

# Performance is the key

In October 2006, Space Transport Inc., a privately held corporation, acquired Lockheed Martin's shares in LKEI and ILS. Continuing to use the brand of ILS, the company now provides commercial launch services only on Proton, with exclusive rights to market Khrunichev's Angara next-generation vehicle when it becomes available. Satellite Evolution Asia talks to Frank McKenna, President of ILS.



Frank McKenna, President of ILS.

**ILS traces its roots back to 1993**, when what was then Lockheed Corp. of the United States established a venture to market the Proton launch vehicles worldwide. This international partnership involved Lockheed and two Russian companies: Khrunichev State Research and Production Center and RSC Energia. The joint venture, called Lockheed Khrunichev Energia International (LKEI), signed its first launch customer that same year.

Lockheed merged with Martin Marietta in 1995, creating the Lockheed Martin Corp. Martin Marietta's Commercial Launch Services organization, which manufactured and

launched the Atlas rockets, was then consolidated with LKEI, creating a new entity called International Launch Services.

ILS answered the need to manage two distinctly different launch vehicles (Atlas and Proton), at three separate launch facilities (Cape Canaveral Air Force Station in Florida, Vandenberg Air Force Base in California and Baikonur Cosmodrome in Kazakhstan), for a myriad of government and private industry customers worldwide. ILS used a single, integrated customer management system for both vehicles, interfacing with the customer along all aspects of the launch campaign from beginning to end. ILS managed both

commercial and US government missions aboard Atlas vehicles, and commercial missions only aboard the Proton rockets.

In 2000, ILS relocated its headquarters to McLean, Va., a suburb of Washington, D.C., from San Diego, Calif. It also dominated the marketplace, consistently capturing 40 to 50 percent of available missions annually.

In October 2006, Space Transport Inc., a privately held corporation, acquired Lockheed Martin's shares in LKEI and ILS. Continuing to use the brand of ILS, the company now provides commercial launch services only on Proton, with exclusive rights to market Khrunichev's Angara next-generation vehicle when it becomes available.

The Proton vehicle is the mainstay of the Russian launch fleet, in addition to being a top choice among commercial customers. Russian government and ILS missions together average 6 to 10 flights a year, giving the Proton one of the best launch tempos in the industry.

Khrunichev, builder of the Proton, is one of the world's largest aerospace corporations, having been formed in 1993 from the Khrunichev Machine-building Plant and the Salyut Design Bureau. The company can boast more than 40 years of rocket and space expertise.

The Proton vehicle's first launch was July 16, 1965. Initially known as UR-500, the vehicle was originally conceived to serve as both an intercontinental ballistic missile and a space launch vehicle. The first four flights lofted "Proton" satellites, and the vehicle then adopted that name. From the two-stage configuration of its early years, the Proton has grown to the three- and four-stage vehicle of today.

Proton rockets have played a role in many historic events, such as launching interplanetary missions that produced the first

## ILS Proton successfully launches Anik F3 satellite

International Launch Services (ILS) successfully placed the Anik F3 satellite into orbit in April with a Russian Khrunichev-built Proton Breeze M rocket.

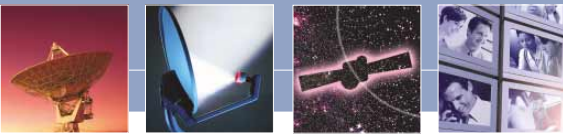
The vehicle lifted off from Pad 39 at the Baikonur Cosmodrome. The three-stage Proton vehicle climbed through the atmosphere for nearly 10 minutes before sending the Breeze M upper stage and its satellite payload on to continue the 9-hour-11-minute mission. This was the fourth ILS Proton launch for Telesat, which launched its Anik F1R satellite in 2005, as well as Nimiq 1 in 1999 and Nimiq 2 in 2002 on Proton.

"We thank Telesat for its continued confidence in ILS and in the Proton Breeze M," said ILS President Frank McKenna. "We know we have to deliver outstanding performance to earn repeat business. We look forward to launching with Telesat and Astrium in the future, including next year's scheduled mission for Nimiq 4."

The Anik F3 satellite uses an Astrium Eurostar 3000 bus, and is the sixth of this model to be launched by Proton. The Nimiq 4 spacecraft also is a Eurostar 3000. ILS also has launched two Eurostar 2000 models.

"We are grateful to both ILS and Astrium for their flawless execution of this important mission for Telesat," said Dan Goldberg, Telesat's President and CEO. "We deeply value our association with these two premier organizations and look forward to joining with them in Baikonur next year for the launch of our Nimiq 4 satellite."

"This is a major event for Astrium. We mobilized our expert teams right across Europe to ensure the success of this mission," said Antoine Bouvier, CEO of Astrium Satellites. "The excellent teamwork developed with ILS and Telesat personnel has been crucial to this success."



*Proton rockets have played a role in many historic events, such as launching interplanetary missions that produced the first samples of the lunar surface to be returned by an unmanned spacecraft, and the first soft landing on the surface of Venus.*

samples of the lunar surface to be returned by an unmanned spacecraft, and the first soft landing on the surface of Venus. The Proton orbited the Salyut series space stations and MIR space station modules, and has delivered elements for the International Space Station. It continues to support the Russian government's space launch requirements.

