National Aeronautics and
Space Administration

NASA STEM
Preparing Tomorrow's Aerospace Workforce

Building Tomorrow's Space Workforce Today

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NASA'S Office of STEM Engagement Associate Administrator
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NASA Priorities



NASA

IGNITION

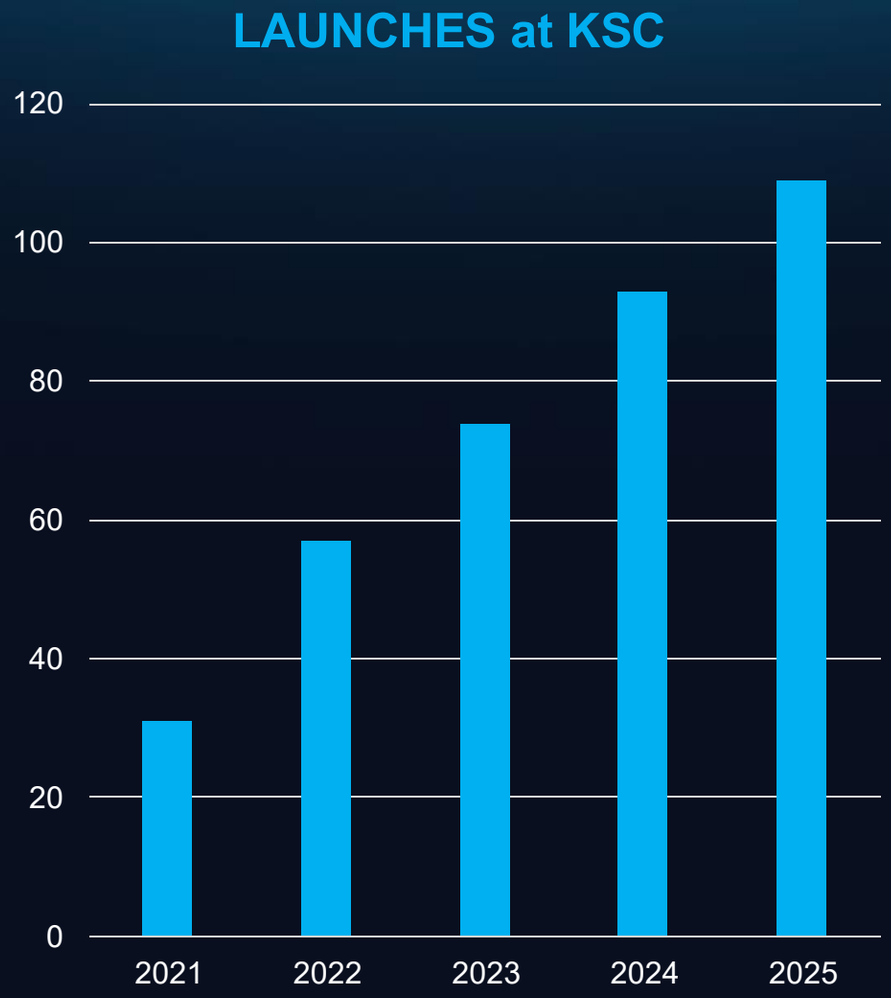
Agencywide alignment to the National Space Policy to advance American leadership in space

Priorities:

- Artemis program launch cadence
- Ensuring U.S. presence in low Earth orbit
- Creation of a Moon Base
- Advancing breakthrough science missions
- Use of nuclear power and propulsion in space
- **Investment in the NASA workforce**

