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SATELLITE PRO
TECHNOLOGY INTELLIGENCE FOR THE SATCOM MARKET
MIDDLE EAST

ARABSAT EXTENDS ITS REACH

Armed with research from its new MENA satellite penetration study, Arabsat gears up to conquer new markets

SATELLITEPRO MIDDLE EAST

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WELCOME

The MENA region has an unusually high number of free-to-air satellite channels compared to the rest of the world, and while we note increased affinity for streaming services and IPTV, some parts of the Arab world continue to remain loyal to satellite and with good reason. In fact, a recent MENA satellite penetration study conducted by Arabsat in conjunction with IPSOS revealed that satellite continues to enjoy a whopping 97% market share in this region.

That's not unusual given that satellite serves as the sole content distribution platform in the more remote parts of the MENA region, where fiber and other infrastructure are minimal.

According to the study, the vast majority of MENA viewers – almost 80% – are under 44 years old, and at least 45% are under 30, which illustrates the strong sustainable relevance of satellite TV in MENA. As a result, operators are in a powerful position, with Arabsat enjoying the lion's share of the pie in several Arab markets.

Almost 88% of homes in the GCC use satellite services provided by Arabsat. In markets like Saudi Arabia, Iran and Lebanon, the operator dominates the satellite space. In Iran, Arabsat has access to 97% of the TV market.

Likewise, it enjoys exceptional popularity in some parts of Africa and Europe. However, the satellite operator is also cognisant that change is coming. So, in addition to launching new satellites, it is also looking to develop products and services that cater to the needs of a new streaming generation.

This issue brings you all the numbers from the study. Enjoy.

VIJAYA CHERIAN
Editor
SatellitePro ME

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Hope Probe set to commence two-year science mission

SPACE

The Emirates Mars Mission, the first interplanetary exploration undertaken by an Arab nation, has announced the mission has completed spacecraft and instrument exercises used to practice science observations and is now ready to commence science data gathering. The two-years science mission formally commenced on May 23, aiming to yield the first complete picture of Mars' lower and upper atmospheres throughout the day, night and seasons of a full Martian year.

Omran Sharaf, Project Director of EMM, said: "Following a successful cruise to Mars, a near-perfect Mars Orbit Insertion manoeuvre and our transition from Hope's capture orbit to our science orbit, we have completed our commissioning, calibration and testing phase. The Mars Hope probe is perfectly positioned to commence its two-year science mission."

The probe's three instruments were activated on April 10 and a period of commissioning and testing followed.

Since the Hope probe entered orbit around Mars, the Emirates Mars Ultraviolet Spectrometer (EMUS) instrument has collected nearly 14,000 spectral-spatial images of the atmosphere, corresponding to 1.6m individual spectra. The observations will be repeated throughout the science phase, characterizing the composition and structure of the upper atmosphere as it changes within and across seasons.

Hope is following its planned 20,000 – 43,000 km elliptical science orbit, with an inclination to Mars of 25 degrees. The probe will complete one orbit of the planet every 55 hours and will capture a full planetary data sample every nine days.

Registrations open for IAC event in UAE

SPACE

The 72nd edition of the International Astronautical Congress (IAC) 2021, organised by the International Astronautical Federation (IAF) in collaboration with the Mohammed Bin Rashid Space Centre (MBRSC), under the patronage of Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai is inviting registrations to the event.

For the very first time, the IAC will open its doors to the global space community in the United Arab Emirates, the first Arab country to host the IAC since its establishment in 1950.

The IAC draws high-level stakeholders from space agencies and institutions around the world under one roof to exchange information and ideas, share developments and advances, swap insights, strategies and rising trends in the fields of space research and exploration. The Congress will feature a line-up of thematic plenary events, highlight and keynote lectures, in-depth technical and special sessions, interactive workshops in addition to an exclusive global networking forum, social events and a space science exhibition, all tailored to encourage engagement.

NASA's contractor launches Zin Aerospace in Abu Dhabi

SPACE

Zin Technologies, a NASA prime contractor, has launched operations in Abu Dhabi as the UAE builds its reputation in space technology. Zin-AS is a space flight hardware engineering company that develops and operates space flight science instruments on the International Space Station (ISS). The company will deliver its Low Earth Orbit (LEO) operational experience and life and physical science technologies portfolio to the UAE and the GCC region, offering engineering and space hardware system manufacturing capabilities.

The company, which has partnered with Holding Space AD Limited (HSAD) to coordinate regional efforts, said it brings decades of LEO operational experience and a life and physical science technologies portfolio to the UAE and the GCC.

Also, Zin will collaborate with local agencies and space research centres to encourage young Emiratis.

Telecom Egypt selects Juniper Networks

CONNECTIVITY

Telecom Egypt has selected Juniper Networks to upgrade and deploy a network capacity expansion across its national infrastructure, serving a customer base of 9.8m for fixed-line services, 6.9m for broadband and 7.3m for mobile. This move is in line with the exponential growth of bandwidth demand and service quality expectations faced by Telecom Egypt, coupled with its pursuit of a root-and-branch digital transformation programme as a key element of the Egyptian Government's Digital Egypt and ICT 2030 initiatives.

Juniper's deployment for Telecom Egypt is to invest in a customisable, automated high-performance network that can scale up and scale out with assured service experience in step with exponential growth and future demands. The deployment is an automated, flexible infrastructure that collects, analyses, interprets and responds to real-time data reporting its own health status and traffic patterns. As a result, Telecom Egypt will operate more efficiently and cost-effectively, while delivering a better user experience for its business and residential customers alike.

To meet Egypt's bandwidth capacity requirements, the network will be equipped with 400G interfaces from Juniper's purpose-built IP transport portfolio using custom silicon to deliver high density, reliable data throughput and low cost-per-bit. This will be complemented by Juniper's standards-based automation portfolio that delivers an operational experience along with an end-user experience. Together, the 400G routing portfolio and the automation portfolio deliver the ability for Telecom Egypt to drive its digital transformation strategy based on its performance and user experience.

Juniper's HealthBot, an automated, open and programmable network diagnosis tool, will also be deployed by Telecom Egypt. HealthBot provides end-to-end operational intelligence, translating real-time analytics into actionable insights.

The entire deployment uses Junos OS, a unified operating system across each solution. This approach delivers operational simplicity for Telecom Egypt, while remaining fully open and programmable.

Israel and Greece sign record $1.65bn defence deal

DEFENCE

Israel and Greece have signed their biggest-ever defence procurement deal, which Israel said would strengthen political and economic ties between the countries. The agreement includes a $1.65bn contract for the establishment and operation of a training centre for the Hellenic Air Force by Israeli defence contractor Elbit Systems over a 22-year period, Israel's defence ministry said.

The training centre will be modelled on Israel's own flight academy and will be equipped with 10 M-346 training aircraft produced by Italian company Leonardo, the ministry said. Elbit will supply kits to upgrade and operate Greece's T-6 aircraft and also provide training, simulators and logistical support.