**Question: In the near term, where do you see the satellite market and the ability of the launch sector to meet market demands?**

**Frank McKenna:** I am very excited and enthusiastic about the current state of the commercial satellite market and the prospects for the future. The satellite market has returned to a healthy state as operators have strengthened their business through service expansion, consolidation, and rationalization of fleets. Innovative new telecommunications solutions coupled with a steady demand to replenish on-orbit assets has bolstered near-term demand for launch services. At ILS this demand is reflected in many new launch awards in the first half of the year. We be-

lieve this demand will level out to a long-term rate of 17-18 large GEO satellites per year. We are well positioned to meet the needs of the satellite market moving forward.

**Question: What objectives has ILS set for itself over the next 12 months?**

**Frank McKenna:** First and foremost, our focus is on performance. Performance builds customer confidence. We believe that this is where our customers want us to place our attention. Our Proton Breeze M manifest calls for up to six launches this year and a comparable number in 2008, pending spacecraft delivery schedules. Launch periods for 2009 are filling up as well. In the Asia Pacific region, I am pleased to report that our Proton launches of BADR-4 for the Arab Satellite Communications Organization and Measat-3 for MEASAT Satellite Systems were very successful recent launches for ILS. Looking forward, JCSAT-11 for JSAT Corporation is an important launch for us in the middle of this year.

**Question: What do customers look for in**

**a satellite launcher? Why choose ILS?**

**Frank McKenna:** Performance, reliability and value remain key. This includes reliability of the vehicle hardware and all of its sophisticated systems, and performance in the launch schedule. Customers expect timely information about the progress of their mission and they want to know that their launch partner shares common business objectives. We believe we deliver on all fronts, and the evidence is in the new business we continue to receive from returning customers. In a recent competitive selection of the Proton Breeze M, the customer CEO remarked, "ILS offered us the right combination of quality, reliability, experience and value, and we look forward to working with their team on the next launch campaign."

**Question: Is price still a determining factor in winning a launch contract?**

**Frank McKenna:** Financial considerations are important in all business decisions. Prices over the last few years were at historic lows driven by new entrants and fierce competition. The market has returned to



launch prices at sustainable levels for an adequate return on investment. As such, commercial satellite customers are achieving real value, particularly in light of the fact that the average lift capability of today's launchers is roughly twice that of a decade ago, and with improved reliability!

**Question: Once you have won a contract, how does ILS work with its customers to ensure smooth on orbit delivery?**

**Frank McKenna:** We are truly a full-service company. We're there from contract signing through placing the satellite into orbit, and post-launch support. This business is all about having the best and most talented people deployed at the right time in the right place.

ILS, based in the United States, manages the business operations, sales and marketing, licensing, and security for each mission. Our partner, Khronichev, manages the production of the Proton in Russia, and the launch operations in Baikonur. Immediately following the award of a satellite launch to ILS, a dedicated team is established to serve all aspects of the mission to be launched. We have a full-time licensing staff to ensure we meet all US government export control regulations.

**Question: Are there any near-term plans to improve the Proton product line?**

**Frank McKenna:** Yes. We're going to see the debut of the Enhanced Proton this summer with the launch of the DIRECTV-10 satellite. This is an important product improvement for us because it enables us to competitively address payloads of greater mass. Proton has been continuously evolving over the 40-some years that it's been flying. And now with the Enhanced Proton, Khronichev has increased GTO vehicle performance to 6.3 metric tons as the cumulative effect of a number of low-risk modifications. This results in significantly increased satellite on-orbit lifetime. Our customers are excited about this enhancement to Proton performance.

**Question: The Proton/ Breeze M continues to be a workhorse for the commercial launch industry. Are there any longer-term plans to develop a new launcher?**

**Frank McKenna:** ILS, in addition to holding exclusive commercial marketing rights for the Proton, will also market Khronichev's Angara family of vehicles once development is completed. The Russian government has been funding development of the Angara family. It is a modular vehicle, utilizing a common central booster that burns highly efficient and environmentally clean propellants (LOX/kerosene). The current timetable calls for Angara flight tests in 2010- 2011.

**Question: The Russian space industry is undergoing consolidation; for example, it**

**was recently announced that several smaller companies are being consolidated within Khronichev control. What does this mean for customers of commercial launch services?**

**Frank McKenna:** Russia has recommitted to its space program and taken action to improve the efficiency, economy and productivity of the space industrial sector.

Khronichev, our partner, is one of the primary pillars of the Russian space industry, highly regarded and supported by the Russian government. The Proton is a vital asset for the Russian Federation as it relies upon the Proton vehicle for its national space

programs.

The consolidation of propulsion systems and other hardware manufacturing suppliers under Khronichev management complements an ongoing effort to vertically integrate the Proton product line. The merger places about 60 percent of the manufacturing under a centralized management structure - including DB Khimmash, the manufacturer of the Breeze M engine. These organizational actions will enhance Khronichev's production control, hardware prioritization and ultimate schedule reliability. Our customers will be the beneficiaries in this space infrastructure consolidation. ■