A Growing Space Economy





Global Space Economy



$600 Billion → **$1Trillion**

by the early 2030's

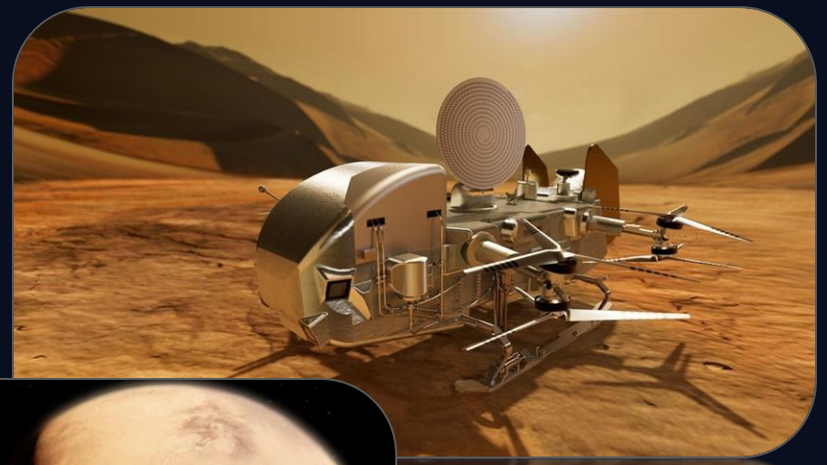
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Source: Fortune Business Insights - Space Economy Market Size and Future Outlook
https://www.fortunebusinessinsights.com/space-economy-market-117858