Viasat secures licenses to operate in Nigeria

CONNECTIVITY

Viasat was granted a full suite of operating licenses—Internet Service Provider (ISP) license, VSAT license and three Earth Stations in Motion (ESIM) licenses—in order to bring high-quality satellite internet connectivity to Nigerian communities where limited or no internet service is currently available. The Nigerian Communications Commission granted Viasat multiple licenses to operate within the 28GHz Ka-band satellite frequency band.

With access to the 28GHz Ka-band spectrum, Viasat will be positioned to expand its satellite-based internet connectivity service to more regions and citizens across Africa—ahead of the launch of ViaSat-3, its global satellite constellation comprised of three communications satellites. A ViaSat-3 satellite also aimed to serve Africa, as well as Europe and the Middle East.

Since being granted the licenses, Viasat has begun a trial programme to connect five unserved Nigerian communities covering 15,000 people.

Ateme secures Nilesat project in Egypt

DEPLOYMENT

Nilesat has chosen to deploy Ateme's Titan Live platform for two of its projects.

In the first of two tender wins, Ateme Titan Live will enable contribution over IP via a new fibre link between Nilesat and Egyptian Media Production City (EMPC), an information and media complex with studios and outdoor shooting areas for production companies. This architecture enables EMPC to transfer content much faster than with the previous traditional SDI networks.

Ateme's Titan Live video headend has also been selected to enable Nilesat to expand its current video processing infrastructure for the Egyptian (ENMA) channels. This allows ENMA to increase its footprint internationally.

A software-based encoding solution, Titan Live delivers high video quality at minimum bitrates with accelerated parallel processing. The implemented solution will empower Nilesat to take full control of its new platform, providing the opportunity to offer new satellite services.

In addition to what has been described Nilesat benefits from a flexible and transparent business and licensing model, in which licenses are inclusive of all software capabilities, without additional costs.


Mohamed Razik Zaghlouli, Regional Sales Director, Ateme.

Hamdy Mounir, Nilesat CTO, said: "As we embarked on these projects Ateme's offering really stood out from the competition. Its Titan Live solution is not only capable of helping us achieve our current requirements, but it will also enable us to expand our infrastructure as we continue to increase our service offering."

Mohamed Razik Zaghlouli, Regional Sales Director, Ateme, added: "Being chosen as the unique vendor for these two projects is testimony to our innovative technology solutions and cements our status as a leader in video delivery technology. As one of the leading MENA satellite solutions providers, our work with Nilesat further strengthens our position in the region and we look forward to continuing to expand our relationships in this area and globally."

KSA and India cooperate on space

SPACE

The King Abdulaziz City for Science and Technology (KACST) and Indian Space Research Organisation (ISRO) have signed a Memorandum of Understanding for space cooperation. The implementation of the space cooperation has been assigned to Saudi Space Commission (SSC), according to a report in Asharq Al-Awsat.

Arabsat, Fixed Solutions and EgyptSat enhance commercial relationship

PARTNERSHIP

Arabsat has announced a strategic partnership and cooperation agreement with Fixed Solutions and EgyptSat to enhance the commercial relationship between the three parties and benefit from the different services of Arabsat satellites, which have a multiple wide range of coverage.

Khalid bin Ahmed Balkheyour, CEO of Arabsat, stressed Arabsat's determination to provide all satellite services through its fleet that provides wide range coverage in the world.

Mahmoud Sherif Tawfiq, CEO of Fixed Solutions, said: "We are pleased with this strategic partnership for cooperation in the field of digital transformation services and cybersecurity to provide services that meet the needs of the Egyptian community. This deal will help increase capabilities towards expanding joint projects in the African market and maximising capabilities in the field of satellite telecommunications. It will enhance access to remote areas, taking advantage of the services provided in various fields and to increase the means of communicating with those areas faster and securely.

Dr Mohamed Al-Ghamry, CEO of EgyptSat added: "This deal represents the beginning of a new effort towards optimal utilisation of satellite telecommunication solutions for government, business and private sectors to enhance the country projects aimed at digital transformation as it supports the telco systems infrastructure and the national projects undertaken by the state due to the characteristics of satellite telecommunication systems in terms of implementation speed and the comprehensive coverage of all Egyptian territories."

TheAngle and ABS extend partnership to serve customers in the MENA region

PARTNERSHIP

Satellite operator ABS and satellite network services integrator, TheAngle, have extended their joint activities in the MENA region, serving customers across ABS' footprint at 75 degrees East.

The collaboration focuses on providing energy, enterprise and government customers with bespoke, cost-effective communication solutions including ground segment facilities and flexible bandwidth allocations on ABS-2 and ABS-2A satellites, co-located at the prime location of 75°E. Both satellites offer prime capacity over

the Middle East, accessible also from Europe, as well as coverage of the African and Asian continents over multiple beams.

The satellite services demand in the MENA market remains strong, driven by traditional verticals such as oil and gas, maritime/mobility and governmental. Broadband, video contribution and video distribution are also key applications hosted on the ABS satellites.

Paolo Pusterla, MD of Europe and the Middle East for ABS said: "This collaboration is a major boost for both companies that will further enhance our respective businesses and accelerate the development of new opportunities with attractive offerings to more clients."

Hassam Karim, General Manager of TheAngle added: "Our service offerings enable customers to take advantage of the expertise of both companies to provide an even higher quality of turnkey services to suits their needs of this region."

Abu Dhabi and Singapore join hands for space

SPACE

Singapore's national space office, the Office for Space Technology and Industry (OSTIn) and the UAE Space Agency have signed a Letter of Intent signalling their mutual interest to collaborate in the areas of space technologies, space law and policies as well as human capital development. The signing was announced at the 13th session of the Abu Dhabi-Singapore Joint Forum (ADSJF), held virtually in March under the co-chairmanship and in the presence of Khaldoon Al Mubarak, Chairman of the executive affairs authority of Abu Dhabi, and S. Iswaran, Minister-in-Charge of trade relations.

Saudi Arabia launches 17th satellite

SATELLITE LAUNCH

The King Abdulaziz City for Science and Technology (KACST) has announced the launch of Shaheen Sat successfully from Baikonur base in the Republic of Kazakhstan onboard Russian rocket Soyuz 2.

Developed and manufactured within a short period of time by a Saudi team of various engineering specialities in cooperation with KACST partners, Shaheen Sat is characterised by an imaging accuracy of up to 0.9 meters, a weight not exceeding 75 kg and dimensions up to 56 x 56 x 97 cm. It provides satellite images to government and private sectors to serve the Kingdom's development goals. It is dedicated to photographing Earth and tracking ships from low orbits.

Yahsat plans sixth satellite by 2024

SATELLITE LAUNCH

Yahsat is constructing its sixth satellite T4 and plans to make it operational by 2024. The company has five satellites in the sky providing a range of services-from big systems to small mobile solutions. In 2020, Yahsat commenced construction of Thuraya 4-NGS.

