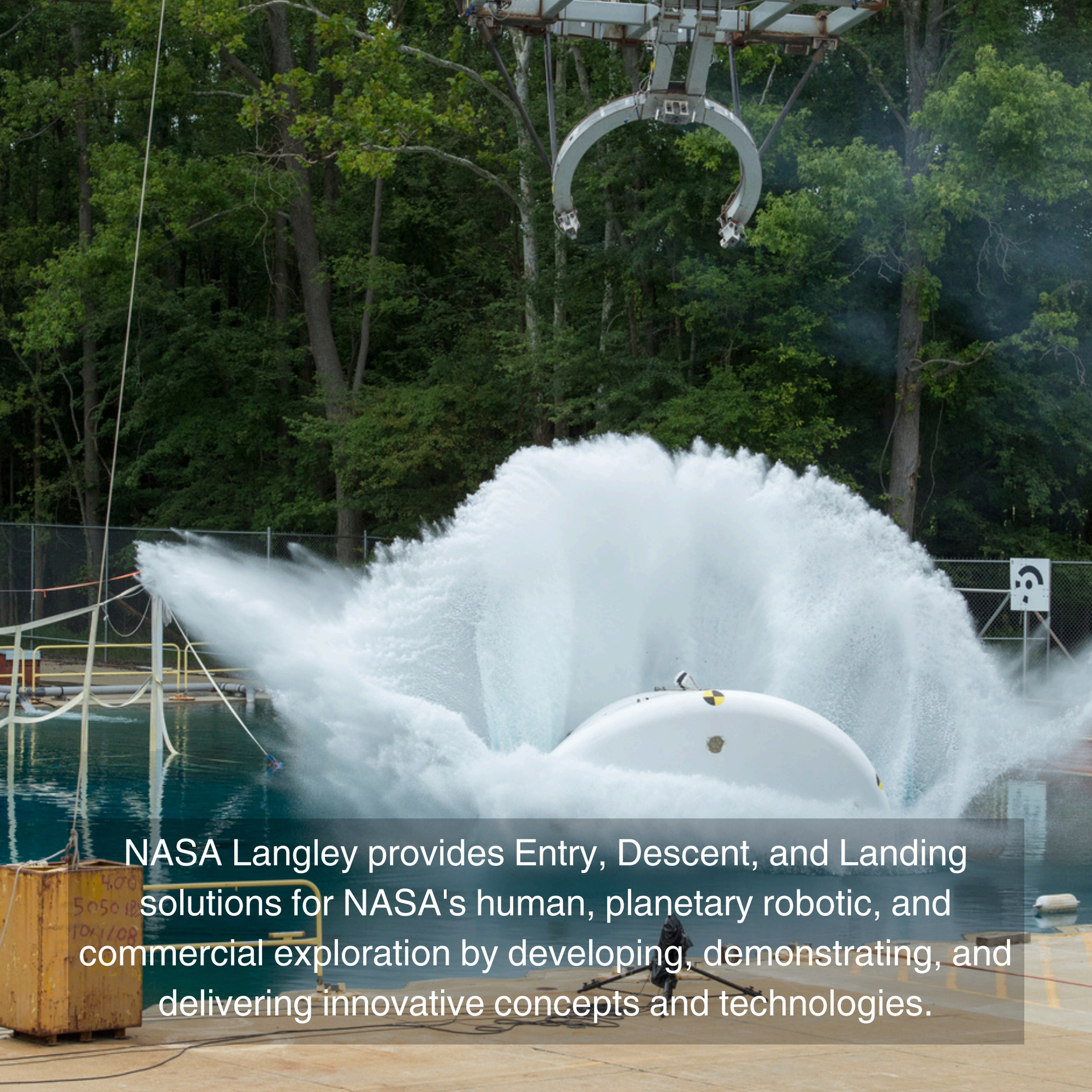
National Aeronautics and
Space Administration

