May/June 2015

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ISSN: 1740-3413

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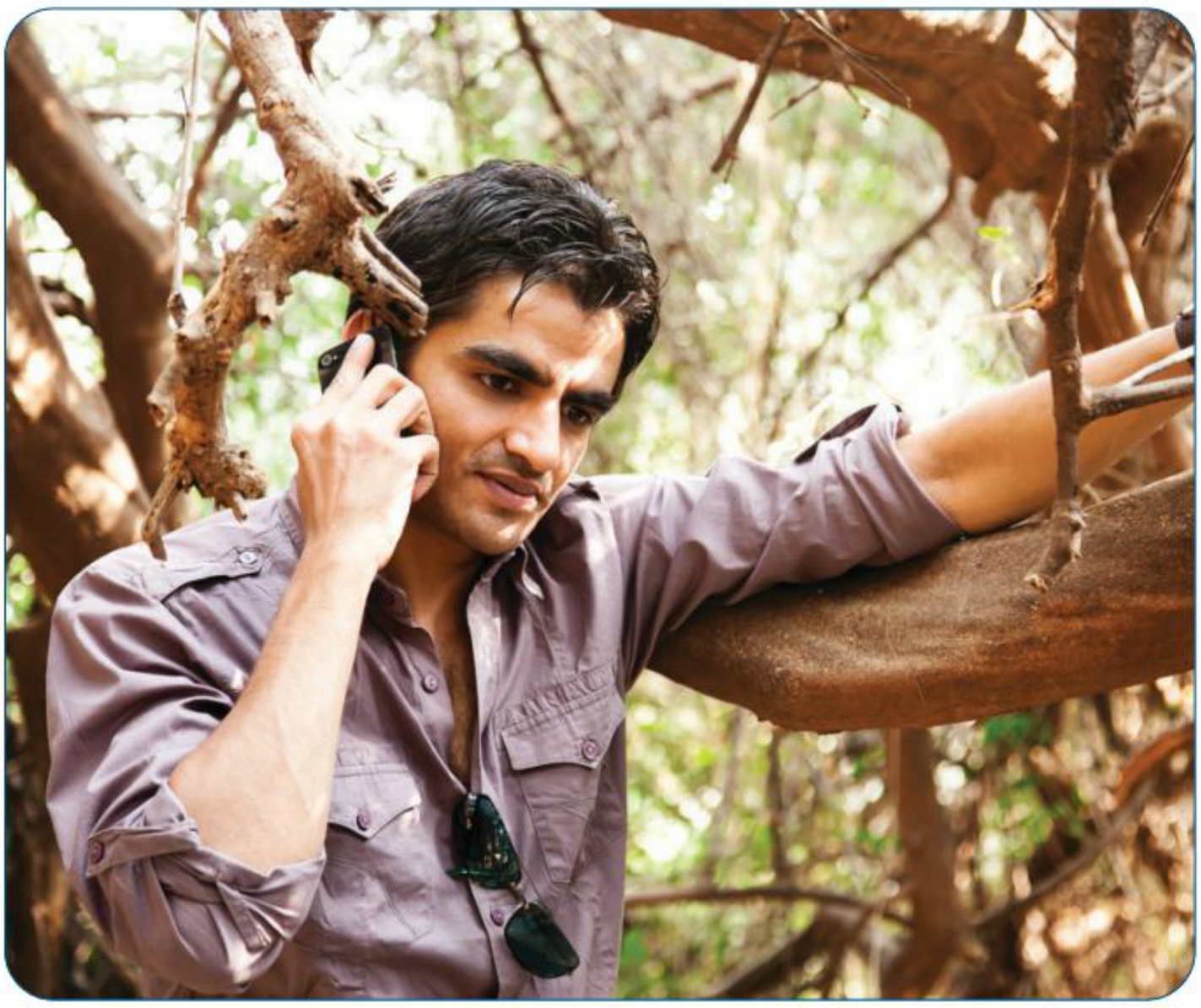

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HTS offers Asia a vibrant future

HTS have much to offer the Asian region and with plenty of capacity earmarked for the region, Singapore Exhibition Services investigates how the continent will reap the benefits of this enhanced capability.

The satellite industry is currently buzzing with talk of HTS (High Throughput Satellites) and the plethora of new applications that can be supported by these high throughput spacecrafts. In fact, there are already many HTS being developed for the Asian region, as part of larger constellations by global operators, and by regional operators who wish to enhance their offering to certain regions of Asia. HTS are also enabling the satellite industry to become more data-centric, transmitting large volumes of data and facilitating more data-centric activity rather than the traditional applications that satellite has become renowned for.