The new L-band satellite is being built by Airbus and will offer higher capabilities and increase capacity and coverage across Europe, Africa, Central Asia and the Middle East, enabling next-generation mobility solutions for the government and other enterprises. Yahsat is aiming to expand its footprint globally with a portfolio of several applications, services and solutions.

MBRSC partners with ispace on Emirates Lunar Mission

SPACE

Mohammed Bin Rashid Space Centre (MBRSC) has signed a contract with Japan's ispace, inc. (ispace), under which the latter will provide payload delivery services for the Emirates Lunar Mission.

Under this agreement, ispace becomes a key strategic and implementation partner to MBRSC on the Emirates Lunar Mission, the first of its kind from the Arab world.

The 'Rashid' rover will be transported to the Moon on ispace's lunar lander during the company's 'Mission 1' in 2022 as part of its commercial programme known as 'HAKUTO-R'. The Japanese lunar exploration company will deliver the 'Rashid' rover to the Moon, provide wired communication and power during the cruise phase, and engage in wireless communication on the lunar surface.

The project is a key part of the UAE's space exploration strategy, which is centred around building new knowledge capabilities, inspiring future generations to pursue space science and research, and fostering global collaboration. Upon the execution of the mission, the UAE and Japan, together, are anticipated to be the next two nations to successfully put a spacecraft on the lunar surface, following the United States, Russia and China.

After a thorough consideration of competing lunar payload delivery service providers, MBRSC selected ispace based on the company's technological credibility.

Emirates Lunar Mission's 'Rashid' rover will go to the Moon on ispace's Mission 1 in 2022.

NCC signs agreement with NigComSat for 5G services in Nigeria

CONNECTIVITY

The Nigerian Communications Commission (NCC) and Nigerian Communications Satellite (NigComSat) have signed a Memorandum of Understanding (MoU) for the use of C-band spectrum to boost 5G services in Nigeria.

Professor Umar Danbatta, Executive Vice Chairman (EVC) of NCC said: "C-band is most suitable for immediate deployment of 5G services taking into consideration availability of device ecosystem with 60-70% of global commercial 5G network deployment currently in the band, thus the importance of this spectrum for early deployment of 5G services in Nigeria cannot be overemphasised. However, in Nigeria, only 120 MHz of the band (3.4 – 3.52) GHz is available for mobile services while the remaining 680 MHz (3.52 – 4.2) GHz of the band is used by NigComSat (NG-1R) satellites. The commission initiated a negotiation with NigComSat who in our estimate could make some adjustment to its satellite operation and release part of its spectrum holding in the band to facilitate the deployment of 5G in Nigeria."

Turksat revenue increases to 300m in 2020

SATELLITE REVENUES

Turksat has announced that its revenue in 2020 increased by 40.7% compared to 2019, reaching TL2.5bn (300m). In a statement, the company says that its cable business had, at TL986m, the highest share (39.5%) of revenues.

Cable service revenues were in fact 29.4% higher than in 2019, when they amounted to TL762m ($93.05m).

Meanwhile, satellite service revenues in 2020 were TL844m ($103.06m) and claimed a share of 33.8%, and IT revenues TL665m ($81.20m) and a share of 26.6%.

Turksat notes that the value of its fixed assets in 2020, especially Turksat 5A and 5B increased by 38% to TL6.3bn ($0.769bn).

Its total liabilities related to the financing of the two satellites increased by 52.2% to TL3.4bn ($0.415bn).

On a sectoral basis, satellite services accounted for the highest EBITDA ($175.22m), followed by cable ($99.01m) and IT services ($28.09m).

Inmarsat signs Greece and Cyprus rep agreement with SRH Marine Electronics

PARTNERSHIP

Inmarsat has signed an agreement with SRH Marine Electronics for SRH to provide formal representation for support to customers in Greece and Cyprus, whose Inmarsat Maritime contracts were purchased from Speedcast by Inmarsat at the beginning of this year.

Ronald Spithout, President, Inmarsat Maritime, said: "Following the rapid and successful migration of the services of all these customers as part of the agreement with Speedcast, we are now delighted to have put in place a formal agreement for customer support with SRH Marine Electronics for Greek and Cypriot customers that will provide those customers with full local representation going forward."

The agreement will include customer support for Inmarsat's Fleet Network Manager (formerly Sigma) portfolio of hardware products and only covers clients who held Inmarsat Maritime contracts formerly with Speedcast.

Ronald Spithout, President, Inmarsat Maritime.

Turksat 5A enters orbit, 5B to launch in Q4 2021

SATELLITE LAUNCH

Turksat 5A has entered orbit at 31 degrees East. Testing has continued for a month following which the satellite will become operational, covering Turkey and Europe, the Middle East, North Africa, Mid-Western and South Africa as well as the Mediterranean, Aegean and Black Seas.

5A will use the new Ku-Band in TV broadcasting and data communication services. The satellite will be able to offer such services for over 30 years thanks to an electric propulsion system.

Ooredoo appoints its first female CEO in Oman

APPOINTMENT

Ooredoo has appointed Noor Al-Sulaiti as CEO of Ooredoo Oman, making her the first woman appointed to this position in one of the group's main markets. Al-Sulaiti has been in the telecoms industry for 17 years, and recently held the position of CEO of Starlink.

EgSA inks deals with three universities

SPACE

Egyptian Space Agency (EgSA) has signed deals with two universities for various projects. It signed an agreement with Alexandria University (AU) to create an educational laboratory at the academic institution's Faculty of Engineering.

The agreement is part of the framework for various Egyptian universities to develop space sciences and technologies that can bring about sustainable development. It will also provide opportunities for students to understand and explore the design and workings of satellites.

Likewise, EgSA has signed a £6m agreement with Benha University to build a CubeSat. Both institutions will be looking at optimising the scientific and material possibilities of research centres, laboratories, workshops and talents in the area of space technologies.

EgSA and Benha University also signed a cooperation protocol agreement to develop educational laboratories to support satellite technology development. The agreement will ensure the development of three educational laboratories in the University campus located in Benha, Mochtohor, and Shubra.

In addition, EgSA also recently signed an agreement with the Higher Institute of Engineering – Thebes Academy to support the University to develop graduates capable of making a difference in the space industry.

ARABSAT EXTENDS ITS REACH

No satellite operator in the MENA satellite space wields as much power and influence as Arabsat, which was founded in 1976. Arabsat has been serving the growing needs of the Arab world and beyond for 45 years, with a full spectrum of broadcast, telecommunications and broadband services It recently released a satellite penetration study, and **SatellitePro** brings you the details

The MENA region has long been a unique broadcasting environment, with more than 1,100 free-to-air channels available, offering almost unlimited choice. They are primarily broadcast via satellite, by far the leading distribution platform here. This is reinforced in a study undertaken by Arabsat, one of the leading satellite operators in the Arab world, with a strong presence across the Middle East, Africa and Europe.

