

THE YEAR IN REVIEW

THE VIEW FROM SPACE DATA

by Jerry Quenneville, Vice President, Business Development, Space Data

Advancements in lightweight, portable communications platforms are providing our warfighters with significant options on the rugged and unforgiving battlefield, and building on successes. In the commercial market, several new technologies are being applied to the military's needs by providing low cost, reliable solutions for tactical communications.



One new piece of technology helping our warfighter is the brainchild of **Space Data Communications** founders *Jerry Knoblach* and fellow MIT classmate *Eric Frische*. Together, the Space Data team has efficiently and cost-effectively combined three well-established technologies—weather balloons, micro-electronics, and GPS—to produce its high altitude balloon-borne communications platform, which provides an ease of launch and broad coverage footprint to customers.

Space Data provides “Near Space” wireless communications to the military, public safety agencies, homeland security organizations and industry, as well as to individual and commercial customers. In addition, Space Data provides reliable and secure wireless solutions to rural and remote areas where terrestrial towers are impractical, or are not cost-effective due to population, and satellite bandwidth is too costly or unavailable.

Wrapping up a tremendous growth year in 2007, Space Data continued to rack up flights on its commercial data network, primarily in support of the oil and gas industries and vehicle fleet tracking. This year, the company also made tremendous strides in developing PCS (“cellular”) voice and associated broadband data capabilities.



Among its major milestones for 2007, Space Data ramped up to a full production status on its government **StarFighter™** Military-UHF repeater platform. The full production resulted in delivering several hundred of the repeaters to the U.S. Air Force under the

\$49 million “Near Space Communications System” contract with the **Air Force Space Command**.

The StarFighter Platform provides a communications footprint up to 600 miles in diameter for standard tactical radios such as the **PRC-148**, **PRC-117** and **PSC-5**. Secure, or clear communications, can be made with significantly less power than required for terrestrial or satellite communications, thus conserving precious battery power and reducing the weight the tactical warfighter needs to carry. With the ability to use standard low profile, flexible antennas, the StarFighter Platform supports critical dismounted *comms-on-the-move* without the challenge of antenna pointing.



Additionally, the StarFighter Platform recently was selected as one of two communications' platforms demonstrated at the Air Force Research Laboratory's **Commander's Challenge**. Subsequent demonstrations were also conducted for Army Special Forces as a tactically oriented data transfer capability using **Via-Sat** data controller cards in a laptop, linked into **Thales MBITR** handheld radios communicating through a StarFighter repeater. This combination applies a capability commonly used by the detached warfighter via military satellite systems; but with a dedicated balloon-borne service that complements heavily tasked satellite links and can be used over areas where terrain all but prevents satellite access.



In 2008, Space Data will expand its military activities with the first operational deployment of its StarFighter Platforms and the introduction of a second version of the military repeater platform. This new balloon-borne repeater will provide repeater functionality specifically geared toward tactical ground forces that use the **30-88 MHz** (or **SINCGARS**) band. Indications are that a number of

“truck” applications are in the works, which will provide communications and intelligence, surveillance and reconnaissance (ISR) applications. Overall, the company plans to build on its successes with its Air Force deployment contract, introducing and inte-

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grating its **Near Space** balloon platforms into the toolkits of the other service branches and the special operations community.

Further government activities in 2008 will focus on the emergency response and public safety sectors. The communications and tracking capabilities will be suited to FEMA, Forest Service and border management missions.

“This has been a monumental year for us, filled with major accomplishments and exciting new prospects. Our commercial technology, now with well over 13,000 flights of our balloon-borne platforms above 65,000 feet, has been applied to key military needs, filling a critical gap in tactical communications and surveillance capabilities,” said Space Data Chairman and CEO Jerry Knoblach. “We’re on our way toward several major developments and new applications in 2008, with a significant expansion in our commercial and Government business areas.”

Space Data also has the **SkySite®** Platform which, unlike comparable satellite capabilities, floats at altitudes about 30 times closer than low Earth orbit (LEO). This affords users the ability to achieve satellite-like services while using standard terrestrial communications devices and no special antennas. Unlike comparable satellite capabilities, the SkySite Platform floats at altitudes about 30 times closer than Low Earth Orbit (LEO), enabling users the ability to achieve satellite-like services while using standard terrestrial communications devices and no special antennas.



This past year, Space Data’s commercial sector saw the introduction of the **SL-3100 Locator**, a combination GPS location and data terminal that is ideal for fleet operations and critical, up-to-the-minute tracking requirements. While developed in response to commercial vehicle fleet requirements, the lightweight, low-power SL-3100 is ideally suited to homeland security applications such as post-disaster response and remote tracking requirements typical of wild fires. In addition to GPS location, this device allows critical situational data to be carried back to a central location when other communications are unavailable.

Next year we will also see an important melding of Space Data’s commercial data technology with modern personal medical instruments. Space Data will work with Federally sponsored support to the Navajo Nation for the introduction of wireless diabetes monitoring.

“We are very excited to have our balloon-borne technology selected to provide critically needed communications of blood sugar levels and other vital signs from very remote regions of the Native lands, many of which are without any other form of telecommunications,” Knoblach said.

Through the use of reliable and responsive balloon platforms coupled with modern microelectronics, Space Data Corporation is bringing wireless coverage to new areas. They are also supporting critical needs in both the military and commercial sectors. These products and services are providing affordable communications via the company’s virtual satellite platforms, yielding unprecedented expanded coverage to Government, commercial and personal users alike. Look for a continued expansion in markets and capabilities from Space Data in 2008. ■



Jerry Quenneville is the Vice President, Business Development, of Space Data and he is responsible for identifying new customer opportunities, secures new business, steers new areas of technology development, and maximizes the business impact of partnering relationships in Space Data’s Government Division.

Before joining Space Data in 2001, Mr. Quenneville spent over 20 years in the U.S. Air Force in various engineering, research and technical program management capacities in support of the U.S. intelligence community. He retired as a lieutenant colonel with responsibilities that included

the engineering, development and deployment of intelligence systems; high-reliability space and terrestrial communications systems; modeling and simulation systems; and special-purpose digital and software-based applications. Mr. Quenneville earned a B.S. from the University of Massachusetts at Amherst, and an M.S. from the California Institute of Technology, both in electrical engineering.