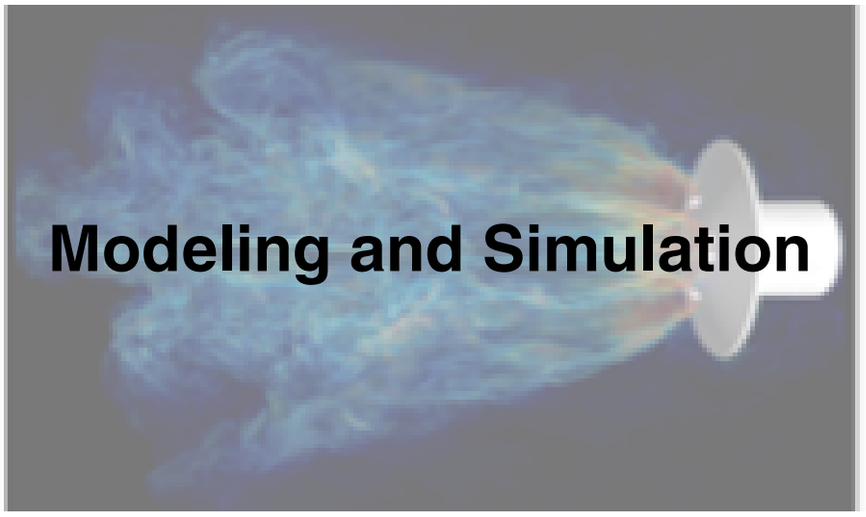


ENTRY, DESCENT, AND LANDING

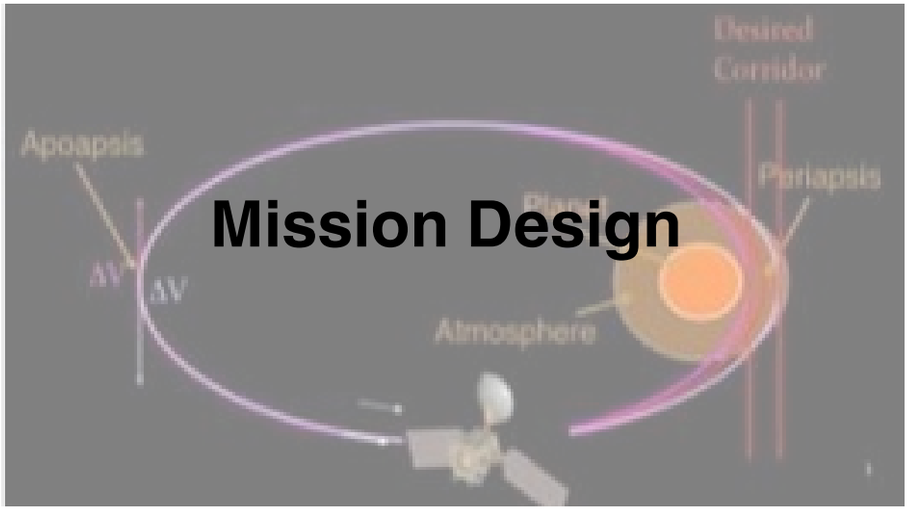
NASA Langley Research Center



NASA Langley provides Entry, Descent, and Landing solutions for NASA's human, planetary robotic, and commercial exploration by developing, demonstrating, and delivering innovative concepts and technologies.

