

Sierra Nevada Corp Concentrating More on Defense Satellites

By: Caleb Henry

March 30, 2016

Feature, North America, Regional, Satellite TODAY News Feed, Technology



[Via Satellite 03-30-2016] **Sierra Nevada Corporation**(SNC) is refocusing on the defense market after completing the **Orbcomm** Second Generation (OG2) constellation, finding that many of the entrepreneurs pushing for new small satellite ventures lack the financial wherewithal to progress with their ideas. The company is also developing a new small Geostationary Earth Orbit (GEO) satellite platform in hopes of meeting demand in a newer market space.

John Roth, VP of business development for SNC's Space Systems Division, told *Via Satellite* that the company has been approached by "dozens" of startups over the last three years, mainly as a result of working with Orbcomm. Most are interested in multiple satellite-orders, but SNC is finding that the majority are not in a position to actually purchase spacecraft.

"There are a handful of companies that have good backing, but we have also seen many companies with people saying 'hey this is a neat thing to do,' and they leave their jobs together with two or three other people and think that it's going to be no problem to do the fundraising because they have seen **OneWeb** and Skybox [now **Terra Bella**] have success doing that," said Roth, explaining that SNC has turned into a company that now evaluates business plans just as much as it evaluates technical requirements.

"Most of those companies are coming to us wanting us to invest in their company, or at least to build satellites for nothing upfront with the promise of revenue on the backend. A lot of them are not well financed and are trying to figure out how to get started," he added.

Roth estimates that out of two dozen or so publicized startups, only five or six are well financed enough to progress with their visions. Many are simply inspired by recent high-profile success stories, but have not vetted their own entrepreneurial ideas enough to duplicate such accomplishments.

“There is this big thought of a booming small satellite constellation industry, and there certainly is a lot of excitement, but so far we have not seen a lot of things move forward,” he said.

In light of this façade, Roth said SNC is focusing back on the **U.S. Department of Defense (DOD)**, which has been one of the company’s long time customers. Today SNC is working on STPSat 5, a technology demonstration satellite for the DOD’s Space Test Program (STP).

Based on the company’s SN-50 bus, STPSat 5 passed its Critical Design Review (CDR) in December 2015. Roth said the satellite is expected to launch as part of a large payload stack on a **SpaceX Falcon 9** in Fall 2017. **U.S. Air Force** changes to the STPSat 5’s payloads delayed the mission from 2016.

Roth said U.S. defense and intelligence agencies are equally interested in the potential of small satellite constellations, especially because they could enable better resiliency and rapid reconstitution if anything were to happen to national assets.

“Billions of dollars have been reprogrammed to the satellite line over the next several years, and we are seeing a lot of interest from customers that we have been meeting with in that area, especially after our success on Orbcomm. So we are kind of refocusing on what was a traditional customer for us,” he said.

“The defense sector is extremely interested in small satellites,” Bill Ostrove, aerospace and defense analyst at **Forecast International**, told *Via Satellite*. “Particularly in the U.S., programs like [Operationally Responsive Space] ORS and STP are being funded to develop technologies and test mission concepts. Small satellites allow for faster build-times, and more network redundancy.”

Ostrove expects that the defense sector will likely not build satellites as small as the commercial sector. He added militaries lag behind the commercial sector in SmallSat development.

“Last year 89 commercial satellites under 500 kg were delivered into orbit, while only 20 military satellites of the same size lifted off,” he said.

Roth expects the military customers will be more cautious in their approach to SmallSats compared to the commercial sector. However, he still notes a lot of effort and described SNC as bullish on Low Earth Orbit (LEO) satellites because of this.

“There is still a healthy skepticism within military in going to smaller, lower cost satellites to do what they are used to doing in billion dollar satellites. I think what we are going to see in the next few years is money going into launching things and doing experiments to see how they work,” he said.

Roth said SNC is also interested in building small GEO spacecraft, though the company has not produced one before. He said SNC has done a number of designs for different potential customers, and has the ability to manufacture them if requested. Roth said SNC will pursue business opportunities with small GEOs on a limited but very intentional basis.

“We are marketing it to select customers for certain missions. For example, we are not going to go compete with **Orbital ATK** to do a medium-sized GEO telecoms satellite. That’s not the area we are interested in. We are interested in mostly non-communications missions, although we have had a few of the well known commercial communications companies ask us about things like small satellites to reserve orbital slots when they need to get something up there by a certain date, or doing small gap-fillers with maybe a dozen transponders. We’ve had those discussions, but I’d say it is largely not communications related,” he said.

Regarding influences for future SNC satellites, Roth said the company’s acquisition of Orbital Technologies Corporation (Orbitec) in 2014 could influence new propulsion systems. One of Orbitec’s specialties is upper stage engines and in-space propulsion systems. SNC acquired Orbitec because the company was heavily involved in the development of Dream Chaser, SNC’s multipurpose spacecraft that resembles a “mini-Space Shuttle.” SNC employees from the company’s satellite side collaborate with and support employees working on Dream Chaser. Roth anticipates green propellant systems will gain popularity in coming years, as well as electric propulsion. He said SNC has designs for incorporating electric propulsion into Non-Geostationary (NGSO) small satellites as well as the company’s small GEO product.

Source:

<http://www.satellitetoday.com/technology/2016/03/30/sierra-nevada-corp-concentrating-more-on-defense-satellites/>