

FICTIV



HELIOSPACE

TO BOLDLY GO

HOW HELIOSPACE ACCELERATES
DEVELOPMENT CYCLES WITH
FICTIV TO WIN IN AEROSPACE

fictiv



Industry: Aerospace

Product: Flight-qualified, deployable mechanical systems and sensors for the civil and commercial space market.

Location: Berkeley, CA

Customer Challenges:

Needed faster turnaround on parts to accelerate product development and a partner who could incorporate feedback to produce highly complex, precision parts.

Capabilities Leveraged:

CNC machining

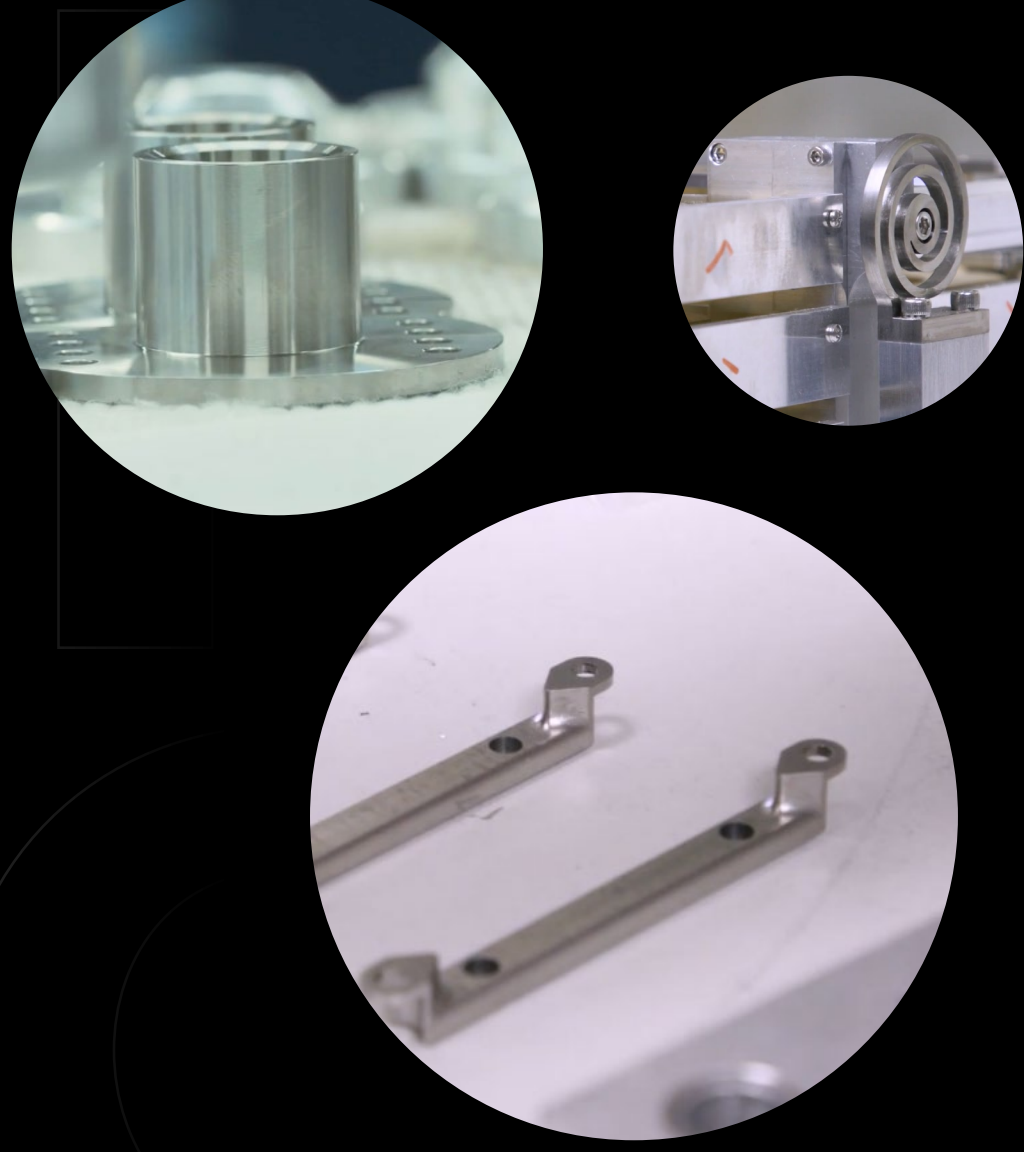
Result: Cut production lead times from 18 weeks down to 2 weeks, which has played a key role in landing crucial new contracts that enable the company to scale.

