National Aeronautics and Space Administration

DISKSAT TECHNOLOGY DEMONSTRATION MISSION



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PROGRAM MANAGER

SMALL SPACECRAFT & DISTRIBUTED SYSTEMS

NASA AMES RESEARCH CENTER

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Mission Overview

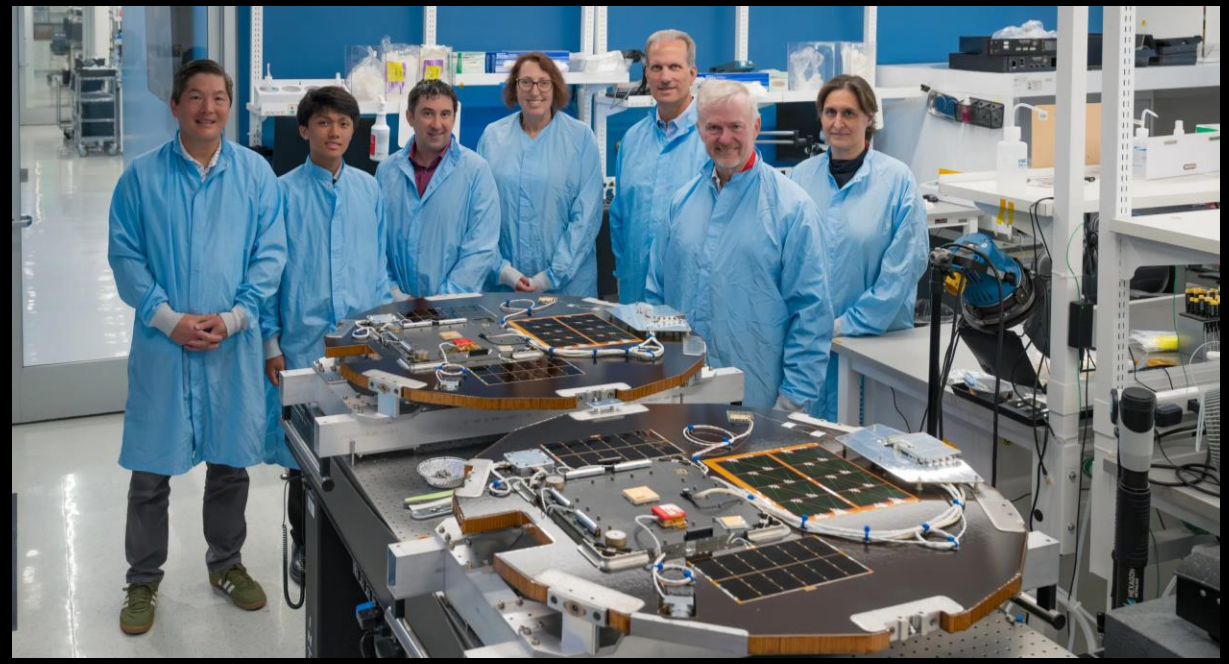


Image Credit: The Aerospace Corporation

Mission Status: On orbit; orbit checkouts continue

Shortfalls Addressed:

- 14.01: Miniaturize sensors & instrumentation on small spacecraft.
- 14.02: Increase power generation and storage systems for small spacecraft.
- 23.05: Provide in-space diagnostics for electric propulsion
- 31.04: Provide on-orbit platforms and interfaces for technology and operations demonstrations.

Objectives & Significance

- Performance validation of the new SmallSat platform that could offer more power and surface area for instruments and provide more opportunities for NASA to expand mission objectives for small spacecraft.
- Test DiskSat maneuverability to include flying in the very low Earth orbit environment.
- Demonstrate the launch dispenser mechanism.

