



## **Human Space Exploration Update (Nov 3-7, 2014)**

### **Congress**

- **Elections and FY2015 NASA Budget:** [Republicans seize control of Senate, add to House Majority](#) After a lengthy adjournment for congressional mid-term elections, the U.S. House and Senate are scheduled to reconvene. The lame duck session is likely to focus on an overdue 2015 budget. The federal government is operating under a budget continuing resolution that expires Dec. 11. So far, NASA is in line for a budget increase.

### **International Space Station**

- **Extending ISS Operations to 2024:** [U.S. desire to keep ISS going 'noted' for the record](#) At a Paris meeting this week, the major partners in the U.S. led International Space Station program express a desire to operate the six person orbital laboratory until 2024, though without making commitments. Some member countries are having financial difficulty meeting the current goal of 2020. The U.S. proposed the 2024 extension earlier this year.
- **Transformation of ISS:** [Privately-funded space research leverages scarce public funding | commentary](#) Entrepreneur Jeffrey Manber says the space station is undergoing a transformation as it opens to experiments and technology demonstrations by the private sector that herald new products and economic opportunity.

### **Orion and Space Launch System**

- **Orion Exploration Flight Test-1:** <http://spaceflightnow.com/2014/11/06/video-learn-about-the-orion-flight-test-launching-in-december/> Interview with NASA Flight Director Mike Sarafin. (See also: [Daring Orion Spaceship Test Flight Is NASA's 1st Step Toward Mars](#) and [NASA's Orion Spacecraft Complete, Ready for Move to Launch Complex 37](#))
- **SLS Celebrates Hispanic Heritage Month:** <http://www.youtube.com/watch?v=wxyUyvKedkI> This video features employees at Southern California Braiding in California, a vendor that is supplying components for NASA's new Space Launch System rocket.
- **SLS Video:** <http://www.youtube.com/watch?v=HOZ00J-0jhY>

### **Commercial Space Transportation**

- **Orbital Cargo Missions to ISS:** [Orbital drops AJ-26 after failure, looking for alternate launcher to ISS](#) Orbital Sciences plans to replace the Soviet era rocket engine whose failure is blamed for the Oct. 28 post launch breakup of an Antares rocket. The two stage rocket was carrying the Cygnus cargo capsule with supplies for the International Space Station. Orbital will look to another launch services company to meet its commercial resupply obligations to the six person station while it returns Antares to flight.
- **CST-100 Video:** <http://www.youtube.com/watch?v=fuwPdH6UChc>

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

- **China and Space Exploration:** [China's 1st round-trip moon shot sets stage for bigger lunar feats](#) China intends to use data gathered from its recent lunar mission to launch the country's second moon lander and rover. A Chinese test capsule returned to Earth Oct. 31/Nov. 1 after looping around the moon. The flight sets the stage for the Chang'e 4 mission lander and a test of hardware for a 2017 robotic lunar sample return mission, Chang'e 5.
- **Mars Exploration:** [Curiosity finds tantalizing mineral clues for Mars habitability](#) NASA's Mars Curiosity rover makes a key mineral discovery at its first drill site at the base of Mount Sharp on Mars. The find has possible links to water and microbial activity on the red planet.
- **The Moons of Mars:** [Destination Deimos \(part 1\)](#) The small Martian moon Deimos is a worthy destination for human deep space exploration, write James S. Logan and Daniel R. Adamo, former NASA flight surgeon and flight dynamics officer. Deimos is a worthy challenge to deep space exploration technologies, a worthy science target and an opportune staging area from which to establish a telerobotic presence on Mars, write the co-founders of the Space Enterprise Institute.
- **The Costs and Rewards of Space Exploration:** [Exploration is always costly. But the prize is worth the labor and loss.](#) Human space exploration, publicly and privately, will continue despite losses like those of the SpaceShipTwo and Antares, writes David Weber, science fiction author. The lure of new space resources and habitats is too great to turn away, according to Weber. (See also: [Station astronaut calls private spaceflight 'next breakthrough.'](#))

## Ground System Development & Operations

- **GSDO Video:** [http://www.youtube.com/watch?v=yd\\_Bg7K6Jt0](http://www.youtube.com/watch?v=yd_Bg7K6Jt0)

## Florida Highlights

- **Shuttle Landing Facility:** [Moon Express Prepares to Test Hardware at NASA's Shuttle Landing Facility](#) Google Lunar X-Prize contestant Mars Express prepares for test activities at NASA's Kennedy Space Center. Both Mars Express and NASA seek data on the handling qualities of the donut shaped spacecraft. (See also: [Bold talk from team aiming for Google's Lunar XPRIZE](#))
- **Shuttle Monument:** [Shuttle monument dedicated during Titusville ceremony](#) Stainless steel memorial to NASA's 30-year shuttle program takes shape at the Space View Park in Titusville, Fla. "When I look back on the program, it was a great experience," recalled former shuttle commander Robert Crippen, who was among those gathered for the opening of the memorial.
- **Russian Engine Ban:** [Battle looming over Russian engine ban in U.S. defense bill](#) The National Defense Authorization Act of 2015, legislation pending before the U.S. Congress, would ban the use of Russian rocket engines for the launch of U.S. national security payloads. The clause is likely to divide the U.S. House, the publication reports.
- **RD-180 Rocket Engine:** [ATK expands on its domestic alternative to Atlas V's RD-180](#) ATK's solid fuel first stage emerges as a possible domestic alternative to imports of Russia's RD-180, which is currently used to power the Atlas 5 rocket.

**Citizens for Space Exploration** – a pro-space, grassroots advocacy group, supported by the Melbourne Regional Chamber of Commerce, travels to Washington, D.C. to meet face-to-face with Members/staff of Congress to discuss the value of America's investment in space exploration. To sustain that dialogue on a regular basis, Citizens distributes "Human Space Exploration Update" to Congressional offices on a weekly basis and makes it available to our Chamber members as a quick-and-easy way to stay informed

*on developments impacting NASA and Space Coast Florida.*  
[http://www.bayareahouston.com/content/c\\_s\\_e/c\\_s\\_e](http://www.bayareahouston.com/content/c_s_e/c_s_e)