



## **Human Space Exploration Update (Oct 27-31, 2014)**

### **Congress**

- **Elections and FY2015 NASA Budget:** [Pending NASA budget bill would likely survive Senate flip, lobbyist says](#) The pending NASA budget for 2015 is likely to emerge intact from the November Congressional elections even if the U.S. Senate majority turns from Democratic to Republican. NASA would get \$17.9 billion for 2015, some \$250 million more than in 2014.

### **International Space Station**

- **Technology/Research for ISS:** [NASA is kicking Space Station technology up to the next level](#) NASA advances camera equipped, free flying robots aboard the International Space Station. Soon these flying machines will have the run of the Space Station. (See also: ["Hello, ISS? This is Huntsville"](#))
- **Cargo Mission to ISS:** [Russian cargo ship docks with ISS](#) Russia's Progress 57 launches and docks with the six person International Space Station, delivering nearly three tons of supplies. (See also: [Wallops launch site spared major damage](#) and [Antares failure: Damage not too bad, identifying likely cause: days not weeks away](#))

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

- **Orion Ready to Move to Launch Pad:** [EFT-1 Orion completes assembly and conducts FRR](#) The Orion capsule in line to launch Dec. 4 on Exploration Flight Test-1 from Cape Canaveral Air Force Station, Fla., has completed assembly at NASA's Kennedy Space Center and is awaiting a move to its assigned launch pad at Cape Canaveral Air Force Station. (See also: <https://blogs.nasa.gov/orion/2014/10/30/nasas-orion-spacecraft-complete/> )
- **Orion Posters:** <http://www.nasa.gov/exploration/systems/orion/collectibles/>
- **"Rocket City":** [Huntsville still the 'Rocket City' as NASA aims for Mars: quest opinion](#) In an op-ed, NASA Administrator Charles Bolden praises the Marshall Space Flight Center and its employees for their efforts to advance U.S. deep space exploration aspirations with support for the Space Launch System, Orion and Commercial Crew programs as well as research aboard the International Space Station.
- **SLS Concepts and Images:** <http://www.nasa.gov/exploration/systems/orion/collectibles/>

### **Commercial Space Transportation**

- **Antares – Lessons Learned:** [Editorial: How to think about Antares failure](#) "Lessons will be learned from the failure of Orbital's Antares at NASA's Wallops Flight Facility in Virginia," according to the magazine. "One conclusion that should not be drawn is that commercial space companies are simply less capable than the legacy aerospace giants. Nor should it be inferred that spaceflight is so staggeringly difficult only a large government-run enterprise can achieve a

high level of performance." (See also: [The Antares rocket explosion shouldn't deter America's space mission: opinion](#))

- **Commercial Space:** <http://www.nasa.gov/externalflash/commercializingspace/>

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

- **Crew Escape Systems:** [New U.S. rockets include crew launch-escape systems](#) Crew escape systems like those planned for NASA's Orion crew exploration capsule and the Commercial Crew Program's CST-100 developed by Boeing and the Dragon developed by SpaceX offer a means of survival in a launch explosion like the one that destroyed an unmanned Orbital Sciences Antares rocket.
- **Propulsion for Mars Mission:** [Nuclear thermal propulsion could be ticket to Mars](#) NASA's Marshall Space Flight Center has started a new series of tests to check out promising fuel sources without a radiation threat. Nuclear thermal propulsion may one day deliver cargos to Mars ahead of human explorers. The same technologies, with changes to accelerate the mission, could then be used to transport human explorers.
- **Need for New U.S. Rocket Engine:** [Boeing exec says NASA crash underscores need for new U.S. engine](#) Boeing's defense division lead calls for new U.S. rocket engine in aftermath of Tuesday's Antares rocket explosion. "It's a wake-up call that we need to move forward, we need to move smartly, we need to move together to protect this industry," according to Boeing's Chris Chadwick. "We need to move beyond today's technology ... and look for that next generation of engine that's even more reliable, even more capable."
- **Public-Private Partnerships in Space:** [NASA report spotlights evolving U.S. private-sector space activities](#) New NASA report suggests the U.S. is on the verge of a second Space Age thanks to new NASA public private alliances.
- **Asteroid Redirect Mission:** [MIT scientist proposes asteroids as destinations before Mars](#) MIT professor Richard Binzel argues that the next destination in space for humans should be the near Earth asteroids. The asteroids qualify as worthy destinations for humans prior to a long mission to Mars, said Binzel. However, he is no fan of NASA's proposed Asteroid Redirect Mission, which would place an asteroid around the moon before it was visited by astronauts.
- **Women in Space:** [PBS 'Makers' film looks at women in space](#) The new PBS documentary, Michael Epstein's *Makers: Women in Space*, exams the emerging role of women in the U.S. space program. During the program's earliest days, women more qualified than men were excluded.

### **Florida Highlights**

- **Another Successful ULA Launch:** [Successful space launch follows spectacular launch failure](#) Within hours of the Antares rocket loss on Tuesday, a United Launch Alliance Atlas 5 rocket delivered the latest in a series of U.S. Global Positioning System navigation satellites to orbit for the U.S. Air Force. Aerojet Rocketdyne furnished the upper stage engine and thrusters for the successful mission.
- **RD-180 Rocket Engine and 3-D Printing:** [How 3-D printing could help replace Russian rockets](#) Aerojet Rocketdyne and Dynetics, Inc., have developed a 3-D printing strategy for a domestic alternative to Russia's RD-180 rocket engine. Future imports of the RD-180 have been jeopardized by Russian actions in the Ukraine.

**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)