Mission Focused



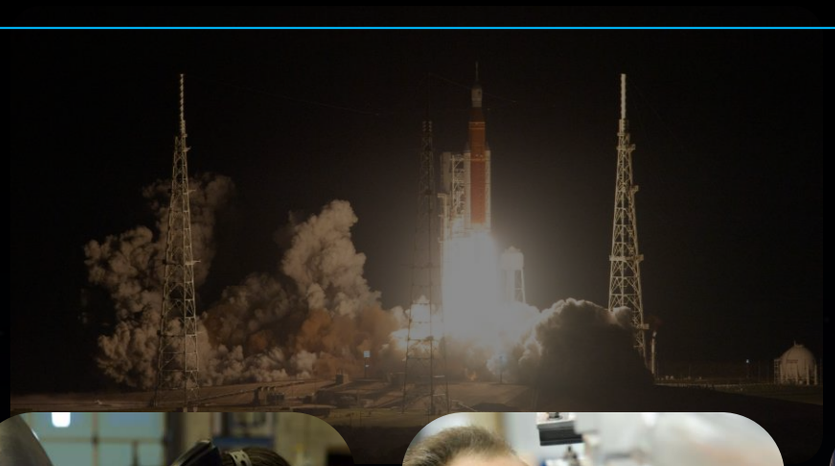


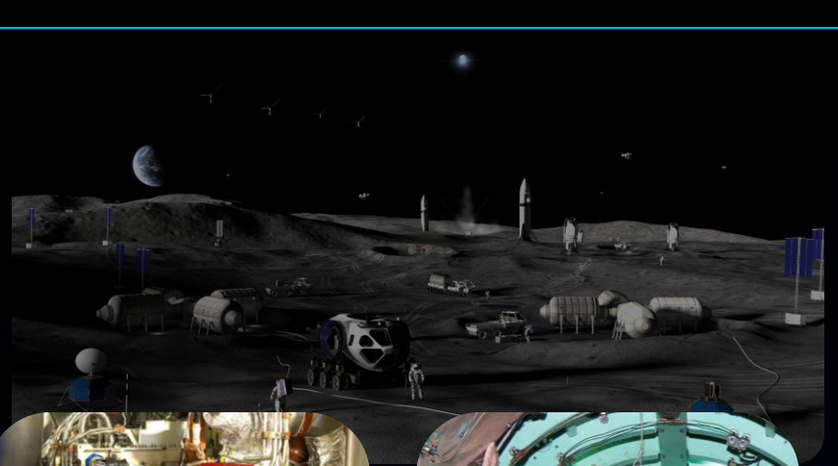


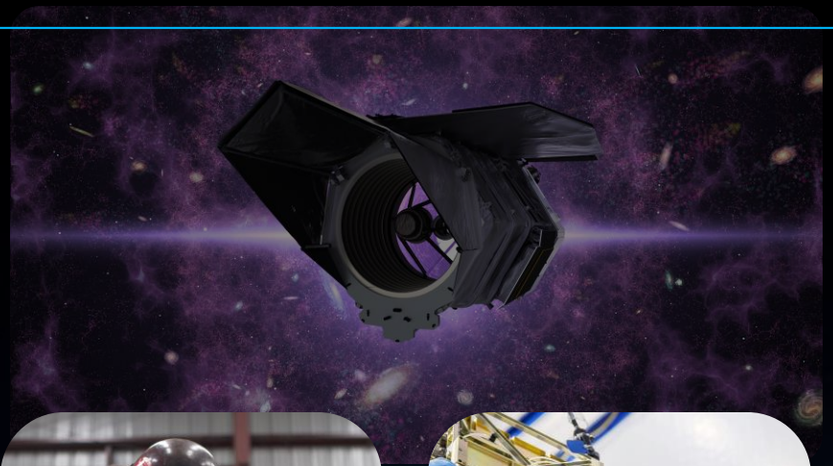




The Workforce We Need











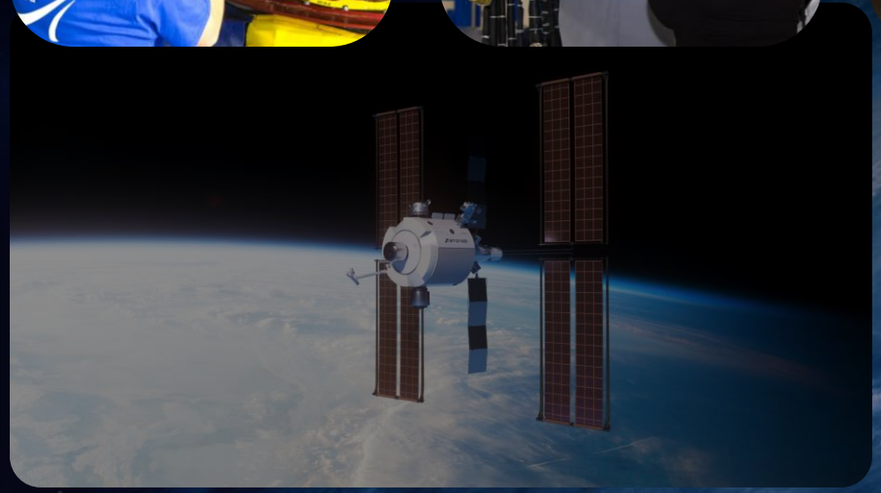










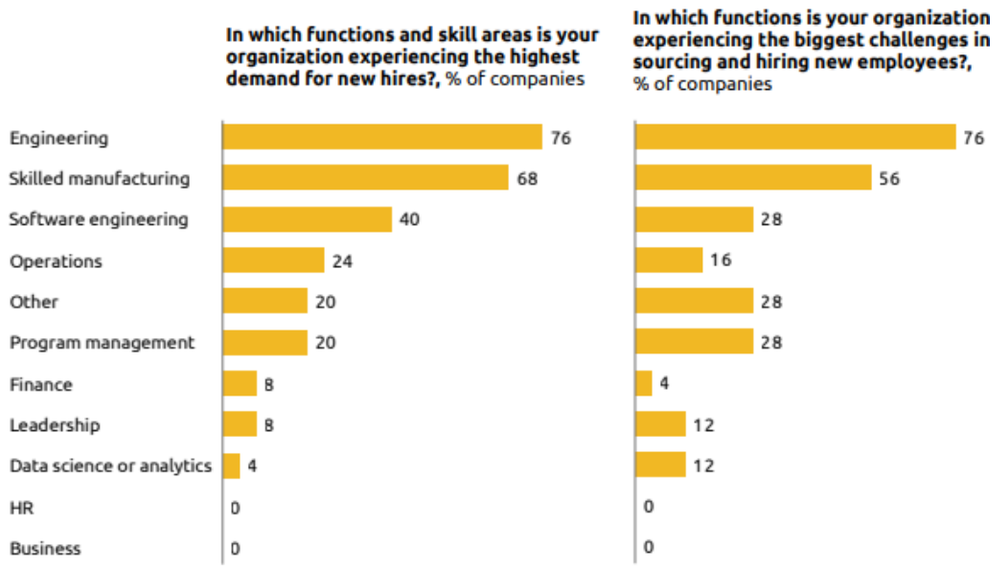




An A&D Talent Shortage, Especially in Manufacturing

Immediate Challenge