The MENA Satellite Penetration study, conducted in 2020 with research specialist IPSOS, shows that satellite continues to enjoy a 97% market share, despite the uptake of IPTV and streaming services. The majority of MENA TV viewers, who are young, are loyal to satellite TV and use streaming services to complement their on-demand viewing experience. The study also shows that satellite TV viewers are largely citizens (96%); the remaining 4% are split equally between Arabs and other nationalities.

Arabsat, founded in 1976, has periodically undertaken such surveys to get a clear understanding of the markets it operates in and to see how to better serve its customers and viewers.

"The main purpose of this study is to make sure we have the right offering of channels and services, maximising the benefits for our broadcast customers and partners, while at the same time continuously improving viewer experience and use value for the Arabsat TV audience," says Badih Kanaan, Director Marketing, Arabsat.

"The study also provides business-relevant updates on the latest changes in market behaviour, viewer socio-demographics, viewing preference and TV household readiness for next-generation TV services. These data and facts are a valuable source for the strategic planning of our customers as well as for our own strategic initiatives, and we are glad to be able to share all those learnings and trends with our customers and partners in webinars and customer workshops.

"It was an interesting journey. A very challenging journey, especially with Covid-19. This research enables us to continuously offer enhanced products and services to our customers and partners. This time, however, the study had a broader scope and scale. Under the research expertise of IPSOS, the study included not just the 22 countries in the Arab region but also reached out to other Arab communities in Europe and Africa.

"Together with IPSOS, we explored all satellite TV aspects, including the potential of complementary or substitute technologies and other players in the market. We are very proud of this study, because it was perhaps the most comprehensive one we have conducted for Arabsat, and we are looking forward to sharing our findings with our customer base."

According to the study, the

vast majority of MENA viewers – almost 80% – are under 44 years old, and at least 45% are under 30, which illustrates the strong sustainable relevance of satellite TV in MENA.

The paucity of broadband in the region, except in the wealthier GCC countries, and satellite's ability to reach remote parts of the Arab world where fibre and other infrastructure are minimal, means satellite remains the main mode of content distribution, entertainment and even internet access. As a result, operators have a powerful position, with Arabsat enjoying a large share of the pie in several Arab markets.

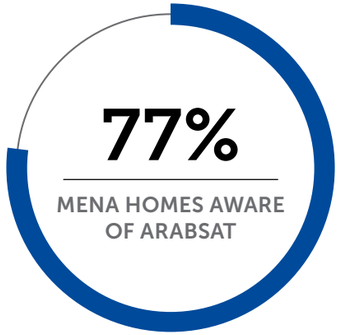
Arabsat owns and operates seven satellites at three orbital positions, 20°, 26° and 30.5° East: Arabsat-5C (20°E), BADR-4, BADR-5, BADR-6, BADR-7 (26°E), Arabsat-5A and Arabsat-6A (30.5°E). Coverage spans more than 100 countries, including the MENA, Europe and Central Asia, with more than 650 TV channels and 270 radio stations. Arabsat's video 'hotspot' at 26°E alone caters to more than 288m MENA viewers, transmitting more than 50% of its TV channels in HD or 4K.

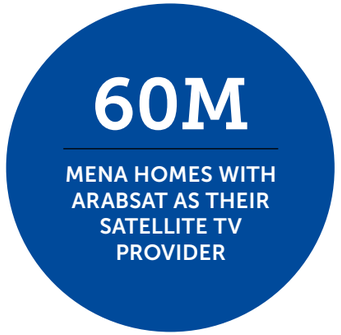
There is extra good news in the research for Arabsat – 77% of MENA homes are aware of the brand, and 58% have chosen it as their satellite provider. With 103m satellite TV homes in MENA, this means at least 60m of them use Arabsat's TV services, whether exclusively or along with other TV services.

Three main factors are responsible for Arabsat's success, according to the research: technical robustness, programme selection and family members' choice.

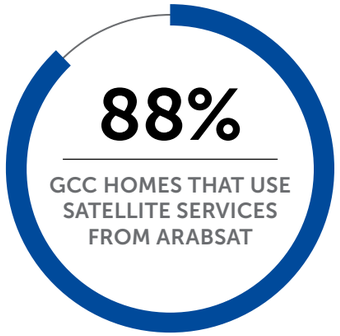
In the GCC, 88% of homes use satellite services provided by Arabsat, with at least 7.6m homes getting their TV this way. There has also been great success in Saudi Arabia, where it is the first choice for more than 5.25m households.

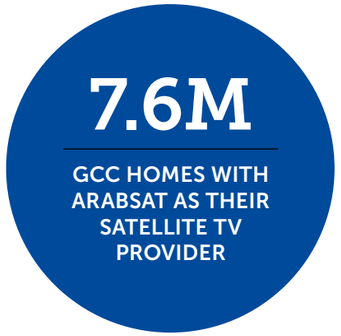
How well-known is Arabsat in the MENA region?





Arabsat's position in the GCC region





Laith Alani, Head of Product Sales – Broadcasting Services, Arabsat, elaborates: "Saudi Arabia is one of our key markets, and we are clearly leading there with access to 90% of the satellite TV households. Out of these, at least 9% or 523,000 homes watch Arabsat exclusively. We are also further improving in other Gulf countries despite the increased offerings and initiatives from IPTV and OTT players, particularly in those fast flourishing countries, where the infrastructure developed in the new suburbs creates a fertile ground for such applications to thrive. Not only in Saudi Arabia, but overall, we have maintained our success in the GCC, where we enjoy 88% viewership. And thanks to the great support and loyalty of our customers, we have logged over 813,000 homes watching programmes exclusively via Arabsat satellites."

> "The main purpose of this study is to make sure we have the right offering of channels and services, maximising the benefits for our broadcast customers and partners"
>
> **Badih Kanaan, Director Marketing, Arabsat**

One reason for Arabsat's exceptional success is its strict adherence to the cultural sensitivities of the Arab world, making it the 'family members' choice'.

"The content we carry on our satellites is in perfect harmony with the values and traditions of the Arab world," explains Sami Mobarah, Arabsat Product Marketing Manager. "Arabsat was one of the members who defined the Arab States Charter for Satellite TV. This charter is reflected in all Arabsat contracts, so our video hotspot is the safest for all families. We are also part of the Arab League, which makes us the first choice for governmental and national TVs in the region."

In the Levant region plus Iraq and Iran, 77% of homes have access to Arabsat, with 26.8m satellite TV homes choosing it as their preferred satellite TV service provider, the study shows. It has had a majority market share in Lebanon since January 2020, where it caters to 860,000 satellite TV homes and 78% viewership – 22% exclusively on Arabsat, which comes to 238,000 homes.

"No other operator in the region enjoys this exclusive market share, making Arabsat the leading regional satellite operator in Lebanon. This has also led to a positive impact on adjacent markets like Jordan, where viewership has increased by 11% just after the Lebanese channels shifted exclusively to Arabsat," explains Alani.

