of the customers that use Thuraya's services are there, and Huddle said it's a great place to educate them about what the company is doing.

"We sell through a network of partners, but what we also have to do is educate end users. As a show, IBC has evolved from being purely broadcast-related. You now see people here from the maritime market, oil and gas, and I think for satellite operators it's a good place to meet a broad customer place," said Huddle.

The next iteration of Thuraya's Satsleeve product was on the stands. The original SatSleeve was designed for the Samsung Galaxy and the iPhone.

"What we're now launching is the SatSleeve Plus and the SatSleeve Hotspot. On the Plus we've put in a universal smartphone adaptor that works with any smartphone on the market. This is going to be great for people who still like to have their phone tethered to the actual device.

"With The SatSleeve Hotspot, you don't need to tether to the actual device at all. You connect via WiFi and you can walk up to 30-metres away from this and then you're not physically limited to be connected to the device. The standby time is up to nine hours with the WiFi on, and up to 70 hours if the WiFi is off," explained Huddle.

ETL Systems showcases **RF lineup**

At IBC this year, ETL Systems was showcasing its range of RF products. This year the focus was on signal quality and redundancy.

Andrew Bond, Sales Director at ETL Systems said : "It's our experience from teleports that they need to be able to rely on downlink equipment between the satellite dish and modem to deliver dependable and very good quality signals. We've got on show redundant amplifiers, we've got splitters with redundant powers in case of failure. There are matrices with monitoring of signal detection, so if they lose signal people are aware. It's all about having equipment that works seamlessly and can be trusted in a live teleport. This is really the focus of what we have at IBC."

Commenting on market trends, Bond said the main changes he sees in the market is the way that teleports around the world are designing their downlink systems to be dependable and deliver a very good signal to their modems.

"We don't want to see modems that can't lock on to their signal, nor introduce too much noise. We're also seeing a lot more quality monitoring software systems in teleports which are linking everything, which gives seamless control of the system. In the event of a fault, they can deal with it quickly. The main thing about this is that manpower costs money, and we have to make sure we're providing an automated service. The other trend we're seeing is that the Ka-band fleets and HTS satellites are being launched. This will allow for greater bandwidth to be used," said Bond.

Crystal showcases its product suite at the show

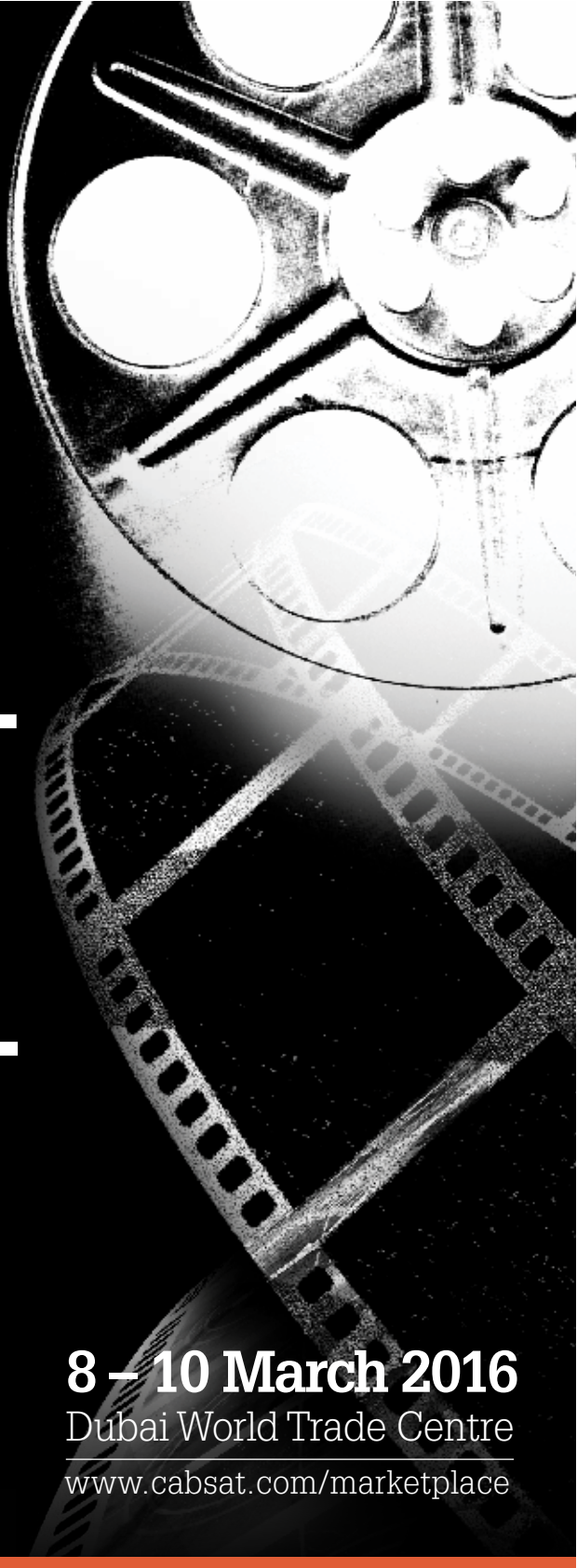
Crystal was showcasing its product suites at IBC this year. Crystal Control is its core network management system, Crystal insight deals with video metadata and have Crystal Spectrum looks at spectrum monitoring. This is designed for its customers to keep an eye on their spectrum bandwidth.

