

NEWSPACE MARKET · COMPANY PROFILE



Varda Space Industries

United States · founded 2021 · varda.com

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as of 20 August 2026

Varda Space Industries

Varda Space Industries is an El Segundo, California company founded in 2021 by Delian Asparouhov and Will Bruey, focused on building the infrastructure to industrialize low Earth orbit — starting with pharmaceutical crystallization and advanced materials processing in microgravity. Varda's core product is the W-Series: a family of free-flying spacecraft (not dependent on the ISS or any space station) that include a satellite bus, orbital processing equipment, and a proprietary reentry capsule built end-to-end in the company's El Segundo warehouse. The W-Series spacecraft is launched on a commercial rocket, operates autonomously in orbit while its pharmaceutical or materials processing equipment runs experiments, and then separates and reenters with product for recovery on the ground. Through 2026, Varda has completed six missions: W-1 (reentered Utah Test and Training Range, February 2024), W-2 (reentered Koonibba Test Range, Australia, February 2025), W-3 (reentered Koonibba, May 2025), W-4 (new satellite bus + in-house heatshield), W-5 (second fully in-house vehicle, government payload), and W-6 (first 2026 launch, advancing autonomous hypersonic flight testing). Varda has also announced a research collaboration with United Therapeutics for biopharma applications. Beyond biopharma, Varda's platform serves government customers as a hypersonic testbed for reentry vehicle and orbital flight testing. The company aims to make returning materials from orbit as routine and economical as shipping goods by any other means.

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SERVICES

Services

Ballistic Reentry Varda executes ballistic reentry for its capsules, starting at Mach 25, to gather critical information for the reentry and hypersonic community.	Commercial Launch Varda facilitates the launch of its capsules into orbit using commercial launch vehicles, with dedicated options available for customer missions.
Hypersonic Flight Testing Varda offers affordable, frequent, and recoverable high-hypersonic flight testing using its orbital capsule to reproduce challenging hypersonic and reentry flight environments.	Orbital Operations and Repositioning Varda performs in-orbit operations to gather payload data and reposition its capsules for subsequent terrestrial reentry.
Recovery and Analysis Varda ensures terrestrial recovery of its capsules, sensors, and materials, enabling easy analysis of collected data and reentry-exposed materials.	

Product catalogue



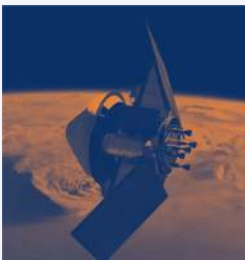
VARDA SPACE INDUSTRIES

W-Series In-Space Manufacturing Capsule

Varda Space Industries' W-series spacecraft for manufacturing high-value products (pharmaceuticals, fiber optics, semiconductors) in microgravity and returning them to Earth via reentry capsule

Spacecraft Bus	Rocket Lab Photon
Return Method	Reentry capsule (landed at Utah Test and Training Range)
W-1 Product	Ritonavir drug crystals (HIV/hepatitis antiviral)
W-1 Timeline	Launched June 2023, returned January 2024
Future Products	ZBLAN fiber optic preforms, semiconductor crystals
Key Contracts	US Air Force Research Laboratory
Founded	2021, El Segundo, California, USA

price on request



VARDA SPACE INDUSTRIES

ZBLAN Fiber Optic Manufacturing in Space

Varda Space's in-space manufacturing of ZBLAN fluoride glass fiber optic preforms — a material that can only achieve its full optical performance when solidified in microgravity.

Material	ZBLAN fluoride glass (Zr-Ba-La-Al-Na)
Wavelength Range	0.2–8 μm (mid-infrared)
Advantage Over Silica	Up to 100× better mid-IR performance when made in microgravity
Process	Preform solidification in microgravity (no convective defects), returned for fiber drawing
Applications	Medical laser delivery, IR spectroscopy, defense countermeasures
Current Price	\$200–\$10,000 per meter (ground-made, limited supply)
Platform	Varda W-series spacecraft (Rocket Lab Photon bus + reentry capsule)

price on request

Contact Varda Space Industries

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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