

# Space Intel

REPORT

## Spaceflight, Thales Alenia Space to jointly develop BlackSky geospatial-imagery satellites

by [Peter B. de Selding](#) | Sep 16, 2017



**Spaceflight Chief Executive Jason Andrews said the new financing with Thales Alenia Space funds his company's BlackSky Earth observation network through the first dozen or so satellites. Credit: Spaceflight**

PARIS — The investment and joint-venture agreement between Spaceflight Industries and both **Thales Alenia Space** and **Telespazio** values Spaceflight's BlackSky geospatial services provider at around \$80 million, industry officials said, and satisfies both sides' long-held goals.

For Seattle-based Spaceflight, it provides sufficient funding and manufacturing expertise to complete 15-20 BlackSky satellites and provides a bolsters the company's data-analytics capacity through the agreement with Telespazio.

Telespazio owns geospatial services provider e-Geos.

For Thales Alenia Space, becoming a minority shareholder in BlackSky provides a manufacturing foothold in the United States and a dose of NewSpace/small-satellite credibility while positioning the company to bid for U.S. government satellite work.

Under the agreement, which still must clear regulatory approval, the joint venture will build a satellite manufacturing plant near Seattle. BlackSky's business plan foresees 60 50-kilogram satellites in low Earth orbit, with a 1-meter resolution.

In an interview here during Euroconsult's World Satellite Business Week, Spaceflight Chief Executive Jason Andrews, whose BlackSky division had already raised \$53.5 million in three funding rounds, said the first four BlackSky satellites are already in production and scheduled for launch in the coming year.

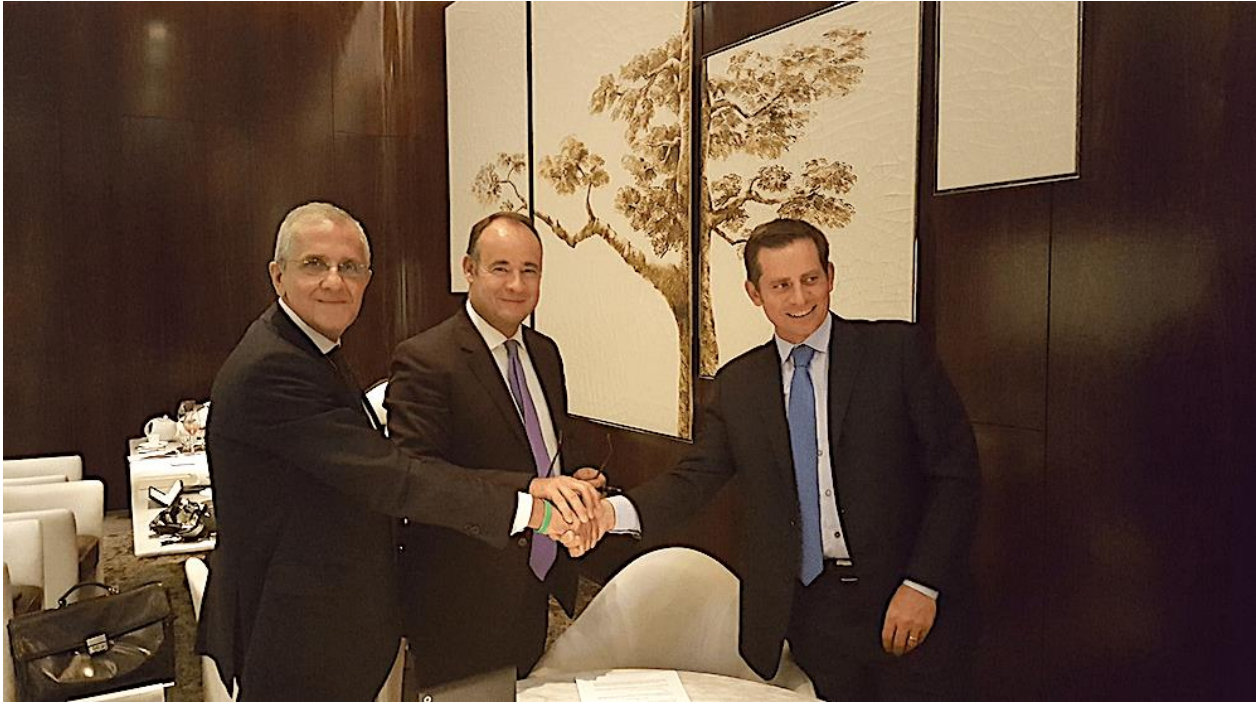
### **Where are you in BlackSky's development?**

We came up with the idea of BlackSky in 2013 and did our first round of financing in 2013, and a Series B in 2015 and then a Series B1 later in 2016 because we acquired **OpenWare** in Virginia, our Big Data platform.

That's where we were last summer. For the last 12 months we basically integrated their team, pivoted the business model, took the technology and put out a product roadmap.

This agreement really takes BlackSky not only to the constellation but up to being a geospatial information provider.

Up to this point, with the financings we did, we acquired the platform for data and analytics, and data from everybody's satellites, plus our satellites. The last part of the business that we hadn't done is finance the rest of the constellation.