"We also have Crystal Carrier ID which is a very simple system which is designed to extract Carrier IDs out of transmission. The USFCC is mandating Carrier ID for all temporary transmissions from next June. Our customers need to plan for it, budget for it and can use this system that allows them to validate that they are transmitting their Carrier IDs successfully," said Roger Franklin, CEO, Crystal.

Franklin said that he was noticing similar trends in the Middle East, like in the US.

He said: "The increase in video is everywhere and we're seeing a lot more direct-to-home broadcast coming out of the Middle East, and we're looking at how we can help those customers monitor those situations for DTH. Sometimes, where they don't have access to their downlink, so we help them understand what their transmission is doing in different regions. Fortunately rain-fade is not an issue in the Middle East, but there are other things that can occur like storms, political situations etc.

"The other trend is confirming that the metadata in the video is there. This is where the Middle East is not quite on the same time-scale as the US. The Middle East is starting to get there, but they're not quite there yet," said Franklin.



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Gulfsat markets **capacity on E8WB**

At IBC this year, Gulfsat was focusing on promoting capacities on the 7/8-degree orbital position, focusing on the MENA region, with the help of the E8WB satellite which was launched recently.

Mohamed Alhaj, Chairman of Gulfsat said the operator participates at IBC every year, to be in touch with its clients and international partners.

Speaking about Gulfsat's services he said: "We provide services with no interference and anti-jamming capability, as we have multiple uplink facilities in different regions, and the downlink goes back to the MENA region.

"I believe the industry is becoming more converged. Telecom companies now work as part of the media, and media as part of broadcast. It's all converged and in terms of that trend we believe we want to introduce more services for OTT applications, IPTV services and interactivity over satellite.This is what we want to develop over the next year," said Alhaj.

Gulfsat signed two major contracts for capacity on E8WB. The first was with the Kuwaiti government, for Kuwait TV for one bouquet on one transponder, and it is migrating another transponder which was signed earlier for Palestine Broadcast Corporation on to E8WB too.

"We are also negotiating with other clients for other deals. We are also promoting VSAT services in Central Africa and West Africa, and we see there is a huge demand for this. This will leverage our portfolio between TV broadcasting and VSAT services," said Alhaj.

Es'hailsat promotes **Es'hail 2 at the show**

At IBC this year, Es'hailsat was marketing its upcoming satellite Es'hail 2, which has recently completed its CDR. The launch is scheduled for Q4 2016, and Ali Al Kuwari, CEO of Es'hailsat says that everything is progressing according to plan. The launch of Es'hail 2 will be with SpaceX.

"We are marketing Es'hail 2 but not selling capacity on it as yet. We want to calculate the capacity of our existing customers, who need additional capacity. We also have some traffic on Es'hail 1 which will be transferred on Es'hail 2, only then will we offer some capacity for sale. There will be about 12-13 transponders for sale in Ku-band and there will also be some more Ka-band capacity.

"Es'hail 1 is almost full. We have some spare capacity which will be kept for some key customers and as backup. We have a plan to start marketing some Ka-band capacity early next year. The commercial team are warming up to start selling this and capacity on Es'hail 2 very soon," said Al Kuwari.

Es'hailsat's teleport is also in the works and Al Kuwari said that the operator has just awarded the construction contract to a local contractor in Qatar.

