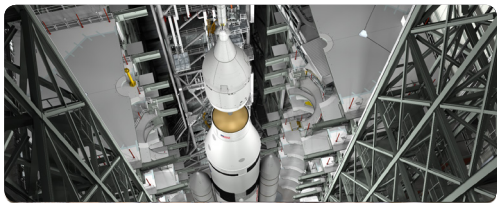
National Aeronautics and Space Administration

GSDO GROUND SYSTEMS DEVELOPMENT & OPERATIONS

EXPLORATION BEGINS HERE



PROGRAM HIGHLIGHTS • MAY 2015

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.

Small Class Vehicle Launch Pad Takes Shape at Pad 39B

NASA's Kennedy Space Center took another step forward in its transformation into a 21st Century multi-user spaceport with the creation of a new launch pad that is designed to attract smaller aerospace companies and enable them to develop and launch their vehicles from the center.

The landscape of the center's Launch Pad 39B area is changing as construction reveals the concrete surface of a new Small Class Vehicle Launch Pad, designated 39C, which will serve as a multi-purpose site for companies to test vehicles and capabilities in the smaller class of rockets. A designated pad to test smaller rockets will make it more affordable for smaller companies to break into the commercial spaceflight market. The Ground Systems Development and Operations Program is overseeing the project and working with Center Planning and Development to grow commercial space efforts at Kennedy.

A new Small Class Vehicle Launch Pad, designated 39C, is being constructed in the southeast area of the perimeter of Launch Pad 39B at NASA's Kennedy Space Center in Florida. This computer-aided view shows the new concrete pad, universal propellant servicing system, and customer-provided launch mount. Image credit: David Zeiters

A computer-aided aerial image of Launch Pad 39B, and the new Small Class Vehicle Launch Pad, designated 39C, in the southeast area of the perimeter of pad B. Image credit: David Zeiters

Located in the southeast area of the pad B perimeter, the new concrete pad measures about 50 feet wide by 100 feet long. GSDO also has developed a universal propellant servicing system, which would provide liquid oxygen and liquid methane fueling capabilities for a variety of small class rockets.

Jerad Merbitz, the Small Class Vehicle Element Operations manager, hopes the small class processing and launch features Kennedy has to offer, including the launch site, universal propellant servicing system, and launch control center options will attract aerospace companies to Kennedy.

To read the full story, visit http://go.nasa.gov/1Fwpvva.

GSDO Inspires, Promotes FIRST Robotics Teams

NASA inspires and educates future scientists, technologists and engineers by engaging them in science, technology, engineering and mathematics (STEM) activities and learning opportunities. Among the different ways to meet the challenge is to provide grants for educational programs.

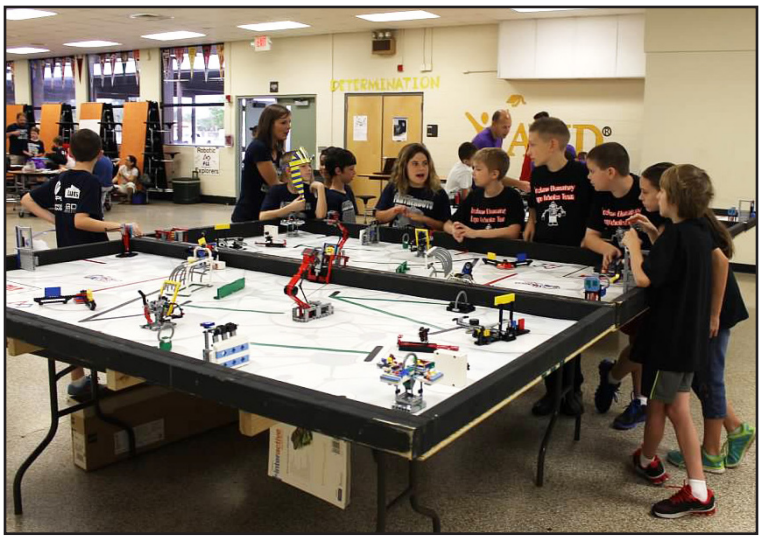
The Ground Systems Development and Operations Program (GSDO) at Kennedy did just that by providing $25,000 in grants to support some existing For the Inspiration and Recognition of Science and Technology (FIRST) teams and help create several new teams in Brevard County. GSDO also provided guidance and support to the teams.

During the 2014-2015 season, GSDO provided 41 grants to sponsor 35 new and existing teams in Brevard County.

The FIRST Robotics mission is to inspire young people to be science and technology leaders, and engage them in exciting mentor-based programs that build STEM skills, inspire innovation and help foster self-confidence, communication and leadership. GSDO helps teams in three of the four FIRST programs: FIRST Lego League, FIRST Tech Challenge and FIRST Robotics Competition.

To read the complete story, visit http://go.nasa.gov/1AQ3Vot.

Team Pink Pelicans, a FIRST Lego League at Viera Charter School, received World Class recognition during a Florida FIRST Lego League regional competition in January. Photo credit: Courtesy of Viera Charter School



Team members from the PantherBots, a FIRST Lego League at Viera Charter School, practice Dec. 12, 2014 for a competition in January 2015.

Modifications continue May 15 inside the Multi-Payload Processing Facility (MPPF) at NASA's Kennedy Space Center in Florida. This is a close-up view of the service platform that will be used for offline processing and fueling of the Orion spacecraft and service module stack before launch. GSDO is overseeing the upgrades to the facility. Photo credit: NASA/ Dimitri Gerondidakis

Ground Systems Team Spotlight

Cheryle Mako is a senior project engineer in the Engineering Directorate. She has worked for NASA for more than 25 years and had the honor of sitting on console in the Launch Control Center for the Space Shuttle Program's final three launches.