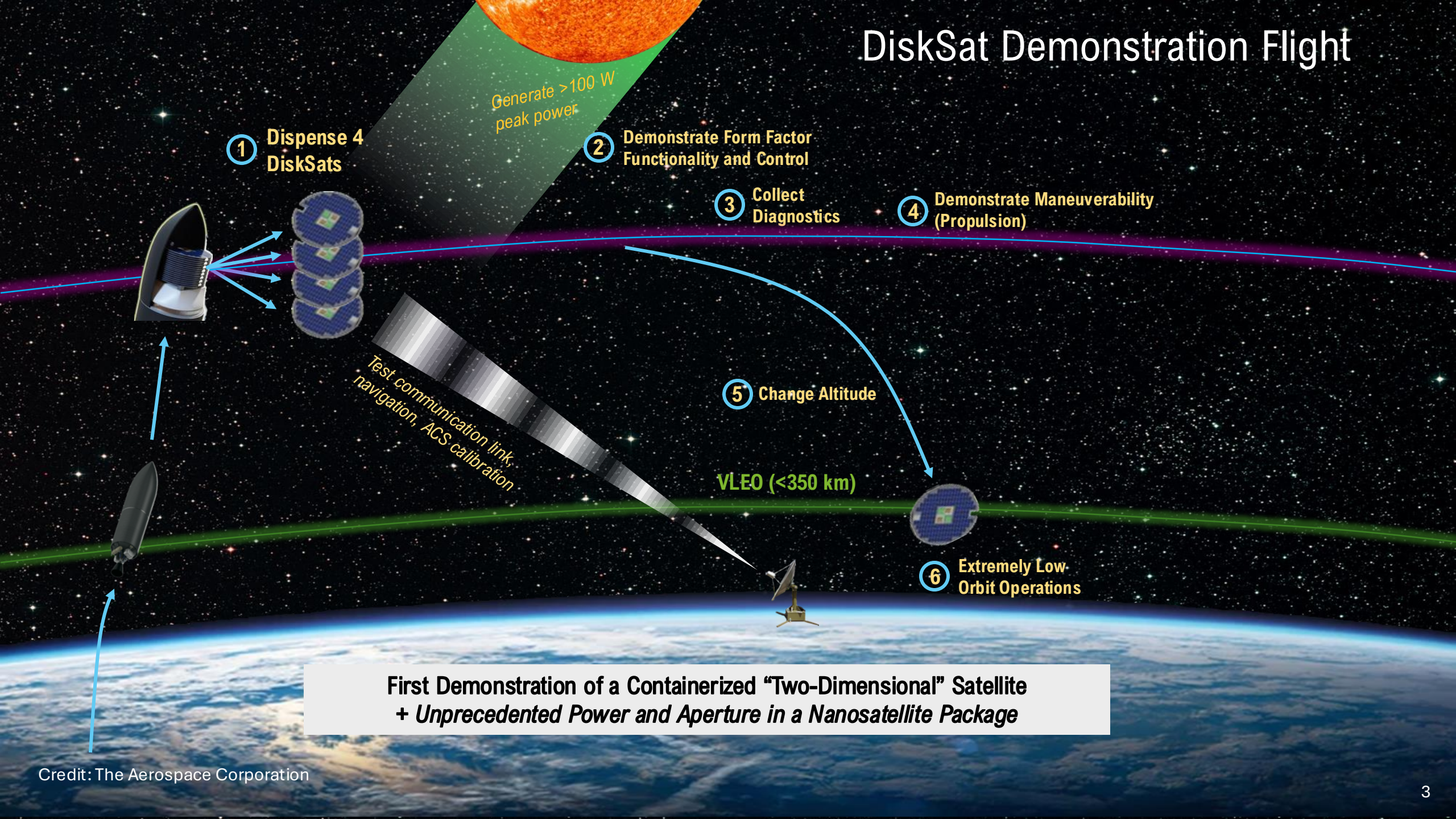
Funding Pathway

- NASA's Small Spacecraft & Distributed Systems program within the agency's Research & Technology Mission Directorate funded the design and development of the DiskSat technology demonstration.
- DiskSat launch and ground operations are funded by the U.S. Space Force, Space Systems Command, Space Domain Awareness & Combat Power, Innovation and Prototyping Program Office and the Department of War Space Test Program

Launch Information

- Date: 18 December 2025
- Launch Location: Launch Complex 2 on Wallops Island, VA
- Vehicle: Rocket Lab Electron