"The site is ready and the land has been secured. The teleport site will have two divisions, one housing the control centre for Es'hail 2, and we will also offer value-added services. We are trying to engage a partner for this second division. We thought about operating it alone, but I think going with a partner would be a better option," said Al Kuwari.

Hiltron brings **HMAM to IBC**

Hiltron Communications was exhibiting the latest version of its HMAM high-precision motorised satellite antenna mount at IBC2015. Designed for two-way VSAT communication or receive-only downlink applications, the antenna mount can be used for a wide range of applications including broadcast and telecom downlinks.

The HMAM was displayed in compact form for up to 2.4 metre diameter dishes. Also making its first exhibition appearance was a new motorised feed changer which allows the head to be moved quickly to a new position for switching between two different frequency bands.

The system comes complete with professional-grade drives for azimuth and elevation plus a high-accuracy polarisation drive. The combined head and drive form a three-axis motorised system with 180 degrees of azimuth adjustment, 90 degrees of elevation adjustment range and fully adjustable polarisation. The HMAM is fully compatible with Hiltron's standard HACU antenna positioning system.

The Hiltron HMAM-IOT variant incorporates inclined-orbit tracking. To conserve guidance propellant, older satellites are allowed to drift further from their nominal target position than during their main service life. Operators therefore offer greatly reduced transponder capacity pricing. The HMAM-IOT's advanced tracking capabilities enable the antenna to follow these variations in position. It is the ideal solution for cost-efficient uplinks on inclined-orbit satellites.

Inmarsat previews **Global Express**

Inmarsat's theme for IBC2015 was partnership. Its stand had two key channel partners – Network Innovations and NSSL – as well as Parrot, which was showing its unique flying camera, optimised for BGAN.

Also on preview was the global Ka-band service, Global Xpress, which enables HD video to be transmitted from anywhere in the world. Leading international broadcasters have already used GX on air from Athens and Nepal and Inmarsat is demonstrating just how simple it makes HD newsgathering.

Together with bonded BGAN HDR, which gives VSAT-type performance in a minimalist form factor, Inmarsat is proud to enable content providers to take their audiences to the heart of the action, wherever that may be.

Satellite was only one part of the solution and the company was also highlighting how it continues to work with partners to ensure its services work seamlessly alongside other forms of connectivity.

As part of this, Inmarsat also demonstrated how it supports IP production workflows which enable cameras and other equipment to be controlled remotely thus reducing costs and increasing flexibility.

It's **Showtime**

This year's GITEX Technology Week is expected to welcome more than 140,000 visitors from over 140 countries, including more than 20,000 C-level executives. It will host more than 3,500 exhibiting brands from 55 countries

From drones to robotics, GITEX Technology Week 2015 will mark its 35th anniversary by showcasing live demonstrations of next generation technology solutions that will drive Middle East business transformation in the Internet of Things (IoT) and emerging Internet of Everything (IoE) era.

Middle East organisations are ideally placed to become leaders in IoE innovation. The Middle East and Africa is set to post the world's second-fastest growing ICT market in 2015, reaching $270 billion, according to IDC. Longer-term, the Middle East's IT market is set to grow by 23%, from $204 billion in 2014 to $252 billion in 2019, according to Gartner.

With more people, devices, organisations, and government collaborating on smart environments and integrated ecosystems, Deloitte predicts global IoT hardware connectivity revenues stand to rise 20% per year, while related services revenues will grow 50% annually.

"The IoE era is a fourth industrial revolutions that is redefining how new technologies such as drones and robotics are transforming global and regional organisations and their consumer experiences," said Trixie LohMirmand, Senior Vice President, Dubai World Trade Centre, which will be presented under the theme "The Internet Future of Everything".

"However, Middle East organisations face increasing urgency to innovate or be left behind. We're dedicated to advancing the regional innovation agenda by showcasing next generation technology solutions, vertical-specific research, and networking opportunities. With Dubai Smart City a global future city beacon, GITEX Technology Week 2015 is the ideal platform to demonstrate the latest smart and connected solutions," added LohMirmand.

The new GTX Horizons zone will showcase demonstrations of emerging solutions such as 3D Printing, Autonomous Vehicles (drones), robotics, and transport. Additionally, the new GTX Communities area will provide new research, networking, and solutions for firms in key vertical sectors – banking, construction, education, healthcare, retail and oil and gas - can lead innovation, source next generation technologies and develop strategic partnerships.