Her main responsibility is serving as system development manager for the GSDO Spaceport Command and Control System (SCCS). Mako's group is modernizing the Command Control Communications and Range systems involved in launching astronauts into space. They also are bringing computers and other networks up to date and creating systems that can handle several different kinds of spacecraft and rockets.

"The coolest part of my job is witnessing the passion and commitment of the hardworking system development team and serving as their leader," Mako said. "They truly are special, and Kennedy is fortunate to have the critical SCCS work in their hands."

Her first car was a brown Pontiac Firebird Trans Am. "I drive much slower these days," Mako said.

She is married to her husband, Michael, and they are celebrating their 22nd anniversary this year. They have two sons, two daughters and two grandsons.

Her hobbies include hiking, reading, scrapbooking, cooking and caring for her family.

Pete Reutt is a mechanical and handling engineer with Jacobs Technology on the Test and Operations Support Contract. His main responsibilities include developing mechanical operation procedures for handling spacecraft and International Space Station orbital replacement units. He also is a lifting and handling move director and task leader.

He most recently was a member of the Orion Exploration Flight Test-1 (EFT-1) recovery team that retrieved the spacecraft, secured it in the well deck of the USS Anchorage, transported it to the Mole Pier at Naval Base San Diego and loaded it into a special shipping container for transport back to Kennedy.

"The coolest part of my job is working on a broad range of flight components and with people from different organizations and companies," Reutt said. "One example is working with the EFT-1 recovery team that included the Sea Bees, the USS Anchorage crew, NASA, GSDO and contractor representatives from around the country."

Reutt's first car was a light blue 1963 Volkswagen Bug. One of his hobbies is flying and he has a private pilot's license. The other hobby is football - go Hokies!

His wife, Jane, is a logistics director on the TOSC contract. They have two sons, Michael and Christopher, and one daughter, Kimberly. Family pets include a Golden Retriever named Beamer, a rabbit named Spike, and a fish named Angel.

Chris Epler is a project manager with Vencore on the Engineering Services Contract (ESC). He started at Kennedy in 2000. His primary responsibilities include managing the cost, technical and schedule performance of ESC's portion of the crawler-transporter (CT) upgrades.

"It is a privilege to work on the CTs," Epler said. "They have been workhorses for NASA's Apollo and Space Shuttle Programs, transporting launch vehicles from the Vehicle Assembly Building to Launch Pads 39A and B."

CT-2 was selected to support transport of the new Space Launch System rocket and Orion spacecraft on the mobile launcher and is being upgraded to support the heavier lifting requirements. Epler and his team are busy replacing the traction roller assemblies and upgrading the jacking, equalizing and leveling hydraulic cylinders.

"The coolest part of my job is taking the crawler for a validation run after a system gets upgraded. It's a massive piece of equipment that takes a coordinated effort of engineers and technicians to operate," Epler said.

Epler's first car was a 1971 primer grey Dodge Duster with 60,000 miles on it. He bought it from his brother for $250 and sold it at 90,000 miles for $500.

Epler has a 15-year-old son and a great girlfriend. His parents and all six of his older brothers live in Pennsylvania. No cats or dogs, but Epler does have a four-year-old neon fish. His hobbies include surfing, biking, running, and golfing with his son.

Employee Spotlight: Trey Reilly

Trey Reilly is a program analyst with the independent assessment team in the Ground Systems Development and Operations (GSDO) Program at Kennedy Space Center.

The independent assessment team provides an independent, unbiased look at anything that management is interested in. Reilly's assessments provide GSDO management an early warning of any concerns or issues that may be coming down the pike before they materialize.

Reilly started working at Kennedy in the GSDO Program in October 2011. Before that he was a contractor at Johnson Space Center in Houston. He worked a couple of different programs at Johnson. Most recently he was in the Constellation business office. Before that he worked in the Space Operations Mission Directorate doing some assessment work.

"The coolest part of my job, I would have to say, is that GSDO is part of what we call the tri-program. It's the Space Launch System rocket, the Orion multi-purpose crew vehicle and GSDO is the ground portion of that," Reilly said. "Together we will build and launch the

largest rocket ever made to launch the first human spacecraft eventually to go to Mars. I get to play a part in that and I think it's pretty cool."

Reilly's first car was his parent's Jeep pick-up that he drove during high school. When he started working at his first job, he bought a black 1999 Chevy Camaro Z28 and promptly started to upgrade everything in the quest for more horsepower, or when he broke something while drag racing. He still has the car, but doesn't drive it much now.

His wife, Sarah, is a high school counselor. They have a three-month-old son, James IV. Family pets include two rescue dogs, Kimber, a Labrador mix, and Kane, an "everything" mix.

His hobbies include hunting, fishing, woodworking and mechanical work.

"I used to have hobbies before I had a family," Reilly said. "Currently, I'm restoring my grandfather's old aluminum fishing boat in my home shop."

A flatbed truck, carrying the second half of a new set of work platforms for the Vehicle Assembly Building, proceeds south on State Road 3 on May 6 at NASA's Kennedy Space Center in Florida. The platform is the other half of the "K" platforms. GSDO is overseeing upgrades and modifications to the VAB high bay to support processing of NASA's Space Launch System (SLS) and Orion spacecraft. A total of 10 levels of new platforms, 20 platforms altogether, will surround the SLS rocket and Orion spacecraft and provide access for testing and processing in High Bay 3. Photo credit: NASA/ Frankie Martin