DiskSat Demonstration Flight

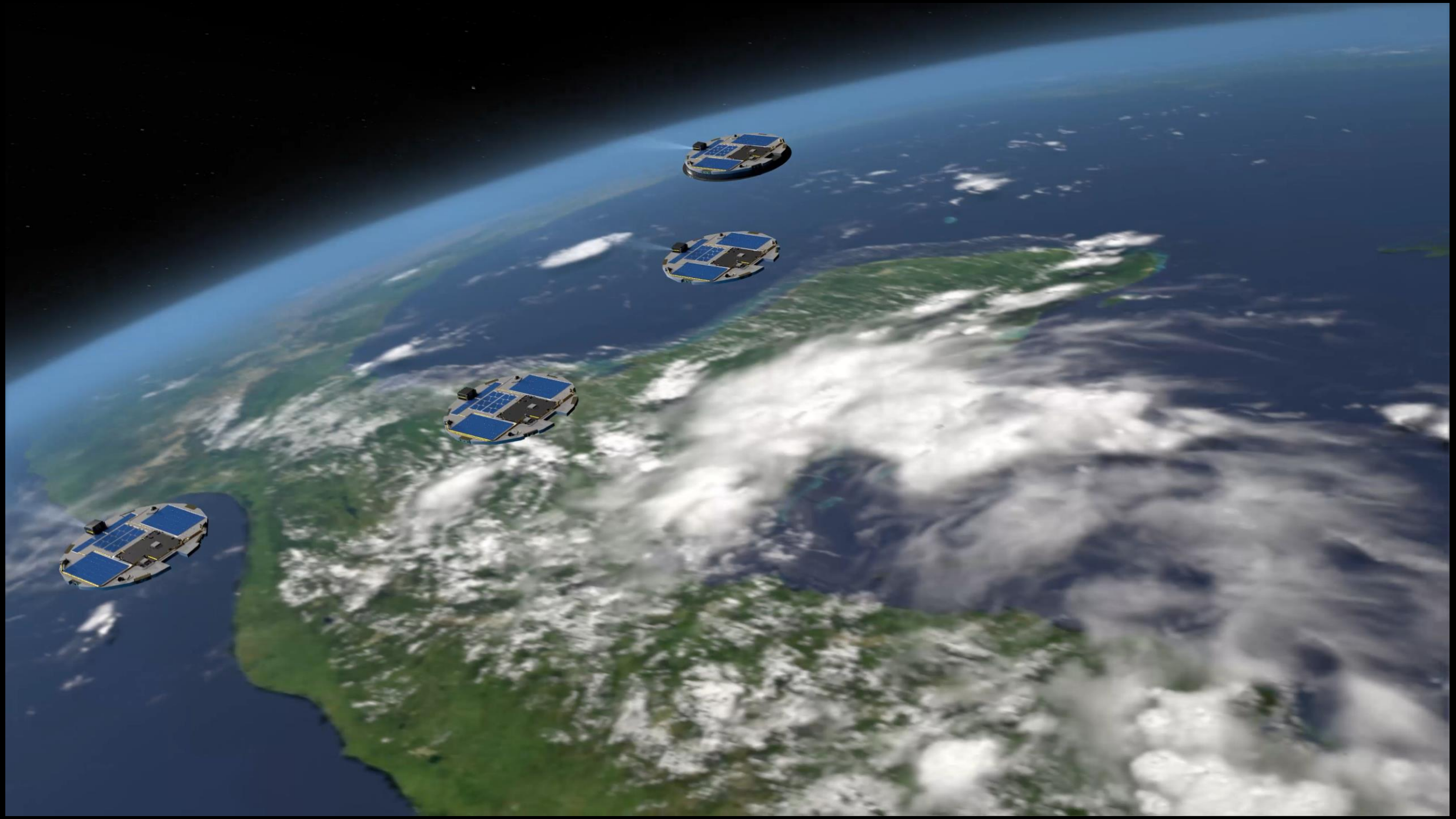


First Demonstration of a Containerized "Two-Dimensional" Satellite
+ *Unprecedented Power and Aperture in a Nanosatellite Package*

Credit: The Aerospace Corporation

DiskSat Technology Demonstration Mission

Mission Operations	Using NPS MC3 Ground Network. Ground contacts mostly automated and simultaneous passes are functional and used routinely.
Accomplishments to Date	Successfully demonstrated dispenser. Verified power management system can support 100+ W peak power. Sustaining positive attitude control. Finalizing commissioning phase of thrusters.
Partners & Contributions	The Aerospace Corporation, headquartered in Chantilly, Virginia, led the design and development of the DiskSat concept as well as the DiskSat spacecraft.





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