

# ENABLING HUMANITY TO BEGIN NEW CIVILIZATIONS BEYOND EARTH

[ [about sierra space](#) ]



Orbital Reef

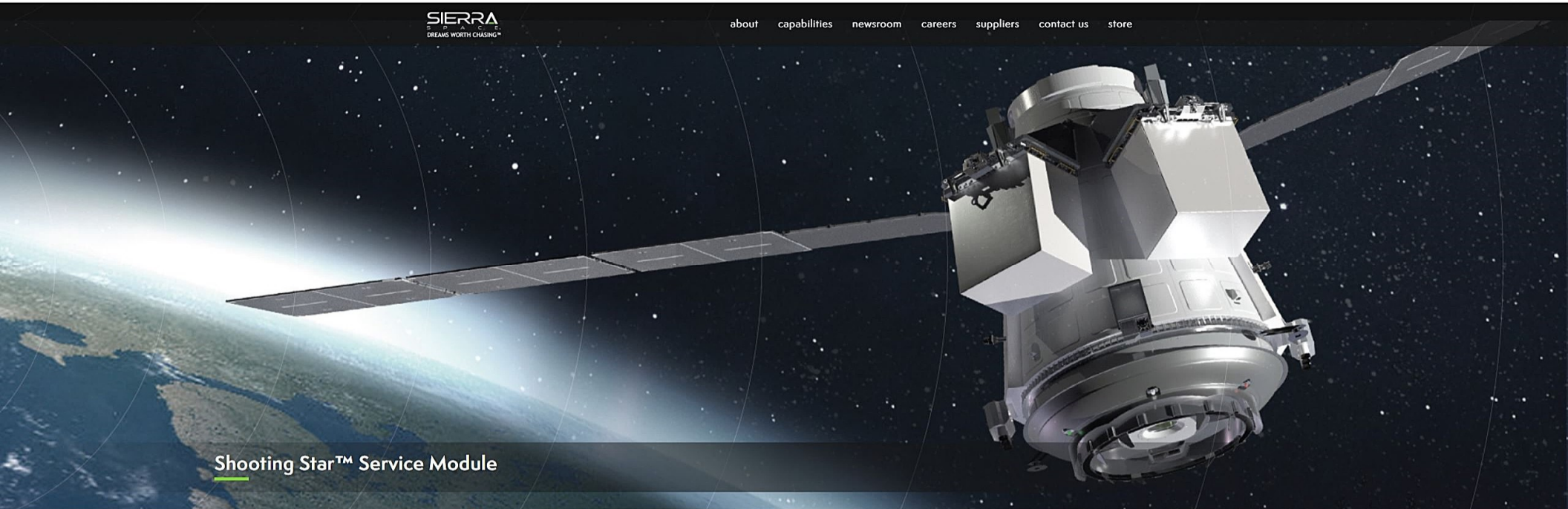




Dream Chaser® Spaceplane

[ view ]





