



## Nanoracks Announces In-Space Outpost Demonstration

Friends,

What a few months it has been! I know it has been some time since we've posted an update on our Outpost program and NASA NextSTEP-2 effort, but that's because we've been working on something really unique.

We have been working very hard with NASA to demonstrate how Nanoracks can make unique contributions to supporting the agency's efforts going forward to Moon, Mars, and deep space. NASA has turned to industry to put these exploration efforts into high gear. So, we at Nanoracks had to turn things up a notch.

Today, I'm really excited to share what these discussions have culminated to: Our very first in-space Outpost demonstration mission!

Nanoracks will be building a self-contained hosted payload platform that will demonstrate the robotic cutting of second stage representative tank material on-orbit. Never before has structural metal cutting been done in-space.

As a [member](#) of the Outpost program team, [Maxar](#) will develop a new articulating robotic arm with a friction milling end-effector for this mission. This friction milling will use high rotations per minute melting our metal material in such a way that a cut is made, yet we anticipate avoiding generating a single piece of orbital debris.

The mission is targeting a Q4 2020 dedicated rideshare mission, will fly on an ESPA ring, and will activate after the deployment of all other secondary payloads is complete.

As our mission commences, we will have 30 minutes to one hour to complete the cutting of three metal pieces that are representative of various vehicle upper stages, including the Centaur 3. Nanoracks plans to downlink photos and videos of the friction milling and cutting.

Now, for more exciting news - there's a chance for you to participate in this mission!

Nanoracks will be making available 3U of hosted payload space (no deployables) on this mission. Specifically, we are looking for bioscience and biomedical research that can directly contribute to our understanding of the harsh environment of space on long-duration journeys. We'll share an official call for proposals in the coming weeks!

Our team is always staying creative at Nanoracks, and we are still continuing to explore additional ways to get the most out of our first in-space demonstration mission.

At long last, Nanoracks is laying the groundwork for converting upper stages in orbit. This technology could prove so important as both industry and NASA look to find the most cost-effective vehicles and programs that will bring humans to the Moon, and soon to Mars. This mission is just step one of many for Nanoracks, and we are grateful to NASA for providing us with this outstanding opportunity.

Starting with our Q4 2020 mission, and many to follow, we plan to do some very interesting tests on upper stages in orbit – some of those plans I hope to share with you soon!

I am also personally excited about this mission as Nanoracks is showing how commercial access to the International Space Station has truly paved the way for future commercial platforms in orbit. We started our business on station, and now we are growing from our roots.

If you are attending IAC 2019 in Washington, DC, please be sure to visit the Nanoracks booth (#207) to learn more about our Outpost program, and everything else we've got going on in orbit today.

Stay tuned, because we're just getting started.

**Jeffrey Manber**

CEO

Nanoracks