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Robotic dirt movers developed in Texas will help build U.S. moon base, nuclear reactor

Astroport Space Technologies is developing construction tools for use with Venturi Astrolab's self-driving rovers to build base Trump wants established by 2030.

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Brandon Lingle – March 17, 2026



A Venturi Astrolab FLEX rover is seen during a field test near Death Valley, Calif. The California company is partnering with San Antonio-based Astroport Space Technologies to develop tools for building a moon base by 2030. Credit: Barry Hathaway / Venturi.

Robotic dirt movers developed in San Antonio could help build the moon base and nuclear reactor that President Donald Trump wants to be established by 2030.

Astroport Space Technologies Inc., a space construction firm based at Port San Antonio, has partnered with space robotics company Venturi Astrolab Inc. to build self-driving rovers that can move lunar soil to make landing sites, launch pads, berms and roads on the moon.

Under the deal, Astroport will provide construction tools such as excavators, graders, compactors and sievers for the rovers built by Hawthorne, Calif.-based Astrolab.

The partners plan to turn Astrolab's "Flexible Logistics and Exploration," or FLEX, rover into the Swiss Army Knife of lunar construction, said Sam Ximenes, Astroport CEO.

"We're moving into the hardware development now," he said. "We've been doing a lot of (research and development), and we're still doing the R-and-D, but moving towards getting flight hardware started up."

Astroport, which is a subsidiary of Ximenes' Exploration Architecture, or XArc, recently tested its "lunar excavator" prototype with one of Astrolab's rovers.

"Leading with this successful excavator demo proves that our technology is no longer theoretical — it is operational," Ximenes said.

The excavator is the first of several interchangeable tools including a drill, trencher, leveling blade and shovel that Astroport is developing for the rovers. They'll be able to exchange one tool for another as needed through the construction process.

It's a similar concept to that of another San Antonio firm, Renu Robotics, which is developing interchangeable tools and new types of work for its autonomous grass cutting robots.

Astrolab CEO Jaret Matthews said his firm is "excited to provide the mobility backbone" for Astroport's construction technology.

"By combining our FLEX rover's versatility with Astroport's civil engineering expertise, we are delivering the essential capabilities required for a sustainable lunar economy," he said.

Fleets of the devices could be sent to the moon in the next few years to begin laying the groundwork for a U.S. moon base involving NASA, the Space Force and commercial companies.

Ximenes referred to the approach as "building the port before the ship arrives" and said it's necessary to meet the infrastructure needs of the emerging lunar economy.

The Trump administration's push to begin construction of a base and nuclear reactor on the moon by 2030 has sped up his work. "The executive order for getting a lunar reactor on the Moon by 2030 is now driving us and pushing us," Ximenes said. "It actually has accelerated our timeline for when we thought we would be operational."

Astroport and Astrolab have collaborated for several years.

In 2023, they announced a deal that would send a FLEX rover with an Astroport "sieving and grain" experiment to the moon aboard a SpaceX Starship. The rover also will carry some personalized bricks made from lunar simulant that will be placed on the moon to mark the start of the first road on the moon.

Originally scheduled to launch for the moon by the middle of this year, Starship's delays and mishaps have pushed the mission out to an unknown date.

Astroport, which envisions using lunar soil, or regolith, for construction on the moon has seen steady growth since launching in 2020. It employs 15 people and has offices in Midland, Luxembourg and Australia.

It's received multiple NASA small-business and tech transfer grants dealing with lunar construction, including some as part of the \$93 billion Artemis program to return astronauts to the moon. The grants included work on a device to make bricks from regolith and developing a plan for preparing sites and building on the moon.



Sam Ximenes, CEO of Astroport Space Technologies Inc. Sam Ximenes, CEO of Astroport Space Technologies Inc. William Luther, Staff / William Luther