National Aeronautics and Space Administration

NASA Centers' Core Competencies and Capabilities

Ames Research Center

- Entry Systems
- Advanced/High End Computing and IT Systems including High Performance and Quantum Computing
- Aerosciences, Air Traffic Management, and Unmanned Aerial Systems
- Astrobiology and Life Science
- Cost-Effective Space Missions including Small Spacecraft Systems
- Intelligent/Adaptive Systems including Autonomy and Human/Machine Learning
- Space, Planetary, and Earth Science including Sensor Technologies

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Armstrong Flight Research Center

- Electric and Supersonic Flight Research
- Aerodynamics and Propulsion
- Dynamics and Controls
- Flight Instrumentation, Sensors, and Systems Integration and Development
- Aerostructures, Aeroservoelastics
- Aircraft Operations and Flight Testing of Unique Research Vehicles and Space Systems
- Thermal Systems, Analysis, and Ground Testing
- Enable Low-Cost Access on Commercial Suborbital Space Platforms
- Global Atmospheric Research
- UAV/UAM Autonomy and Flight Test
- Hardware/Aircraft-in-the-Loop Testing

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Glenn Research Center (including Plum Brook Station)

- Air-Breathing Propulsion
- Space Propulsion (Electrical and Chemical) and Cryogenic Fluids Management
- Power, Energy Storage, and Conversion
- Communications Technology
- Materials and Structures for Extreme Environments
- In-Space Physical Sciences and Technologies

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Goddard Space Flight Center (including Wallops Flight Facility)

- Earth Science, Astrophysics, Heliophysics, and Planetary Science
- Space Communications and Navigation
- Suborbital Platforms and Range Services
- Sensor Systems and Instrument Platforms including LiDAR Machine Vision, Earth Sciences Tools, and Distributed Sensing Systems
- Spacecraft Integration
- Robotic Servicing
- Independent Verification and Validation
- Space System Avionics

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NASA Centers' Core Competencies and Capabilities

Jet Propulsion Laboratory

- Advanced Data Analytics Tool, include AI and ML
- Advanced Optics for Deep Space Exploration
- Autonomous Systems for Spacecraft and Robotic Applications
- Avionics
- Earth Science Research and Applications Development
- End-to-End Mission Design and Concurrent Engineering
- Near and Deep Space Communication and Navigation Systems
  - Developed and Manages NASA's Deep Space Network (DSN)
- Remote Sensing Systems
- Small Satellite Systems for Earth Science and Solar System Exploration

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Kennedy Space Center

- Launch Technologies including Propellant Management, Range, and Communications
- Vehicle, Payload, and Flight Science Experiment Integration and Testing
- Landing and Recovery Operations
- Biological Sciences (Plant Research and Production)
- Destination Systems including ISRU, Surface Construction and Dust Mitigation
- Autonomous/Robotic (Unmanned) Surface Systems and Operations
- Water Resource Utilization Technologies
- Logistics Reduction Technologies

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Johnson Space Center (including White Sands Test Facility)

- Human Spaceflight Design, Development, Systems Integration, and Mission Operations
- Environmental Control and Life Support (ECLSS)
- Spacesuits and Extra Vehicular Activity (EVA)
- Human Health and Safety in Space
- Crew Training and Mission Planning
- ISS Coordination and Access
- Orbital Debris
- In-Situ Resource Utilization
- Autonomous Spacecraft with Robotics Support
- Entry Descent and Landing (EDL) for Human Class Payloads

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Langley Research Center

- On-Demand Mobility Technologies
- Commercial Air Transport Technologies
- Earth's Atmospheric Composition
- Lidar Remote Sensing Techniques
- Entry, Descent, and Landing Systems
- Advanced Space Structures
- Autonomous In-Space Assembly and Manufacturing

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NASA Centers' Core Competencies and Capabilities

Marshall Space Flight Center (including Michoud Assembly Facility)

- Propulsion
- Materials and Advanced Manufacturing
- Space Transportation System
- Space Systems
- Scientific Research (Earth Science, Heliophysics, Astrophysics, Planetary Science)

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Stennis Space Center

- Testing for Propulsion and Launch Systems
- Testing for Nuclear Thermal Propulsion
- Small UAV and Lander Testing
- Restricted Airspace Range Operation
- Autonomous Systems

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