

NASA Small Business Innovation Research Small Business Technology Transfer
Chad Frost | Launch Your Innovation with NASA's SBIR/STTR Programs
August 2021

SBIR / STTR Programs Vision and Mission

VISION

Empower small businesses to deliver technological innovation that contributes to NASA's missions, provides societal benefit, and grows the US economy.

MISSION

Create opportunities through SBIR/STTR awards to leverage small business knowledge and technology development for maximum impact and contribution

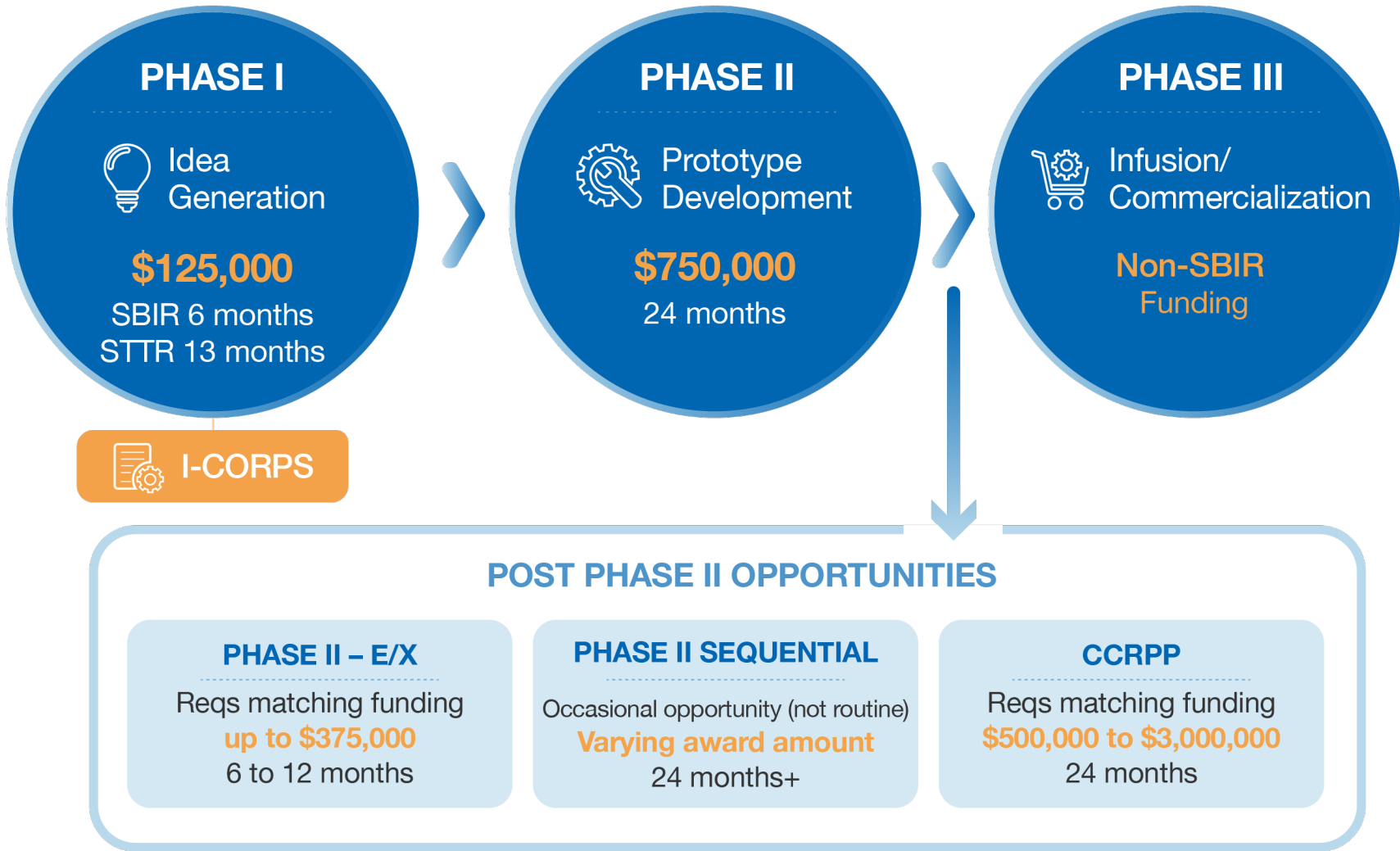
NASA's SBIR and STTR programs have awarded **more than \$3.75 billion** to research-intensive American small businesses.