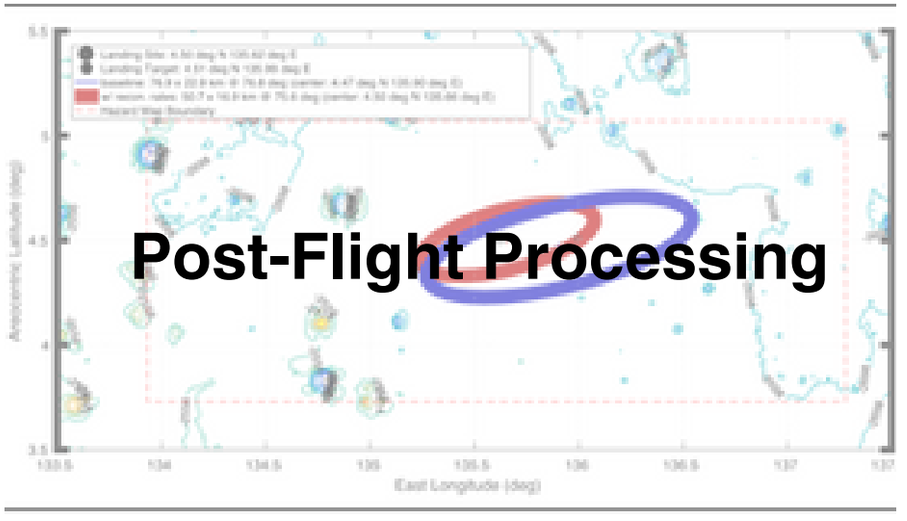

Modeling and Simulation


Flight Vehicle
Technologies


Desired
Corridor
Apoapsis
Periapsis
Mission Design
ΔV
Atmosphere


Vehicle System
Development


Operations Support


Post-Flight Processing

Langley's state-of-the-art labs and facilities allow NASA, the military, other government agencies, and private industry partners to develop and test the next breakthroughs in air and space.

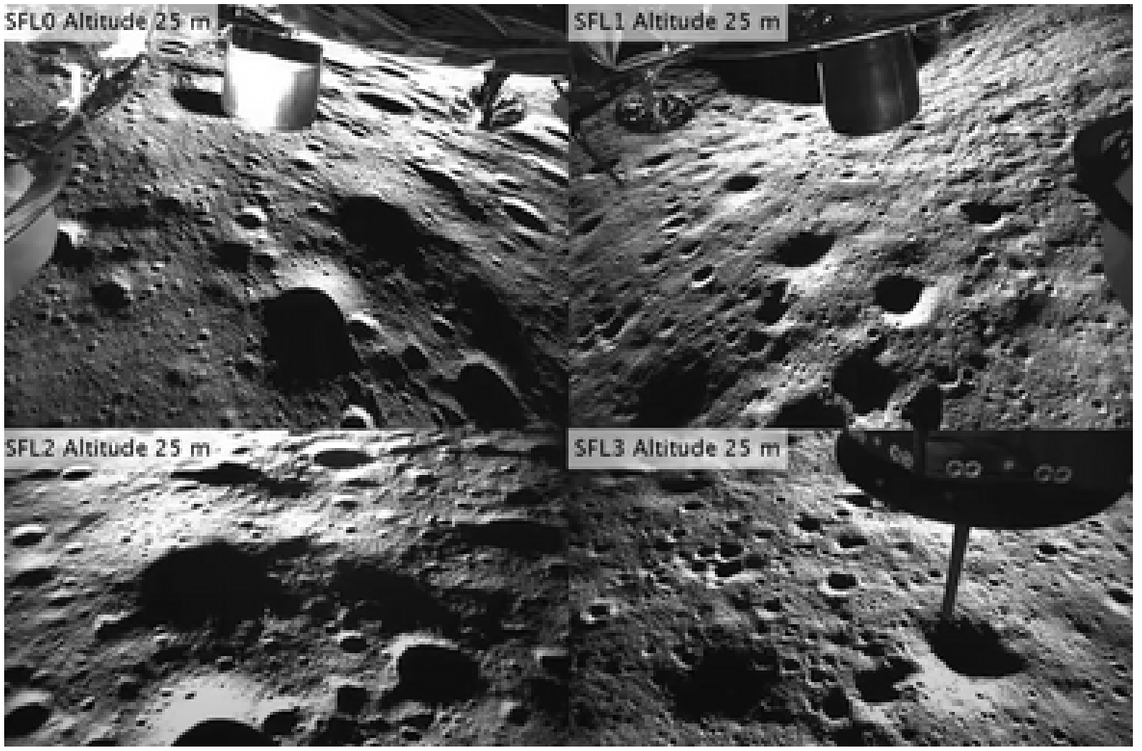
- 31-Inch Mach 10 Tunnel
- 20-Inch Mach 6 Tunnel
- Unitary Plan Tunnel
- National Transonic Facility
- Transonic Dynamics Tunnel
- Flight Dynamics Research Facility
- 14 x 22 Wind Tunnel
- Computational Research Facility
- Landing and Impact Range
- Advanced Manufacturing Facilities

