On Jan. 14, NASA announced it has awarded three cargo contracts to ensure the critical science, research and technology demonstrations that are informing the agency’s journey to Mars are delivered to the International Space Station (ISS) from 2019 through 2024. The agency unveiled its selection of Orbital ATK; Sierra Nevada Corporation; and SpaceX to continue building on the initial resupply partnerships with two American companies. These Commercial Resupply Services contracts are designed to obtain cargo delivery services to the space station, disposal of unneeded cargo, and the return of research samples and other cargo from the station back to NASA. These resupply flights will be conducted in parallel with NASA’s Commercial Crew Program providers’ flights that enable addition of a seventh astronaut to the International
On Jan. 15, Expedition 46 Flight Engineers Tim Kopra of NASA and Tim Peake of the European Space Agency conducted a spacewalk outside the International Space Station to replace a voltage regulator that failed in November, causing a loss of power to one of the station’s eight power channels.

After completing that primary objective of the spacewalk, Kopra reported a small water bubble had formed inside his helmet, which prompted ground controllers to end the spacewalk early.

Kopra and Peake returned to the airlock safely.

Engineers now are assessing the situation to determine what may have caused the problem.

On Jan. 13, NASA's Juno mission to Jupiter became humanity's most distant solar-powered emissary when it reached a spot in space about...
493 million miles from our sun.

Juno surpassed the previous record set by the European Space Agency's Rosetta spacecraft during its approach to comet 67P/Churyumov-Gerasimenko.

Juno, the first solar-powered spacecraft designed to operate at such a great distance from the sun, is scheduled to arrive at Jupiter on July 4.

New images of the dwarf planet Ceres, taken by NASA's Dawn spacecraft – from its lowest-ever altitude at the planet – are giving scientists a more detailed look at some of Ceres' most intriguing features. This includes bright material on the rim of Kupalo Crater – which could be salt. Researchers are looking into whether this material is related to the "bright spots" of Occator Crater, also on Ceres. Dawn also saw a dense network of fractures in another crater on Ceres that are similar to fractures seen on our own moon.
Dawn’s prime mission is scheduled to end in June – it will remain at its current altitude until then and indefinitely afterward.

2016 has seen continued progress with development of NASA’s Space Launch System rocket. Construction is underway at Marshall Space Flight Center on a second new structural test stand.

When completed in the summer of 2016, the 85-foot-tall Test Stand 4697 will be used to evaluate how the massive SLS core stage handles the forces of a real launch.

Also at Marshall – the final vertical weld was completed recently on the bottom portion of the test version of the rocket’s launch vehicle stage adapter (LVSA).

Engineers have just two more major welds to finish the test article – which is expected to be tested with the other structural test hardware in late 2016.

An all-electric self-driving car that uses
NASA-developed technology was tested recently at Ames Research Center.

The Nissan-built autonomous vehicle is equipped with cameras, sensors, and cellular data networking and uses software originally developed for the Ames K-10 and K-REX planetary rovers. Ames and Nissan are developing and testing algorithms, concepts, and integrated prototypes for a variety of vehicular transport applications.

And that's what's up this week @NASA …

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