FLIGHT OPPORTUNITIES

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NEWS

Sources Sought: Parabolic Flight Services to Support Technology Testing in Reduced Gravity

RESPONSES DUE MAR. 2, 2026 BY 2:00 PM PST

NASA's Flight Opportunities program supports parabolic flights as a repeatable, cost-effective, and controlled way to test space technologies by producing reduced gravity environments, such as microgravity, lunar, and Martian gravity, within Earth's atmosphere. We are currently seeking information from qualified providers of parabolic flight services that can deliver reduced gravity environments, including microgravity, through parabolic flight that meet NASA's technical and operational requirements.

Submit Your Capability Statement

Tell us about your innovative approaches to delivering parabolic flight services. For example, you might have aircraft platforms not traditionally used for parabolic fight services (e.g., business jets, experimental aircraft, supersonics, or autonomous systems).

Flexible, scalable, and novel operational concepts that have the potential to expand NASA's access to reduced-gravity environments and accelerate space technology readiness are desired.

Note that this is not a request for proposal (RFP). Contact **Wanessa Priesmeyer** with questions.

Learn more at SAM.gov

ICYMI: Provide Feedback by Feb. 20 to Help NASA Rank Civil Space Shortfalls

NASA's Nov. 16, 2022 Artemis I flight test. Credit: Brandon Hancock

NASA has **identified 32 technology shortfalls** and invites you to give input on and rank critical technology needs. This initiative, led by NASA's **Space Technology Mission Directorate** (STMD), invites collaboration from U.S. industry leaders, academic institutions, and other government agencies to help prioritize critical technology development needs – known as shortfalls – identified for future science and exploration missions.

To share your input:

- **Register to Participate:** After registering, you'll be able to access the Technology Shortfalls Prioritization Feedback Form.
- **Review Shortfalls:** Each includes its title, associated need statements, and reference links where applicable. You can access an **overview of the shortfalls and related reference materials online**.
- **Provide Your Insights:** Rank up to your top 15 shortfalls in order of priority. The shortfalls will be presented in randomized order for each participant.
- **Save and Submit Your Feedback by Feb. 20:** You may also provide optional comments for each shortfall.

Watch a video overview of this process with **Angela Krenn, Acting Chief Technologist for NASA's STMD**, on NASA's **Civil Space Shortfalls page**.

Understanding and prioritizing the most important and impactful efforts allows STMD to

Read about the FFR demonstration

Commercially Produced NASA Heat Shield Technology Successfully Flight Tested

The Varda Space Industries W-5 capsule returned to Earth in Koonibba in South Australia, on Jan. 29, 2026, with the protection of a heat shield made of C-PICA, a cutting-edge material licensed from NASA and manufactured by Varda. The capsule's successful return marks the first time a capsule protected entirely by Varda-made C-PICA has come back to Earth. Credit: Varda Space Industries / William Godward

A heat shield based on NASA technology and manufactured by Varda Space Industries re-entered Earth's atmosphere **for the first time on Jan. 29**. Launched into orbit on Nov. 28, 2025, the capsule's return tested how effectively the NASA-developed, Varda-produced C-PICA (Conformal Phenolic Impregnated Carbon Ablator) material protected the W-5 spacecraft — and the science and technology experiments inside it — from the extreme heat of speeding through Earth's atmosphere.

Supported by NASA's Flight Opportunities program via a Tipping Point award, this flight test demonstrates how NASA is helping open the door to greater growth of in-space manufacturing and commercial re-entry technology for routine orbital return, potentially expanding the U.S. space economy.

Learn more about Varda's C-PICA flight test

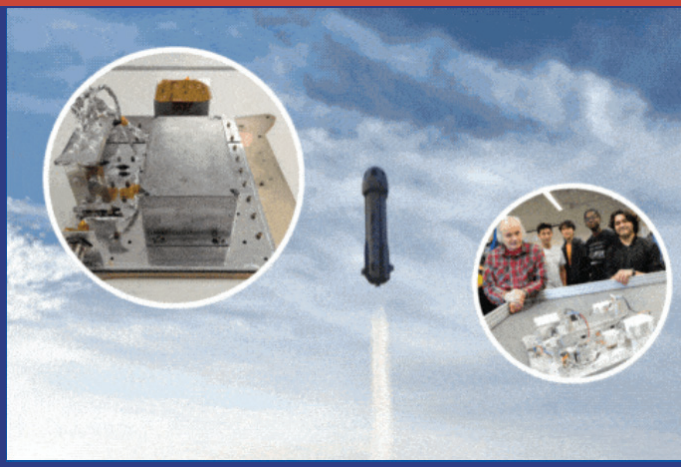
COMMUNITY OF PRACTICE WEBINAR

Flying Externally Mounted Payloads on Suborbital Rockets to Advance Science and Technology

Wednesday, Feb. 4 • 10-11am PT

Join us Wednesday, Feb. 4 for a session that delves into flying externally mounted payloads on suborbital rockets. Moderated by Flight Opportunities, the webinar will explore the testing opportunities provided by exterior mounting and how to prepare payloads for these conditions.