> "Saudi Arabia is one of our key markets, and we are clearly leading there with access to 90% of the satellite TV households. Out of these, at least 9% or 523,000 homes watch Arabsat exclusively"
>
> **Laith Alani, Head of Product Sales – Broadcasting Services, Arabsat**

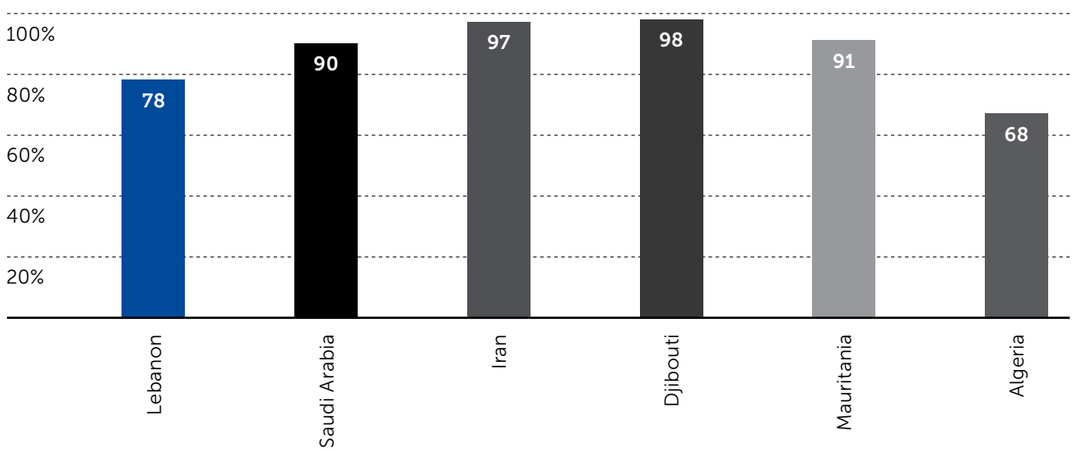
Alani attributes the success in Lebanon to a strategy that concluded in December 2019, whereby it secured and migrated all of the top Lebanese channels to its satellite exclusively, causing a mass shift in viewership in the country.

"Particularly in the Levant, we did a survey before the shift of channels and another one after, and found that we've enjoyed at least 20% increase in Lebanon since the migration. More importantly, this shift has impacted adjacent markets like Jordan, where we enjoyed a 10% increase. We still believe that there will be larger differences if we conduct further measurement again. And this is quite a significant achievement, as we trust that the Lebanese content and channels are one of the top most-watched across MENA," Alani explains.

Arabsat also leads in Iran's broadcast space. The satellite operator has access to 97% of the Iranian TV market, which totals around 22.34m satellite-connected homes.

North African countries also have an impressive uptake of Arabsat channels, with 53% of satellite TV households signed up, meaning 10.1m TV homes,

Percentage of households with access to Arabsat



and Alani says Arabsat has prime position in some African markets – Algeria, Mauritania and Djibouti.

In the latter two especially, Arabsat caters to the majority of satellite-connected homes, with 98% of Djibouti and 91% of Mauritania having access. The operator serves 34% of 95,000 satellite homes exclusively in Djibouti, and 30% of 740,000 in Mauritania. In Algeria too, Arabsat has penetrated the market with 68% of satellite homes, which amounts to 4.8m households.

"In this study, we found that Arabsat's overall position increased by at least 30% since the last time we did a large-scale measurement like this one, which was around five years ago," explains Alani. "We have seen tremendous increase in some markets over others. Thankfully, we have no declines and although we are satisfied with this growth, we are looking forward to new ways to grow in the future."

> "The content we carry on our satellites is in perfect harmony with the values and traditions of the Arab world"
>
> **Sami Mobarah, Product Marketing Manager, Arabsat**

The study also reveals that the most-watched languages for TV viewing, besides Arabic and local languages, are English, French and Turkish.

"Such information is very valuable for our customers targeting specific audience groups," explains Alani. "We also have Urdu and Hindi, which is expected because of the content being broadcast over satellites as well as the larger community from India, Pakistan and Southeast Asia countries residing here in this part of MENA."

One other important factor is the significant uptake of HD in the market. Arabsat currently carries more than 230 HD channels. At least 50% of TV channels on its 26°E orbital location are in HD or 4K. Badih Kanaan says the strategy during the last five years has been to attract the most-watched channels – where possible, exclusively in HD.

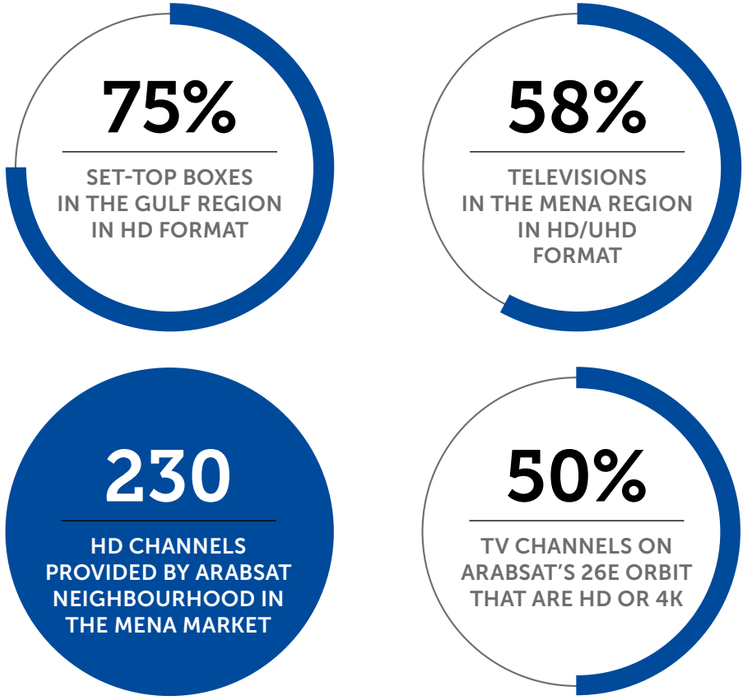
"77% of TV sets in the MENA region are flatscreen. 56% of TV sets in the MENA region are in HD format. Additionally, 6% of TV sets in the region are in 4K format while at least 40% of homes have smart TVs."

While the Gulf region has a very high uptake of HD set-top boxes (75%), at least 56% of MENA viewers have HD receivers and at least 21% have replaced their receivers in the last year. This impressive growth has led HD to become a mass market service, with satellite leading and seamlessly enabling the best picture quality across the whole region.

Sami Mobarah says penetration will further accelerate as HD receivers and television sets become more affordable.