"Middle East organisations face increasing urgency to innovate or be left behind. We're dedicated to advancing the regional innovation agenda by showcasing next generation technology solutions, vertical-specific research, and networking opportunities. With Dubai Smart City a global future city beacon, GITEX Technology Week 2015 is the ideal platform to demonstrate the latest smart and connected solutions"

TRIXIE LOHMIRMAND, SVP, DWTC

In support of Smart City innovation, GITEX Technology Week 2015 will be themed around the key pillars of the IoE revolution – Innovation, Connected Cloud, Big Data, Mobility, and Security, along with the return of the Google CSI Lab.

Demonstrating the potential for the fast-growing Middle East market, already marquee technology companies are confirmed as event sponsors, including HP, SAP, Vodafone, and Gemalto.

The event will host hundreds of globally-renowned speakers leading the show's expansive conference formats, as well as displays of disruptive, transformative Smart City technologies.

Speakers include Ken Singer, Director of the Centre for Entrepreneurship and Technology, UC-Berkeley; Benoit Montreuil, the 'Father of the Physical Internet' and Coca-Cola Chair in Material Handling and Distribution at Georgia Institute of Technology; Jonathan Reichental, CIO, Palo Alto; and Miguel Gamino, CIO, San Francisco. PRO

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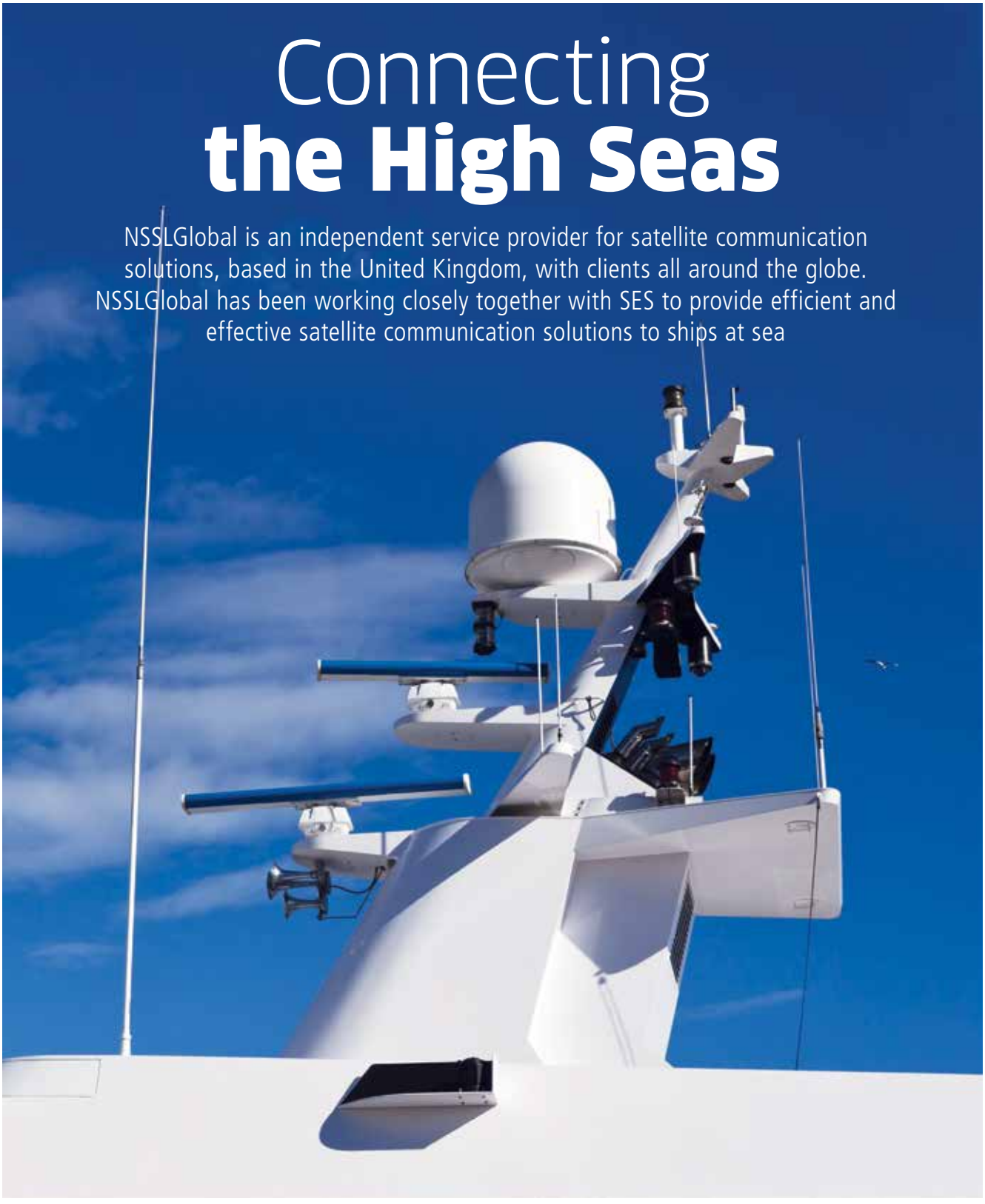
Connecting **the High Seas**