Researchers from Purdue University and the Johns Hopkins University Applied Physics Laboratory along with a Blue Origin representative will speak about their experiences flight testing externally mounted payloads, helping attendees gain valuable insights to guide preparations for their own technologies, instruments, and experiments for such flight tests.



Blue Origin's New Shepard suborbital rocket launched from Van Horn, Texas on April 14, 2025, with externally mounted payload JANUS 3.0 (left inset image). Also pictured is the Purdue team behind their FEMTA module (right inset image) prior to installation on the New Shepard propulsion module that flew on Feb. 4, 2025. Credits: (video and left inset image) Blue Origin, (right inset image) Vincent Walter / Purdue University

Learn about our Feb. 4 webinar

ON-DEMAND WEBINARS

Watch any of our past webinars on demand!

These webinars share best practices and important lessons learned from suborbital and orbital researchers, flight providers, and NASA personnel experienced in using flight tests to advance technologies.

Our Jan. 7, 2026, webinar is now available:
Sensor-Fusion Flight Test: A Case Study with Exploration Potential

Watch our on-demand webinars

TECHNOLOGY TRANSITION

Commercial Space to Leverage NASA Aerobrake for Moon and Mars Missions

This illustration shows how the technology opens like an umbrella to slow descent and protect the payload. Credits: NASA

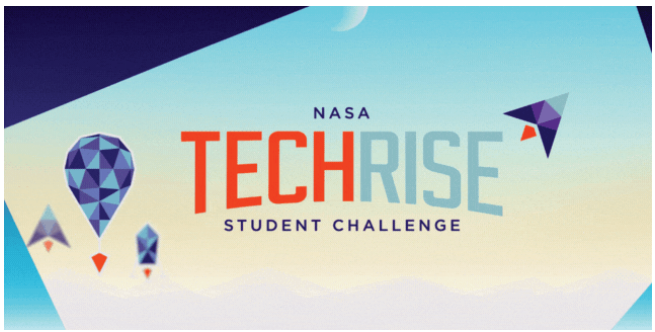
NASA's umbrella-like ADEPT (Adaptable Deployable Entry and Placement Technology) deployable entry system is being adapted to serve as the aerobrake to slow down spacecraft for future Blue Origin lunar and Martian cargo deliveries as well as Earth-return applications. Testing with NASA's Flight Opportunities program in 2018 helped pave the way for commercialization of this cutting-edge technology.

Demonstrating the far-reaching impact of early-stage and ongoing investments from NASA's Space Technology Mission Directorate, ADEPT was developed at NASA's Ames Research Center in California's Silicon Valley, with support from the agency's Game Changing Development and Small Business Innovation Research (SBIR) programs.

Learn more about the ADEPT aerobrake and its flight test

LEARN WITH NASA

NASA Announces 2025–2026 TechRise Winners!



NASA has selected 60 winning teams across 52 U.S. states and territories for the fifth TechRise Student Challenge.

This contest provides students in sixth through 12th grades hands-on experience with the skills they will need in the future to advance the U.S. aerospace economy.

Teams will each receive $1,500 to build their science and technology experiments and test their payloads on a flight this summer aboard either a high-altitude balloon operated by World View Enterprises or Virgin Galactic's Suborbital-Spaceship. TechRise gives students real-world experience with the same processes that professional researchers follow.

Congratulations to all the teams who participated in this year's challenge!

View the winning teams

UPCOMING EVENTS

Attending any of these upcoming meetings? Let us know!

SpaceCom/Space Congress (The Global Commercial Space Conference & Exposition in collaboration with Space Congress)

- Jan. 28-30 | Orlando, Florida

Lunar and Planetary Science Conference (LPSC)

- March 16-20 | The Woodlands, Texas and virtual
- **Flight Opportunities poster presentation:** *Advancing Science and Technology for Planetary Exploration Through Testing with NASA's Flight Opportunities Program*

Space Symposium

- April 13-16 | Colorado Springs, Colorado

NASA Flight Opportunities Program

Flight Opportunities is part of NASA's Space Technology Mission Directorate.

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