"The main factors that influence the uptake of new technology within a market would be the availability of exclusive content, the availability of HD TVs and availability of HD receivers. Not all of our clients

HD penetration in MENA households



Arabsat has introduced initiatives to encourage broadcasters to move to HD broadcasting.

can afford HD transmission yet, but we have introduced initiatives to encourage broadcasters to upgrade their content by providing them attractive pricing models or supporting them with equipment to encourage HD broadcasting. Also, Arabsat signed a partnership with leading broadcasters such as MBC and Rotana to broadcast their channels exclusively on HD format, and this helped increase the consumer demand for HD receivers.

"After HD, UHD will be the next technology to bring an even further enhanced viewing experience to MENA. In support of this, we are closely working together with our customers and partners to align technology, provide expertise, build most efficient distribution workflows and processes, and calibrate business models, making them most suitable for the uptake of UHD in the future."

> "We recently signed a contract for the new BADR-8 satellite, which will bring new high-performance growth capacity to the market, especially in the broadcasting segment. We also have plans ... to enhance the products and services we are bringing to the market"
>
> **Badih Kanaan, Director Marketing, Arabsat**

Kanaan adds that Arabsat has already "put in place a clear strategy for our upcoming satellites and the replacement of existing satellites".

"We recently signed a contract for the new BADR-8 satellite, which will bring new high-performance growth capacity to the market, especially in the broadcasting segment. We have other plans as well to enhance the products and services we are bringing to the market."

Kanaan adds: "In many regions and countries, our satellite fleet is also already used to enable seamless deployment and growth of internet connectivity and IP-centric file, data and content delivery. We are studying the market, exploring new technologies and new trends, and we are confident we will have a new portfolio of very attractive and future-ready services for our clients and partners available at the right time." PRO

CREATING THE ROADMAP FOR GREATER COMMUNICATIONS

He is young, bold and a dynamic thought leader, ready to take Yahsat to the next level as CEO of the company. Ali Al Hashemi talks to **SatellitePro ME** about Yahsat's sixth satellite, the operator's increasing focus on improving its communications services and its plan to build some satellite components within the UAE

Tell us more about your sixth satellite launch. Why do you need a sixth satellite now?

The USD 500m Thuraya 4-NGS programme sets the pace for the next phase of Yahsat's growth - across our core markets in the Middle East, Africa, Europe and West Asia. At the heart of this ambitious programme is a new L-band satellite system that will significantly build the capabilities and reach of the next generation of mobility solutions offered by our MSS subsidiary, Thuraya. Scheduled for launch in late 2023, this sixth satellite is a significant step forward in the diversification of Yahsat's strategic interests and a testament to our commitment to create bigger and better opportunities for partners and end customers alike.

Thuraya 4-NGS signals our intent to innovate and evolve the industry landscape constantly.

What will be the main focus with the new satellite? Who are the contractors and when will this be ready?

Thuraya 4-NGS is a GEO satellite, which is being developed in partnership with Airbus, with an intent to increase the flexibility, efficiency, and capabilities of the Yahsat fleet, which in turn will support our long-term ventures and growth within the mobile satcom industry. It is based on the high power, all-electric Airbus Eurostar Neo platform that is synonymous with superior reliability, security, robustness and resilience.

The satellite has a 12-metre L-band antenna and a payload with on-board processing providing advanced routing flexibility of up to 3200 channels with dynamic power allocation over a large number of spot beams. Once operational, it will support more than three times the number of users in comparison to traditional MSS satellites. The system ensures advanced performance capabilities, allowing a wide range of data rates (up to 1 Mbps) and is flexible enough to support a diverse portfolio of products, ranging from very small IoT devices and handhelds to portable data terminals.

Overall, we are incredibly excited about the outcome and look forward to sharing more insights as we mark new programme milestones.

We hear there are plans to make some satellite components within the UAE itself?

Yes, this is true. In February this year, we signed a Memorandum of Understanding with Tawazun Economic Council to set up a new company that will produce critical satcom technologies within the UAE. This entity will develop, test, and manufacture advanced satellite communication solutions, utilizing local and international expertise.

Aside from manufacturing, the company will also enrich local talent through R&D and knowledge sharing. Yahsat's long-standing partnerships with the UAE Armed Forces and other national initiatives support our fundamental commitment to create new opportunities for all Emiratis. At the same time, these collaborations are going to contribute to the growth and diversification of our nation's economy in a very big way.

CEO Ali Al Hashemi says the new satellite will boost the company's growth within the mobile satcom industry.

As someone who is also responsible for Thuraya, how do you see the world of 5G communications and satellite coming together?

Thuraya's main goal is to develop mobility solutions that will make satellite communications accessible to everyone, so we can be sure that the world always stays connected. As part of this, we see strong opportunities for growth with the emergence of 5G communications and its adoption into our ambitions and strategies.

> "Despite the global downturn, we reached record profitability levels in 2020, maintaining healthy cash flows and a strong balance sheet"
>
> **Ali Al Hashemi, CEO, Yahsat**

We have certainly anticipated the arrival of 5G. One of the reasons why we commissioned the Thuraya 4-NGS Satellite is to accommodate the needs of customers contemplating migrating to 5G. Ericsson is now upgrading Thuraya's existing network - and soon we will be able to offer wide-ranging 4G and 5G services in the near future. While our competitors have fixed plans for space and ground, Thuraya has the capacity to adapt the technical specifications of its offering in accordance to market and customer requirements.

As a company, Thuraya is developing solutions with futuristic and versatile applications for the IoT and M2M markets. They include transportation and logistics, smart grids, and highly secure government communications — specifically Defense and Battlefield Communications. Among its existing defence portfolio, Thuraya is developing satellite capabilities for ground, sea and aero platforms with a particular focus on Search and Rescue, Intelligence, Surveillance and Reconnaissance (ISR), for manned and unmanned scenarios.

Does Yahsat have plans to focus more on the broadcasting side or the comms side?

Our primary focus as a global satellite services operator is on the communication services we provide and collaborations with industry leaders to deliver premium, best-in-class solutions. At the same time, we are catering to broadcasters through Yahlive, our joint venture with the satellite broadcasting company SES.

Yahlive broadcasts television channels across MENA, South West Asia and Europe, offering a diverse choice of premium HD and SD free-to-air TV channels to more than 50 million households. With its favourable look angle, Yahlive's unique East beam segregates the Middle East from Europe and North Africa, permitting broadcasters to tailor their content for specific and targeted audiences.

So, our topmost priorities now are Thuraya, fleet expansion

Yahsat has partnered with Tawazun with the intention of manufacturing some satcom solutions within the UAE to meet national needs and work with international customers to drive growth on a commercial level.

and consolidation of our satellite broadband business, especially in the government sector. As regards broadcasting, we will continue to build our existing asset - Yahlive - while seeking new opportunities and partnerships conducive to growth.

Was Yahsat impacted by Covid-19 and if yes, how?

Like most companies, we felt the impact of COVID-19. But it has also revealed our resilience as a company and an inherent capacity to adapt. Yes, we saw challenges to our working practices, and have had to quickly reorient our approach — like most others — by enabling our employees to work securely and effectively from home.