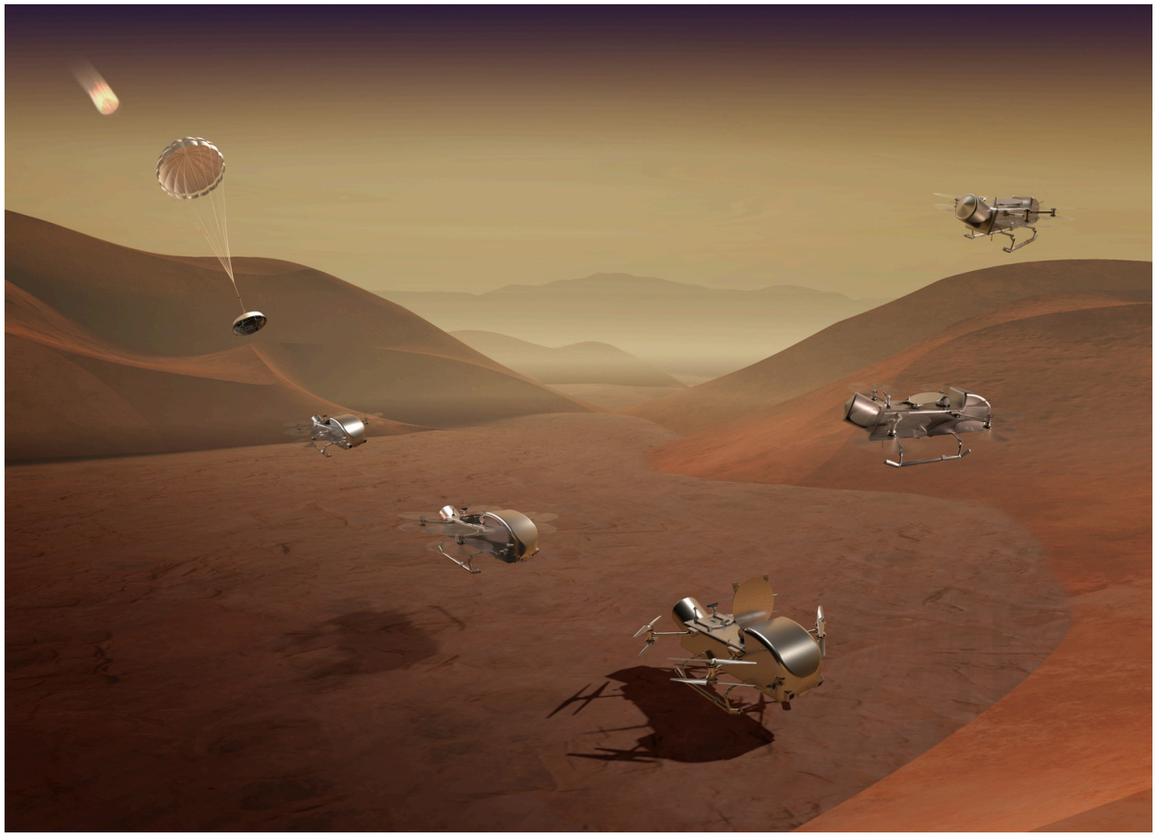






Stereo Cameras for Lunar-Plume Surface Studies (SCALPSS), a Langley developed system, captured first-of-its-kind imagery of a lunar lander's engine plumes interacting with the Moon's surface during Firefly Aerospace's Blue Ghost descent and successful soft lunar landing. Understanding how dust, soil, and rocks kick up when landing on the Moon will better inform future robotic and crewed landings as trips to the Moon increase in the coming years under NASA's Artemis campaign.





Researchers at NASA Langley are developing the Entry and Descent system for NASA's Dragonfly program, a nuclear-powered octocopter that will explore a variety of locations on Saturn's moon Titan. Dragonfly will deliver the most expansive suite of science instruments ever dispatched to another celestial body, collecting and returning results that could change our understanding of life in the universe.

PARTNER WITH US

NASA Langley is building new partnerships with industry, academia, and other government agencies to solve the world's toughest technical problems.

NASA's Front Door is your way in.

Connecting strategic partners with NASA Langley's expertise and world-class facilities moves ideas from concept to reality.

NP-2025-0X-0XX-LaRC