NASA Facts

National Aeronautics and Space Administration
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FACT SHEET **August 2007**

TRANSITIONING FROM THE SPACE SHUTTLE TO CONSTELLATION

The United States is transitioning from a country that sends astronauts to orbit the Earth to one that sends humans out into the solar system. NASA is working to make this transition – from the Space Shuttle Program to the Constellation Program – seamless and safe.

NASA has a vast array of unique and critical resources that have served the space program well for nearly 50 years. The agency is drawing on existing people, processes, technology, infrastructure, facilities and equipment as much as possible to ensure Constellation's success. All the while, the agency is committed to safely completing the remaining shuttle missions to the International Space Station and Hubble Space Telescope.

TRANSITION BASICS

The NASA Authorization Act of 2005 directs the agency to "identify, implement, and execute facilities efficiency via management, development and operations strategies that reduce life cycle cost and risk while ensuring safety and mission success."

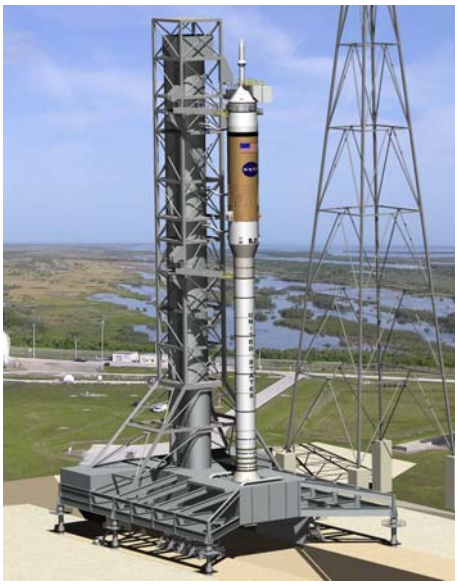
- The Constellation Program leverages "heritage technologies." Elements of the Apollo-era Saturn V rockets – such as the J-2 engine – can be seen in the new Ares launch vehicles. Ares also will build on the space shuttle elements. It will use shuttle solid rocket booster technology and external tank fabrication facilities, for example.
- The NASA transition involves roughly 17,000 civil servant and contractor employees, 1,500 suppliers, 600 facilities and a million types of hardware.
- The Space Shuttle Program is at a turning point as it moves toward retirement in 2010. During the next year, the program will make decisions to end the manufacturing capability for key parts of the space shuttle, such as the main engines.
- The agency has formal mechanisms, including the Transition Control Board and a Joint Integrated Control Board, for making decisions about transition activities.

WORKFORCE

NASA has some of the country's most highly-skilled, motivated employees — civil service and contract workers who are committed to space exploration and America's leadership in space. Managing the unique workforce through the transition is the single largest management challenge facing the agency, and NASA is employing tools such as:

- Sharing workers among multiple programs, providing tangible assurance that there will continue to be meaningful work
- Mapping workforce skills from current to future programs to identify pathways to the Constellation Program
- Providing open and honest information in a timely manner so individual workers can plan for their futures
- Looking for creative ways to balance skills with agency needs
- Strengthening ties with commercial space companies to ensure the full spectrum of our aerospace workforce is robust
- Considering workforce issues when timing contract awards to balance the needs of the Space Shuttle and Constellation Programs

FACILITIES



A graphic showing the future look of KSC's Launch Pad 39B, modified for Constellation

NASA's Kennedy Space Center, Fla.:

- Work is under way to transition Launch Complex 39B to launch the new Ares and Orion spacecraft.
- Firing Room 1, in the Launch Control Center, is being renovated to support Constellation Program launches.
- The Operations and Checkout Building, where payloads are processed, is being transitioned to Constellation.
- Work will begin soon to transition the massive Vehicle Assembly Building for future spacecraft processing.

NASA's Stennis Space Center, Miss.:

- A new propulsion test stand, known as A-3, will be built. It will be able to simulate different altitudes.
- An existing propulsion test stand, A-1, is being modified, along with the B-2 propulsion test facility.

NASA's Marshall Space Flight Center, Huntsville, Ala.:

- Modifications are being made to four buildings to support the Ares launch vehicles: the Cryogenic Structural Test Facility, the Dynamic Test Stand, the Thermal Protection System Development Facility and the Reactivate Advanced Engine Test Facility.

Other projects:

- At NASA's Johnson Space Center, Houston, Building 29 is being modified to house the Crew Exploration Vehicle (Orion) Avionics Integration Lab.
- At NASA's White Sands Test Facility in New Mexico, work will begin soon on the Orion Launch Abort Flight Test Launch Pad.
- At NASA's Glenn Research Center in Cleveland, the Spacecraft Environmental Test Facility is being modified to support Orion.

HARDWARE

The Space Shuttle Program has identified all the hardware needed for safe operation of the remaining shuttle missions and the dates any hardware will be no longer required. Once hardware is no longer needed for the Space Shuttle Program, it will be transferred to Constellation, other areas of NASA, or disposed of using standard procedures.

NASA's Constellation Program is building the next generation of spacecraft for human exploration. The Orion crew exploration vehicle will launch on the Ares I rocket. The Ares V will launch cargo.

Constellation will return humans to the moon by 2020 to set up a lunar outpost in preparation for journeys to Mars.

For more, visit: http://www.nasa.gov/constellation.

For more on the **Space Shuttle Program**, visit http://www.nasa.gov/shuttle.