



# Kennedy Space Center Overview

## Kennedy Space Center

NASA's John F. Kennedy Space Center helped set the stage for America's adventure to space for five decades. Kennedy Space Center shares a boundary with the Merritt Island National Wildlife Refuge on Florida's east coast, where nature and technology co-exist. The refuge includes about 140,000 acres on land and water and provides a wide variety of habitats, including coastal dunes, saltwater estuaries and marshes, freshwater impoundments, scrub, pine flatwoods, and hardwood hammocks that provide habitat for more than 1,500 species of plants and animals.

Kennedy Space Center offers 6,000 acres of land for facilities and roads, and has 7.8 million square feet of building area, and 564 miles of roads, including 184 miles of paved and 380 miles of unpaved roads. The combined spaceport (Kennedy and Cape Canaveral Air Force Station (CCAFS)) has served as the departure gate for every American human space mission and for hundreds of rocket launches carrying advanced research and interplanetary spacecraft. From the early days of Project Mercury to the space shuttle and International Space Station, from the Hubble Space



Telescope to the Mars exploration rovers, Kennedy enjoys a rich heritage in its vital role as NASA's processing and launch center.

As NASA transitions from the Space Shuttle Program to future endeavors, Kennedy's work force remains focused on the agency's core values: safety, integrity, teamwork, and excellence.

Kennedy will continue to support International Space Station operations as the orbiting laboratory enters its second decade of discoveries. And NASA's Launch Services Program managed at Kennedy Space Center will continue to launch satellites and robotic missions on journeys to learn more about our home planet and unlock the secrets of the universe.

During this time of transition NASA will work to develop its heavy lift rocket capabilities, the Space Launch System. Kennedy Space Center will provide 21st Century ground systems for processing and launch. The Orion Multi-Purpose Crew Vehicle will be assembled, tested and ultimately launched aboard the new heavy lift vehicle from Kennedy. NASA's new Commercial Crew Program, which is based at Kennedy, is working with commercial partners to create new spacecraft that will take NASA astronauts to the International Space Station and possibly other locations in low Earth orbit.



# NASAfacts

## Launch Services Program: Earth's Bridge to Space

As an enabling function for the agency, the Launch Services Program (LSP) exists to meet the needs of a diverse customer base which includes the space station, NASA space and earth science, exploration, technology and education requirements, as well as support to the national security community, the National Oceanic and Atmospheric Administration and international cooperative partners. The LSP is responsible for enabling access to space for all NASA missions and select government missions. LSP was established at Kennedy Space Center for NASA's acquisition and program management of expendable launch vehicle (ELV) missions. LSP works in the commercial arena to provide cost-effective, safe and reliable services. The main responsibilities of LSP are oversight of launch operations, countdown management, and providing additional quality and mission assurance for each ELV launch.

Since 1990, NASA has purchased ELV launch services directly from commercial providers, whenever possible, for its scientific and applications missions. All ELVs use the same basic technology to get into space – two or more rocket-powered stages, which fall away when their engine burns are complete.



## Commercial Crew Program

NASA established the Commercial Crew Program (CCP) at Kennedy Space Center to manage the commercial space activities that will be critical to the nation's future spaceflight. For the first time in nearly 50 years of American human spaceflight, Kennedy Space Center will be at the leading edge of designing, developing, demonstrating and flying human-rated vehicles. The 2010 NASA Authorization Act established commercial providers as the primary means for crew transportation

to the space station. The objective of the CCP is to facilitate the development of the United States' commercial low Earth orbit space transportation. This objective will result in a certified end-to-end crew transportation system.

Through this development and certification process, NASA will help lay the foundation for future commercial transportation capabilities, upon which the commercial partners can market transportation services to the U.S. Government

and other customers. Currently, in the second phase of the development, the agency is working with seven companies with funded and unfunded Space Act Agreements.

When a transportation capability certified for NASA use and services is available, the agency could purchase transportation services to meet its space station crew rotation and emergency return obligations.

Flights are targeted for around 2015.



