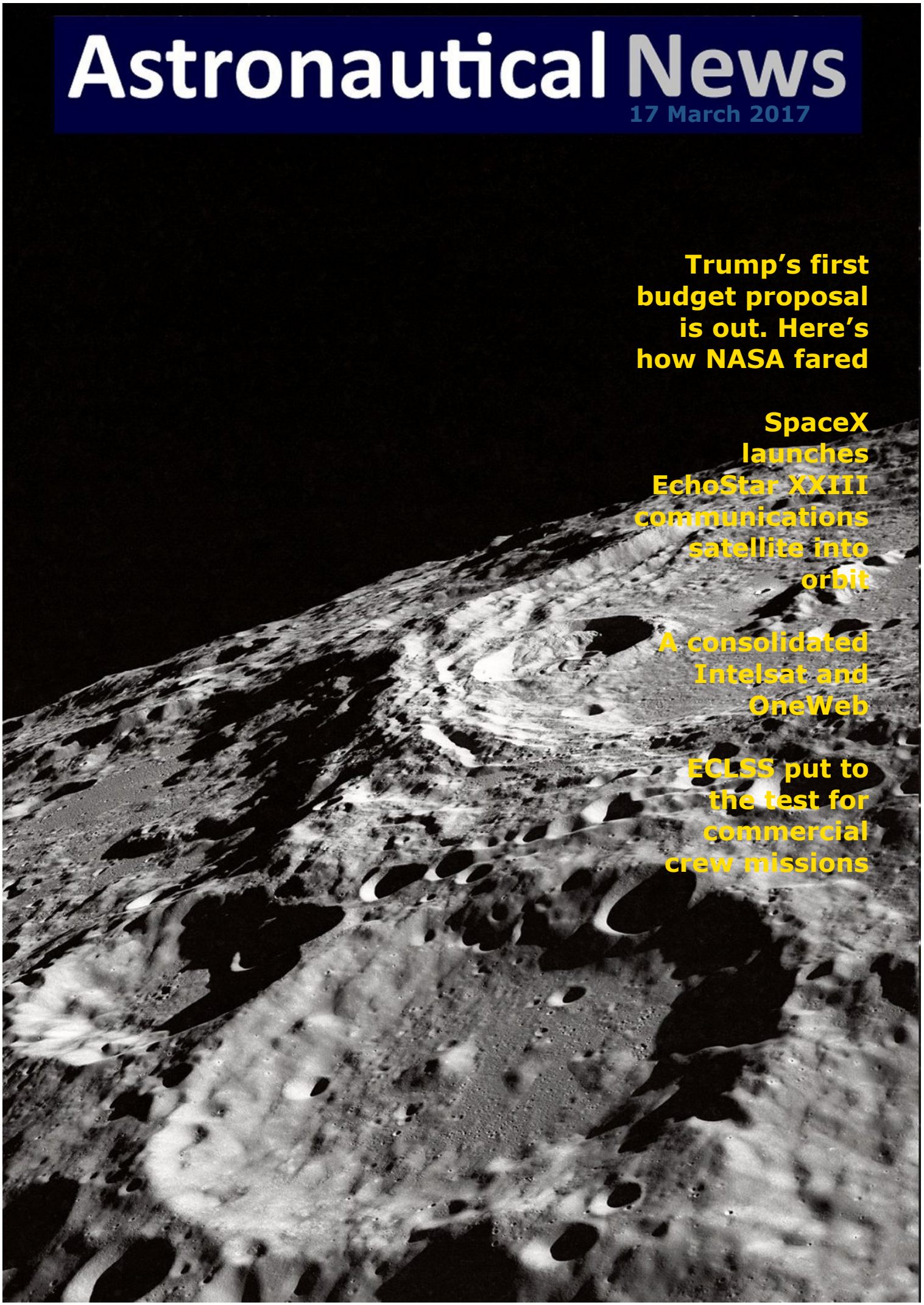
# Astronautical News

17 March 2017



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**Astronautical News**
17 March 2017

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The British Interplanetary Society

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## NASA's new budget is big on other worlds but ignores our own

The space agency's marching orders focus on sending humans to Mars by 2033 and looking for life elsewhere in the universe, but omit any mention of studying of our own world. On 7 March, Congress passed the NASA Transition and Authorization Act, giving NASA a budget of $19.5 billion for fiscal year 2017 and some instructions for how to spend it. The budget now awaits the President's approval. The bill requires NASA to start working on a "human exploration roadmap", including "goals and objectives of a United States human space exploration program to achieve the long-term goal of human missions near or on the surface of Mars in the 2030s". The bill mentions Mars 70 times, indicating that sending humans there will be a major priority in this administration's vision of NASA. The bill includes only 50 mentions of Earth, almost all of which refer to low-Earth orbit rather than our planet's surface and atmosphere, which NASA is instrumental in studying and monitoring. Notably absent from the bill is any information about NASA's Earth science activities, for which NASA requested just over $2 billion this year.