Engineers and scientists from more than 3,100 Firms in all 50 States, DC, and Puerto Rico have participated across the two programs.

Approximately 15,000 total awards have been made to-date.

SBIR/STTR Program Structure

NASA SBIR/STTR PHASES



Visit sbir.nasa.gov/guide for details

Learning about NASA's Needs

Focus Areas

NASA's research subtopics are organized by "Focus Areas" that group interests and related technologies.

- **Identify** the Area(s) closest to your innovation/idea
- **Go** to our website to research
- **Prepare to write** a proposal tailored to NASA's needs

<https://sbir.nasa.gov/solicitations>

2021 Focus Areas (FA)

FA 1: In-Space Propulsion Technologies

FA 2: Power Energy and Storage

FA 3: Autonomous Systems for Space Exploration

FA 4: Robotic Systems for Space Exploration

FA 5: Communications and Navigation

FA 6: Life Support and Habitation Systems

FA 7: Human Research and Health Maintenance

FA 8: In-Situ Resource Utilization

FA 9: Sensors, Detectors and Instruments

FA 10: Advanced Telescope Technologies

FA 11: Spacecraft and Platform Subsystems

FA 12: Entry, Descent and Landing Systems

FA 13: Information Technologies for Science Data

FA 14: On-orbit Servicing, Assembly, and Manufacturing (OSAM)

FA 15: Materials, Materials Research, Structures, and Assembly

FA 16: Ground and Launch Processing

FA 17: Thermal Management Systems

FA 18: Air Vehicle Technology

FA 19: Integrated Flight Systems

FA 20: Airspace Operations and Safety

FA 21: Small Spacecraft Technologies

FA 22: Low Earth Orbit Platform Utilization and Microgravity Research

FA 23: Digital Transformation for Aerospace

FA 24: Dust Mitigation

Small Spacecraft SBIR Subtopics

2021 Small Spacecraft Technologies and Demonstrations

Z8.02: Communications and Navigation for Distributed Small Spacecraft Beyond Low Earth Orbit (LEO)

Z8.08: Technologies to Enable Cost and Schedule Reductions for Ultrastable Normal Incidence Optical System for CubeSats

Z8.09: Small Spacecraft Transfer Stage Development

Z8.10: Wireless Communication for Avionics and Sensors for Space Applications

Z8.11: Artificial Intelligence (AI)/Machine Learning (ML) for Small Spacecraft Swarm Trajectory Control

Z8.12: Modular and Batch Producing Small Spacecraft

<https://sbir.nasa.gov/solicit/66886/detail?data=ch9>

Post-Phase II Opportunities: NASA Flight Opportunities

- NASA Flight Opportunities (FO) is interested in investing in suborbital flight testing of SBIR/STTR technologies. Allows for continued maturation beyond TRL4
- What FO is looking for:
 - Tech pull: NASA customer or commercial application
 - Multiple investors: skin-in-the-game
- Opportunities (target commitment based on need, <\$500k):
 - Phase II-E / CCRPP: FO investment matched by SBIR/STTR Program
 - Phase III: direct sole source contract or augmentation of existing Phase III contract
- 6 investments made since June 2020, several others in the pipeline:
 - \$37k (ZGC): Made In Space, GAMMA Acoustic Levitation Furnace (GAMMA-ALF)
 - \$100k (ZGC): Air Squared, Inc., Vapor Compression Refrigeration System
 - \$200k (Blue Origin): Heetshield, Inc., Flexible TPS for HIAD applications
 - \$225k (ZGC): Space Foundry, Inc., Plasma Jet Printing for In-Space Manufacturing
 - \$225k (ZGC): Physical Optics Corporation, Orbital Fiber Production Module
 - \$250k (ZGC): Create, Inc., Lightweight Screen Channel for Cryogenic Fluid Management



Contact us and let's innovate together

Small Spacecraft Technology

<https://www.nasa.gov/smallspacecraft>

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Flight Opportunities

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