



Plum Alley Ventures Company | New Investment Opportunity - BESXAR Space Industries Founder Presentation (08/06/26) - Series Seed Round

1 message

Plum Alley Ventures Company Investment Team <investments@plumalley.co>

Wed, Jul 29, 2026 at 1:22 PM

Reply-To: investments@plumalley.co



NEW INVESTMENT OPPORTUNITY

Manufacturing the Next-Generation Materials in Space for AI Scale

BESXAR Space Industries

Plum Alley Ventures Company is pleased to present a new investment opportunity in [BESXAR Space Industries](#)' Series Seed round. BESXAR is a space industrialization company testing how the material components of semiconductors react in space and how that will influence the construction of future manufacturing. It is facilitating the creation of the infrastructure in space with proprietary data and understanding of elements and chips behave in space.

BESXAR leverages the environment of space to rapidly and cost-effectively produce higher-performance, more energy-efficient semiconductor materials capable of meeting future computing demands at scale. Manufacturing in a space vacuum eliminates gravity and atmospheric gases, allowing near-perfect crystalline materials to form. However, on Earth, even cleanrooms contain microscopic contaminants and gravitational pull that disrupt delicate chemical bonding.

BESXAR is an American semiconductor company that builds reusable orbital foundries, called "Fabships," that harness the ultra-high vacuum and microgravity of space to manufacture next-generation, ultra-pure semiconductor materials. These Fabships

function as factories where the metal molding and manufacturing for semiconductor chips takes place. Space-based manufacturing has moved from lab curiosity to live program with BESXAR having completed its first Fabship test flight on July 5, 2026, with two more missions planned this year.

The company's mission centers on securing the Western technology supply chain, starting with gallium. China controls ~99% of the world's raw gallium supply and has restricted exports. Gallium is the base input for gallium nitride (GaN), the semiconductor material that the industry is standardizing on. GaN is critical because electric power is now AI's binding constraint, with US data center usage expected to grow from 4.4% of the country's power in 2023 to 7-12% by 2028, per the Department of Energy.

BESXAR harnesses space as an alternative environment to drastically improve semiconductor yields and the space manufacturing of GaN and other compound materials, creating efficiency for the US market. The goal is to create a domestic supply of materials and to influence the manufacturing of high-performance chips to meet future demand.

Founder Presentation

Please join Ashley Pilipiszyn, Founder & CEO of BESXAR, as she explains why the next bottleneck in AI compute will be defined by who can manufacture the best materials, the ones capable of delivering the performance needed to meet rising semiconductor demands.

Semiconductor performance is largely already fixed during material formation, before a chip is ever fabricated. BESXAR's novel approach is industrializing the new materials that the industry needs and inform the field of how to manufacture in space.

Pilipiszyn was OpenAI's first Technical Director to the CTO, contributing to the GPT-3, DALL-E, and Codex launches, and previously led the Department of Energy funded Grid Resilience and Intelligence Platform at Stanford's National Accelerator Laboratory (SLAC).

Ashley Pilipiszyn, Founder & CEO

Thursday, August 6th, 2026

12:00 pm ET // 9:00 am PT

RSVP to Google Calendar [invite](#)

Call details available [here](#)



Solving the Supply Problem of Next-Generation Chips in Orbit

For compound semiconductors such as GaN, silicon carbide, aluminum nitride, and diamond, device performance is constrained by defect density, impurity control, strain, and interface quality rather than circuit design. Once a flaw is introduced during material growth, no amount of downstream processing can remove it. The purest form of these materials is created in ultra-high vacuum, which Earth can't sustain.

BESXAR isn't building spacecraft to sell. It's building a materials business: the end product is a wafer, the raw slice of material that chipmakers turn into finished chips. Its customers are power-electronics companies, chip foundries, hyperscale data centers, and defense contractors. The near-term goal is a wafer size that no one currently sells commercially. Closing that gap matters most for defense, where radar, electronic warfare, and directed-energy systems that all require this material to be made domestically, under strict security requirements that today's overseas-heavy supply chain doesn't meet.

Founded in July 2023 and headquartered in Washington, D.C., BESXAR has already progressed from design to flight. On July 5, 2026, the company launched its first canister aboard a SpaceX Falcon 9 mission. An additional Falcon 9 missions are under contract as part of a first-of-its-kind reusable, booster-integrated payload program.

Investment Opportunity

BESXAR Space Industries is raising a \$10M Series Seed on a SAFE at a \$85M post-money valuation cap. The round follows a \$4.4M Pre-Seed closed in August 2024 at a \$20M cap, which funded design of the Clipper-class Fabship and the initial SpaceX flight campaign. Existing investors include SpaceX, Bee Partners, and Union Labs.

This round funds a specific transition: from proving semiconductor hardware can survive spaceflight to proving it can autonomously manufacture in orbit.