More...

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**Trump's first budget proposal is out. Here's how NASA fared** NASA escaped a large-scale budget slash, and planetary science fared well. ARM is canceled, the Moon-versus-Mars debate is not mentioned, and Earth science stands to lose some missions.

**Potential NOAA cut would be devastating** On the surface, it may appear that the administration is actually prioritizing NOAA's weather prediction and warning apparatus, given the smaller 5 percent cuts to the National Weather Service and National Marine Fisheries Service. That's in contrast to the 22 percent and 26 percent spending reductions for NOAA satellites and NOAA weather and climate research, respectively.

**Zero2Infinity launches rocket from balloon** Zero 2 Infinity, a company specialised in Space transportation systems based in Barcelona, Spain, said it successfully launched its first rocket from a balloon on 1 March.

**UrtheCast receives C$17.6 million of state funding** UrtheCast Corp. announced that it will receive approximately C$17.6 million in funding from Innovation, Science and Economic Development Canada's Industrial Technologies Office as part of its Strategic Aerospace & Defense Initiative (SADI) programme.

**Busy road to Mars opens in 2020** NASA, Europe, India, China, the United Arab Emirates, and SpaceX are all planning Mars missions to take advantage of a launch opportunity in three years.

**SpaceX launches EchoStar XXIII communications satellite into orbit** SpaceX on Thursday successfully launched a communications satellite into space from the Kennedy Space Center in Florida. The company's Falcon 9 rocket blasted off at 2 am (0600 GMT) carrying the EchoStar XXIII, a commercial communications satellite for EchoStar Corporation. The satellite will provide telecommunications.

**A consolidated Intelsat and OneWeb** The companies announced an agreement in which Intelsat and OneWeb will merge in a share-for-share transaction, with Japan's SoftBank Group agreeing to invest $1.7 billion in the combined company.

**ECLSS put to the test for commercial crew missions** Extensive evaluations are underway on the life support systems vital to successful flight tests as NASA prepares to return human spaceflight to the United States. One of the most intensely studied systems is called ECLSS.

**International space docking standard updated** The International Space Station Multilateral Coordination Board has approved a major update to the station docking system standard. First released in 2010, the docking standard established a common standard to enable spacecraft of multiple types to dock to space stations and with each another in space.

**Fly me to the Moon: Russia seeks new cosmonauts** Russia's space agency announced a recruitment drive for young would-be cosmonauts who it hopes will become the country's first on the Moon. In the first such drive for five years, Roscosmos space agency said it is looking for 6 to 8 cosmonauts who will operate a new- generation spaceship now in development.

**NASA studying shared Venus science objectives with Russia** A team of NASA-sponsored scientists are meeting with the Russian Academy of Sciences' Space Research Institute (IKI) to continue work on a Joint Science Definition Team study focused on identifying shared science objectives for Venus exploration.

**UK funding space entrepreneurs** The UK Space Agency has awarded just under 150,000 pounds to three business incubation centres across the UK which will support entrepreneurs and small companies in the space industry. The Agency is working with UK industry to deliver world-class science innovation support, in line with the Government's Industrial Strategy, which emphasises the importance of science, innovation and skills.


