NEWS RELEASE

Plug-And-Play Spacecraft Take A Leap Forward

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York Space Systems' S-CLASS spacecraft platform.
JC Buck / York Space Systems

CubeSats have opened up low Earth orbit in ways that we couldn't have imagined since the first ones launched in 2003. They've ushered in a revolution of small spacecraft, each optimized to carry out a specific mission using small computer components and electronics.

For months or a few years at a time, they circle the planet in swarms, gathering information below on the weather, ship movements, resources, natural disasters and more -- providing faster real-time access to information about our planet than the larger satellites ever gave us, although the tradeoffs can include lower resolution photos and electronics less hardy against space radiation.

CubeSats have also set a customer expectation of customization -- an ideal of a company providing a spacecraft platform, and then customers picking and choosing the components that they wish to fly at incremental additional costs. Much like picking a car, you'll have the "standard" option and then your extra wishes can be satisfied at extra cost.

That's where York Space Systems comes into the space. The startup is new, so new that most of its financial and launch information is still in stealth mode. But what is known for sure is its S-CLASS spacecraft platform is en route to a launchpad for a ride on an undisclosed rocket, at an undisclosed time.

Nanoracks CubeSats deployed from the International Space Station.
NASA
First, a few words about the York platform. It's a three-axis stabilized spacecraft that can carry payloads of up to 85 kilograms in mass. In future, it will be the backbone spacecraft type for constellations and also for ride-sharing, which is a popular option to cut costs for launches. (Ride-shares see smaller satellites piggyback with a larger, main satellite that might be for government or military purposes.)

The company was founded in 2015 and in the past 18 months, has grown its company from 10 people to 21 people, all in the Denver area. They anticipate additional growth in the coming months, but cannot say yet if they are profitable or by how much their revenues are growing year-over-year. All funds to date have been bootstrapped, and CEO Dirk Wallinger is coy about whether any Series A funding is planned.

"The platform for York is about demonstrating different technology," he said in an interview, adding that its strength is being able to pivot to all sorts of different missions. Undisclosed customers have already bought into the concept, which can be deployed for applications including Earth observation, communication and weather.

The S-CLASS platform can also be moved to any orbit inclination or orientation, without expensive redesigns, which means it could be used for anything from military surveillance (which tends to require polar orbits) to monitoring ship traffic near the equator. It can even zoom up to geosynchronous orbit (a common orbit for communications satellites), although that would require extra propulsion modules to deorbit out of these valuable slots, which are highly coveted worldwide. The protocol is for companies to move their satellites away when the platforms exhaust fuel.

Illustration of radiation bands surrounding Earth, and certain NASA satellites. CubeSats have smaller components and can be vulnerable to space radiation.
NASA
Recently, S-CLASS finished environmental testing to get ready for launch, including tests for electromagnetic interference, vibration randomly distributed across three axes, and thermal vacuum tests to simulate the space environment.

"We were putting it through torture," Wallinger joked. "We are most happy that we didn't have any failures at all. It was pretty much good across the board, and we're really happy with how the platform performed."

Wallinger said the company is planning on targeting government contracts in the future, since he and others have done work for the government in the past. For now, their customers are analytics customers that use machine learning and artificial intelligence to pull "new things" out of the data collected from space, Wallinger said. Using

technology instead of people to parse the data will reduce cost, he added.

York is also banking on what they think will be the trend in satellites in the future. While traditional satellite series such as Landsat tend to make their data available for free, Wallinger said as information becomes more specialized, it would also be more valuable. Therefore, many commercial companies will prefer to sell their data as another revenue stream, and that's something York wants to do as well.

More information about the first S-CLASS rocket ride, customers and mission will be forthcoming in the next few months, company officials said.