ATK

Blue Origin

Boeing

Excalibur Almaz

Sierra Nevada

SpaceX

ULA

## 21st Century Ground Systems Program

The 21st Century Ground Systems Program was implemented at Kennedy to modernize its facilities for multiple commercial and government customers. The goal of the 21st Century Ground Systems Program is to transform the Florida Launch and Range Complex by implementing a focused set of investments to its infrastructure, creating a multi-use spaceport of choice for NASA and other users. The program aligns with the needs of civil, national security, and commercial enterprises, ultimately extending to the international space community. The 21st Century Ground Systems Program Office will provide the necessary program management for the ground infrastructure development and ground operations integration to support multiple government and non-government users.

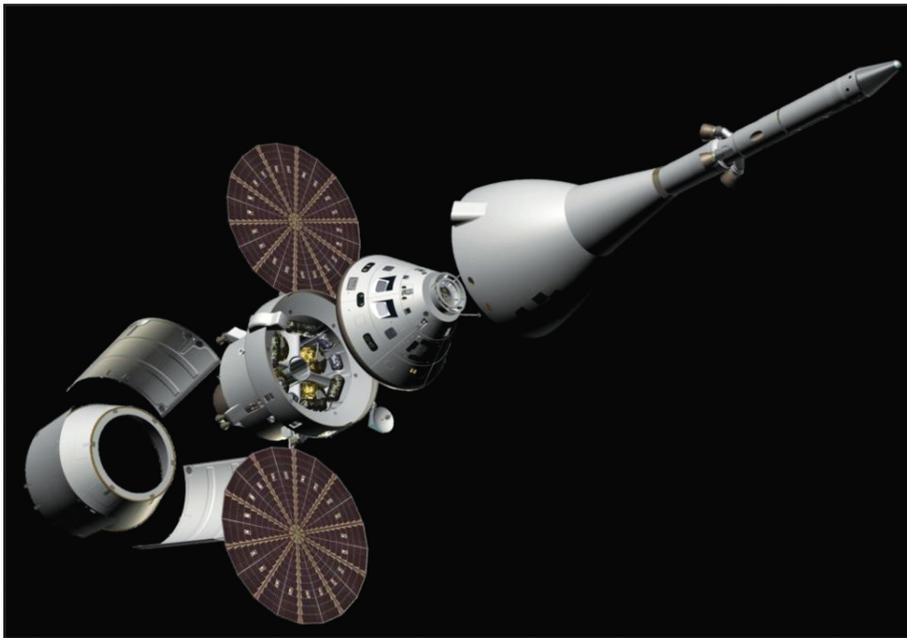
According to the NASA Authorization Act, the program will focus primarily on launching the

Space Launch System (SLS) and its human spacecraft, the Orion Multi-Purpose Crew Vehicle (MPCV). But the conversion also will include provisions to allow commercial users to take advantage of unique Kennedy capabilities, including the Shuttle Landing Facility, Orbiter Processing Facilities, the Vehicle Assembly Building, and Launch Complex 39. The program promotes the re-purposing of Kennedy capabilities for future users who will process and launch from the center and CCAFS.

The SLS Program will develop the heavy lift rocket that will launch the Orion spacecraft, other modules, and cargo. The SLS will have an initial lift capability of 70 to 100 metric tons, evolvable to 130 metric tons to lift the MPCV, and be a backup system for space station cargo and crew delivery. The Orion test article is already here at Kennedy. It will be housed in the Operations & Checkout Building high bay where manufacturing processes and efficiencies are being developed for the spacecraft.

The MPCV features dozens of technology advancements and innovations that have been

incorporated into the spacecraft's subsystem and component design. It includes both crew and service modules, a spacecraft adapter and a launch abort system. The MPCV will serve as the primary crew vehicle for missions beyond low Earth orbit, and will be capable of conducting regular in-space operations including, rendezvous, docking and extravehicular activities.



## Center Planning and Development Office

The Center Planning and Development Office (CPDO) provides strategic leadership and management integration of center planning activities and partnership development initiatives to enable Kennedy as a multi-user spaceport supporting both government and commercial launch providers and their customers.