BUILDING CUTTING-EDGE SPACE TECHNOLOGY

Heliospace is a boutique aerospace company that builds flight-qualified systems and provides comprehensive systems engineering management for space flight missions — including integration, analysis, verification, and test services. Currently, the company is focused on building bespoke antennas, optical systems, and telescopes, and has deep expertise supporting a variety of scientific and civilian space missions. Heliospace is truly unique in its field, as a small and agile company that has the ability to meet the needs of major NASA missions.

The company was founded by Greg Delory (CEO), Joseph Pitman (CTO), and Paul Turin (Chief Engineer), who have over 75 years of hands-on experience combined working on civil, commercial, and defense space programs. Heliospace is small, with a team of 35 people, but even without any marketing, demand for their services is high and the company is growing.

It's an elite team with elite engineering capabilities that's solving incredibly difficult problems — which is why the company has high standards for the systems they design and the parts they need to build them. Heliospace started working with Fictiv a few years ago, and after several successful projects, we're now a leading source for the company's CNC-machined parts, though it didn't start out that way.



“I’ll stop short of saying absolutely revolutionary, but the positive impact Fictiv has had on our product development process has been very significant. Our custom manufacturing partnership with Fictiv helps us from initial design, through to test cycles and gives us a lot more confidence that we can answer customers’ needs quickly and win our bids. ”

GREG DELORY
CEO, Heliospace

From the beginning, Heliospace used external fabricators to get the parts they needed, while company engineers did all of the design, assembly, and testing. Three years ago, Heliospace was accustomed to 4-month lead times for CNC parts, which was slowing down development cycles and impeding the growth of the business. “The fastest way to create something new is to just build, test, and iterate on the designs,” according to Delory, so he was adamant about finding a way to get parts faster.

“I pounded my fist on the table and told my people we needed to fix the continual problem of 18-week lead times for any little mechanical part we needed to be made. Out of desperation, I did this really basic thing called searching the web.”

Delory had heard about digital manufacturing and selected Fictiv from his search. He recommended that his engineers give us a try, but old habits die hard — it took over 6 months of additional production delays from Heliospace’s existing suppliers and another strong nudge from Delory to get his team to start working with Fictiv.

Immediately, their lead times went from months down to 2 weeks.

Bear in mind that aerospace designs include complex, intricate parts, and their fabrication is more difficult than standard production. Heliospace has worked with plenty of machine shops that couldn’t meet their standards. So, whenever the company begins working with a new supplier, they start with parts that support flight-bound components but are only used for testing on the ground. Once Fictiv proved they had the capability to craft the parts to meet Heliospace’s requirements, we were rewarded with the opportunity to produce flight hardware.



“ I was sending off complex parts that I needed turned around in days, and I got emails back almost instantly, asking smart questions. So, when I got the part back, it was exactly what I wanted. ”