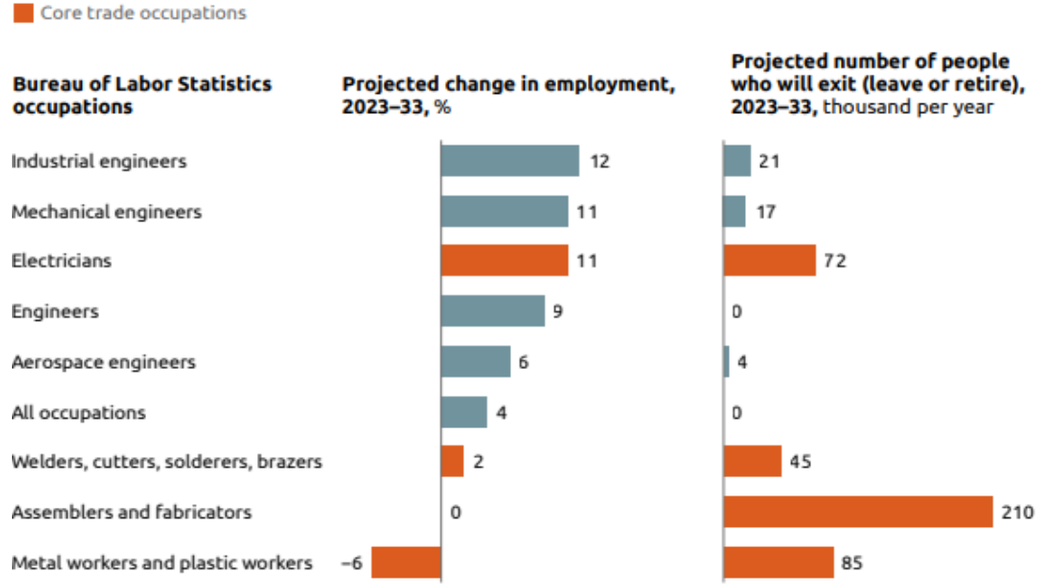
A&D companies continue to encounter difficulty in sourcing talent for critical program delivery capabilities.



Source: AIA Workforce Survey 2025, n = 25 organizations

Near-Term Projections

Hiring challenges will likely continue through at least 2033 as demand grows and job vacancies mount.