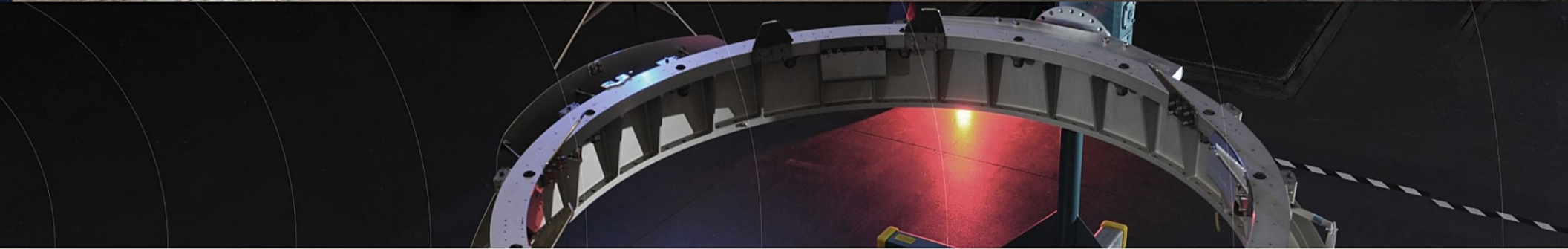
## Shooting Star™ Service Module

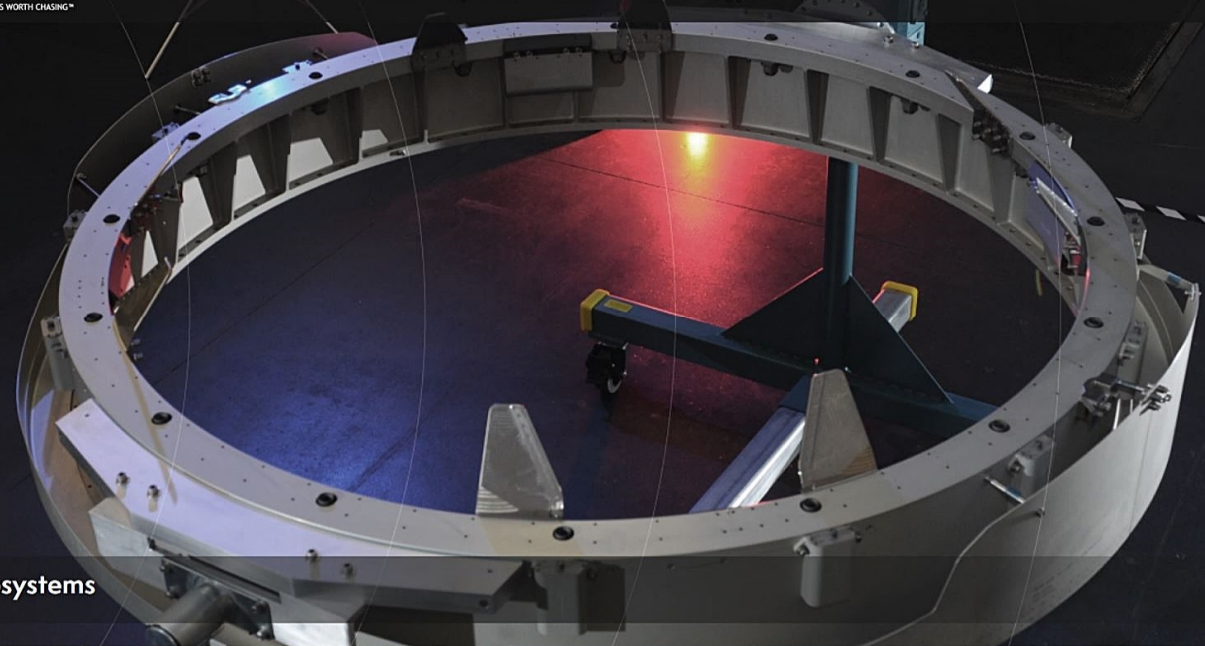




[Rocket Engines & Propulsion](#)

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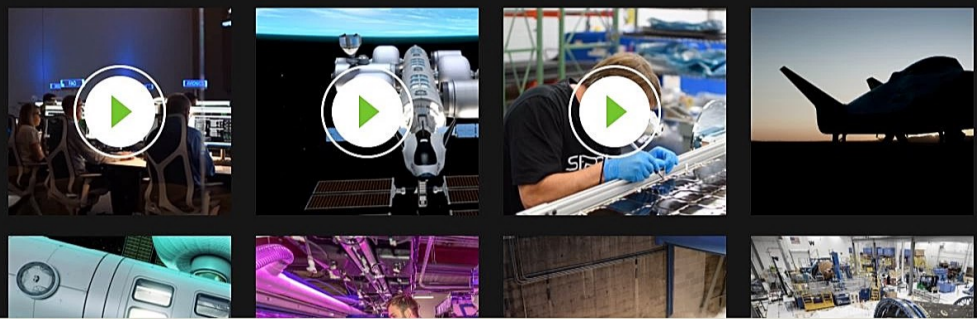
## Space Technologies & Subsystems





