

An institutional business

Giovanni Verlini, Editor of Satellite Evolution Asia, spoke with Dr Denis Curtin, Chief Executive Officer (CEO) of XTAR.

As the world's first satellite system designed specifically to provide commercial X-band services exclusively to government users, the XTAR's system steerable beams provide flexible X-band capacity to US, NATO and allied forces in several theatres of operation.

With over 35 years of engineering experience in developing and operating communications satellite systems at Loral Cyberstar and COMSAT, Dr. Denis Curtin is the industry veteran who led the Loral team that negotiated the XTAR joint venture agreement with HISDESAT. Your correspondent met him during Satellite 2007 to talk about the business of leasing satellite capacity to institutional users.

Question: What is XTAR exactly?

Dr Denis Curtin: XTAR is a joint venture company founded in July 2001 between Loral Space and Communications, which owns 56 per cent of the company, and Hisdesat of

Spain, which owns the remaining 44 per cent. In turn, Hisdesat is a company owned by Hispasat, the Spanish Government and the Spanish Space Agency.

The company is headquartered in Rockville, Maryland, and has offices in Madrid, Spain and Palo Alto, California.

Q: Can you please talk about your space resources?

DC: At present XTAR has two satellite platforms. It owns and operates the XTAR-EUR satellite, located at 29 degrees East longitude, and offers additional X-band capacity on XTAR-LANT, a payload on Hisdesat's Spainsat satellite located at 30 degrees West longitude. The first satellite was launched in February 2005 and located at 29 degrees East, while the second spacecraft was launched in March 2006.

Financed privately, the XTAR satellites were designed and built to provide customized X-band communications services exclu-

sively to US and Allied governments worldwide, in support of military, diplomatic and security communications requirements.

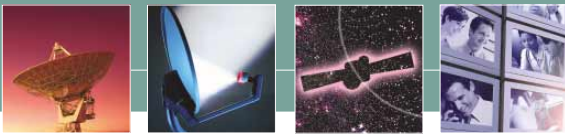
Q: Who has the rights over the orbital locations? Whose slots are you using?

DC: The orbital locations belong to Spain because X-band cannot be licensed to private companies in the US. However, the system is fully co-ordinated between the US and the Spanish Governments.

Q: So why was the company founded in the first place?

DC: The goal was to offer commercial communications services to the US Government and its allies. In particular, it was the Spanish government that was looking at ways of developing military capability.

At an operational level, the aim was to have high power capability, with fixed and steerable beams at 49dbW. The system now boasts 20 transponders at 72MHz.



Together, these unique X-band satellites represent the emergence of a new offering in government communications services.

Q: How did you develop the system?

DC: The first thing we did was to demonstrate that we were fully compatible. We took legacy terminals and demonstrated services at speeds of up to 200Mbit/s. We demonstrated our system in a variety of applications, but because of the high-powered signal, the best use of the system is Communications On The Move (COTM). Besides, it works very well with a small terminal.

Q: Have you looked at co-ordination issues with other systems?

DC: X-band is scarce, and it is not affected by the two degrees spacing problems that afflicts Ku-band and other bands.

Q: What about your clients?

DC: As I mentioned earlier, the aim of the company is to supply US and Allied governments worldwide with X-band capacity. Currently, we are supplying capacity to the Spanish, Belgian, Danish and German Governments. Besides, we are still pushing to sell to the US Department of Defense (DoD).

Q: Have you been involved in recent mili-

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tary operations led by the US military?

DC: Until recently, we were not on the contract vehicle for the US Government. Finally, in December 2006 X-band was included in the vehicle, making it possible for XTAR to finally supply capacity.

However, the mentality of the US Government seems to be that they want to wait for Wideband Gapfiller Satellite (WGS) programme to come online.

In the meantime, we have leased capacity to the Department of State because of lack of capacity in the overall system for the US Government. As a result of recent military campaigns, the government shifted ca-

capacity to support the DoD and the Army.

Q: What are your plans for the future?

DC: We believe that the WGS will generate requirement for X-band. Despite all the projects being implemented, the DoD and the rest of the US agencies will use commercial capacity forever. We are certainly not interested in commercial clients, for the simple reason that X-band frequencies belong to Governments. The plan is to further expand the system beyond Singapore in X-band but not in other frequencies. Maybe, a UHF payload could be an option but certainly not a Ka-band or Ku-band one. ■

Access to their own satellite communications capacity

In an ideal world, the Armed Forces from around the world should have access to their own satellite communications capacity whenever and wherever they need it. In reality, however, things are rather different. Firstly, the nature of military engagements in the modern world, be them in times of conflict or peace, is such that even large units such as entire brigades could be deployed thousands of miles from home at very short notice. This world operational mobility, however, can hardly be matched with an equal level of communications mobility. Clearly, it is not cost-effective for any Armed Forces in the world to maintain global communications coverage at the entire communications spectrum.

Secondly, austere budget constraints mean that Departments and Ministries of Defence the world over are looking at ways to do 'more with less'. Leasing satellite capacity from commercial operators enables them to do exactly this: deliver quality communications services at a lesser price. Besides, leasing an asset or a service does not require the capital commitment that purchasing several spacecraft at the cost of a few hundred million dollars each does – not to mention factors such as insurance to cover risk, running costs, etc. In all, leasing satellite capacity is not unlike the experience that any company has in leasing other assets: it is a cost-effective, smart alternative to ownership.

The advantages

But what are exactly the advantages from an operational point of view offered by the lease of satellite communications capacity? They can be easily listed.

First and foremost, leasing offers flexibility and dynamic mobility, as coverage is provided whenever and wherever it is needed – especially so if the operator offers spot beam technology that can be dynamically moved in real time to support long-haul communications, logistics and infrastructure requirements and mission critical needs.

Secondly, it offers greater bandwidth and throughput. Global operators are capable of fulfilling large bandwidth requirements and, if necessary, focusing substantial bandwidth in one location, such as an active military theatre.

Thirdly, it is the scale and mode of operation: fast deployment and global interoperability for multinational government, military and intelligence communities operating globally or in regional or small theatres.

Fourthly, satellite operators offering leasing services normally offer backwards compatibility, as their capacity is specifically designed to interface with legacy terminals without the need for additional infrastructure requirements, thus significantly reducing customer costs.

Finally, satellite operators should offer higher performance with their satellite so that smaller tactical terminals can be deployed in the field.

Commercial satellite communications are critical to military and government information dominance, and serve a significant role in support of the Global Information Grid (GIG). They provide customised, defence-specific communications services to government agencies and military services to support and augment government-owned 'war fighting' space assets.