

## ***Interview with CEO***     August /September 2006

**Dr. Denis Curtin,  
Chief Operating Officer, XTAR, LLC**



(His Biography is attached to this article)

**Dr. Curtin is responsible for day-to-day operations of XTAR, LLC, a joint venture between Loral Space & Communications, Ltd. and HISDESAT Servicios Estrategicos, S.A. that provides commercial X-band satellite services to the U.S. and Allied governments.**

**In this interview, Dr. Susumu Kitazume, Executive Advisor JEPICO Corporation and former Vice President NEC Corporation, Executive advisor for editing committee for this magazine, talks with Dr. Denis Curtin, Chief Operating Officer of XTAR, LLC. In addition to this important X-band program targeted for the U.S. and Allied military forces, Dr. Curtin also shared his thoughts on future space development strategies, the need for synergy between government satellite networks project and commercial satellite projects.**

**SJR:** First of all, I want to thank you for taking time for our "Interview with CEO". I'd also like to say how much we appreciate your time for AIAA Japan Forum. We have enjoyed joining AIAA ICSSC 2006 in San Diego and we would like to express our sincere congratulations for your Aerospace Communications Award.

As you know, SJR is an industry publication for technical communication created by AIAA Japan Forum Satellite Communications, a subcommittee under one of the

American Institute of Aeronautics and Astronautics (AIAA)'s technical committees on satellite communications. Initially, we were published in hard copy, but now SJR is an electronic media distributed over the Internet. In this segment, we discuss the strategies and ambitions of those involved in the world of satellite communications, namely satellite communications operators and CEOs of communications satellite development companies, providing the idea of reference for AIAA members and SJR readers.

**SJR:** First, please introduce yourself briefly and describe your company, XTAR, LLC and recent activities.

**Dr. Curtin Answer:**

I serve as Chief Operating Officer of XTAR, LLC. Headquartered in Rockville, Maryland. XTAR is a joint venture between Loral Space & Communications and HISDESAT of Spain. The company provides dedicated X-band communications services to the U.S. Government and Allied forces through its XTAR-EUR and XTAR-LANT payloads.

**SJR:** XTAR, LLC is the leading X-band communications company in the area of Government communications satellite network operating and related technology in the USA and Europe. How did these accomplishments come about?

**Dr. Curtin Answer:**

XTAR had its beginnings in a requirement by the Spanish Ministry of Defense (SMOD) for its own X-band satellite. At that time, in the late 90s, the SMOD was leasing capacity from HISPASAT. As a NATO member, Spain understandably wanted comparable capacity as other NATO countries. At the same time, Space Systems/Loral was looking for the right sales opportunity in Spain.

These negotiations resulted in the XTAR joint venture between Loral Space & Communications and HISDESAT, a Spanish firm created to participate in the joint venture. HISDESAT is owned by HISPASAT, the SMOD and several Spanish aerospace companies. Two satellites were ordered from Space Systems/Loral. The first, XTAR-EUR, is a high-powered satellite with twelve 72 MHz transponders built for the joint venture. The second satellite, SPAINSAT, provides communications services for the SMOD but carries two payloads; one for the SMOD and a totally separate payload, XTAR-LANT, consisting of eight high powered 72 MHz transponders, for the XTAR joint venture.

XTAR-EUR is located at 29° East Longitude and SPAINSAT, with its XTAR-LANT payload, is at 30° West Longitude. Together XTAR-EUR and XTAR-LANT provide XTAR with coverage from Denver in the U.S. as far east as Singapore. The two satellites have global coverage in right and left polarization, a fixed beam over Europe, a fixed beam over the U.S., seven spot beams and very flexible switching among the transponders and the beams. The joint venture uses orbital slots provided by Spain.

**SJR:** I'm sure there were a lot of difficult challenges initially as the leading company in the field of Government communications satellite network operating. Can you please tell us more about the background to this and related issues?

**Dr. Curtin Answer:**

Selling to U.S. government has inherent challenges. It is a very long sales cycle, which includes developing requirements, ensuring appropriations funding and selling at many levels within the Department of Defense before securing a contractual agreement. With the encouragement of the U.S. military, we started our negotiations for the XTAR system in the early 2000s.

