



# Communications in a broader sense

Philippa Smyth, Correspondent of Satellite Evolution Asia (SEA), provides an overview of the latest developments in the broadband via satellite sector in the Asia-Pacific region.

**For years the world's media focusing** on the telecoms and satellite sector have been awash with reports on how broadband communications are literally changing the way people live their lives. Similarly, spates of experts have keenly described futuristic scenarios according to which the average man would soon be able to remain connected virtually anywhere on the planet through a variety of portable, fixed and semi-fixed devices.

Naturally, it seldom happens that events develop in the way they were predicted to happen. However, it would not be an exaggeration to say that the broadband revolution is here, and it is changing the way we all live and do business. Life before even relatively simple applications such as e-mail is quite simply inconceivable these days. In fact, while the recent demise of Connexion by Boeing should serve as a reminder of the fact that even businesses based on the provision of broadband communications are not immune from the risk of failing, there is no doubt that the business community as well as the general public have become accustomed to the widespread availability of broadband. It is only too human, in fact, to get used to devices and technologies that make our lives easier and more convenient.

As often happens in the satellite sector, the Asia-Pacific region has been at the forefront of the development of satellite communications. A number of interesting developments in this sector have taken place in this region, which has served as the theatre for the launch of several broadband projects in all sectors and environments: from Shin Satellite's IPSTAR project, through Inmarsat's launch of its Broadband Global Area Network (BGAN), to the interesting innovations proposed by ST Electronics and SingTel in the maritime sector.

## Landing broadband services

The land segment has always been one of the keenest users of broadband via satellite. As the technology to deliver broadband services was being developed, the sheer size of the terminals, antennas and components that made up the receiving unit clearly limited the adoption of broadband via satellite to fixed, bulky units that could only be deployed on land or onboard large ships.

Today, after years of research and development devoted to it, broadband terminals have been significantly reduced in size, virtually becoming consumer items. The US\$1,000 threshold that was mentioned for years as the limit below which Very Small Aperture Terminals (VSATs) would have made it into the mass-market has been crossed abundantly.

## Land fixed

With the launch of its IPSTAR-1 satellite in August 2005, Shin Satellite of Thailand became one of the first companies in the world to offer two-way broadband communications to the consumer as well as corporate and Small Office/Home Office (SOHO) market - in reality, the launch of the satellite had been preceded by a soft launch of

the service using traditional satellite capacity.

Shin Satellite penetration into the consumer market is set to gather pace considerably as a result of the launch of low-cost terminals. In June 2006, the company announced the launch of a new IPSTAR series that is aimed squarely at the consumer market.

The iCON consumer series introduces a sleek compact satellite modem that can download data at up to 1Mbit/s and upload at 512kbit/s. The iCON has an embedded CPU and uses space age technology, such as Adaptive Coding and Modulation (ACM) and Turbo Product Coding.

Besides the indoor segment, the iCON consumer series now comes with a new 84 cm dish with low power BUC. Due to the advances in IPSTAR technology, the uplink transmission requires only 0.25 Watts, thus contributing to the overall lower cost of the whole set.

At the time of the launch, Patompob Suwansiri, Head of Marketing for IPSTAR, commented: "We are very excited to be able to introduce the new iCON series of IPSTAR user terminals. Demand for IPSTAR has been increasing dramatically since the beginning of the year and in established consumer broadband markets like Australia, we expect to see our products contributing to a more affordable monthly package for anyone who lives outside of urban areas. As satellite broadband does not suffer from the same amount of sharing bandwidth among users as terrestrial technologies, we believe the download speed of 1Mbit/s is going to prove very popular with



Photo courtesy of Inmarsat.



anyone who wants to surf, download large files or watch online multimedia entertainment.”

The iCON consumer series will be available in Thailand, China, Vietnam, Myanmar, Australia and New Zealand markets in the Third Quarter (Q3) of 2006.

In recognition of the achievements in the satellite sector, Shin Satellite won the ‘Satellite Communications Service Provider of the Year in Asia Pacific’ from Frost & Sullivan. The Frost & Sullivan Asia Pacific ICT Awards is held annually to recognize outstanding performance by companies and individuals in the Information and Communications Technology (ICT) industry in Asia Pacific.

The award for the Satellite Communications Service Provider of the Year was conferred to the satellite communications operator that has demonstrated outstanding performance in 2005.

### Land mobile

Shin Satellite’s effort into the development of broadband via satellite technology is not limited to the land fixed segment of the market, but also affects the land mobile environment.

Recently, the company presented its new Mobile VSAT Vehicle (MVV) from Thailand. The innovative vehicle, based on a modified pickup truck, is designed to offer customers truly cost-effective Satellite News Gathering (SNG) and TV Backhaul applications. To prove the reliability and ruggedness of the system, two MVVs were driven from Thailand by road to Singapore and set up at the CommunicAsia 2006 booth and outside the exhibition hall.