**TRAPPIST-1 worlds are close enough for life to hop between them** Some think life came to Earth from Mars on a meteorite. If this sort of thing can happen, it's 1000 times more likely on TRAPPIST-1's three habitable worlds

## Recent Launch Activities

**SpaceX launches EchoStar XXIII communications satellite into orbit** SpaceX on Thursday successfully launched a communications satellite into space from the Kennedy Space Center in Florida. The company's Falcon 9 rocket blasted off at 2 am (0600 GMT) carrying the EchoStar XXIII, a commercial communications satellite for EchoStar Corporation. The satellite will provide telecommunications.
(17 March 2017)

**Second 'colour vision' satellite for Copernicus launched** The ESA-developed Sentinel-2B satellite has been launched, doubling the coverage of high-resolution optical imaging in the Sentinel-2 mission for the European Union Copernicus environmental monitoring system.
(7 March 2017)

**ULA launches NROL-79 payload for NRO** A United Launch Alliance (ULA) Atlas V rocket carrying a payload for the National Reconnaissance Office (NRO) lifted off from Space Launch Complex-3 March 1 at 9:50 a.m. PST. Designated NROL-79, the mission is in support of US national defence.
(5 March 2017)

**New small Chinese rocket launches experimental satellite** China debuted a new solid-fueled booster in an unannounced flight that put the small satellite Tiankun-1 (TK-1) into polar orbit, adding another rocket to the country's growing fleet of lightweight launchers. The Kaituozhe-2 (KT-2) rocket lifted off from the Jiuquan space centre, a military-run base in northwestern China's Gobi Desert.
(5 March 2017)

## Development Activities

**ESA's Jupiter mission moves off the drawing board** Demanding electric, magnetic and power requirements, harsh radiation, and strict planetary protection rules are some of the critical issues that had to be tackled in order to move ESA's Jupiter Icy Moons Explorer - Juice - from the drawing board and into construction.
(17 March 2017)

**Blue Origin developing 10,000-lb. lunar polar lander** A robotic lunar lander capable of delivering as much as 10,000 lb. of cargo to a permanent outpost on the rim of the Moon's polar Shackleton Crater could make its first flight by July 2020, with a little help from NASA. Blue Origin owner Jeff Bezos said that his company has been working on a cargo lander that would support a human base set up in a zone of almost full-time sunlight on the crater's rim.
(4 March 2017)

**China hopes to conduct second mission to Mars by 2030** China is likely to conduct its second Mars mission, aimed at collecting soil samples for analysis, by 2030, according to the China Aerospace Science and Technology Corporation (CASC).
(3 March 2017)

**Chinese cargo spacecraft set for liftoff in April** In April, China will launch a cargo spacecraft into orbit as part of a schedule to develop an international space station as soon as 2020. A Tianzhou-1 cargo spacecraft could be headed into space "as early as mid-April" atop a Long March-7 Y2 rocket, representing a major milestone for China's space programme.
(27 February 2017)

**NASA's audacious Europa missions are getting closer to reality** NASA announced progress on a spacecraft that would assess whether Jupiter's Moon Europa is habitable, and earlier this month, an agency-sponsored science team released a report on a separate lander mission that would directly search for signs of life.
(27 February 2017)

**BepiColombo: ESA and JAXA join hands to explore Mercury in 2018** The spacecraft will reach Mercury over a span of seven years. It will fly by Earth in 2020 and Venus in 2021.
(25 February 2017)

**German-French climate mission enters its implementation phase** DLR and Airbus DS signed a contract for the design and construction phases of the German-French climate satellite MERLIN (Methane Remote Sensing LIDAR Mission). From 2021, this small satellite mission will measure the methane concentration in Earth's atmosphere to an unprecedented level of accuracy and thus contribute to research into the causes of climate change.
(18 February 2017)

**Mars landing sites for 2020 NASA mission down to the final three** At a meeting in California, NASA scientists whittled down the landing sites for its next rover which will search for signs of life
(15 February 2017)

## ISS Activities

**NASA developing contingency plan for commercial crew delays** NASA plans to complete by the middle of March a contingency plan for ensuring access to the International Space Station should its two commercial crew partners suffer additional delays.
(25 February 2017)

**Progress underway for first commercial airlock on Space Station** Deployment of cubesats and other small satellite payloads from the orbiting laboratory by commercial customers and NASA has increased in recent years. To support demand, NASA has accepted a proposal from NanoRacks to develop the first commercially funded airlock on the space station.
(9 February 2017)

**Japanese craft leaves Space Station to conduct space-junk experiment** A Japanese cargo ship undocked from the International Space Station and will spend the next week doing a science experiment in orbit before burning up in Earth's atmosphere on Super Bowl Sunday (Feb. 5).
(29 January 2017)