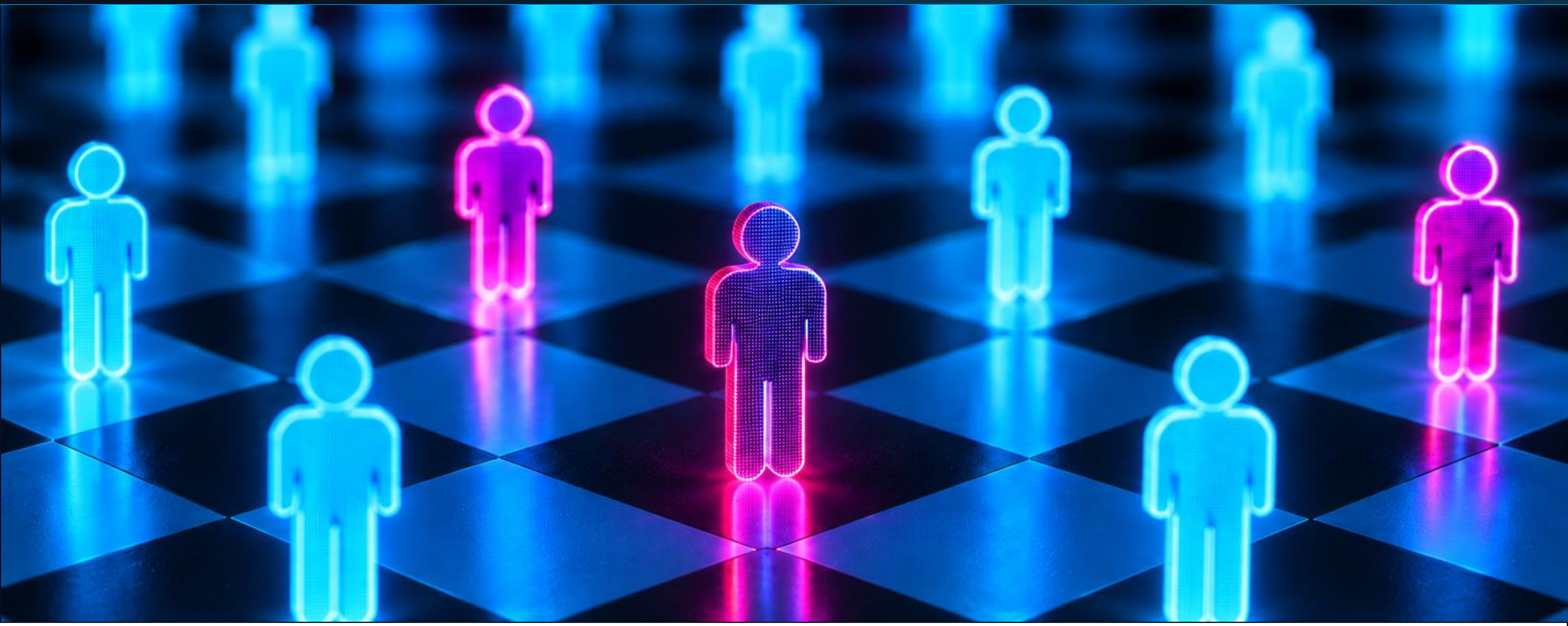


Source: *2024 occupational outlook handbook*, Bureau of Labor Statistics, updated March 14, 2025

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Source: Aerospace Industries Association (AIA) and McKinsey's 2024 Aerospace & Defense Workforce Study
https://www.aia-aerospace.org/wp-content/uploads/AIA-McKinsey-Annual-Workforce-Study-2025.pdf

Short-Term Breakdowns



Space Jobs Aren’t Just Astronauts and Rocket Scientists









Do we talk about the other pathways into the space workforce?



From Silos to Systems

DISCONNECTED SYSTEMS



INTEGRATED SYSTEMS



NASA STATE hubs

$10.5M

initial investment to establish NASA State Hubs in seven states

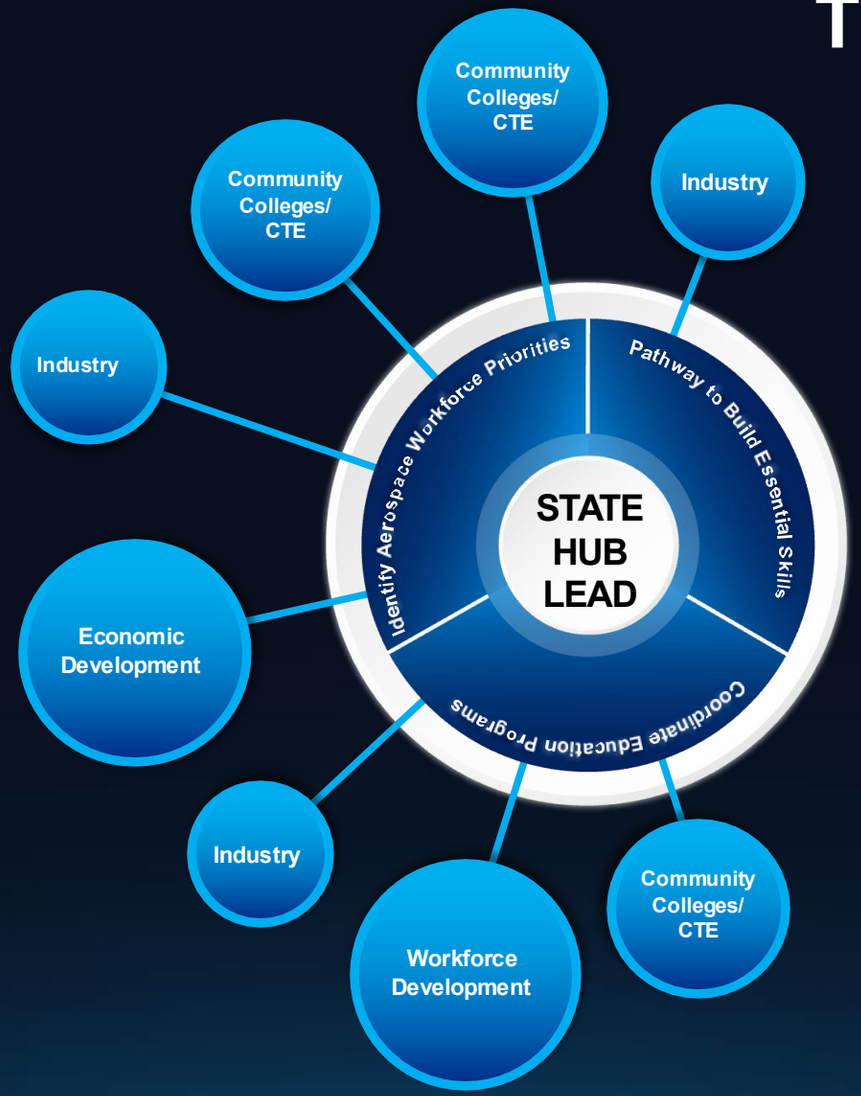
- Employers
- Community Colleges
- High School CTE Programs
- Workforce Organizations
- Economic Development Partners