## Environmental Systems

## Media Gallery





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## About

Sierra Space is helping humanity go to space in new ways. Sierra Space builds and delivers the future of space transportation, destinations and infrastructure, offering “space-as-a-service” in support of the new space economy. A subsidiary of [Sierra Nevada Corporation \(SNC\)](#), Sierra Space offers turnkey solutions that are modular, reusable and scalable leveraging breakthrough technologies including the *Dream Chaser*® spaceplane, also known as *America’s Spaceplane*® and the expandable *LIFE*™ habitat.

### What We Believe

We envision a future where humanity lives and works in space, on moons, and on distant planets. People are married, children are born, families are raised, businesses are built and new civilizations thrive.

Our vision isn’t restricted to the few, nor solely to governments, instead we see a future where all people can choose to live, work, explore, and vacation beyond our planet.

### Who We Are

We are courageous pioneers, innovators and doers.

### Our Values

**Our Customers:** We are insanely passionate about our customers – it shows in everything we do.

**Our Mission:** We are deeply committed to our mission. It drives how we think about the future and ensures we stay focused on achieving the necessary outcomes today.

**Our Team:** Our team members are brilliant, creative, courageous, collaborative, and passionate about our mission. We hire the very best people that share our passion and our values. We reward our team members for their performance. We provide them with the tools, training and mentorship to do their very best work and advance their careers. We genuinely care for one another and it shows in our actions and in our tone.

**Teamwork:** We have unquestionable integrity. We work together to solve issues and challenges. We are candid and respectful,





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**Teamwork:** We have unquestionable integrity. We work together to solve issues and challenges. We are candid and respectful, compassionate and constructive. We are always open, straightforward, and transparent. We actively seek expertise to help solve our challenges. We consistently work to earn each other's trust. And, we have a lot of fun together.

**Courage:** We challenge when we disagree, speak up loudly when something appears wrong, and commit when a path forward is determined. We ensure everyone feels safe to voice their opinions, and we actively listen to understand.

**Empowerment:** We empower our team members and consistently hold each other accountable for results. We ensure every team member makes a meaningful contribution to the achievements of our mission.

**Excellence:** We consistently deliver on our promises. Our customers can trust us. We are tenacious to drive down the costs of our products. We have a relentless demand for quality and safety, and insist on the highest standards from ourselves and everyone we work with.

**Oriented Toward Action:** We are entrepreneurs, we take calculated risks, and we always execute with speed and discipline. We fundamentally reject non-value added bureaucracy.

**Innovation:** We are fierce competitors. We will always seek the most ingenious ideas and ways of doing things regardless of the origin, in order to disrupt the market in technology, performance, cost, time to market, or process streamlining.

**Strategic:** We take the long-term view and are bold both in our thinking and our actions.



## 30+ years of proven spaceflight heritage

Sierra Space has provided more than 4,000 space systems, subsystems and components to customers worldwide, and participated in more than 500 missions to space, including to Mars. The company has technology in production and in development to enable space habitats for short- and long-duration space travel, a fleet of Dream Chaser spaceplanes, and the first free-flying commercial space station.



## The world's only runway-landing spaceplane for civil and commercial use

The Dream Chaser spaceplane is a multi-mission space utility vehicle designed to transport crew and cargo to low-Earth orbit (LEO) destinations such as the International Space Station. Under NASA's Commercial Resupply Service 2 (CRS-2) contract, Dream Chaser will provide a minimum of seven cargo missions to and from



## We bring life to space and space to life

With technologies that make space more affordable and accessible, Sierra Space is creating an ecosystem for a prosperous and secure space economy that benefits all humanity. Sierra Space originated within Sierra Nevada Corporation (SNC), the global aerospace and defense company led and owned by Eren and Fatih Ozmen.