Despite the global downturn, we reached record profitability levels in 2020, maintaining healthy cash flows and a strong balance sheet. Additionally, we implemented major operational and infrastructure improvements, including the half-a-billion dollar programme for Thuraya in order to ensure long-term stability and profitability. The launch of Thuraya's satellite programme in a pandemic year has not only demonstrated our strong financial clout but also Yahsat's insulation from the shocks of an unstable global economy

On a non-business level, it has also been a time to give back to our nation. In 2020, we collaborated with the UAE Ministry of Education (MoE) and the Abu Dhabi Department of Education and Knowledge (ADEK) to provide free satellite internet services to support e-learning initiatives across the country - thereby helping remote students complete their 2020 academic curriculum. Fully conceived and managed by Emirati engineers, this has been a resounding success. The free internet used by students is powered by our flagship YahClick broadband service.

> "Yahsat Space Lab is gearing up to launch the DhabiSat CubeSat into orbit from the International Space Station. Built by the students of Khalifa University under the guidance of our technology experts, DhabiSat is a key milestone for us"
>
> Ali Al Hashemi, CEO, Yahsat

However, we are eager to see how we can help address the wider goals of the country during these challenging times. We have set our sights firmly on supporting the return of the nation to its pre-COVID position and fulfilling the goals outlined in Abu Dhabi Economic Vision 2030.

How do you see the coronavirus outbreak and its impact on perhaps some of the verticals compelling the satellite industry to change its strategy?

The satellite industry has withstood the effects of the pandemic relatively well, with a few key verticals like Energy, Maritime and Enterprise having been impacted. As a result, the landscape has altered, we certainly have been influenced by the changing trends that dictate our current strategies.

COVID-19 has influenced how governments manage their internal and external communications. We have seen a greater reliance on connectivity to administer and ensure the continuity of services, support migration to new platforms, and allow remote operations to take place uninterrupted. NGOs have never had a more critical role to play in recovery; the education sector has been mostly shaped by remote learning and other segments like healthcare, financial services and defense has had to adapt to the current circumstances in order to meet the needs of those they serve.

Ultimately, our objective is to drive greater global connectivity, and we seek to meet this goal not only with our current portfolio of services, but also through the partnerships that we undertake and the opportunities that we identify. Through our partnership with Tawazun, we wish to manufacture satcom solutions within the UAE to meet growing national needs and also work in tandem with international customers to drive growth on a commercial level. We have always keenly assessed any opportunity to enhance our offering and the project with Tawazun exemplifies this.

What are some of the challenges ahead of you as CEO of Yahsat and how do you hope to address them differently perhaps from your predecessors?

I envision challenges as opportunities. The more we can test our limits and capabilities, the more we will learn about ourselves. Every leader has a unique perspective and style of working. All my predecessors have left their enduring mark on Yahsat's DNA, and I hope to do the same.

Today, we have a clear vision of where we want to be in the long-term, and how to reach there. I head a highly efficient and disciplined team of motivated individuals who are totally committed to realizing our objectives, and together we will fulfil the mission for Yahsat and the UAE.

Every head of a company has something that they would like to improve or change within a company. What, for you, is that one pet project at Yahsat?

One aspect of Yahsat that we want to continue to build is reflected in the actions we have taken during the pandemic, and this is to honour our commitment to elevating the lives of the citizens and residents of the UAE. Recently we engaged in a number of partnerships with key humanitarian organisations as well as high-level decision-makers to establish programmes that provide crucial satellite communications solutions and connectivity to those in need.

Within this, we are also determined to drive social change and increase the opportunities for students to engage in advanced scientific specializations such as the Yahsat Space Programme, which is the premier Master's curriculum in the Middle East, fully focused on space systems and related technologies.


Thuraya 4-NGS is a GEO satellite, which is being developed in partnership with Airbus.

Will you be exhibiting at CABSAT? If yes, can you elaborate on some of your plans at the event?

The changing media landscape has altered not only consumer behaviours but also the mechanisms employed by broadcasters for content distribution. Service providers have to guarantee not only reliability and reach, but also cost efficiencies. This year, we are showcasing YahClick, our high-performance broadband service, which has had a massive impact across Africa. It has made high-speed satellite connectivity affordable, placing it within the reach of home users and small businesses.

Another highlight is DhabiSat, the second student-built CubeSat from Yahsat Space Lab, which will be launched into orbit from the International Space Station (ISS) in late May.

Any exclusive information, details of partnerships or other things that you want to share and I failed to ask?

We have entered into an agreement with the UAE-based Emirates Red Crescent (ERC) Authority to enable satellite connectivity to strengthen their community operations, especially in the fields of education and humanitarian relief. ERC will optimise their vital support for vulnerable communities — over high-speed satellite broadband connections enabled by YahClick.

Yahsat Space Lab is gearing up to launch the DhabiSat CubeSat into orbit from the International Space Station. Built by the students of Khalifa University under the guidance of our technology experts, DhabiSat is a key milestone for us. We are truly inspired by young talent so passionate about realising their vision for space, and will continue to support their success by providing the required expertise and educational infrastructure they need in order to grow and thrive. PRO

INFLIGHT CONNECTIVITY IN A POST-COVID WORLD

While the aviation industry has been badly hit by the Covid pandemic, the vaccination roll-out that has been kicked off by many countries around the world gives us some hope that we might get back to some normality and see an increased need for inflight connectivity, says Dave Bijur of Intelsat

The industry is gearing up for a new season as vaccine rollouts give people greater confidence to travel. New routes are being operated, airlines are adding more flights and, for the first time since the pandemic began, we've seen more customers purchasing our monthly subscription than have cancelled it. With Boeing anticipating demand for 2,945 new aircraft in the Middle East over the next two decades, the future seems brighter.

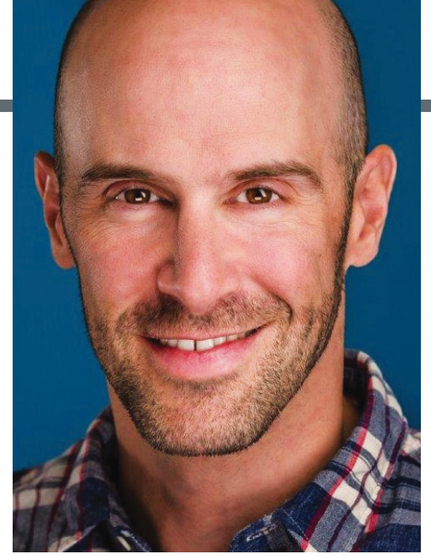
As lockdowns were imposed around the world, people's reliance on digital technology skyrocketed, and global internet traffic surged by nearly 40% between February and April 2020, according to the International Energy Agency (IEA). When it comes to connectivity, differences between generations have been dramatically reduced since the beginning of the pandemic, expectations have increased, and mobility is no longer seen as an obstacle. That's a trend we expect will continue with the deployment of 5G networks that will transform the way we connect - even during a flight. Passengers expect the same level of connectivity onboard a plane that they have in their living-room, and airlines have to adapt to respond to the needs of the new digital adepts we have become accustomed to over the past 12 months in order to increase passenger satisfaction.

