



NASA's Artemis I Progresses Toward Launch

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WASHINGTON, Feb. 12, 2020 (GLOBE NEWSWIRE) -- The flight hardware has been built, the launch facilities are ready, and NASA and its industry partners are checking off final milestones for the launch that will put America on the path to landing the first woman and next man on the Moon. The Artemis I mission – the culmination of work by people across the country in support of the Space Launch System (SLS), Orion and Exploration Ground System (EGS) programs – will preserve the nation's leadership in human space exploration and set the U.S. on a new journey to explore deep space.

"Thanks to the hard work of women and men across our country, NASA's deep space exploration system is the Artemis program's foundation. With their contributions, America leads in human exploration at the Moon and it will be the same for Mars," said NASA Deputy Administrator Jim Morhard. "The success of the Artemis program depends on our suppliers, and we're confident they'll rise to the challenge of our 2024 deadline."

The Artemis I team includes five prime contractors and hundreds of suppliers from all 50 states, all of which are committed to the safe and successful launch of the most powerful rocket ever built and the only capsule capable of transporting and sustaining a crew in deep space, as well as successful mission execution and safe return of the lunar orbit mission. Representatives from this team of suppliers will meet in Washington, D.C. this week to share the latest program progress with legislators and highlight the work that is done in their respective states.

The five major industry players that are building and preparing to launch the SLS and Orion spacecraft for NASA's crewed exploration missions include:

- Aerojet Rocketdyne (NYSE:AJRD), which provides the reliable, flight-proven RS-25 and RL10 engines for the core and upper stage that carry SLS and Orion into orbit and on to deep space. It also provides the jettison motor for Orion's Launch Abort System and 21 thrusters on the Orion crew and service modules.
- Boeing (NYSE: BA), which designed, developed, built and is now testing the rocket's massive core stage and avionics, having completed the upper stage last year.
- Jacobs (NYSE: J), which has modernized and upgraded ground systems and launch facilities at the Kennedy Space Center, and is preparing to integrate and process the SLS and Orion flight hardware for launch.
- Lockheed Martin (NYSE: LMT), which has designed and is building the Orion spacecraft that will carry astronauts out to the Moon and beyond.
- Northrop Grumman (NYSE: NOC), which provides the rocket boosters that supply more than 75% of initial required thrust during the first two minutes of flight, as well as the attitude control motor and abort motor for Orion's Launch Abort System.

Recent SLS milestones include production completion of the Artemis I core stage flight hardware for first flight, now at Stennis Space Center for its final major test, called Green Run; delivery of booster aft exit cones to Kennedy Space Center (KSC) and completion of booster design certification review and first five-segment booster flight set; completion of the RS-25 engine hot-fire series for the first four SLS flights and attaching the RS-25s to the first core stage for testing. In addition, NASA is completing avionics systems at NASA's Marshall Space Flight Center that will control launch and guidance systems for the rocket.

The Artemis I Orion spacecraft is complete and was shipped to NASA's Plum Brook Station in Sandusky, Ohio, in late November for environmental testing to ensure that it can withstand the harsh environment of space on its journey around the Moon and back. In addition, Orion's full launch abort system was successfully tested this past July during a flight test called Ascent Abort-2 in Florida.

At KSC, the EGS team recently completed verification and validation of the modified mobile launcher and Launch Pad 39B systems. The team also received the massive SLS Core Stage Pathfinder at KSC, and conducted a month-long series of exercises in the Vehicle Assembly Building, during which they practiced handling and lifting of the full-scale mockup hardware. In the KSC Launch Control Center, the team is using the upgraded launch control system to complete SLS ground systems checkout and launch team training in the new control room environment.

Upcoming 2020 milestones for launch readiness will see these following programs integrated at KSC:

- The SLS rocket booster segments will be delivered to KSC and, along with the booster forward and aft assemblies, will be integrated in the Vehicle Assembly Building.
- The core stage and integrated RS-25 engines will complete Green Run testing at Stennis, and refurbishment, before being shipped to KSC for mating with the boosters.
- The Orion Artemis I crew and service module will return from Plum Brook Station for final testing and integration prior to launch.
- In addition to receiving SLS and Orion hardware for processing and stacking, the EGS team will conduct the Underway Recovery Test-8 in the Pacific Ocean in March, to validate the recovery procedures and operational timelines during a full mission rehearsal of Orion capsule recovery after splashdown.

Artemis I will be the first integrated flight test of the SLS rocket and Orion spacecraft. The mission will send Orion into a lunar distant retrograde orbit – a wide orbit around the Moon that is farther from Earth than any human-rated spacecraft has ever traveled. The uncrewed mission will last more than 20 days and will validate the design and safety of Orion and SLS for human exploration missions to follow. To learn more about Artemis I, visit www.exploredspace.com.

- Aerojet Rocketdyne: <https://www.rocket.com/space/launch-vehicle-propulsion/space-launch-system>
- Boeing: <http://www.boeing.com/space/space-launch-system/>
- Lockheed Martin: www.lockheedmartin.com/orion
- Northrop Grumman: <https://www.northropgrumman.com/capabilities/slssolidrocketboosters/Pages/default.aspx>
- Jacobs: <https://www.jacobs.com/solutions/discovery>

To explore the network of companies in 50 states and Puerto Rico that are supporting deep space missions, visit the SLS and Orion supplier map at: <https://www.nasa.gov/specials/ESDSuppliersMap/>

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Source: Aerojet Rocketdyne, Inc.

Source: Boeing

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