## Sierra Space Careers

At Sierra Space, you'll find a supportive, respectful and upbeat culture where your opinions matter and your personal contributions have impact.

*If you're thinking about your own next frontier, we'd love to help you explore it.*

[ careers ]



# ORBITAL REEF

## Orbital Reef

New Orbital Destination Opens Up Space For Business And Travel, Creating New Ecosystem

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Blue Origin and Sierra Space are developing Orbital Reef, a commercially owned and operated space station to be built in low-Earth orbit. The station will open the next chapter of human space exploration and development by facilitating the growth of a vibrant ecosystem and business model for the future. Orbital Reef is backed by space industry leaders and teammates including Boeing, Redwire Space, Genesis Engineering and Arizona State University.

Orbital Reef is envisioned as a “mixed use business park” in space. This unique destination will offer research, industrial, international, and commercial customers the cost competitive end-to-end services they need including space transportation and logistics, space habitation, equipment accommodation, and operations including onboard crew. The station will start operating in the second half of this decade.

The Orbital Reef business model makes it easy for customers and is strategically designed to support a diverse portfolio of uses.

Sierra Space products on the Orbital Reef station include: Large Integrated Flexible Environment (LIFE) habitat, small-diameter node modules, and runway-landing Dream Chaser spaceplane for crew and cargo transportation.

[Visit \*\*orbitalreef.com\*\*](#)



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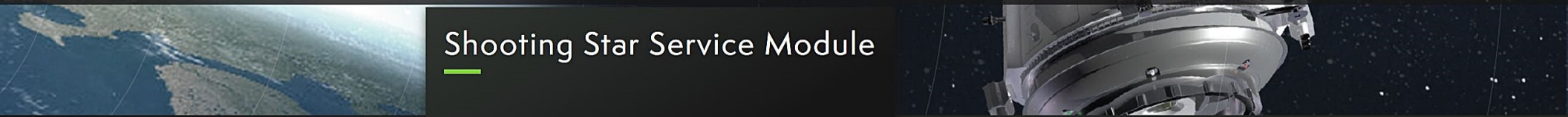
Known as *America's Spaceplane*®, Sierra Space's *Dream Chaser*® spaceplane is a multi-mission space utility vehicle designed to transport crew and cargo to low-Earth orbit (LEO) destinations such as the International Space Station.

Dream Chaser was selected by NASA to provide cargo delivery, return and disposal service for the space station under the Commercial Resupply Service 2 (CRS-2) contract. The Dream Chaser *Tenacity*™ spaceplane will be the first orbital vehicle in our Dream Chaser fleet.

Dream Chaser will provide a minimum of seven cargo missions to and from the space station carrying critical supplies like food, water and science experiments, returning to Earth with a gentle runway landing.

## Dream Chaser Features

- LIFTING-BODY SPACECRAFT
- PILOTLESS LAUNCH, FLIGHT AND LANDING CAPABILITIES (DOES NOT REQUIRE A PILOT)
- HIGH REUSABILITY, 15+ TIMES
- LOW 1.5 G ATMOSPHERIC ENTRY
- GENTLE, COMMERCIAL RUNWAY LANDING COMPATIBLE WITH RUNWAYS WORLDWIDE
- IMMEDIATE ACCESS TO CREW OR CARGO UPON LANDING
- 5,500 KG PRESSURIZED AND UNPRESSURIZED CARGO TO THE SPACE STATION
- FIRST LAUNCH 2022



# Shooting Star Service Module

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Sierra Space's *Shooting Star*™ service module is a flexible 15-foot transport vehicle that will be used as an attachment to the *Dream Chaser*® spaceplane, but also has other applications such as a free-flying spacecraft.