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Each NASA State Hub is charged to ask and answer:

- **What aerospace jobs are in the most demand?**
- **How many workers will employers need?**
- **What skills matter most?**
- **What do students need to succeed?**
- **How do we make the path from the classroom to job easier to reach?**

The NASA State Hub Concept



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- Grants & Awards
- Internships & Student Work Experiences
- Other Experiential Learning Opportunities

NASA Centers and MDs

Office of Procurement

Office Small Business Programs

Other Federal Agencies

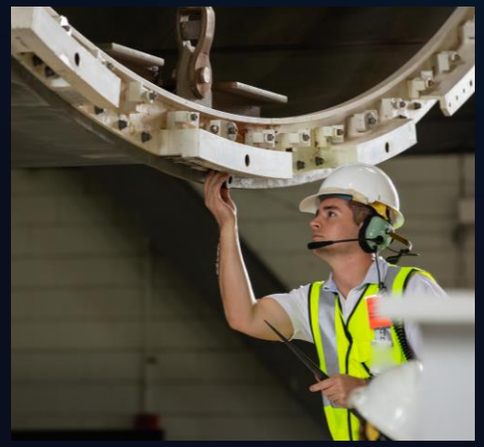
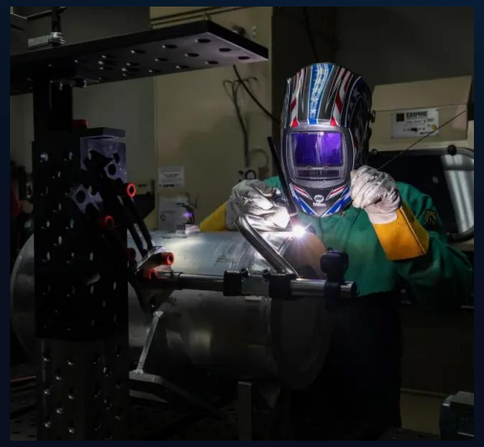
Space Grant

NASA STATE hubs

DEPENDS ON INDUSTRY ENGAGEMENT

Small businesses are essential to the future of our nation's aerospace skilled technical workforce.





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direct industry employees work in technical roles