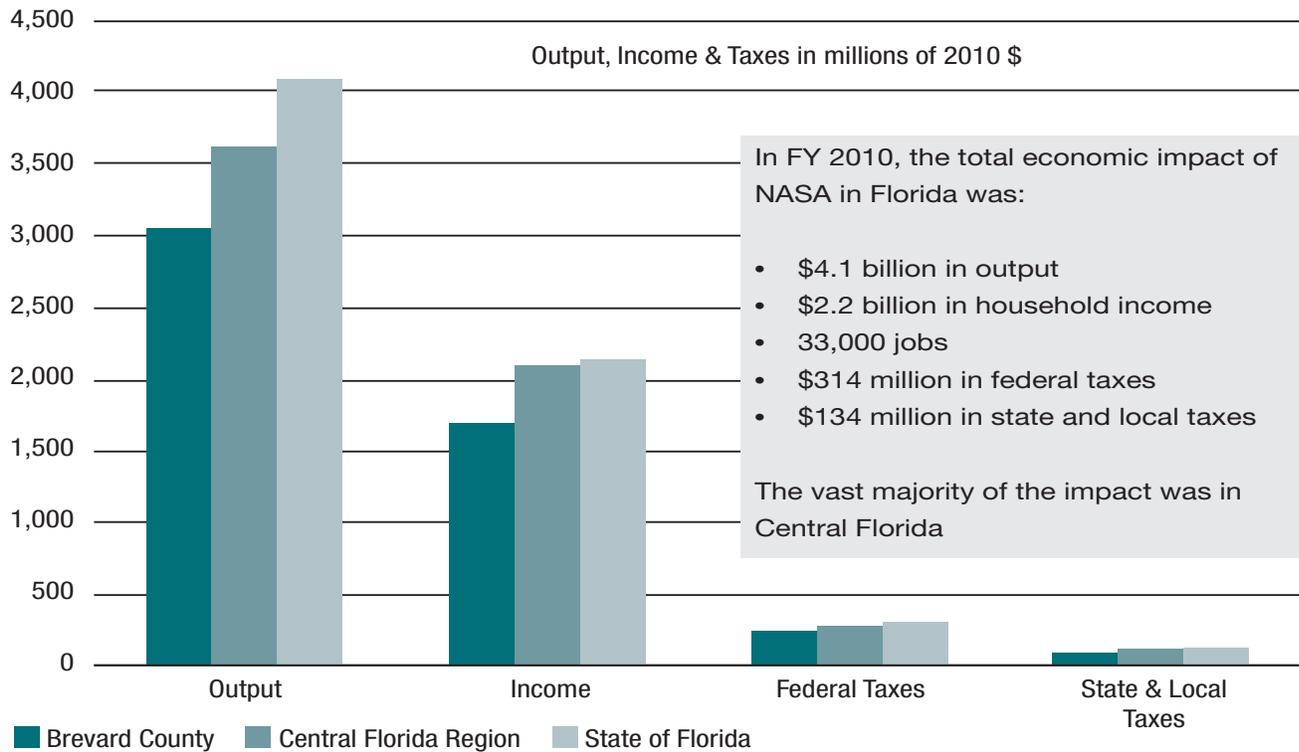
Serving as Kennedy's "front door" to industry and other government organizations, the CPDO develops strategic and business partnerships that advance NASA's and Kennedy's goals.

CPDO also is responsible for center land use planning and execution, development of spaceport infrastructure and business strategies, and the preparation and coordination of a Kennedy Space Center Master Plan with NASA organizations and external stakeholders.

## Economic Impact

Kennedy Space Center annually conducts an economic impact analysis to measure NASA's effect on the economy at the local, regional and state levels. The most recent assessment in Fiscal Year 2010, found that of the \$18.7 billion NASA budget, Kennedy and other NASA centers spent \$1.8 billion in wages and commodity purchases within the state of Florida. This monetary injection into the local, regional and state economy induced a total economic impact within the state of \$4.1 billion in total output, \$2.2 billion in household income, and generated 33,000 jobs. The report concludes that every space-related dollar spent in Florida produces more than double the economic output; and every space-related job creates an additional 1.26 jobs within the Florida economy. Kennedy remains a major economic driver in Brevard County and a major contributor to the economic health of the state of Florida.

### FY 2010 Total Economic Impact of All NASA Activities in Florida by Geographic Area



Area of Economic Impact	Millions of 2010 \$			
	Output	Income	Federal Taxes	State & Local Taxes
Brevard County	3,048	1,715	228	88
Central Florida Region	3,574	2,130	289	113
State of Florida	4,093	2,167	314	134

National Aeronautics and Space Administration

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