**NASA considering Boeing offer for additional Soyuz seats** NASA is proposing to purchase, through Boeing, additional Soyuz seats for International Space Station missions to both take advantage of Russian plans to decrease the size of its crew and as insurance against potential additional commercial crew delays.
(23 January 2017)

**NASA to rely on Soyuz for ISS missions until 2019** If NASA intends to continue sending astronauts to the International Space Station or the Moon, the space agency has little choice but to rely on Roscosmos' Soyuz spacecraft, at least until 2019. NASA filed a "presolicitation" requesting that private firms reach out to NASA if they can transport astronauts to and from the orbital research platform.
(21 January 2017)

## Space Tourism

**Space tourism and business looking up** Why are wealthy business people sending their money into space? Some of them dreamed of space travel as children, and now they have the money to chase those dreams. So there is adventure and there is money.
(10 March 2017)

**Copernicus Sentinel-2B delivers its first images** Just over a week after being lofted into orbit, the European Union's Sentinel-2B satellite delivered its first images of Earth, offering a glimpse of the 'colour vision' it will provide for the Copernicus environmental monitoring programme.
(16 March 2017)

**NASA studies growing Louisiana deltas** The Louisiana coastline is sinking under the Gulf of Mexico at the rate of about one football field of land every hour (about 18 square miles of land lost in a year). But within this sinking region, two river deltas are growing. The Atchafalaya River and its diversion channel, Wax Lake Outlet, are gaining about one football field of new land every 11 and 8 hours, respectively.
(28 February 2017)

**Using high-resolution satellites to measure African farm yields** Stanford researchers have developed a new way to estimate crop yields from space, using high-res photos snapped by a new wave of compact satellites. The approach, detailed in the February 13 issue of the journal of the Proceedings of the National Academy of Sciences, could be used to estimate agricultural productivity and test intervention strategies in poor regions of the world.
(25 February 2017)

**Turn satellites into sparkling fireworks to burn up space junk** Satellite debris that falls to Earth could be deadly, but pellets made of a heat-generating mixture could help them burn up safely in the atmosphere
(19 February 2017)

**100 Earth-shattering remote-sensing applications and uses** This list may change the way you feel about how this industry is changing our world and the way we think.
(13 February 2017)

**CryoSat reveals lake outbursts beneath Antarctic ice** A novel way of using ESA's CryoSat mission has revealed how lakes beneath Thwaites Glacier drained into the Amundsen Sea - potentially the largest such outflow ever reported in this region of West Antarctica.
(11 February 2017)

**Keeping space communications reliable for an "always on" world** So many of the services we all depend on today are powered by space communications. Without space the world economy, in many ways, turns back half a century in time. For some time now, we have been hearing from the Pentagon that space is no longer the sanctuary it once was.
(7 February 2017)

**Sea ice cover in 2016 is lowest ever recorded** Latest data from ISRO's weather monitoring satellite SCATSAT-1 has revealed changes in the sea ice cover over the Arctic and the Antarctic. According to ISRO, the changes in the Arctic summer minimum sea ice cover were observed using SCATSAT-1 data collected on October 02, 2016, and compared it with OSCAT data collected on October 02, 2011. It was observed that sea ice cover during 2016 is lower than that observed in 2011, which was earlier lowest sea ice record.
(6 February 2017)

**Satellites counting whales from space revolutionising monitoring techniques for researchers** A research team in Perth is becoming familiar with what whales look like from space. They have commissioned two satellite images to be taken from 600 kilometres above Earth in order to do an accurate headcount of humpbacks migrating up the WA coast.
(5 February 2017)

**Time to make sure Europe's troubled satnav system really flies** Europe's costly Galileo satnav network has been branded a vanity project. In an isolationist world, it now seems a wise insurance policy, says Paul Marks
(4 February 2017)

**ISRO to launch backup satellite to replace IRNSS-1A** India will launch one of its back up navigation satellites this year as a replacement to IRNSS-1A satellite, whose three atomic clocks have failed, ISRO said. The agency denied the existence of similar problems with the rubidium atomic clocks in another navigation satellite.
(4 February 2017)

**African villagers use satellite data to help save wild chimpanzees** Given that chimpanzees are a keystone species and the closest extant relative to humans, their rapid decline in the wild has sparked widespread concern. In response, NASA and the Jane Goodall Institute partnered on a project that aims to use space-down views of chimpanzee habitats to guide local activists involved in conservation.
(31 January 2017)

