Above: Artist's rendering of XTAR. Right: XTAR EUR SSL Highbay 4

XTAR: meeting military demands

Satellite operator XTAR specialises in providing customised X-band communications services exclusively to US and Allied governments, in support of military, diplomatic and security communications requirements. The company is establishing itself well in the market and is focusing on plans for the future that involve the introduction of new services on X-band and also expansion of the company on the ground and in orbit. Helen Jameson had the pleasure of speaking to two of XTAR's key players, Denis Curtin, COO; and Bill Schmidt, VP Government Services, about the company, the advantages it offers, the future and the realisation in government circles that they can no longer go it alone.

Question: Can you please begin by telling us more about XTAR?

Denis Curtin: XTAR was founded in 2001 and is a joint venture between Loral Space & Communications and HISDESAT, a Spanish company that was originally set up to get into the X-band business. We are a US managed business based in Rockville, Maryland. HISDESAT is owned by Hispasat, the Spanish Ministry of Defence and Spanish aerospace companies. Our charter is to sell communications services to the US Government and allies. We have two satellites in orbit - XTAR-EUR and XTAR-LANT, which is a payload on HISDESAT's SpainSat satellite. Together, they provide coverage from Denver, looking East, all the way around to Singapore, so we have good coverage of Africa and the Middle East. We also have coverage of the East Coast of the US, all of the Atlantic Ocean and we then extend out to Indone-

sia. We have very good coverage of Afghanistan and the surrounding area. That is really the basis of what we do.

Bill Schmidt: The satellites were designed with multiple transponders, a series of global beams that cover the full footprint of the satellite, and a series of steerable and fixed beams. With these capabilities we are able to meet a wide range of requirements from large terminals placed anywhere within the footprint to smaller terminals by concentrating the power in a steerable beam. The other thing that we can do, due to the power of the beam, is send huge amounts of data through a given transponder. Many of our customers need to move a large amount of data from the Middle East and South West Asia. Our satellites allow this amount of data to be carried over our transponders. This is very attractive to heavy users of bandwidth such as the military and civil agencies.

Question: What are the benefits to the customer of using commercial X-band?
Bill Schmidt: There are a number of advantages that commercial X-band offers. It tends to be able to cut through interference such as rain and dust and jungle foliage. The other big advantage is that the existing and legacy government X-band equipment is completely compatible. In fact, we are finding that the United States DoD is contracting our service to actually test terminals before they are deployed and used on the DSCS and WGS systems. They have enough confidence in our service to use it test their terminals. It is obviously a little frustrating for us as we would prefer it if they would use our service as well as just test on it!

Question: You have two satellites in orbit at present. Do you have any plans to launch further satellites?
Bill Schmidt: We are in discussions at the moment and looking at a number of options that would give us full global coverage. Right now, the plan is to look at doing a hosted payload. As an example, over certain areas of the Pacific we don't see a huge demand to justify manufacturing our own satellite as we have done before. By working with operators that have existing orbital slots we think that we can procure hosted payloads to give us additional coverage over the Western Pacific, Asia, South West Asia and Africa that will enhance our existing capacity.

Question: You have plans for a European teleport site. Can you tell me more about this?
Denis Curtin: We are working on this with a number of companies and at the moment, we are looking at three different European sites. We have two sites that already have a terminal up. One site is operational. The second site is at the very beginning of the testing phase. We expect that to be operational quite soon. We are in discussions for a third European teleport site. This is at the preliminary stage. The three teleport sites I have mentioned are commercially owned. We also have existing US government sites. We have a number of different terminal facilities that are both commercial and government owned. This gives us a good amount of flexibility.

Question: Are you purely focused on military business?
Denis Curtin: No. It's not just the military market where our business lies. There are also civil agencies that use our services. Our marketing and sales focus is really geared towards US Government agencies and their operations overseas such as supporting the US DoD African Command in Africa. HISDESAT is focused on European sales and we work very closely with them. We have projects with the Belgian, Danish and Spanish MoDs as well as with other European countries. Selling with HISDESAT is working quite well for us. The Europeans understand the market and have the resources to reach throughout Europe.

Question: Which applications do your customers require X-band for?
Bill Schmidt: X-band is mostly used for fixed terminal applications that shift a lot of data. They are mostly terminals of 2.4 metres in size and larger, but we are starting to see smaller terminals coming into the inventory.

Spanish Suitcase SATCOM Terminal

One of the reasons for that is the WGS system is limited to terminals larger than 2 metres. The reason for this is that sub 2m terminals take a lot of power and bandwidth relative to the amount of capacity transmitted. Currently, there is so much demand on the satellites that not enough power and bandwidth can be allocated to support the smaller terminals. Those who are using the smaller terminals for Comms-On-The-Move (COTM) come to XTAR because we can give them as much bandwidth as they need for the smaller terminals. An interesting dynamic has arisen with the operation of the WGS system. We are expecting to do a lot more in terms of COTM, like the Spanish have, but the questions will be whether it will utilise X- or Ka-band or whether it will be operated on other satellites such as Paradigm. However, we can provide bandwidth to a whole host of terminals that we have been testing for several years. We are well prepared for any requirements that will arise in the future.