Shooting Star provides substantial payload storage in addition to the pressurized payloads carried in Dream Chaser for NASA's Commercial Resupply Services 2 (CRS-2) contract and facilitates cargo disposal upon re-entry into Earth's atmosphere. Dream Chaser will execute a minimum of seven missions to the International Space Station under the CRS-2 contract.

## Shooting Star Features

- UP TO 10,000 POUNDS OF PRESSURIZED & UNPRESSURIZED CARGO
- SOLAR PANELS PROVIDE 6KW OF ELECTRICAL POWER TO THE SPACECRAFT
- ACTIVE & PASSIVE THERMAL CONTROL
- DREAM CHASER TRANSLATION & ROTATION CAPABILITY VIA SIX MOUNTED THRUSTERS
- THREE EXTERNAL MOUNTING LOCATIONS FOR UNPRESSURIZED CARGO
- BERTHING & DOCKING CAPABILITIES
- SAFE CARGO DISPOSAL SERVICES UPON RE-ENTRY



# LIFE Habitat

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Sierra Space's *LIFE™* Habitat (Large Integrated Flexible Environment) launches on a conventional rocket and inflates on-orbit to a large structure that is three stories tall, and 27 feet in diameter. It can comfortably sleep four astronauts, with additional room for science experiments, exercise equipment, a medical center and Sierra Space's *Astro Garden®* system, which can grow fresh produce for astronauts on long-duration space missions.

## LIFE Habitat Highlights

- Significant volume, power & data to support long-duration human habitation
- Flexible launch options; compatible with commercial launch vehicles
- Applications in low-Earth orbit, Mars transport & Lunar/Mars surface habitation
- Specifically designed and developed by Sierra Space and its partners
- Developed and tested to meet NASA micrometeoroid impact requirements





# Rocket Engines & Propulsion

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We are committed to developing and implementing innovative and low-cost, in-space, upper stage and boost propulsion systems. We provide patented rocket propulsion technologies, state-of-the-art testing and analysis services, and decades of experience with in the use of planetary resources for civil space, commercial space and military operations. Our propulsion team has designed, manufactured and tested multiple thrust chamber assemblies in the 1 lbf to 35,000 lbf thrust class range with a variety of propellant combinations such as Peroxide/RP1, LOX/kerosene, LOX/propane, LOX/Hydrogen and N2O/propane.

## Propulsion Systems

Our patented *VORTEX*<sup>®</sup> engine thrust chamber assembly confines propellant mixing and burning to the core region of a coaxial vortex flow field. This enables dramatic cost savings through robust design margins leading to extremely high durability, reliability and reusability in engines that are inexpensive to manufacture and maintain.

The coaxial vortex flow field is also applicable to hybrid rocket engine systems to produce fuel regression rates significantly higher than conventional hybrid configurations. This increase in fuel regression rate enables the use of a simple circular grain port and leads to significant gains in performance, reliability and durability of hybrid systems.

## Rocket Testing

We provide economical testing services for rapid development of rocket engine components and systems. Our test facilities are designed to cost-effectively test liquid rocket engines, hybrid rocket engines at thrust levels from 1lbf up to 150,000lbf. In addition,





# Environmental Systems

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Dedicated to creating the next generation of microgravity bio-agricultural products through system and service solutions that increase plant productivity with dramatic operational cost savings.

## Science Payload & Bio Products

We are dedicated to creating the next generation of bio-agricultural products through system and service solutions that increase plant productivity in space with dramatic operational cost savings. Our unique capabilities stem from 20 years of research in environmental control and life support systems for NASA. Our systems are optimized for growth of plant-made pharmaceuticals, industrial products and high-yield crops through lighting, control systems, automation and growth services.