The U.S. Department of Defense has steadily increased its use of commercial satellite bandwidth and services to support a multitude of military operations. The DoD estimates commercial satellite systems provide over 80 percent of the satellite bandwidth requirements for the current Middle East hostilities. This represents a twenty percent increase over the demands for commercial capacity during Operation Desert Storm after Iraq invaded Kuwait.

The unforeseen conflict in Iraq generated a sudden and sustained demand for bandwidth on the part of both the U.S. and Allied military forces. To meet that demand, both the U.S. and Allied military forces turned to the commercial market for leased capacity, the majority of which was Ku band. There was a glut of Ku band transponders on the market at that time which created a buyer's market for Ku band capacity. This frequency continues to meet the majority of the defense capacity requirements today.

Much of the capacity on the U.S. DoD's Defense Satellite Communications System (DSCS) is perceived as "free" because other areas of DoD pay for it. However, because the DSCS capacity is provided on a priority basis, the war is limiting the use of X-band for other government departments. This limitation is one of the reasons the U.S. Department of State contracted for capacity from XTAR. Its DoS Diplomatic Telecommunications Service Program Office (DTS-PO) had an installed X-band system

but was unable to secure sufficient X-band capacity through DSCS. That's when DTS-PO turned to XTAR to fulfill its bandwidth requirement.

Adding to the challenge of selling to the U.S. government is the fact that the war effort is being funded by special Congressional supplements, not via standard appropriations. This leads to many existing contracts being reduced in scope or even terminated because of limited funding, making it harder for new entrants like XTAR.

The DoD is currently developing an array of new MILSATCOM satellites including the Wideband Gapfiller Satellites (WGS), the Advanced Extremely High Frequency Satellites, the Transformational Communications Satellite (TSAT), and the Mobile User Objective System (MUOS). All these programs are experiencing significant delays, however, even while the U.S. military's need for satellite bandwidth continues to expand as new weapons systems are fielded and new bandwidth intensive applications are created. Consequently we remain optimistic that there is a role for commercial providers of military X-band capacity.

**SJR:** Dr. Curtin, you were deeply involved in the Orion system, which was the first international commercial communications satellite operator against Intelsat who was the giant international satellite operator in that time. What thoughts can you share with us regards the difference in strategy and technology between government and commercial satellite projects?

**Dr. Curtin Answer:**

Orion was one of several companies permitted by the U.S. government to compete with Intelsat, including building and putting resources in space and competing in the commercial marketplace. I am proud of my role at Orion, where we invested in a fleet of high-powered satellites that allowed us to compete for business globally. Of particular note here, is the fact that NEC built the Orion 1 payload in Yokohama, Japan.

Government satellite services require a very different set of skills and technology than commercial. For instance, there is a much longer sales cycle, driven by government procurement and funding requirements, and there are more stringent security requirements, both in space and on the ground.

**SJR:** How do you create and market applied services, software and network for public administrations and industry? And it seems to us it has been moved quickly to provide the government satellite communications service by private company.

**Dr. Curtin Answer:**

Military systems can't meet current, let alone anticipated demand. As I mentioned previously, despite the major new systems under development, the U.S. military's need for satellite bandwidth only continues to expand as new weapons systems are fielded and new bandwidth intensive applications are created. As a result, the DoD has steadily increased its use of commercial satellite bandwidth and services to support a multitude of military operations.

According to the Satellite Industry Association, commercial satellite systems provided over 80 percent of the satellite bandwidth for Operation Iraqi Freedom. Meeting the demand for commercial bandwidth by the U.S. military will continue to require significant time and investment on the part of commercial providers.

**SJR:** Satellite monitoring and observation is one of the most important functions for government service. XTAR is now providing communications for government. How do you provide these functions in conjunction with communications technology?

**Dr. Curtin Answer:**

XTAR is a United States majority owned and managed company. XTAR-EUR is controlled from our U.S. facility in Hawley, Pennsylvania. TT&C facilities for both XTAR-EUR and our second payload, XTAR-LANT, are situated in the Canary Islands and outside Madrid, Spain.

**SJR:** Currently, Space development activities in Asia are ambitious, while China and India are vigorously pursuing their space development programs. Given what you have said about current status in Asia, what is your view on the development of the satellite communications business in the Asia-Pacific region?