Anticipating these evolutions, Intelsat recently conducted a survey on Inflight Connectivity (IFC) to understand how inflight internet demand and service requirements have changed in light of the pandemic. The answers given by airlines, service providers, and Original Equipment Manufacturers (OEMs) reflect our own analysis: IFC is seen as a way to increase brand loyalty while saving on OPEX. 65% of respondents think that there will be an increase in the number of inflight passengers who expect to be connected, while 85% believe that "quality" inflight connectivity is a key differentiating factor for airlines. Remote, work-based applications such as video conferencing, cloud computing and VPN onboard are expected to become part of the onboard experience. However, respondents identified challenges that could prevent passengers from taking full advantage of these trends: prices and poor connection. But, with consumer demand for in-flight internet expected to grow by double digits (10%) annually over the next decade, airlines will be eager to develop modern ways to differentiate themselves and attract loyal customers.

Advancing digitalised operations will give operators the agility they need to address these new challenges but only if leveraged through an integrated, connectivity-ready ecosystem.

Satellite solutions help respond to these challenges by enabling robust inflight connectivity, even when flying at full capacity over the busiest airport hubs and along the most congested routes.

Next-generation, software-defined satellites will enable to dynamically adjust capacity configurations and utilisation while the satellites are in orbit, significantly improving the economic equation for customers, and making networks even more flexible, accessible, relevant and cost-effective for them. The integration of the right mix of technologies will enhance networks and power the new managed services brought to market for customers.



> "Passengers expect the same level of connectivity onboard a plane that they have in their living room"
>
> **Dave Bijur, Intelsat Commercial Aviation**

While there are some discussions on the performance of Ku- and Ka-bands, their availability and use to the aviation industry, the truth is that it has no impact on passengers – who only care about a reliable connection during their flight – or airlines, who typically pay the bills. Global constellations of Ku-band satellites combine wide-beam and spot-beam, ensuring a depth of coverage that provides end users with resiliency and redundancy unavailable in Ka-band. Switching between these Ku-band options to direct capacity to where it is needed most is possible because of the open architecture compatibility between Ku-band HTS and wide-beam satellites – an unequivocal advantage for airlines whose passengers expect reliable inflight connectivity at all times.

The way forward, to respond to the growing demand and take advantage of augmentation opportunities, is to rely on multi-orbit constellations. Only an aeronautical solution that has the ability to track and operate with both GEO and LEO satellites will enable airlines to leverage these opportunities. Also, a new class of powerful software-defined satellites that will launch over the next few years will allow capacity to be instantaneously reconfigured and repositioned in response to ever-changing customer demand.

Space innovation such as in-orbit servicing technology and Mission Extension Vehicles (MEV) also serves as a cost-effective tool to repair and extend the life of otherwise healthy, high-performing satellites. These mission-extension services represent a smart and efficient way to maintain existing fleets, preserve customers uninterrupted experience and free up even more resources to invest in advanced, next-generation technologies. The types of missions these satellite-preserving vehicles may be capable of managing in the near future could open many possibilities. Already, MEV-1 has enabled Intelsat 901 to return to service in April 2020, while Intelsat 10-02 will soon get an extra five years of life thanks to MEV-2.

However, innovation cannot only be space-based. Continued investment and development should also include higher-capacity servers, more efficient and higher-throughput modems, as well as more optimal antennas.

With in-flight connectivity rapidly becoming a must-have for passengers for operational optimisation, ensuring connectivity when and where airlines need it is of critical importance. Satellite innovations, combined with market leading terminal technology, ensure that airlines no longer need to make trade-offs on speed, reliability, availability, or coverage for in-flight internet. PRO

Dave Bijur is SVP of Intelsat Commercial Aviation

NEW SATELLITES ARE INEFFECTIVE **WITHOUT THE RIGHT GROUND TECHNOLOGY**

The Covid-19 outbreak compelled more people to work remotely. This, in turn, triggered a total transformation within the satellite industry, driving a revolution. COVID-19 also exposed the digital divide and when connectivity was needed, the satellite industry got down to work, launching new satellites into the LEO orbit.

LEO constellations open the door to real-time connectivity, any time and everywhere. LEO and MEO constellations will bring about a great array of connectivity possibilities as the new constellations use higher frequencies, such as Q and V bands, lower latency, and higher throughput, and gain. Perhaps their greatest advantage will be the automation of the network, (happening on the ground) which will enable them to have total automation in the design, deployment, monitoring and maintenance of the network.

In order to make the most out of these new developments in space, the ground terminal has an essential role to play in making automation happen, with the added value tools. A great deal of investment will be concentrated on developing the type of antennas that can receive and transmit satellite signals, efficiently in these constellations. The focus here will be the need to track multiple satellites simultaneously, as well as ensure fast deployment and seamless maintenance, enabling a massive user base, and markets.

The key features that the antenna sector is focusing on are being compact, flexible, and adaptable so they can be placed on any surface, totally customised for mobility, air, land, and maritime scenarios. Antennas that are flexible to ensure no human touch, require intelligence and smart software to be managed. Otherwise, their use will be similar to a parabolic old-fashioned antenna, without the possibility to work efficiently in this new space revolution.

The aim of the integration between new, small satellites of LEO constellations and the new antennas, is to enable automation and better network performance. As the new constellations are formed of a larger number of satellites, the design and link budget calculations must also be accurate for providing reliable links, wherever the user and satellite position are at a particular time. The new paradigm will require the constant link budget calculation as small satellite coverage is fully limited and the service needs to be accurate in order to provide an excellent SLA. The extension of each mega constellation will be determined by the design and architecture of the network.

Disruptive technical innovations within the ground segment are less common than in the space segment because it is not mandatory within the former to have an automated process as a human was always required. The new ecosystem, however, is based on an M2M end-to-end interaction, with the important presence of a cloud-based system in order to process data. The inclusion of ground technologies will make a huge difference, not only in time-to-market, but also in optimisation, and the use of resources. It will lower OPEX and make satellite services more affordable and mainstream. This is especially true within the mobility sector, which is now a big concern and a priority. Indeed, ground software will become a key enabler to manage new antennas and make all the network management process automated end-to-end. Having software integrated with the ACU enables the possibility of adjusting the antenna on the fly to a real-time need and ensuring that a remote setup is always on and maintained. The flexibility that these new solutions bring is essential not only because of the current situation where social distancing has become standard but because of the prevailing travel difficulties for installation and maintenance.

The COVID-19 outbreak has accelerated the inclusion of these new developments in the satellite and telecommunications industry. A connected world is not a utopia, but the combination of LEO constellations and ground technologies will enable full coverage and real-time operations. LEO companies will move towards bankruptcy if they do not adopt the right ground technology. PRO

Alvaro Sánchez is CEO of Integrasys.

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