### Applications include:

- Accelerated research and development of plant-made products
- Optimizing and validating growth and bio-manufacturing environmental conditions
- Controlled manufacturing of protein-modified plants with environmental variables tailored specifically for high yield
- Bio-secure transgenic crop development
- Year-round local crops, 24 hours a day, 365 days a year

## LED Lighting Systems

Our systems represent the most advanced solid-state lighting systems currently available for biological research, plant growth, supplemental greenhouse and vehicle lighting. All systems offer modularity, with improved spectral flexibility, point source density and optical power delivery. With multiple "light engine" designs, lighting systems of virtually any size and required light output can be created.

The high-efficiency and low-energy consumption of LED lighting systems typically translate to a 60% reduction in energy costs.



# Space Technologies & Subsystems

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Sierra Space is an industry leader in precision space mechanisms and complex spacecraft subsystems. Our engineers are experts in precision motion control, low-shock separation and passive thermal control technologies. Customers leverage our extensive flight heritage, engineering capabilities and broad portfolio of qualified products to create programs that are low risk.

Our large manufacturing and state-of-the-art testing facilities allow us to deliver products on time and with confidence. Some of our verification capabilities include: vibration, thermal-vacuum, large area pulsed solar simulation, shock, radio frequency (RF), stiffness, motor/actuator speed-torque-accuracy, line-of-sight micro-motion jitter testing and functional testing.

## Docking & Berthing Systems

We solidified our docking and berthing technology by providing the system that captured and docked two spacecraft together on-orbit for the Orbital Express program. Our technology allowed for remote servicing such as refueling and replacement of outdated and expended components. We have now leveraged that mechanical systems experience, becoming the go-to supplier for the industry standard Passive Common Berthing Mechanism (PCBM), required for spacecraft such as the Orbital Cygnus Advanced Maneuvering Vehicle and the Bigelow Expandable Activity Module to berth with the International Space Station (Space Station).

- Passive Common Berthing Mechanisms

## Spacecraft Deployable Systems

While many spacecraft are decreasing in size, physics will maintain the demand for large aperture subsystems. For that reason, we consider deployable structures to be a critical element in the future of microsatellite systems. Our Jackscrew boom system utilizes

# Sierra Space Secures Record \$1.4 Billion Series A Growth Investment and Achieves \$4.5 Billion Valuation

11.19.2021 Press Releases

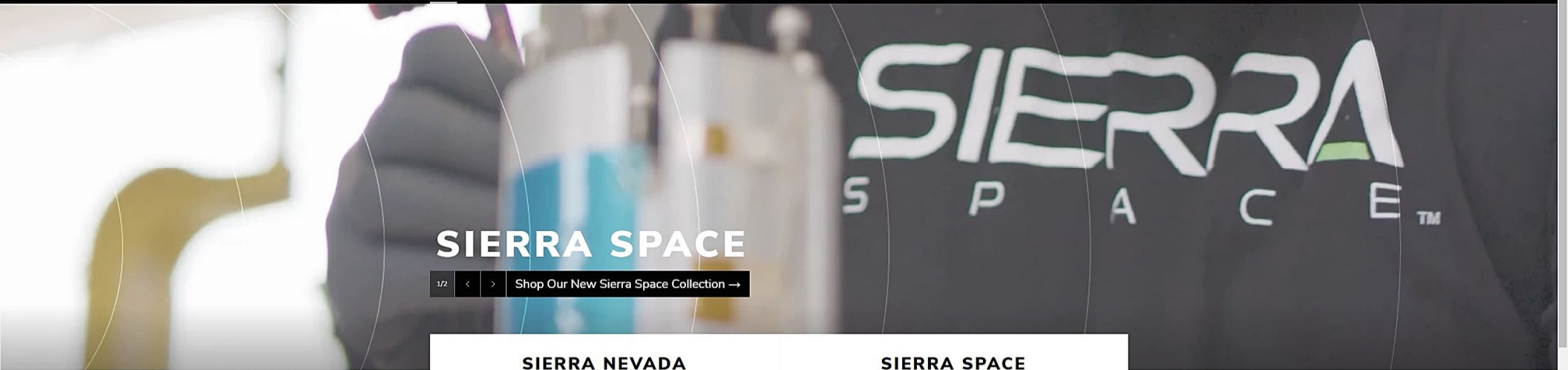
LOUISVILLE, Colo. 11.19.2021

**Investment led by General Atlantic, Coatue and Moore Strategic Ventures, with participation from funds and accounts managed by BlackRock Private Equity Partners and AE Industrial Partners**

