

The Future of Business in Pittsburgh

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Astrobotic Unveils Lunar Lander, Preps for 2022 Launch & Moon Landing

Astrobotic, a space robotics and lunar logistics company, has unveiled its Peregrine lunar lander during a visit by top NASA and government officials to the company's Pittsburgh headquarters. Peregrine will fly to the Moon on a United Launch Alliance Vulcan Centaur rocket, with launch slated for the fourth quarter of this year. Peregrine is anticipated to be the first commercial lunar landing and the first American spacecraft to land on the Moon since the Apollo program.

"This lunar lander build is a dream come true," said <u>John Thornton</u>, <u>CEO of Astrobotic</u>. "This is why our company was founded 15 years ago. It represents the culmination of countless hours over many years by hundreds of people to design and assemble the lander, to create the lunar delivery market, and to establish the facilities and supply chain needed to ensure the success of commercial space missions like Peregrine's long into the future."

Peregrine will deliver 24 payloads to the lunar surface. These include scientific instruments from three national space agencies – including 11 from NASA alone – a rover from Carnegie Mellon University, and several payloads from commercial companies. Peregrine will also fly with the Lunar Dream Capsule, a project sponsored by Japanese sports drink Pocari Sweat. The Lunar Dream Capsule Project traveled throughout Japan to collect handwritten messages from people, which were laser etched onto titanium plates to be packed inside the Lunar Dream Capsule. In 2019 it was announced that the Yaoki rover, created by Japanese company **Dymon**, was also anticipated to fly to the Moon on Peregrine.

The unveiling of the Peregrine lander coincided with the inaugural <u>Keystone Space Collaborative</u> Conference, which brought leaders from NASA and commercial space pioneers to Pittsburgh for



Astrobotic CEO John Thornton unveils the Peregrine lunar lander in Pittsburgh. (Ryan O'Shea)

multiple days of discussions and tours. The site used for the Peregrine unveiling is in the process of being converted to the <u>Moonshot Museum</u>, which seeks to inspire a diverse community to find their place in the future of human space exploration through innovative exhibitions and programs fueled by science, technology, engineering, and the arts.

Autonomous Vehicle Pioneers Explore Roots of Self-Driving in Pittsburgh

Pittsburgh, the birthplace of autonomous vehicles, played host to one of the most impressive gatherings of autonomous vehicle company leaders on April 21st at the <u>Pittsburgh Robotic Network</u>'s panel discussion, "The State of the Autonomous Vehicle Industry." Founders and leaders of some of the world's top AV companies in the world - <u>Argo AI</u>, <u>Aurora</u>, <u>Motional</u>, <u>Locomation</u>, <u>Waymo</u> - discussed the status of their businesses, current and future industry insights and impact on the workforce.

"Today's gathering highlights relationships that have been forged with an increasing number of commercial ventures developing autonomous solutions here in Pittsburgh, who are working to improve overall mobility and to make significant advancements in the everyday lives of people," said Joel Reed, Executive Director, Pittsburgh Robotics Network.



Autonomous vehicle pioneers discuss Pittsburgh's impact on the self-driving industry during a Pittsburgh Robotics Network panel discussion. (Pittsburgh Robotics Network)

"Robotics and self-driving cars in Pittsburgh did not begin in the 2020s, 2010s or even the 2000s," says Peter Rander, president of Argo. "You have to go back to the foundation of the Robotics Institute in 1979 as the world's first institution devoted exclusively to the development of robotics, computer vision, and artificial intelligence, and the long-range vision of what could be possible. This established Pittsburgh as the world's epicenter for robotics from the late 1970s through to the present."

AV company leaders agree that the combination of solid academic research, strong commercialization groups to drive new business opportunities, and investors willing to take risks will keep Pittsburgh as the AV leader for years to come. "Pittsburgh has a lot of core advantages with its talent pipeline," says Rander. "The foundation has become much better known as a city where innovation is happening not just in an academic sense but in the commercial space with investment capital. I think we're well positioned." Read more from the Pittsburgh obotics Network.

Pittsburgh Business News and Updates

- Fast Company names Seegrid to "Most Innovative Robotics Companies" list
 (https://www.bizjournals.com/pittsburgh/inno/stories/news/2022/01/27/pitt-researchers-quantum-computer-qubits-system.html)
- Pittsburgh is a laboratory for sustainable innovation
 (https://pittsburghregion.org/2022/02/09/making-pittsburgh-a-laboratory-for-sustainable-innovation/)
- AI & Robotics Venture Fair kicks off Cascadia Connect automation & AI conference
 (https://www.bizjournals.com/pittsburgh/inno/stories/fundings/2022/03/04/iw-cmu-robotics-vc-fair.html)
- Mindstate Design Labs exits stealth with \$11.5 million for psychedelic-inspired therapeutics (https://www.fastcompany.com/90720911/mindstate-psychedelics)
- Agot Al's \$17 million in funding help deliver Al improvements to restaurants
 (https://www.bizjournals.com/pittsburgh/inno/stories/fundings/2022/02/11/agot-ai-adds-2-million-to-seed-round.html)



About Ryan

Ryan O'Shea is a JETRO Investment Advisor focused on connecting Japanese companies to opportunities in Pittsburgh, Pennsylvania. He is the host of Future Grind, a podcast that explores the ethics and impact of emerging science and technology, and also works with the Pittsburgh Robotics Network. In 2017, Ryan cofounded an artificial intelligence startup that was named a Top 10 team in the IBM Watson AI XPRIZE. Ryan has represented NASA and CalTech's Jet Propulsion Laboratory as a Solar System Ambassador and serves both as a World Economic Forum Global Shaper and an ambassador for Pittsburgh AI. He is a graduate of the University of Pittsburgh & serves on the boards of multiple non-profit organizations.