

ILC Dover, an Ingersoll Rand Business, leverages world leadership in advanced flexible materials, manufacturing technologies and embedded electronic technologies, coupled with our expertise in aerospace solutions, to serve as the premier source and partner for spacecraft landing systems.

Our landing airbag systems safely return both crewed and uncrewed spacecraft to Earth, as well as deliver exploration systems to the Moon and Mars. Adaptable for ground or water landings, our airbags ensure the protection of both people and payloads during descent.

ILC Dover's vented airbag technology has the capability to land extremely heavy payloads weighing more than 20 tons, providing mission-critical impact attenuation for a wide range of applications across space exploration, defense operations and commercial aerospace missions.



ilcdoverastro.space.com

Key Capabilities

- Protect astronauts returning to Earth
- Extensible to land or water landings
- Protect payloads landing on the Moon and Mars
- Support defense and commercial mission requirements

Features of Impact bags

- Lightweight and compact system
- Allows vehicles to be reusable
- Able to support payloads exceeding 20 tons
- Protects astronauts and payloads in extreme conditions
- Engineered for mission-critical reliability

Showcased Photo: Boeing Starliner's airbag system enables safe ground landing and vehicle reusability for future space missions.



Proven Mission Success

Mars Exploration Missions

ILC Dover's impact bags were essential components of the historic Mars Pathfinder and Mars Exploration Rover missions. These missions relied on ILC Dover to design and manufacture a unique and all-encompassing airbag system to safely deliver the Sojourner, Spirit and Opportunity rovers to the surface of Mars.

Commercial Spacecraft Applications

The Boeing CST-100 Starliner airbag system incorporates ILC Dover's landing airbags to provide safe landing capabilities for the spacecraft during any phase of flight. Our six landing airbags underwent rigorous testing to ensure reliable performance under the most demanding conditions.

Defense and National Security Applications

ILC Dover's airbag systems support various defense applications, providing reliable impact attenuation solutions for mission-critical payloads and equipment across military and security operations.



Advanced Technology Integration

Our impact bag systems leverage decades of experience in advanced materials science, precision manufacturing and systems integration. Each system is engineered for seamless integration with spacecraft architectures, providing customers the flexibility to tailor solutions to their unique mission requirements.

Showcased Photo: Mars Exploration Rover airbag system safely delivered Spirit and Opportunity rovers to the Martian surface, absorbing 50 km/h impact forces.