- Sierra Space secures \$1.4 billion Series A capital raise; represents largest aerospace and defense capital raise globally in 2021, second-largest private capital raise globally in the aerospace and defense sector ever
- Growth capital accelerates the realization of Sierra Space's vision of enabling humanity to build civilizations in space, while enhancing life on Earth
- Sierra Space is building the first commercial business platform in space; investment accelerates development of the company's revolutionary Dream Chaser® Spaceplane and expandable LIFE Commercial Space Station
- Dream Chaser Spaceplane, a family of vehicles for cargo, crew and national security applications, is in advanced stage of development and production and is under a multibillion-dollar contract with NASA to perform cargo resupply missions to the International Space Station starting late next year
- Sierra Space is uniquely positioned to drive and capitalize on rapidly expanding low-Earth orbit (LEO) economy via its differentiated and technologically advanced products

Sierra Space, a leading commercial space company with 1,100 employees, more than 500 missions and over 30 years of space flight heritage, announced today a \$1.4 billion Series A investment of primary capital, the first capital raise for the company and the second-largest private capital raise globally in the aerospace and defense sector ever.

Sierra Space aims to build the future of space transportation, commercial space destinations and infrastructure, and enabling technologies that will help to build a vibrant, growing commercial space economy. As the LEO economy reaches a critical inflection point – driven by the convergence of the increasing commercialization of space, renewed public interest and defense considerations – Sierra Space is developing foundational infrastructure to support this growing ecosystem. By opening up affordable access to space, Sierra Space hopes to enable existing businesses, entrepreneurs, researchers and governments to create exciting breakthroughs that can empower humanity to begin new civilizations in space and benefit life on Earth.



# SIERRA SPACE

1/2 < > Shop Our New Sierra Space Collection →

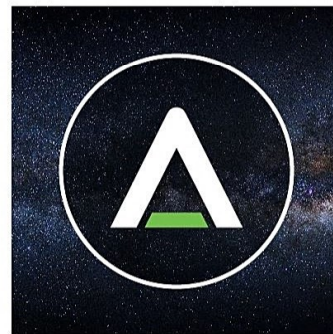
## SIERRA NEVADA CORPORATION

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## SIERRA SPACE

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# SIERRA SPACE

FILTER BY: All | SORT BY: Featured

 <p>Sierra Space - Tunnel Hoodie \$45</p>	 <p>Sierra Space - Icon Full Zip Hoodie \$45</p>	 <p>Sierra Space - Primary Hoodie \$45</p>	 <p>Sierra Space - Unisex Polo Shirt \$35</p>	 <p>Sierra Space - Icon Long Sleeve T-Shirt \$30</p>
 <p>Sierra Space - Primary Long Sleeve T-Shirt \$30</p>	 <p>Sierra Space - Primary Unisex T-Shirt \$25</p>	 <p>Sierra Space - Primary Women's T-Shirt \$25</p>	 <p>Sierra Space - Tunnel Unisex T-Shirt \$25</p>	 <p>Sierra Space - Tunnel Women's T-Shirt \$25</p>
 <p>Sierra Space - Icon Unisex T-Shirt \$25</p>	 <p>Sierra Space - Icon Women's T-Shirt \$25</p>	 <p>Dream Chaser Plush Toy \$20</p>	 <p>Dream Chaser Keychain SOLD OUT</p>	 <p>Gift Card From \$5</p>