



Jacobs Supports the Mars 2020 Mission

Spacecraft Services for LSP

Jacobs is proud to be part of the team that supports NASA's Launch Services Program (LSP) at Kennedy Space Center. Jacobs provides this support in its role as prime contractor for the Test & Operations Support Contract.

NASA LSP provides end-to-end and advisory service expertise for launching spacecraft for NASA science, exploration, U.S. Government and Government-sponsored missions.

LSP provides technical guidance through the entire process from the pre-mission planning all the way to the post-launch phase of the spacecraft.

The LSP work Jacobs supports includes:

- Services supporting the spacecraft processing team in the Payload Hazardous Servicing Facility (PHSF) prior to launch
- Readiness of support systems and supplies for hazardous hypergolic servicing operations to fuel spacecraft propulsion systems

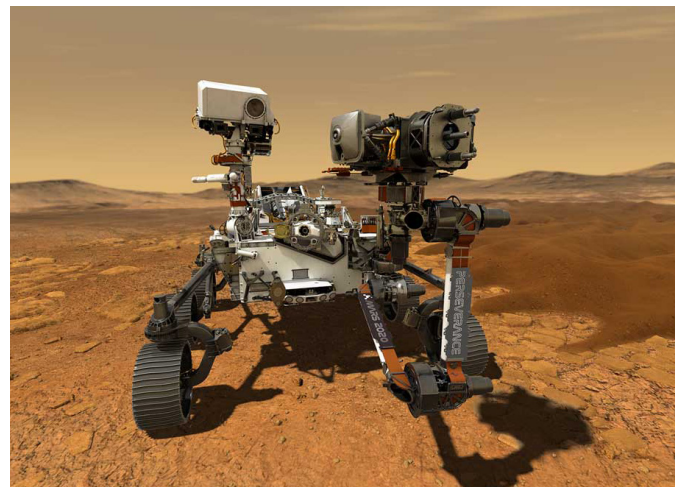
In its Host Role for Planetary Missions Support, Jacobs provides the following spacecraft services in the PHSF:

- Support Launch and Landing Facility Runway Operations to offload flight hardware and deliver to the PHSF
- Logistical support for shipments and Ground Support Equipment movements
- Contamination Control and Clean Room garment services
- Scrubbers, Cranes, and Doors Operations & Maintenance
- Facility Access Control and Fire Watch
- High Pressure Purge System Setups

Perseverance Rover

The Launch Services Program at NASA's Kennedy Space Center in Florida is responsible for launch management of the Mars 2020 Perseverance rover. The rover is a four-wheeled, car-sized vehicle that will scour the base of Mars' Jezero Crater, an 820-foot-deep (250-meter-deep) crater thought to have been a lake the size of Lake Tahoe, once the craft lands in February 2021. The crater is believed to have an abundance of pristine sediments some 3.5 billion years old that scientists hope will hold fossils of Martian life.

Mars 2020 is part of a larger program that includes missions to the Moon as a way to prepare for human exploration of the Red Planet. A summer launch will send the rover to a dry lake bed on Mars that is bigger than the island of Manhattan.



Jacobs Support

NASA shipped the spacecraft to Florida's Kennedy Space Center in multiple sections where it was fully assembled.

Jacobs supported the offload of the rover at the Launch and Landing Facility and delivered it to the Payload Hazardous Servicing Facility.

Jacobs Heavy Equipment and Transportation teams also offloaded other shipments supporting the Mars 2020 mission such as the Adaptive Caching Assembly, the Sterile Flight Model and associated hardware at the Launch and Landing Facility. They secured the containers and delivered the Planetary Protection Sterilization hardware to the Planetary Protection Lab in the Space Station Processing Facility (SSPF) and the remainder of the shipment to the airlock in the Payload Hazardous Servicing Facility.

The Jacobs team provided processing services for the spacecraft in the Payload Hazardous Servicing Facility and supported hazardous hypergolic servicing operations to fuel the spacecraft's propulsion systems ahead of its launch to the Red Planet this summer.

In addition to Hypers Engineering support, the team also provided Fluids Engineering Support by installing the flex line configuration for BAIR (breathing air) purge that protects the rover Adaptive Caching Assembly – the sensitive caching system that will collect samples on Mars.

In its host role for Planetary Missions Support, the Jacobs team provided a variety of other support for the rover, such as:

- Logistics for shipments and Personal Protective Equipment
- Contamination Control
- Doors Operations and Cranes Support
- Security/Access Control Monitors and Fire Watch
- Materials & Processes
 - Planetary Protection SSPF Labs
 - Industrial Clean Facility
 - PHSF High Bay Environmental Monitoring

In addition to previously listed support, Jacobs provided:

- Area Integration
- Planning & Scheduling
- Environmental Protection through Waste Accumulation Sites and Disposal
- Tech Ops Support

Once the rover completed processing, it was encapsulated into the ULA payload fairing and transported from the Payload Hazardous Servicing Facility to the Vehicle Integration Facility where it was integrated to the ULA Atlas V rocket.

For more about the mission, go to <https://mars.nasa.gov/mars2020/>.



Jacobs offloads Mars 2020 rover at the KSC Launch and Landing Facility.



Jacobs offloads Mars rover hardware items.



Jacobs prepares Mars rover shipment for transport to the Planetary Protection lab.



Perseverance is prepared for encapsulation in the ULA Atlas V payload fairing in the PHSF.

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Jacobs is the prime contractor for NASA's Test and Operations Support Contract (TOSC), which provides the overall management and implementation of ground systems capabilities, flight hardware processing and launch operations for the Exploration Ground Systems Program at the Kennedy Space Center.