NSSLGlobal is an independent service provider for satellite communication solutions, based in the United Kingdom, with clients all around the globe. NSSLGlobal has been working closely together with SES to provide efficient and effective satellite communication solutions to ships at sea



NSSLGlobal's communication equipment is used onboard a variety of maritime vessels.

The Client

NSSLGlobal is an independent satellite communication company that supplies equipment, airtime and support to customers in areas of the world where no other communication is available - often in quite difficult environments. One such area is maritime, where there's no alternative but to use satellite. Established in 1969, UK-based NSSLGlobal is an independent service provider with a network of engineers and service agents worldwide providing support to its global customer base.

The Challenges

One of the challenges for NSSLGlobal is to provide very high quality of service at any time to a customer who needs a rapid upgrade of their bandwidth. It is not only getting the coverage to where it is needed, when it is needed, across the world's oceans, but also getting just the right level of bandwidth together with very good voice quality. Being flexible and approachable has helped NSSLGlobal deliver voice and broadband internet data to many different satisfied shipping customers across the world.

As customers' communications needs grow, so do those of NSSLGlobal, creating demand for space on satellite transponders. The company is now providing coverage across the Atlantic, a critical area for development as it is the first major ocean to cover after the Mediterranean and Caribbean.

Scope

Maritime users have a wide range of requirements, from large C-band terminals on cargo ships and tankers to smaller Kuand Ka-band terminals on super yachts and vessels.

NSSLGlobal uses a mix of SES satellites (including SES-4, SES-6 and NSS-9) and ground stations to deliver its services

"The challenge with superyachts is being able to supply the customer's demand for bandwidth. For example one client has the fastest data bandwidth available in the world at home, and on board his superyacht expected a similar experience, which we were able to provide. We have to respond really quickly to customers' needs as they often want fast upgrades to very high performance packages and we are fortunate to have SES as a partner to be able to meet their requirements"

CAROLINE SHORTLAND, Global Sales Manager at NSSLGlobal

to shipping around the world. From super yachts to cargo shipping, the ability to respond quickly and flexibly to customers' needs is essential.

The Solution

SES was chosen by NSSLGlobal because its capacity can be supplied to shipping around the world through a global network of high performance satellites.

Providing continuous service on the trade routes from Gibraltar to Panama is extremely important, and NSSLGlobal and SES worked closely together on the specification of new satellite beams to extend coverage across the Atlantic.

Ships travelling down one coast of the US, through the Panama Canal and down the other coast of South America, may need a short-term lease of bandwidth to cover the journey. The SES commercial engineering team helps NSSLGlobal meet their short term and long term requirements with customised solutions. The SES administration systems are set up to provide short-term occasional use leases within minutes, anywhere in the world. This supplies customers global coverage over all of the oceans without having to lease and manage satellite capacity all over the world.

Transponders in particular orbital locations can be in high demand at certain times. Using innovative bandwidth management allows the SES team to allocate additional capacity which can be brought into use in a matter of hours for NSSLGlobal's customers.

