

Space Exploration Systems

Dream Chaser[®] Cargo System

Sierra Nevada Corporation's (SNC) Dream Chaser[®] spacecraft is a multi-mission, reusable space utility vehicle (SUV) capable of crewed or uncrewed missions. The Dream Chaser Cargo System, a mission variant of the Dream Chaser Space System, is a reliable, uncrewed transportation system capable of responsively carrying pressurized and unpressurized payloads to and from the International Space Station (ISS), exceeding NASA's cargo transportation requirements and providing superior capabilities for global commercial space services.

Uncrewed Dream Chaser and Cargo Module



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Dream Chaser® Cargo System

SNC's Dream Chaser spacecraft is the only low-Earth orbit, reusable, lifting-body vehicle capable of a runway landing and immediate access to cargo – preserving, continuing, and improving upon more than 40 years of Space Shuttle and lifting-body heritage into an evolved and efficient 21st Century system. A variant of the Dream Chaser Space System, the Dream Chaser Cargo System builds upon more than 10 years of development maturation, including 5 years resulting from the public-private partnership between SNC and NASA.

Dream Chaser Cargo System Description

The innovative design of the uncrewed Dream Chaser, including foldable wings, allows the spacecraft to fit inside a standard fairing, ensuring NASA access to the ISS on a variety of compatible launch vehicles including the Atlas V, Ariane 5/6, Delta IV, and H-IIB/III. The autonomous Dream Chaser Cargo System exceeds all of NASA's mission requirements for pressurized and unpressurized cargo delivery, disposal, and accelerated return. The vehicle is designed for high reusability, reducing overall cost and providing rapid turnaround for re-flight opportunities.

The advantages of the Dream Chaser spacecraft extend well beyond ISS resupply. The spacecraft affords opportunities for continued partnership with ISS member nations through existing and expanding mutual agreements. These advanced development opportunities include: servicing for future space stations; satellite servicing/deployment and retrieval; orbital debris removal, and serving as a test bed for exploration technologies and hypersonic flights.

Dream Chaser Cargo System Features

- Reusable, lifting-body spacecraft with attached, disposable cargo module
- Launches inside a standard 5m fairing, allowing for easy adaptation for multiple launch providers
- Transports 5,500 kg of pressurized / unpressurized upmass
- Dual downmass capability provides cargo disposal and accelerated return of cargo and science on every flight
- Low-g entry and gentle runway landing protects sensitive payloads from the stressful entry environment experienced by alternate vehicle concepts
- Non-toxic, non-hypergolic propulsion and fluids system allow late cargo loading and safe / rapid access
- Responsive capability with immediate access to payloads upon convenient runway landing, all cargo can be accessed within 24 hours

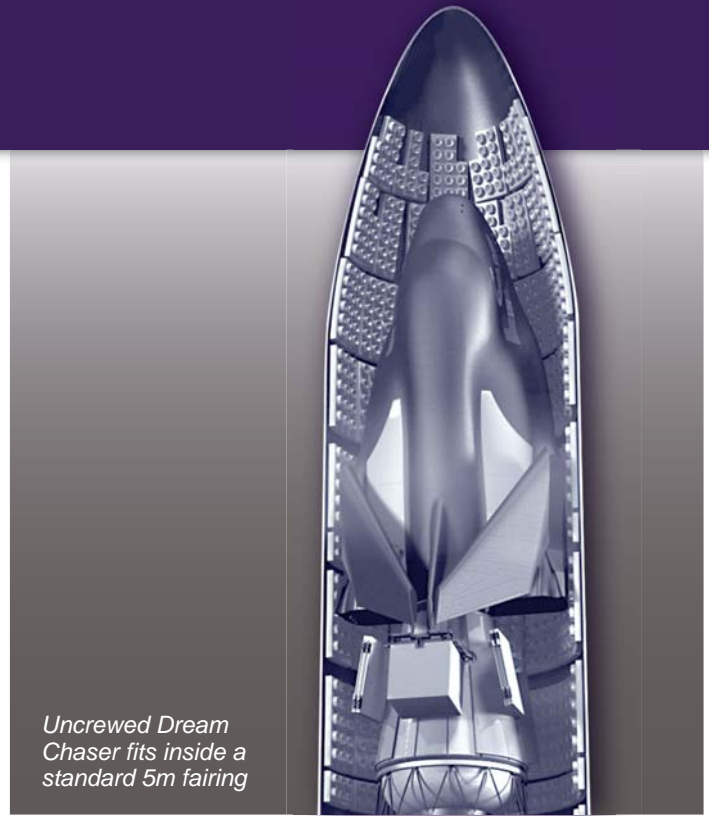
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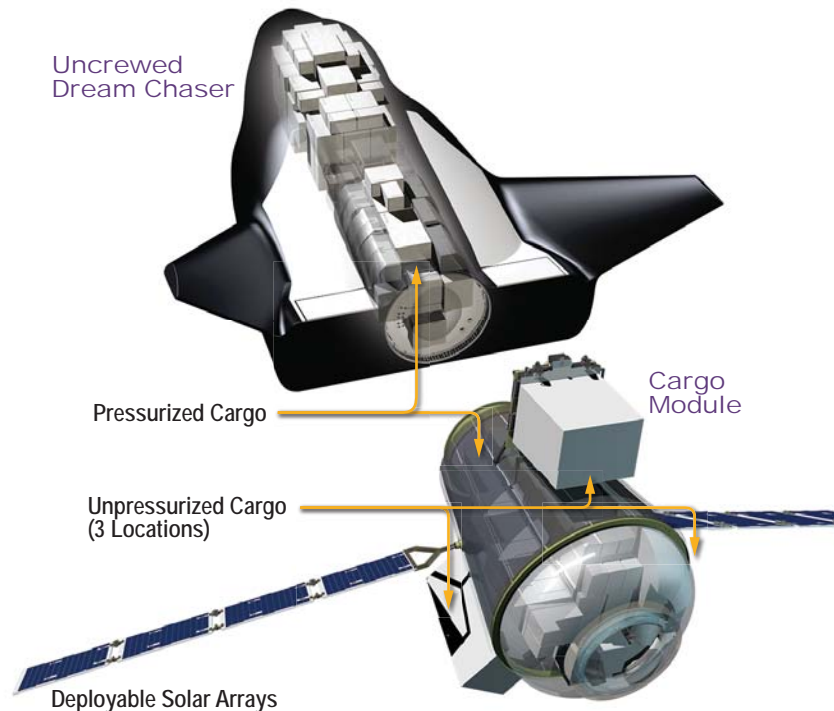
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Uncrewed Dream Chaser fits inside a standard 5m fairing

The Dream Chaser Cargo System is capable of concurrent pressurized and unpressurized cargo delivery, exceeding all NASA cargo requirements in a single launch.



Deployable Solar Arrays