**Telespazio CEO Luigi Pasquali, Thales Alenia Space CEO Jean-Loic Galle and Spaceflight Industries CEO Jason Andrews. Thales Alenia Space now has a long-sought U.S. manufacturing base. Telespazio gets a new partner constellation for vertical geospatial markets. Credit: Thales Alenia Space**

It's one thing to get money for the constellation, it's another to build all the satellites. These aren't cubesats. They are sophisticated imaging satellites of around 50 kilograms each.

**A 450-kilometer orbit?**

Yes, and a 1-meter resolution.

**Is Thales Alenia Space doing anything on the payload?**

Not at this point. The nature of this partnership is there's financing to basically build the constellation.

**Not the whole 60-satellite plan.**

Not the 60, just the initial constellation. The early satellites finance the other satellites. The revenue from the first satellites funds the last satellites.

**You can start material revenue generation with six satellites?**

Even less than that. Each satellite generates some amount of revenue.

### **But for temporal resolution...**

Yes, six to 10 satellites is critical mass, and we're beyond that with this new agreement. I don't want to speak to a specific number because it's not there for a specific number, but to fund a meaningful number. More than 10.

Here's the process: The deal has been signed and we're working to execute it. But just like with any deal there are certain regulatory approvals that are needed. So until it's all done I'm hesitant to give a specific number.

### **Who is building the satellites?**

It's a U.S.-based JV that will take the technology and build the constellation. It's a partnership between Spaceflight Industries and Thales Alenia Space. This will be a new capability, greenfield, in the Seattle area initially. It leverages their manufacturing expertise and our innovation in microsattelites.

### **What was your revenue in 2016 for the whole company — Spaceflight Industries and BlackSky?**

About \$45 million. For BlackSky we launched the Pathfinder in September, it was a technology demonstrator, with an experimental license. It served its purpose and was a huge success from our standpoint.

And, what's really important, is that this is not only de-risking the manufacturing, but this is a partnership with e-Geos, which is the Telespazio analytics company. So it's also about partnering with e-Geos here in Europe to provide our products and services in Europe.

### **It's still operational?**

We've retired it because we are not using it anymore. We are still using it as an experiment, but we have turned all our development efforts to our Block 2 spacecraft.

### **What about the second Pathfinder satellite, which had been scheduled to fly on your Sherpa 90-satellite tug?**

It is fully integrated and ready to fly. We had intended to launch with the Sherpa, which as you know was cancelled and then we rescheduled most of those payloads on other launches.

So we have Pathfinder 2, but we have chosen not to launch it because we didn't want to spend the \$2 million it takes, given that we have already proven everything we needed to prove from that generation of spacecraft.

### **It would cost \$2 million?**

Yes, it's 50 kilograms and it's not cheap to launch 50 kilograms. Everyone appears to think India's **PSLV** is cheap; it's not. It's more expensive than other options we have, but it has been reliable from a schedule standpoint.



**A first Pathfinder satellite was launched in September 2016 and provided enough value so obviate the need to launch a second demonstrator. Credit: BlackSky**

So we have allocated that money to launching the operational satellites. We have our Block 2 spacecraft, which is the full three-year operations with significant throughput. We have four of those under construction. That has been our focus.

**So you have frozen the design?**

Yes. The first one is going up in Q1 or early Q2 2018, so in the next six to nine months.

**On PSLV or Sherpa?**

We have a whole bunch of PSLV launches coming up. And then we have our dedicated launch with SpaceX. Between all these opportunities we are launching what we call our Global Spacecraft. For our launch services business we are doing like 10-12 launches in the next 12 months.



**You had a backlog of \$300 million, before the recent \$16.4 million U.S. Air Force Research Lab contract.**

Yes. We have a healthy backlog between both launch and BlackSky. BlackSky is growing.

**Each line of business, Spaceflight Services and BlackSky, operates as separate entities?**

There are separate general managers for each line of two lines business. They have their own profit and loss, which we track. It's one company, Spaceflight Industries, with one staff and one culture. But they each support the different lines of business. They are stand-alone P&Ls.

**Are you considering increasing the satellites' service lives beyond three years?**

It's a function of the architecture, and also by design. The point is that Moore's Law is happening and it's changing radios, cameras, computers, and we want to take advantage of that.

**OK, but raising the orbit by 100 km would get you a lot more life, even if you'd need a better camera.**

No, because you would have to go to space-grade components to do that, which would take a \$2 million or \$3 million satellite and make it a \$7 million or \$8 million satellite. Multiply that by 60 and it's a really big number.

**Is a 1-meter ground sampling distance still good enough given the market changes?**

Yes.

**Your updated schedule puts you about a year behind your original plan.**

That's true, just because of the launch delays, which delayed funding events and revenue events. So yes, it's taking a little longer. But at the same time, we started in 2013 with something that no one thought could be built. Here we are four years later and we are fully financed. We still have a lot to execute on.

**Plus the fact that the landscape has become crowded with competitors.**

Yes. But at this point in our development, we have a platform, we have customers — speaking of BlackSky specifically — and we have a few satellites. The two things you want to de-risk going forward is, A- you need the money and B- you need to build these satellites at scale.

**Let me ask you about Spaceflight Industries. Do you have any clarity on your dedicated SpaceX flight of the Sherpa small-satellite tug?**

We are super-supportive of SpaceX, but we were concerned about the schedule so we took that mission and broke it up into other missions.

For the dedicated launch, the mission is basically sold out. There are a bunch of larger satellites. Launch is in the first half of 2018.