



### PROGRAM HIGHLIGHTS • MAY 2014

At NASA's Kennedy Space Center in Florida, the Ground Systems Development and Operations (GSDO) Program Office is leading the center's transformation from a historically government-only launch complex to a spaceport bustling with activity involving government and commercial vehicles alike. GSDO is tasked with developing and using the complex equipment required to safely handle a variety of rockets and spacecraft during assembly, transport and launch. For more information about GSDO accomplishments happening around the center, visit <http://go.nasa.gov/groundsystems>.

## Orion Test Vehicle Undergoes EFT-1 Pre-transportation Simulation

NASA's Ground Systems Development and Operations (GSDO) Program spent five days preparing and evaluating the hardware and rehearsing the processes for readying the Orion crew module for overland transportation from Naval Base San Diego in California to Kennedy Space Center in Florida.

After the spacecraft's first trip into space on Exploration Flight Test-1 (EFT-1) later this year, Orion will be recovered by a U.S. Navy ship after splashdown in the Pacific Ocean and brought to the naval base to be prepared for transportation back to Kennedy.



Workers simulated moving the Orion boilerplate test vehicle in place for lifting into the crew module transportation fixture May 14, 2014, at the Mole Pier at Naval Base San Diego in California.



Workers prepared for a simulated fit check of the hatch cover on the Orion boilerplate test vehicle May 13, 2014, inside a protective structure at the Mole Pier at the Naval Base San Diego in California.

A team of about 20 technicians and engineers from Kennedy, Lockheed Martin, the U.S. Navy and the U.S. Air Force practiced pre-transportation operations and fit-check testing of support equipment with the Orion boilerplate test vehicle May 12-16 at the Mole Pier and a storage facility at the naval base.

In a storage facility at the naval base, the Orion test vehicle was lifted by crane and placed in the crew

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module recovery cradle, built by Lockheed Martin. Workers then secured Orion to the cradle, which in turn was secured to a pair of container load trailers. Wheels on either side of the trailer allow it to move easily forward and backward. Orion was transported from the storage facility about a mile to the Mole Pier.

Workers built up a protective structure at the pier for Orion. The test vehicle was moved inside to simulate removal and installation of the hatch cover. The test was performed to ensure that the designated support equipment and associated procedures were effective in removing and installing the hatch cover.

For the complete story, visit <http://go.nasa.gov/1h41Xql>.

For more information about Orion, visit <http://www.nasa.gov/orion>.



*RIGHT: The Orion boilerplate test vehicle was on display at Petco Park in San Diego, California, on May 10, 2014, before the San Diego Padres' baseball game.*



*Modifications continued May 28, 2014, on the Mobile Launcher, or ML, at the Mobile Launcher Park Site at Kennedy Space Center. A construction worker trims a section of a steel wall. The ML is being modified and strengthened to accommodate the weight, size and thrust at launch of NASA's Space Launch System and Orion spacecraft.*



*Inside the Vehicle Assembly Building at Kennedy Space Center, engineers and technicians performed a GIZMO demonstration test May 1 on the ground test article Launch Abort System, ogive panel and an Orion crew module simulator to confirm that the GIZMO can meet the reach and handling requirements for the task.*

# Employee Spotlight --- Connie Lehan

Connie Lehan is the cross-program schedule lead in the Ground Systems Development and Operations (GSDO) Program at Kennedy Space Center. Her primary responsibility is to represent GSDO in cross-program (Exploration Systems Directorate, GSDO, Space Launch System and Orion) integration, developing products and analysis.

Lehan has worked at Kennedy for 24 years. She came to the center in 1990 and worked for Lockheed Martin. She wrote simulation programs to support launch team training. She transitioned to NASA space shuttle operations in 2000, and then to GSDO in 2007.

"GSDO is a team of very smart and talented people, and I enjoy working and learning from them," Lehan said. She is a second-generation employee of NASA's



space program. Her father worked in the Mercury, Gemini and Space Shuttle Programs.

"His stories inspired me to want to work for the space program," Lehan said. "Now I'm excited to have the opportunity to be involved in the beginning of a new program and to be a part of history."

When not at work, Lehan's hobbies include reading, gardening, going to the beach and spending time with her three sons: Jesse, 17, Joby, 16, and Josey, 14.

Her first car was a 1980 green Datsun 210. She has two golden retrievers, Roxy and Hurley.

Other family members also are working in space-related areas.

Her brother Louie works for NASA at Kennedy in Ground Processing, and her other brother, Diego, works for Lockheed Martin in Colorado. Her parents, Jose and Connie, live in Titusville, Florida.



A mining competition participant talks with a representative at the Ground Systems Development and Operations booth May 22, during NASA's 2014 Robotic Mining Competition at the Kennedy Space Center Visitor Complex in Florida.



Team members check their robot before the start of a mining session May 22 in the mining arena during NASA's 2014 Robotic Mining Competition. More than 35 teams from colleges and universities around the U.S. designed and built remote-controlled robots for the mining competition.