Suwansiri said: “The technology can ideally be used by broadcasters in the field. The MVV uplinks at 2Mbit/s, which is fine for most needs. Other specialist uses are disaster management and surveillance or defence video communications. The system can be custom-configured to specific requirements and applications.”

By using one of the world’s most advanced satellite systems, IPSTAR, the MVV will provide voice, video and data applications, such as Video Conferencing, Digital SNG, and Nano BTS to organisations that require high security and reliability, such as broadcasters, telcos, the military and disaster relief organisations. The vehicle can be used in the most rugged and remote locations of any country in the Asia-Pacific region.

But while Shin Satellite’s efforts to make an inroad in the land mobile market are remarkable, this market segment remains the dominion of global Mobile Satellite Service (MSS) operator Inmarsat.

Already famous for its notebook-like satellite terminals used by the media and a host of other industries around the world, at the end of 2005 Inmarsat announced the launch of its Broadband Global Area Network (BGAN), the world’s first mobile communications service to provide both voice and broadband data simultaneously through a truly portable device on a global basis. It is also the first to offer guaranteed IP data rates on demand. Delivered via the Inmarsat-4 satellites, the service was initially made available across Europe, Africa, the Middle East and Asia.

BGAN offers IP data speeds of up to 492kbit/s, with the option of guaranteed data rates up to 256kbit/s. The service is designed for mobile users who want dependable, secure broadband access when working in locations with an unreliable or non-existent telecoms infrastructure.

BGAN enables users to access their corporate network via a secure Virtual Private Network (VPN) connection, use e-mail and other office applications, browse the Internet, send large file attachments, stream video or audio - and make a phone call at the same time. It also supports a range of encryption standards for secure communications.

The service is accessed through a range of lightweight satellite terminals - the smallest is about half the size of a laptop. BGAN terminals can be connected in minutes using wired or wireless connections, including Bluetooth and Wide Local Area Network (WLAN) 802.11b.

BGAN can be used by single users or small teams wherever and

whenever reliable voice and broadband data communications are needed.

“BGAN delivers broadband where other networks cannot,” said Michael Butler, Inmarsat’s Chief Operating Officer (COO). “It enables anyone to set up a broadband mobile office in minutes and remain fully productive - wherever they are on the planet.”

Once again, through Inmarsat’s ongoing commitment to innovation, we have established a new benchmark for our industry,” said Butler.

BGAN is today one of the most successful products in the portfolio of Inmarsat resellers in the Asia-Pacific region.

### Over the seas and far away

The maritime sector is also no stranger to the arrival of the broadband revolution, and once again, the satellite sector of the Asia-Pacific region is at the forefront of all this.

Naturally Inmarsat is an established provider of broadband services to the maritime sector, the very reason why the London-based global satellite operator was originally founded. However, new entrants are quickly bringing new ideas to this sector.

For example, Singapore Telecommunications Limited (SingTel) has announced that the maritime community can now enjoy high-speed two-way IP broadband satellite communications services between ship and shore with the launch of its new Maritime VSAT service.

With the new service, the maritime community can now fully integrate their IT applications onboard ships with their offices at shore easily and cost effectively via IP. The new service supports email, web browsing, fax and voice via an IP broadband satellite transmission network. Coverage for the service will initially be available for the Asia Pacific region.

SingTel Maritime VSAT is a breakthrough by increasing bandwidth and lowering cost. Now, the maritime community can use a high bandwidth and cost effective solution for their ship and shore communications.

Unlike traditional maritime services where bandwidths are only up to 128kbps and charges are time-based, users of our service will enjoy unlimited high speeds access at fixed monthly fees.

With access speeds from 256kbit/s to 1Mbit/s, SingTel’s Maritime VSAT service meets the needs of high usage customers. Users can also enjoy savings of up to 80 per cent.

The new SingTel Maritime VSAT offering lets users make simultaneous voice and data communications between ship and shore. This means a user onboard a ship will be able to make a phone call, while sending email or surfing the Internet - an experience that one would expect and enjoy while on-shore.

Previously, they could perform only one function at a time while out-at-sea.

The new service operates with a small C-Band antenna of between 1.2 metre and 1.5 metre in diameter and satellite equipment that fits well into the limited space of smaller vessels. These vessels are usually owned by operators of leisure crafts, trading enterprises and those in the coastal fishing industry.

### Conclusion

What is next for broadband satellite communications in the Asia-Pacific region? It would not be an overstatement to say that the future is certainly bright for the entire sector: broadband connectivity is in high demand, and all signs are that such demand will continue to be sustained for the foreseeable future. As the Asia-Pacific region already enjoys some of the highest rates of broadband penetration in the world, the future cannot be but rosy for the sector in this region.

However, as recent developments at Connexion by Boeing demonstrate, even services based on broadband applications can turn into financial failure. The goose only lays the golden eggs if handled properly. ■