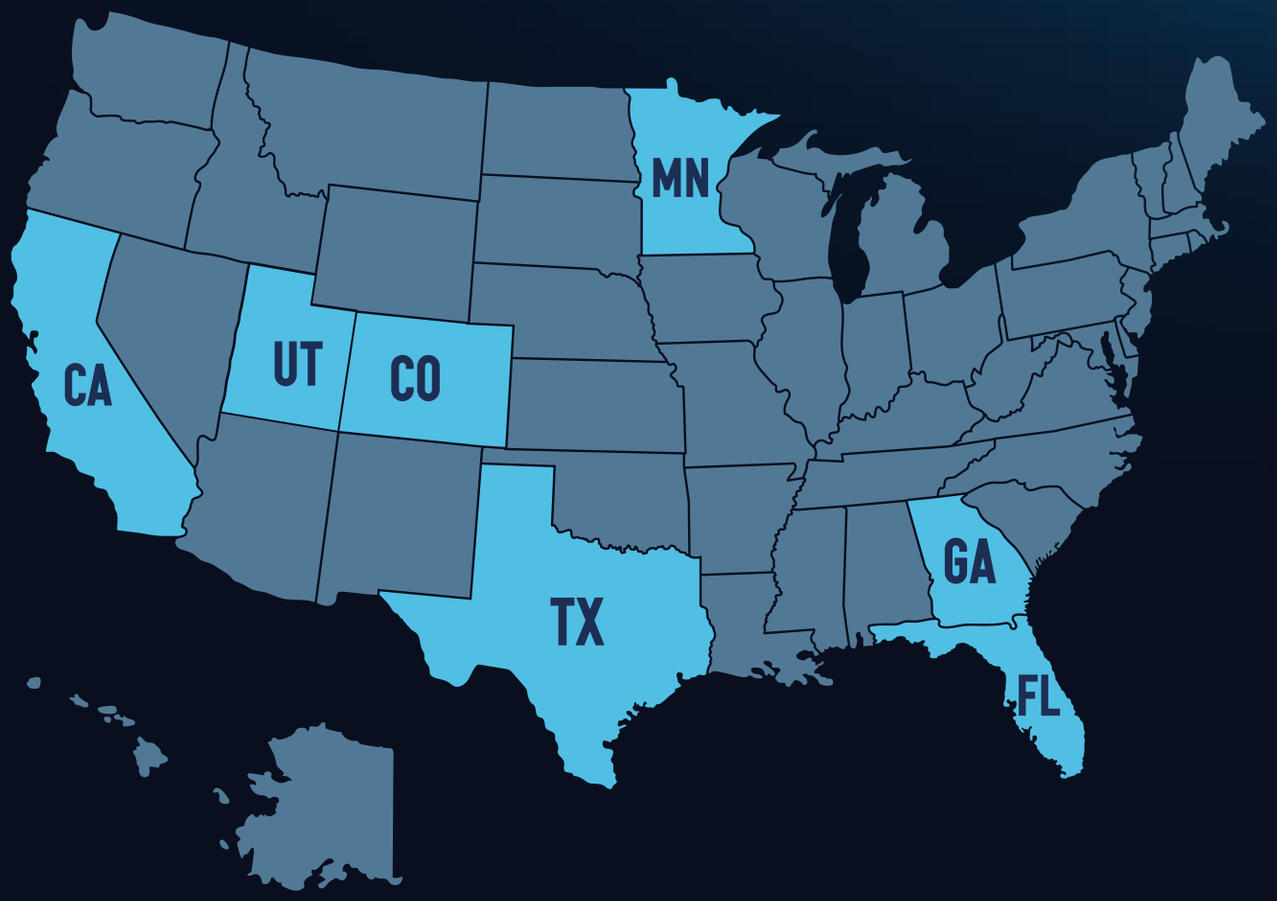
$3.6B

annually invested in more than 1,700 small businesses

$5.5B+

in total small-business engagement including subcontracts

NASA State Hubs Awardees

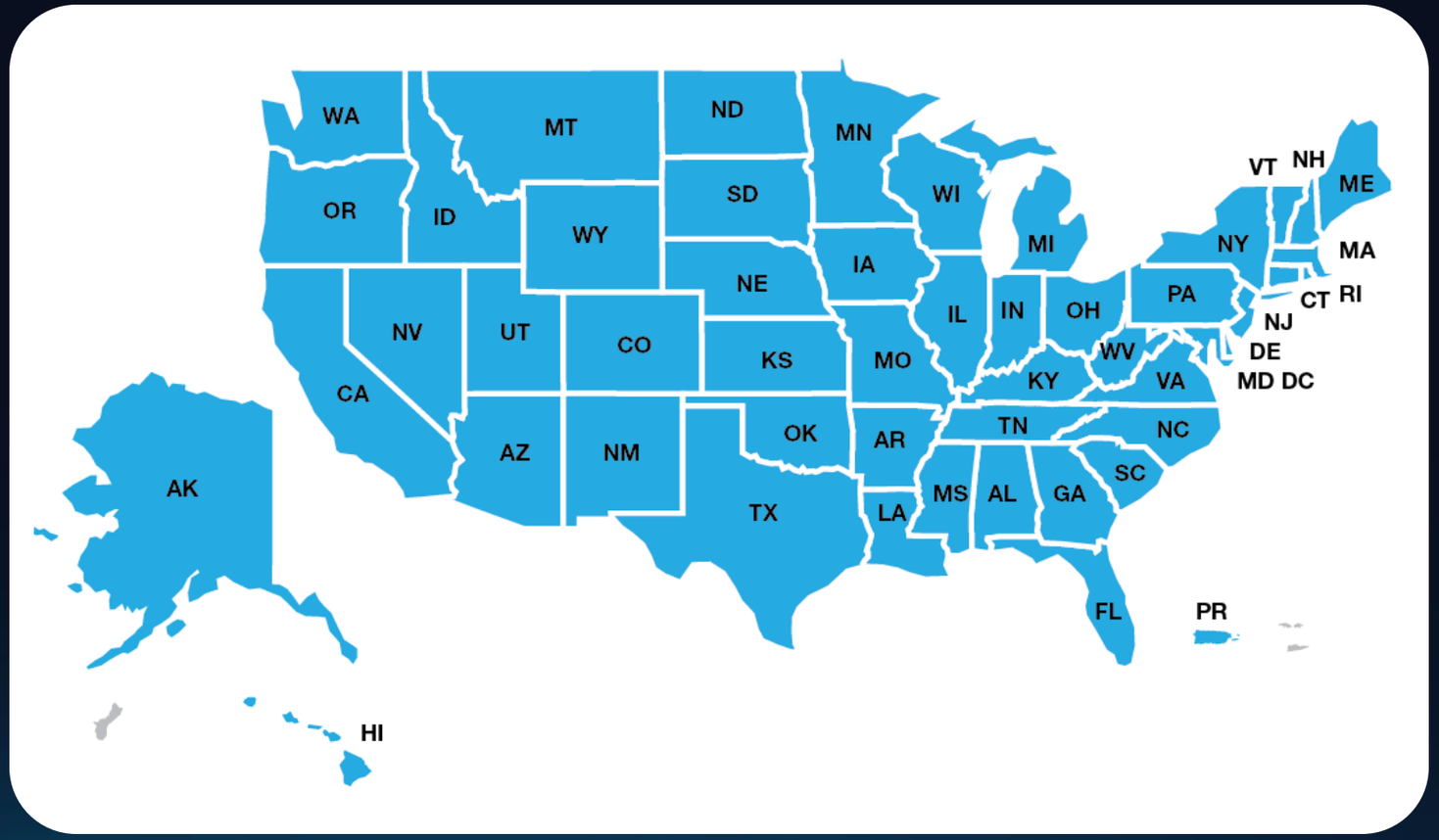


NASA State Hubs for Skilled Technical Workforce
www.nasa.gov/learning-resources/nasa-state-hubs/

NASA STATE hubs

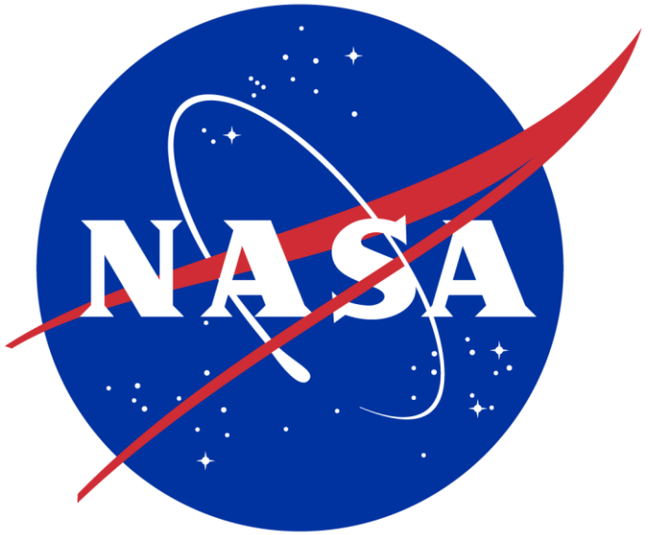
- Minnesota State Colleges & Universities
- Space Florida
- Antelope Valley Community College (California)
- Texas Space Commission
- Southern Utah University
- State Board for Community Colleges and Occupational Education - Arapahoe Community College (Colorado)
- Georgia Tech

NASA Space Grant



- Across all 50 States, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.
- Chartered to focus on workforce development, grow STEM awareness, and increase understanding of NASA
- Workforce development primarily focused on post-secondary students
- Preparing students to be STEM workforce ready





www.nasa.gov