Often the additional bandwidth needs to be available alongside the existing channels to provide the data rates that customers demand. SES allows customer allocations to be re-arranged quickly to provide the contiguous frequencies so that operators such as NSSLGlobal only pay for the bandwidth their customers are using but still have room to expand. PRO

Top Priorities in Satcom

Mather Al-Ali, Regional Sales Director at Newtec speaks about how changing customer priorities are bringing new challenges to satellite operators and service providers

It's All About the Price Tag

As in most cases when it comes to business, the bottom line comes down to money. This does not just mean revenue but also expenditure. In other words, now more than ever, operators and service providers should be looking at how to reduce OPEX and CAPEX, while adapting to trends currently shaping the industry such as HTS and multiservice.

Achieving this is all about having the right technology in place. The latest version of Newtec's multiservice platform, Newtec Dialog 1.2, for example, guarantees optimal modulation and bandwidth allocation, whether it is being used for broadcast, enterprise, mobility or HTS networks. Newtec's engineers have achieved this by inventing Mx-DMA, a new return link technology. It combines the best features of MF-TDMA and SCPC technologies to enable services to run more efficiently than ever before over satellite, while still providing the option to have the platform also run in either SCPC or MF-TDMA.

Winning the Race Through Efficiency

For several years Newtec, along with the rest of the industry, has concentrated on breaking speed barriers, with several records achieved with our equipment, but today a significant amount of effort is spent on more efficient transmissions in order to minimise cost. This is the reason why many networks have been upgraded from DVB-S to DVB-S2 or even DVB-S2X.

In addition, other advanced technologies are being deployed more and more to improve transmission efficiency. We have technologies offering low roll-offs combined with advanced filtering techniques, while others bring latest advancements for linear and non-linear pre-distortion for single carrier per transponder operations. Several use cases have shown that a combination of technologies allows throughput to be increased by up to 50% on a single transponder.

"Whether the focus is contribution, exchange or distribution, operators must look to future proof their operations with flexible, scalable, reliable and efficient technologies which reduce OPEX and CAPEX at the same time. Although this may sound a tall order, selecting the right technology will provide the best possible results"

MATHER AL-ALI, Sales Director, ME, Newtec

At Newtec, as mentioned earlier, we believe the efficiency trend is so important we have now turned more attention from breaking speed barriers to providing the highest bps/Hz for any application. Using the Newtec MDM6000 Satellite Modem with our all digital built-in Bandwidth Cancellation (BWC) technology, we have put 20 Mbps into 2 MHz – a world first for the amount of throughput in a single transponder.

Familiarity in Evolution

Of course, among all this transformation, some things never change and flexibility and reliability continue to be of utmost importance. To see evidence of this, we need look no further than this year's IBC show, where Hellas Sat, a subsidiary of Arab Satellite Communications Organisation – the leading satellite provider in the Middle East and North Africa, announced it has chosen Newtec M6100 Broadcast Satellite Modulators for its new multimillion Euro Direct-to-Home (DTH) earth station. The robust design of the product and our industry-leading redundancy solutions, which result in the highest system reliability and service uptime, was a key factor in the decision.

Conclusion

Whether the focus is contribution, exchange or distribution, operators must look to future proof their operations with flexible, scalable, reliable and efficient technologies which reduce OPEX and CAPEX at the same time.

Although this may sound a tall order, selecting the right technology will provide the best possible results in terms of performance and efficiency, ensuring success for operators and service providers now and well into the future.

Mather Al-Ali will be based in Dubai and is responsible for UAE, Qatar, Jordan, Bahrain, Oman, Afghanistan and Pakistan. PRO

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HorizonSat is recognized as a key provider of satellite communications services in the Middle East, Asia and Africa. Supporting institutional clients in the fields of Telecommunications, Broadband, Corporate Internet and Broadcasting, HorizonSat attributes its success to its dedication in implementing solutions that leverage the latest satellite technologies and support through its 24/7 NOC.

To serve our clients more effectively, we have enhanced our service through our state-of-the-art teleport, Horizon Teleports, strategically located in Munich, Germany covering a look angle from 55 degrees West to 78 degrees East.

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.

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EUTELSAT 8 West B was successfully launched on August 20th, 2015 and will join the satellites already operated at the adjacent 7° West position by Eutelsat and Egyptian satellite company, Nilesat. The 7/8° West video neighbourhood is one of the most dynamic in the global satellite TV market, with a rapidly growing audience and channel line-up. 52 million homes in North Africa and the Middle East are already equipped for DTH reception.

Discop:
4-6 Nov. 2015, Stand A1-B1

AfricaCom:
11-13 Nov. 2015, Stand D6

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