Before raising its Series A, the company aims to achieve the following milestones this year. In addition to its completed first flight, it's planning:

- Flight 2 (Q3 2026): A General Atomics-hosted payload, demonstrating BESXAR's ability to integrate and fly hardware for a leading defense contractor under real mission constraints.
 - Flight 3 (Q4 2026): A gallium deposition demonstration, marking the first time BESXAR autonomously manufactures semiconductor material in orbit.
-

Investment Highlights

Please review key details of the investment highlights presented below. Submit final commitments [here](#).

*** Building Domestic Dependency for the Right Materials:** GaN is the acknowledged bottleneck in two markets accelerating simultaneously: AI data center power delivery and domestic defense electronics. In both, material quality limits performance, not device design. The demand curve doesn't need to be created, only served. BESXAR is building the domestic source that serves it.

*** Solving for a Real Supply Chain Chokepoint:** China produces ~99% of the world's raw gallium supply. The US produces none of it, yet nearly all of that gallium ends up in the GaN wafers America's chip and defense industries depend on. Meanwhile, Taiwan Semiconductor Manufacturing Company (TSMC), one of the few companies that makes GaN wafers, is exiting the business entirely within the next year, and the largest GaN wafer size anyone needs isn't available to buy at any price, from anyone. The supply chain America relies on for GaN barely exists, and BESXAR is helping address that.

*** A Growing Data Advantage:** BESXAR has 12 SpaceX Falcon 9 flights under contract, two Fabships per booster, with hardware recovered in under ten minutes. One flight is done, 11 remain. Competitors spend eight figures and roughly a year to get a single data point from orbit. Over the same 24 months, BESXAR will generate close to 10x as many. That matters because BESXAR's real asset isn't hardware, it's a growing playbook of exactly which orbital conditions produce the best material. BESXAR's playbook only gets better with more flights.

*** Validation with a Defense Customer:** General Atomics is flying a hosted payload with BESXAR. Defense primes don't put hardware on unproven vehicles casually, which makes this an integration and trust milestone for the company's platform.

*** Rare Founder-Team Fit:** The deep technical solution that the company provides is

supported by a founding operator from OpenAI, a Chief Revenue Officer who built Anduril's largest division beyond \$650M in annual contract value and previously served as Budget and Policy Director for the Senate Armed Services Committee, a Head of Engineering who qualified Merlin engine reuse at SpaceX from zero to 20+ flights per engine, and a board director who took multi-junction materials from the lab to mass production while securing 60+ patents.

*** Strong IP Associated with Orbital Manufacturing:** Hardware can be copied. A multi-year dataset connecting orbital conditions to wafer quality can't, and every flight widens that gap. Reusing the same Fabship is also what turns this from an expensive one-off program into a real manufacturing business: after year one, the cost to fly each mission drops from roughly \$29M to \$7M.

Important Information & Timeline

Founder Presentation

Thursday, August 6th, 2026

12:00 pm ET // 9:00 am PT

RSVP to Google Calendar [invite](#)

Call details available [here](#)

Final Investment Commitments Due

Thursday, August 20th, 2026

We will take commitments on a rolling basis. Please submit final commitments [here](#).

Funding & Documents Due

Thursday, August 27th, 2026

At the end of the commitment period, you will receive details regarding closing documentation and wiring instructions via Carta.

We encourage all our members to explore investment opportunities presented by Plum Alley Ventures Company. However, we remind you that access to diligence and participation in our syndicated investments is reserved for current, active members who are accredited investors. Plum Alley reserves the right to not proceed with the investment opportunity if the \$500,000 syndication minimum is not met.

The content in this email is provided for general information only and should not be taken as investment advice. The investment opportunity referenced in this email is confidential and intended solely for members of Plum Alley Ventures Company who are accredited investors, as defined by US Securities and Exchange Commission Rule 501 of Regulation D (17CFR 230.501). It may not be reproduced in its entirety or in part, or redistributed to any party in any form, without the prior written consent of Plum Alley. All content shall not be construed as a recommendation to buy or sell any security or financial instrument, or to participate in any investment strategy. This email is for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. This information is not an offer to buy or sell or a solicitation of an offer to buy or sell any securities or investment product.

The information presented here and in other Plum Alley communications are based on assumptions that may or may not materialize. The time frame or realization of any returns is not guaranteed. "Accredited investor(s)" must be in a position to take the risk associated with this opportunity. The investor should not rely solely on the information provided herein and should conduct their own review of the market and company. There is no guarantee of any return or the future value of the security. Early-stage investments are considered to be risky and the investor should be in a position to lose some or all of the investment. The investor should consider that when making the determination to invest or not. Plum Alley Ventures Company is not making a recommendation of any kind to buy securities or participate in this offering. All investors must meet the definition of "accredited investor."

Plum Alley, 345 Park Ave S, New York, NY 10010, USA

[Unsubscribe](#) [Manage preferences](#)