

NASA defines TECHNOLOGY as "a solution that arises from applying the disciplines of engineering science to synthesize a device, process, or subsystem to enable a specific capability."

NASA's **agency chief technologist**, **as part of the Office of Technology**, **Policy**, **and Strategy (OTPS)**, is working across the agency to establish a sustainable technology inventory and analytics process that will support data-driven decision-making and improve transparency to industry, government, academia, and the American public. The agency chief technologist is closely collaborating with NASA's public-facing technology database, **TechPort**, to ensure a comprehensive and robust data collection and quality process.



Funding amounts and technology programs are self-reported by each mission directorate Technology investments include applied research and experimental development

* Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) portion of STMD is indicated with dots, as it allocates projects related to all mission directorates. The federal guidelines for SBIR/STTR investments use a different definition of Research and Development.









Technology Maturity in NASA's Tech Investments

Nearly 60% NASA's FY23 \$2.37B technology investment budget went towards progressing, validating, and demonstrating technologies—reflected in the Technology Readiness Levels (TRL) 4-6.

NASA defines its technology investments primarily on advancing technologies through technology demonstration (TRL 1-6) range and handing them off for infusion in missions.



Technology Portfolio Highlights

QUANTUM

SENSING



NASA is investing in technologies to find, fix, track, target and engage wildfires, and assess mitigation efforts.

- SMD's FireSense project leverages NASA's Earth science and tech capabilities to aid U.S. wildland fire management.
- ARMD's ACERO project is developing airspace management techs to share information between crewed aircraft and drones during wildfire responses.

TECHNOLOGY Harnessing the power of quantum sensing promises higher accuracy and sensitivity for instruments

across all NASA's mission sets.

- SMD's Cold Atom Lab studies quantum phenomena on the International Space Station.
- STMD's Quantum Pathways Institute partnership is advancing quantum sensing tech for next-gen Earth Science applications enabling new understanding of our planet and the effects of climate change.

ARTIFICIAL INTELLIGENCE TECHNOLOGY

NASA AI investments span everything from mission-enabling autonomous capabilities to large scale data analysis to infrastructure enhancements. Projects include:

- SOMD's **Cognitive Communications** project aims to improve the resiliency and efficiency of space coms and networking through decision-making algorithms.
- ESDMD's NASA **Platform for Autonomous Systems** is developing software to enable real-time "thinking" autonomous operations during Artemis missions.



Find out more about OTPS at nasa.gov/otps