

# About NASA Infrastructure

NASA's infrastructure provides the foundational capabilities for the Nation's space programs, to include partnerships with the Department of Defense, commercial partners, and international agencies. NASA's unique testing and engineering capabilities are enabled by highly technical facilities, laboratories, and equipment. In some cases, these assets are found nowhere else on earth.

# The Opportunity

Building NASA's infrastructure will accelerate 21st century advancements in climate science, aeronautics, propulsion, "green" technologies, miniaturization, and so much more. An investment in NASA's infrastructure is an investment in economic expansion and continued American leadership in human space exploration, Earth and space science, aeronautics research, and transformative technological advancement.



# The Challenge

The majority of NASA's physical assets are relics of the Apollo-era, with ~83 percent of facilities beyond designed life. In addition to the high costs of operating and maintaining these degrading assets, unplanned maintenance can consume up to 30 percent of the maintenance budget in a fiscal year. The unanticipated disruptions and failures add to NASA's \$2.8 billion maintenance backlog.

# Current Solutions to Address the Problem

NASA's maintenance strategy is reliability-centered maintenance: address the right assets, at the right time, for the right reasons. This approach puts mission need at the center of decision making.



# **Agency Master Planning**

Connect capabilities to facilities to mission requirements



Leasing

Lease unneeded assets to commercial partners



# **Condition Based Maintenance**

Use monitoring technologies to detect issues early



## **Partnerships**

Engage with stakeholders for more investment, collaboration, and advocacy



# **Tiered Maintenance**

Prioritize maintenance based on a strategy and data



## Smart Centers (future planning)

Transform the methods and technologies for facility management

https://www.nasa.gov/sites/default/files/atoms/files/nasa\_economic\_impact\_study.pdf

# Primary Mission Capabilities

#### **Ames Research Center (ARC)**

- ArcJet Complex
- Supercomputers
- Unitary Plan Wind Tunnel
- Instrument Laboratory

#### Jet **Propulsion** Laboratory (JPL)

- Rover Lab & Mars Yard
- Deep Space Antenna Array
- Astrobiogeochemistry Lab
- Microdevices Laboratory

#### **Marshall Space Flight Center** (MSFC)

- International Space Station Pavload **Operations Center**
- · National Institute for Rocket Propulsion Systems
- Advanced Concepts Office
- Mission Operations Laboratory



## Wallops Flight Facility (WFF)

- Launch Complex
- NASA Airfields and Airspace

## White Sands Test Facility (WSTF)

- Test Stands
- Laboratories
- Machines & Fabrication Facility

## Michoud Assembly Facility (MAF)

- Engineering & Rocket Assembly
- Machines and Fabrication

#### Armstrong Fliaht Research

Center (AFRC)

- Drvden Aeronautical Test Range (DATR)
- Engineering Facilities
- Flight Loads Lab
- NASA Airfields and Airspace

# Johnson

#### Space **Center (JSC)**

- Mission
- Control Neutral Buoyancy
- Laboratory Audio Development
- Laboratory · White Sands Test Facility
- Communication Systems Simulation Lab

#### **Stennis Space** Center (SSC)

- Test Stands
- **High Pressure** Industrial Water
- High Pressure Gas Facility
- Cryogenic Propellant Systems

#### **Glenn Research** Center (GRC)

- Space Environments Complex
- In-Space Propulsion Facility
- Combined Effects Chamber
- Hypersonic Wind Tunnel

## **Goddard Space** Flight Center (GSFC)

- Telecommunications Systems
- Acoustic Test Chamber
- High Bay Clean Room
- Hubble Operations Control Room

# Kennedy Space

- Launch Complex
- Vehicle Assembly Building
- Launch Control Center
- Operations and Checkout Building

#### Langley Research Center (LaRC)

- Wind Tunnels
- Structures & Materials Laboratory
- Impact Dynamics Research Facility
- High Temperature Materials Laboratory

# **Our Infrastructure Team**

NASA's infrastructure is managed by the Office of Strategic Infrastructure (OSI), led by Dr. Joel Carney, Associate Administrator, and Denise Thaller, Deputy Associate Administrator. The Facilities and Real Estate Division (FRED), led by Erik Weiser, Director, manages the largest portfolio in OSI, that provides planning, maintenance, and management support over NASA's infrastructure and physical assets.









# Contact

Visit www.nasa.gov or email us at HQ-MSD-Info@ mail.nasa.gov to explore opportunities.

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- Multiuse



