National Aeronautics and Space Administration

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Exploration Ground Systems

The Exploration Ground Systems Program (EGS) is one of three NASA programs based at the agency's Kennedy Space Center in Florida, including the Launch Services and the Commercial Crew programs. EGS was established to develop and operate the systems and facilities necessary to process and launch rockets and spacecraft during assembly, transport and launch.

EGS's mission is to transform the center from a historically government-only launch complex to a spaceport that can handle several different kinds of spacecraft and rockets and NASA's exploration objectives by developing the necessary ground systems, infrastructure and operational approaches.

Unlike previous work focusing on a single kind of launch vehicle, such as the Saturn V or space shuttle, engineers and managers in EGS are preparing infrastructure to support several different kinds of spacecraft and rockets that are in development, including NASA's Space Launch System (SLS) rocket and Orion spacecraft for the Artemis program.

A key aspect of the program's approach to long-term sustainability and affordability is to make processing and launch infrastructure available to commercial and other government customers, thereby distributing the cost among multiple users and reducing the cost of access to space.

NASA is developing the SLS exploration class rocket and working with several private companies to produce vehicles to take astronauts to low-Earth orbit and the International Space Station. The SLS is set to be the most powerful U.S. rocket since the Saturn V took astronauts to the Moon and will act as the cornerstone for NASA's future human exploration missions to deep space destinations.

Also in support of the SLS, the crawler-transporter, Vehicle Assembly Building (VAB), Launch Control Center's Young-Crippen Firing Room 1 and mobile launcher (ML) have undergone upgrades and modifications for their new roles.

EGS is focusing on the equipment, management and operations required to safely connect a spacecraft with a rocket, move the launch vehicle to the launch pad and successfully launch it into space. The work entails use of many of the facilities unique to Kennedy, such as the 52-story VAB and Launch Pad 39B.

Kennedy has more than 50 years serving as our nation's gateway to exploring the universe. Taking the knowledge and assets of NASA's successful spacefaring past, the EGS Program is helping to build a successful and diverse future in spaceflight.

For more information on the EGS Program, go to http://www.nasa.gov/groundsystems

The mobile launcher for NASA's Artemis missions rolls out of the Vehicle Assembly Building (VAB) at Kennedy Space Center in Florida on Sept. 10, 2019, after spending a week and a half inside due to the approach of Hurricane Dorian. The nearly 400-foot-tall structure was moved from Launch Pad 39B to the VAB for safekeeping on Aug. 30. NASA's Exploration Ground Systems moved the mobile launcher back to the launch pad, where teams will complete testing and checkout on the launcher in the coming weeks for the Artemis I mission. Photo credit: NASA/Ben Smegelsky

Clockwise from top left:
A special cover called the spider is seen on the Space Launch System (SLS) Core Stage pathfinder in the transfer aisle of the Vehicle Assembly Building at NASA's Kennedy Space Center.

Exploration Ground Systems completes Underway Recovery Test 6

Completion of another successful water flow test at Launch Pad 39B

NASA's mobile launcher (ML) atop crawler-transporter 2 moves along the crawlerway on Sept. 10, 2019

Members of the Artemis I launch team, including personnel with NASA's Exploration Ground Systems (EGS) and Jacobs Test and Operations Contract (TOSC), monitor activities during the first formal terminal countdown simulation inside Firing Room 1 in the Launch Control Center at NASA Kennedy.

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John F. Kennedy Space Center
Kennedy Space Center, FL 32899

www.nasa.gov

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