2015 will see many of the world's largest satellite companies, including Gilat and SpeedCast amongst others, assemble at CommunicAsia2015 and BroadcastAsia2015, Asia's largest integrated ICT and Broadcast industry event. Gilat Satellite Networks and SpeedCast International Limited are driving development and utilization of HTS in Asia and will use the conference and exhibition as a platform to share their HTS innovations and explain how this technology will benefit Asia in the future.

Is Asia ready for HTS?

"Asia is a diverse geographic region, with varied independent markets possessing their own strategies, economics and regulations. The impact on the various regions is not uniform, however, the abundance of HTS capacity is a trend that cannot go unnoticed and will almost certainly bring significant prosperity to the region," said Doreet Oren, Director, Product Marketing, Gilat Satellite Networks.

Recently, Gilat has witnessed a growth in global demand for HTS applications in a wide range of markets such as consumer, cellular backhaul, mobility, IP trunking, government, and enterprise applications. The consequent bandwidth price reduction is making these applications economically viable over satellite, particularly in the developing world. In countries where satellite capacity is more controlled and pricing is regulated, the impact will be slower. However the reduction of cost due to the abundance of capacity is opening up more markets than the initial North America consumer market.

Clearly there is a future for HTS in Asia, and Gilat has been involved and is currently active in many such projects. The company is working closely with its satellite operator partners such as Thaicom, Intelsat, SES, O3b Networks and Inmarsat to provide a variety of solutions throughout the continent. Interestingly, Thaicom with IPSTAR was a pioneer in providing HTS capacity to the region for diverse applications. Thaicom took into account regulatory issues and architected the solution with multiple gateways per country. Gilat provided the ground equipment and has used IPSTAR capacity for a variety of enterprise and consumer applications in countries such as Indonesia and the Philippines.

SpeedCast believes that Asia is a real potential market for HTS, despite services in the region historically focusing on C-band and Ku-band. The promise of HTS is that they can provide a fibre-like experience while reaching areas previously uncovered by traditional terrestrial infrastructures. Developments for overlaying existing networks can ensure that HTS will benefit IT services and outsourcing solutions as well as delivering increased capacity and a high quality Internet service.

How can operators address regional differentiation and what are the challenges?

Regional operators need to evaluate the specific opportunities in their regions and ensure a sufficient base of subscribers who can pay for the service. The business models prevalent in the likes of Europe and North America may need to be tailored for the local Asian economies and ways of life, however Gilat has already created innovative business models, as well as unique

offerings, that are suited for each region.

Likewise, SpeedCast agrees that there is no one-size-fits-all approach and that service operators need to understand the specific requirements of individual markets to be successful. For instance, in countries like Afghanistan, Indonesia, Malaysia and Pakistan, most of SpeedCast's business is based on C-band for availability reasons. It is necessary to provide a high level of availability to deal with critical communications for its customers, which makes C-band the preferred band. Subsequently, HTS developments in the C-band will have great potential in these markets, while other markets will have their own unique needs.

Gilat believes that operators need to focus on providing a high quality of service, which can be a major challenge in some Asian regions where there is heavy rain and rapidly changing weather conditions. There is slow acceptance of high frequency Ku and Ka-bands with a strong preference to the traditional C-band capacity. Actual implementations as well as education and live demonstrations are provided by Gilat to show how its sophisticated and proven fade mitigation techniques overcome this challenge. Fade mitigation is handled by Adaptive Code Modulation (ACM), as well as dual margin mitigation.

The diversity in the population needs is also a challenge that should to be taken into account. In some regions high throughput broadband is a must and in others an IP trunk to serve the whole village is a requirement. Gilat's SkyEdge II-c platform brings to this market a great advantage in supporting multiple applications from this single platform.

How and what will Asia gain from HTS?

"The growing availability of HTS in Asia brings a huge growth and development opportunity to the region. The abundance of capacity causing cost reduction, coupled with the current market trends has the potential to leapfrog the region. In particular the growing demand for mobile device connectivity including data service, in the most remote regions, is changing the face of Asia," added Doreet Oren, Director, Product Marketing, Gilat Satellite Networks.