**Dr. Curtin Answer:**

Just as it is in the U.S., demand in the Asia Pacific region for HDTV and mobile video services is growing steadily, along with direct-to-home television, broadband, IPTV and mobile communications. These market forces will continue to drive demand for fixed and mobile satellite systems. Additionally, satellite is seen as an increasingly important tool for disaster recovery and communications, in both the military and civilian sectors.

**SJR:** Dr. Curtin has great experience and success in the field of satellite communications. Currently the WINDS Program in Japan and others are headed in the direction of satellite-based broadband services. The shift to hybrid networks combining satellite communications with other kinds of networks, including terrestrial lines, will be a

key theme. What sort of thinking do you have for competing with fiber optic communications?

**Dr. Curtin Answer:**

While fiber will always have an advantage in major population routes, satellites, with their ubiquitous reach, faster data rates and increasingly sophisticated and complex payloads will remain a competitive force for the foreseeable future. That said, new applications and services are driving a convergence of transmission modes. We are seeing an increasing blend of terrestrial and satellite-based technologies in all major regions. Increasingly, customers are more interested in transmitting their content than they are in the transmission mode.

Broadband particularly is driving demand for satellite, especially where there is increasing emphasis on clustering Internet, telephone and television in one system. The same holds true for HDTV, which is driving demands for both bandwidth and processing power.

**SJR:** In closing, AIAA Japan Forum was a full-fledged partner at AIAA ICSSC 2006, held in San Diego this June. We enjoyed the conference and encourage the partnership with worldwide companies and organization. Also, we have a plan to host AIAA ICSSC 2007 in Asia under the co-sponsorship with APSCC. Many Japanese members of AIAA JFSC enjoyed serving as session chair and paper present; I'd like to thank you for your cooperation.

**Dr. Curtin Answer:**

I was very pleased with the excellent support of JFSC for the ISCe 2006 conference and its previous AIAA ICSSC conference. I look forward to an even more successful event in Korea in 2007

**SJR:** I thank you again for your cooperation and dedication to the development of satellite communications and observations. I appreciate your taking time out of your busy schedule to meet with me today.

**(Column editing: Dr. Susumu Kitazume: Executive advisor for Editorial committee of SJR)**



## **EXECUTIVE BIOGRAPHY**

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**Chief Operating Officer**  
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**Prior to joining XTAR, Dr. Curtin served a total of twelve years at what was originally ORION, and later became Loral ORION and then Loral Cyberstar Broadband Systems. He was Vice President of Engineering for ORION before being promoted to Senior Vice President of Engineering and Operations at Loral ORION and subsequently, in 2000, to Executive Vice President. He was responsible for the technical design of the ORION satellites, participated in the formation of the ORION partnership and was involved in all the negotiations with the partners and banks.**

**For more than two decades before joining ORION, Dr. Curtin held a series of progressively senior engineering and management positions at COMSAT Laboratories, COMSAT General and COMSAT, culminating in Senior Director, Satellite Engineering, responsible for all COMSAT's satellite engineering.**

**Dr. Curtin earned a B.S. in Physics from Iona College, and an M.S. in Physics and a PhD in Mechanical Engineering from The Catholic University of America. He has published extensively in satellite technology and holds a patent on an infrared transparent solar cell.**

**Dr. Curtin is a Fellow in the American Institute of Astronautics and Aeronautics (AIAA), a member of the AIAA Technical Committee on Communications Systems and a past General Chairman of the AIAA International Communications Satellite Systems Conference. In 2006 he was named the recipient of the AIAA Aerospace Communications Award, presented for outstanding contributions in the field of aerospace communications. He is also a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and past General Chairman of the IEEE Photovoltaic Specialists Conference.**

**XTAR LLC is the world's first commercial provider of X-band services designed exclusively for government users. The company's first satellite, XTAR-EUR, went into service at 29 degrees East in April 2005, while XTAR-LANT entered service in April 2006 at 30° West. XTAR's high-powered steerable beams provide much-needed X-band capacity and flexibility to U.S., NATO and Allied forces in theaters of operation. XTAR service is also backwards compatible with existing X-band terminals and infrastructure. XTAR's high power transponders allow all users, including those with small terminals, to receive and transmit data at significantly higher rates than previous X-band capacity.**

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[www.xtarllc.com](http://www.xtarllc.com)