JOE TEDESCO
Aerospace Engineer,
Heliospace



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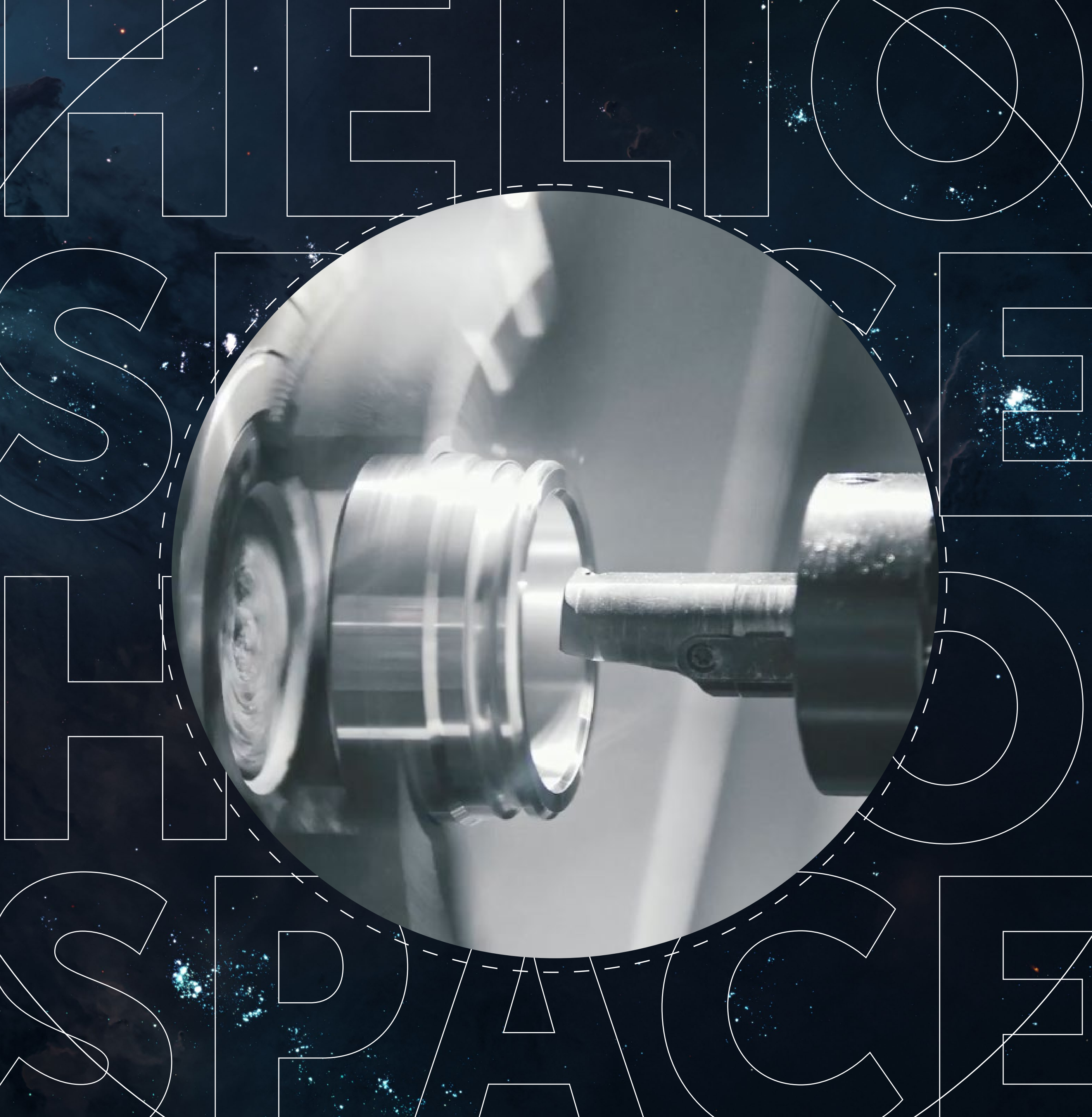
EXACTING QUALITY STANDARDS & FAST PRODUCTION

With Fictiv, those first few projects went well, in no small part because we embraced the challenge of manufacturing complex designs and were receptive to Heliospace’s feedback. Every part Fictiv made was painstakingly reviewed by Heliospace engineers, who provided input that was used to not only improve that first part but also those that followed.

Joe Tedesco, Heliospace’s Lead Aerospace Engineer is particularly appreciative of our approach. “I was sending off complex parts that I needed turned around in days, and I got emails back almost instantly, asking smart questions. So, when I got the part back, it was exactly what I wanted.”

Our willingness to incorporate that feedback in order to meet Heliospace’s standard set Fictiv apart, even though we had a higher bar to clear because, as a digital

manufacturer, we were still a novel solution. “Fictiv’s responsiveness, adaptability, and ability to rise to the occasion made the difference,” according to Delory. “They listened, and did what we asked them to do.” Our ability to provide trustworthy domestic sourcing and material certifications (NASA has extremely strict material traceability requirements) were also key factors in the expansion of our relationship. “I’ll stop short of saying absolutely revolutionary, but the positive impact on our product development process has been very significant. Fictiv has made a substantial positive impact on our design and test cycle and given us a lot more confidence that we can answer customer needs quickly,” says Delory.



Not only that, he believes the agility Fictiv provides to Heliospace has become a competitive advantage. In one instance, Fictiv's ability to deliver parts quickly secured Heliospace's part in a major NASA mission proposal (the COSI mission) and was instrumental in helping the proposal win a substantial contract. According to Tedesco,

"the difference that Fictiv offers is that tight turnaround time. I have a concept in my head, upload it to a website, and I get the part 3 days later — I don't think there's anything faster available."

TO BOLDLY GO...

After years of working together, Fictiv has produced flight hardware for a variety of Heliospace projects, including CubeSat antenna components as a part of NASA's SunRISE orbital mission and parts that will end up around one of Jupiter's moons on NASA's Europa Clipper mission.

Heliospace has plenty of space to grow (and is doing so) because they work with a growing number of customers that aren't served well by current providers in the industry. With Fictiv, Heliospace knows they have a reliable partner who can both scale production as they expand. Heliospace's aim is to make a positive impact on what humanity is able to do in space. In the same way that SpaceX is revolutionizing launch systems, Heliospace (with Fictiv's help) aims to revolutionize the payloads that launch systems carry.

We say, the sky (and beyond) is the limit



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FICTIV + HELIOSPACE

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