Question: Have opportunities arisen for XTAR as a result of the discontinuation of the TSAT programme?

Denis Curtin: Currently, the majority of US DoD communications needs are supported by commercial assets. Areas such as South West Asia are 95-97 percent supported by commercial assets. So the demise of the TSAT programme, if anything, has just accelerated the demand, and we will get a piece of that requirement. The fact that all the X-band equipment is compatible with our system goes in our favour. We believe that a good deal of the business we will pick up will be in administrative and welfare communications. This type of communication does not have priority on WGS. By welfare we mean morale, welfare and recreation – Facebook, email etc. These are the things that young soldiers require. If I am going to join your army I still want to be able to communicate with home. They can keep in touch with families and friends. Today, this capability is expected and is part and parcel of the services that need to be provided to the young men and women who are serving. The XTAR service is fully encrypted and ideal for this type of service. However, this is not to say that we cannot carry other types of traffic.

Question: Is there increasing demand for end-to-end solutions at present from the government?

Bill Schmidt: Definitely. The US DoD initiated a programme called Future Commercial Satellite Acquisition (FCSA), and the interesting thing is the fact that it is a combination of DoD and General Services Administration (GSA). The DoD is responsible for DoD commercial satellites and GSA is responsible for the civil agencies. It is an attempt by the US government to combine and better define their requirements and to bring about better buying power because there is better control. It is interesting to note that they have broken it into three portions. First is the transponded services portion, so if they want to come to us to buy raw bandwidth, they can. Secondly, there are subscription services and that is for paying by the byte, by the minute, the hour or the day. The third is end-to-end managed network services. The government wants the equivalent of a dial tone at the desk. They pick up the phone and use a service. They don't care about what happens in-between and how it all works. All they want is the service. We are definitely seeing the acquisition of more of these end-to-end, fully managed services where the government places all the technical responsibility onto a commercial company. We work with a lot of those service providers.

Question: What will your focus be over the next twelve months?

Bill Schmidt: We have two main priorities. One is to continue to grow the business, as we have succeeded in doing since we were established. Secondly, we will be looking at expansion and creating additional coverage. There is a lot of work to do in this arena. We are in the discussion stage at present. We are trying to work with a number of customers to get pre-commitment, which in the commercial world and in this economic climate, is absolutely necessary. We are trying to take that pre-commitment model through to the government sector. We see it happening today with the Australian involvement in WGS and Intelsat's launch of the hosted payload. This is the first time there has been governmental commitment on a commercial satellite. The government is starting to realise the benefits of using commercial assets.

Denis Curtin: One of the things that we have really tried to work hard on is to develop a close working relationship between the commercial industry and the US DoD so that we can understand what their future requirements are. For us to expand more in the Indian Ocean and the Pacific Ocean, we would like to have some sort of initial commitment from the government. After all, we are making a big commitment ourselves. We are a business. This is a learning process on both sides. They are not going to be able to rely on their resources alone to meet the growing demands of the military. Commercial is the only way forward. We need to evolve with them and guide them to ensure they get what they want.

Bill Schmidt: Up until the late 90s the military satellite constellation took care of 90 plus percent of their traffic. The conflicts in Iraq and Afghanistan, coupled with the high bandwidth requirements, resulted in a lack of capacity and a need to turn to the commercial sector. By the early 2000s, a lot of satellites had been launched and a lot of excess capacity was in existence, sending prices falling. The government could get what they wanted when they wanted it, at very reasonable prices. Now, this demand has not decreased but several satellites are going out of service and have not been replaced. This has led to a lack of capacity coupled with satellites that are being manufactured but are sold out prior to launch. The government finds it hard to understand why the price has gone up and why there is a lack of capacity. It's basic economics. I am not sure that the DoD has fully realised what the situation is.

Question: Is there enough dialogue between the commercial industry and the government?

Denis Curtin: There have been two meetings this year between the CEOs of the operators and the DoD. In prior years, this was an annual event and the DoD people couldn't get out of the room fast enough. It was a courtesy. However, now it has changed. They are realising that they have to talk to us. They accommodate us now, but I firmly believe that this will result in cooperation. They need the commercial industry. That said, you have to understand it from their perspective. They are operating satellite constellations such as Milstar, DSCS and now WGS. They have budgets, they have many people employed on these programmes. If they start handing over things to the commercial side, it affects budgets and jobs and they have to figure out how they provide the service. We are seeing these huge requirements from applications such as UAVs and higher amounts of bandwidth-per-person. The equipment is becoming more sophisticated and the government cannot provide the bandwidth required. This is forcing them to change their perspective. It is a difficult process but we are very encouraged. We have had two very good meetings this year and really have started an ongoing discussion. ■

Spanish SOTM SATCOM Terminal