



Human Space Exploration Update (August 17-21, 2015)

2016 Presidential Election

- **Senator Cruz (R-TX) on Space:** [What Ted Cruz thinks about manned spaceflight](#) "There's no question that manned spaceflight, whether it be back to the moon, to Mars, and beyond, is a critical and vital component of NASA's mission, and we must not lose sight of that in pursuit of political agendas," 2016 presidential candidate Ted Cruz tells Roll Call on the campaign trail.
- **Donald Trump on Space:** [Trump: "I want to rebuild our infrastructure" before sending people to Mars](#) What are U.S. presidential candidates saying at this stage of the 2016 campaign about human space exploration? New York businessman Donald Trump addressed the issue during a New Hampshire rally on Friday.

International Space Station

- **Russian Robot to ISS:** [Russia to send first ever robot-cosmonaut to ISS](#) Russia's robot assistant would join robotic hardware developed by the Canadian Space Agency and NASA on board the International Space Station. Russian robotics are part of the U.S. Mars Science Laboratory rover mission and will be an important part of Russia's plans to establish a human lunar base.
- **Water Transfers to ISS:** [Taking Endeavour's tanks: Retired shuttle donating water tanks for Space Station](#) Engineers plan to gather at the California Science Center in Los Angeles this week to extract four tanks from the mid-deck of the shuttle orbital Endeavour, which has been on public display for three years. The tanks will be prepared for transfer to the International Space Station, where their storage of water will help to reduce time consuming water transfers. The transfers are a frequent requirement for space station astronauts, time that could be re-purposed to more work on science and technology demonstrations.

Orion and Space Launch System

- **Orion Spacecraft at Glenn Research Center:** [Orion spacecraft about to be put through its paces at Glenn](#) NASA is gathering a test version of the Orion spacecraft's European Space Agency furnished service module and launch vehicle adapter for a series of tests at NASA's Glenn Research Center. Testing inside the Space Power Facility will expose the hardware to anticipated Space Launch System vibrations as well as simulated space environments. Orion is under development to start future human explorers on deep space missions.
- **SLS Mobile Launcher at KSC:** [Kennedy Space Center highlights progress of SLS mobile launcher](#) A \$300 million NASA investment in a Mobile Launcher for the Space Launch System exploration rocket is coming together at the Kennedy Space Center. The "ML" is designed to support the 5 1/2 million pound rocket designed to start humans on missions to deep space destinations. Contractors, at work since the conclusion of the space shuttle program in mid-2011, are now turning to the installation of the equipment that will provide electricity, fluids and cryogenic propellants on the ML

- **ASAP Assessment:** [ASAP evaluates status on SLS and Orion red risks](#) NASAspaceflight.com (8/17): NASA's Aerospace Safety Advisory Panel finds NASA's Space Launch System exploration rocket as well as the Orion crew vehicle and associated ground launch systems making progress as they address development risks.

Commercial Space Transportation

- **Antares Launches to Return to Wallops:** [Antares launches to resume at Wallops in 2016](#) Orbital ATK prepares for a busy 2016 featuring multiple launches of cargo to the International Space Station under the terms of a NASA commercial re-supply contract. Launches with Orbital's modified Antares rocket are planned to resume from Virginia's Eastern shore early in the year as part of a recovery from an Oct. 28, 2014 launch mishap at the Mid-Atlantic Regional Spaceport.
- **More Cargo Orders for Orbital and SpaceX:** [NASA considering more cargo orders from Orbital ATK, SpaceX](#) NASA's Space Station program extends long running contracts with Orbital ATK and SpaceX for resupply of the International Space Station, while the agency evaluates proposals for a second contract round. Initial contracts were awarded in late 2008.
- **Scott Kelly Urges Funding:** [NASA's Scott Kelly urges full funding for commercial crew ships](#) Astronaut Scott Kelly, in the midst of a near year-long mission aboard the International Space Station, urges bipartisan support for full funding of NASA's Commercial Crew Program and efforts to establish Boeing and SpaceX contracted transportation for astronauts to and from the six person orbiting science laboratory.

Space Budgets, Policy, Missions, Benefits, International ...

- **Human Settlements on Mars:** [The next Jamestown](#) "I could see that the most extraordinary and most disruptive event in human history -- the colonization of Mars -- was about to occur far sooner than anyone could guess," says Stephen Petranek, as explanation for his new book, *How We Will Live on Mars*. "Imagine the sense of pride in everyone on the home planet when they realize that humans can actually do this -settle on another planet in our solar system."
- **3-D Printing and Exploration:** [Will 3D printing in space allow us to build new worlds?](#) Additive manufacturing, or 3-D printing, will make it possible for more humans to reach space, says Jason Dunn, whose company Made in Space was the first to demonstrate the fabrication of equipment aboard the International Space Station. "Everything is falling into place that we can actually send people to Mars and to the moon and to the asteroids, that we can build entirely new worlds of our own like large space stations," Dunn tells the PBS News Hour. "And that's really the vision, is that we have the entire universe at our disposal to go out and explore."
- **Journey to Mars:** [How we'll get people to Mars in one piece](#) As NASA's newest deputy administrator, Dava Newman is focused on the health and safety challenges of reaching the red planet with human explorers in the 2030s. "If everyone is not talking about our journey to Mars at the dinner table, I want to change that," says the former MIT professor of astronautics.
- **"The Martian":** [Matt Damon joins NASA at least for his next movie](#) The feature film *The Martian* opens in theaters Oct. 2. Star actor Matt Damon and director Ridley Scott turned to NASA for the advice that makes the movie seem so realistic. (See also: [Trailer: 'The Martian'](#))

Florida

- **SLS Mobile Launch Platform at KSC:** [NASA unveils mobile launcher at KSC](#) WKMG-TV, of Orlando (8/19): Modifications to a massive Mobile Launch Platform under way at the Kennedy Space Center will serve as the springboard for NASA's Space Launch System exploration rocket and Orion crew capsule for future missions to deep space destinations. The \$350 million in modifications are preparing the MLP for use in September 2018.
- **Golf Club Advances from Space:** [ISS helps launch new golf driver](#) Cobra Puma Golf's new King LTD driver was inspired by materials science research aboard the International Space Station. The company formally introduced the new club on Tuesday in Florida at the PGA National Resort and Spa. The space research influenced the club's center of gravity and weight reduction.

Citizens for Space Exploration – a pro-space, taxpayer, grassroots advocacy group (http://www.bayareahouston.com/content/c_s_e/c_s_e) – has travelled to Washington, D.C. the past 23 years to meet face-to-face with Members/staff of Congress to discuss the value of America's investment in space exploration. In order to sustain that dialogue on a regular basis, Citizens distributes "Space Exploration Update" to Congressional offices on a weekly basis. The intent is to provide an easy, quick way to stay abreast of key human space exploration program and policy developments.