Gilat believes this is an opportune time for operators to leverage network expansion to the most remote regions where terrestrial infrastructure is prohibitive. The growing need for broadband and the willingness to pay for higher bandwidth can now be satisfied by the increased feasibility, due to lower cost. Specifically, there is great opportunity for mobile network expansion to rural areas where the outdoor low cost small cell trend over a satellite backhaul brings a low OPEX, low CAPEX solution to villages that were not previously connected. Gilat is offering its CellEdge rural connectivity solution with new no-CAPEX business models to provide the required flexibility for these regions.

SpeedCast sees the greatest opportunities for HTS in three key verticals: mobility, cellular backhaul, and energy. For mobility services, SpeedCast is one of the major global players for maritime services, and with its global Ku-band and C-band networks, it definitely sees interest in using HTS capacity to enhance its global maritime network with additional capacity.

For cellular backhaul applications, SpeedCast believes HTS opportunities exist in countries such as Pakistan, Afghanistan, Indonesia and Malaysia. Today, SpeedCast currently utilizes C-band in these territories for availability

reasons, particularly for voice networks, where mobile operators require a high level of availability dealing with customer communications. For energy services, SpeedCast envisage the need for significant amounts of bandwidth, and even more so than for cellular backhaul. In fact, the global service provider is currently looking at the possibility of combining HTS Ku-band or Ka-band with some C-band, in order to deliver the availability requirement, while also leveraging the capacity benefits of HTS. This is, at least, until HTS C-band capacity becomes available.

Giving HTS a voice

CommunicAsia2015 and Broadcast Asia2015 are the only truly international tradeshows in Asia where business professionals in the satellite industry can come together to discuss and explore the evolving marketplace. By bridging the wide spectrum of satellite technologies and applications to present operators with new and innovative ways to deliver data, video and voice content, CommunicAsia2015, together with BroadcastAsia2015, is well placed to play a pivotal role in accelerating the growth of Asia's satellite industry.

At CommunicAsia2015, Gilat will be sharing several HTS applications including Cellular backhaul for LTE networks – SkyEdge II-c Capricorn, one of the fastest TDMA VSATs on the market reaching 200Mbps. This solution is field proven, maximizing the full potential of the handheld device performance.

Gilat uses its patent-pending acceleration techniques to reach terrestrial performance over satellite in an LTE network with HTS satellites. Gilat will also feature its RaySat SR300 SATCOM on the move (SOTM) antenna, known for its low size, weight and power (SWaP) taking up minimal space and permitting safe and easy installation on small vehicles or marine vessels.

SpeedCast will showcase its mobility services, including maritime, its solutions for the energy sector, and its work in cellular backhaul. SpeedCast sees HTS as an enabling technology, rather than a fundamentally different technology for its business and therefore continually evaluates ways to leverage capacity from new HTS systems. It is currently talking to Intelsat, among others, regarding their EPIC offering and the company has recently entered into an agreement with Inmarsat to use its new Global Xpress network, due to come online later this year.

How are these applications being adopted in Asia?

Gilat is already seeing adoption in Asia for HTS applications for a number of reasons. The ever-increasing demand for broadband Internet worldwide is now expanding to rural areas due to innovative technologies and business models. Gilat works closely with its partners to provide a variety of solutions that include schools, government, banking and cellular. The ubiquitous cellular coverage is not only a social phenomenon, but also a business need, now possible in remote regions with low cost small cells. Gilat sees great opportunities for CellEdge, its small cell over satellite solution, particularly as the quick migration to high throughput networks can now be advanced with satellite backhauling.

There is great opportunity for MNOs to provide LTE to suburban regions faster than the incumbent with quick deploy of satellite backhauling. Gilat has already proven the ability to rapidly provide a feasible, high performance backhaul solution in the region with Capricorn, its 200Mbps TDMA VSAT. Growth is projected for satellite-on-the-move applications, especially on airplanes and trains, as well as defence-related applications. Gilat is leading with low profile antennas, low SWAP BUCs and fully integrated terminals, and sees significant opportunities in China among other regions.

SpeedCast sees strong demand for its applications in Asia. As one of the leading service providers in the region, SpeedCast sees demand and data requirements growing across most of the markets that it serves. For example, SpeedCast recently partnered with O3b Networks to provide Ka-band HTS capacity in PNG. This was in direct response to customer demand for greater bandwidth combined with the quality of service and support that SpeedCast provides. With the increasing capacity of HTS coming online in the next 2-3 years, SpeedCast expects demand will continue to grow as data requirements continue to grow across most industries the company serves. ■

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