**Tiny satellites to make big contributions to science** CubeSats were designed as educational tools and technological proofs-of-concept, demonstrating their ability to fly and perform needed operations in the harsh space environment. As the capabilities of these nanosatellites increase and their possible contributions grow, they've earned their own place in space.
(30 January 2017)

**Europe's new geostationary satellite platform for the telecommunications market** The Hispasat 36W-1 telecommunications satellite, the first in a new satellite platform called SmallGEO, developed and built in Germany, was launched to space on 28 January 2017 at 02:03 CET (27 January, 22:03 local time).
(29 January 2017)

**NOAA's GOES-16 satellite sends first images to Earth** GOES-16, the first spacecraft in NOAA's next-generation of geostationary satellites, has sent the first high-resolution images from its Advanced Baseline Imager (ABI) instrument. Included among them are a composite color full-disk visible image of the Western Hemisphere captured on January 15, 2017.
(25 January 2017)

**NASA's Earth Observatory reveals Cambodia's incredibly shrinking forests** Scientists from the University of Maryland and the World Resources Institute's Global Forest Watch have been using Landsat satellite data to track the rate of forest loss on a global scale. Though other countries have lost more acres in recent years, Cambodia stands out for how rapidly its forests are being cleared.
(23 January 2017)

**Clocks 'failed' onboard Europe's navigation satellites** Europe's beleaguered Galileo satnav has suffered another setback, with clocks failing onboard a number of satellites in space, the European Space Agency said Wednesday. Designed to render Europe independent from America's GPS, the 10 billion-euro ($11 billion) project may experience further delays as the cause of the failure is investigated, ESA director general Jan Woerner told journalists in Paris.
(19 January 2017)

**Cubesat testbeds trim risk and save millions** Tom and Jerry are more than an old-school cartoon, they are now an important cubesat experiment.
(13 January 2017)

**China to offer global satellite navigation service by 2020** China plans to form a BeiDou network consisting of 35 satellites for global navigation services by 2020, said a white paper released by the State Council Information Office. The country plans to start providing basic services to countries along the Silk Road Economic Belt and 21st-century Maritime Silk Road in 2018, said the document titled "China's Space Activities in 2016."
(2 January 2017)

**NASA releases new Greenland glacier data** NASA's Oceans Melting Greenland (OMG) mission has released preliminary data on the heights of Greenland coastal glaciers from its first airborne campaign in March 2016. The new data show the dramatic increase in coverage that the mission provides to scientists and other interested users. Finalized data on glacier surface heights, accurate within three feet (one meter) or less vertically, will be available by Feb. 1, 2017.
(27 December 2016)

**Preparing for air traffic control via satellite** ESA recently completed its first flight trials using satellites to help bring Europe closer to its goal of modernising air traffic control.
(21 December 2016)

**China's first cargo spacecraft to make three rendezvous with Tiangong-2** China's first cargo spacecraft Tianzhou-1 is expected to dock with the orbiting Tiangong-2 space lab three times after its planned launch in April, sources said. Tianzhou-1 will be sent into space from the Wenchang Space Launch Center in south China's Hainan Province aboard a Long March-7 Y2 carrier rocket.
(9 March 2017)

**Orbiter steers clear of Mars moon Phobos** NASA's MAVEN spacecraft performed a previously unscheduled manoeuvre to avoid a collision in the near future with Mars' moon Phobos. The Mars Atmosphere and Volatile EvolutioN (MAVEN) spacecraft has been orbiting Mars for just over two years, studying the Red Planet's upper atmosphere, ionosphere and interactions with the sun and solar wind.
(4 March 2017)

**Increasing the sensitivity of next-generation gravitational wave detectors** Nearly one year ago the LIGO Collaboration announced the detection of gravitational waves, once again confirming Einstein's theory of General Relativity. This important discovery by the Advanced Laser Interferometer Gravitational-Wave Observatory (aLIGO) has spurred great interest in improving these advanced optical detectors.
(27 February 2017)

**Kepler's 'second life' - DLR researchers find six planets** In 2009, NASA's Kepler space probe was launched, embarking on a mission to hunt for exoplanets. In 2013, due to the failure of two of its reaction wheels, the mission had to be modified. Mission control managed to change the operational modus and manoeuvre the telescope orbiter into a different position in its orbit around the Sun that enabled the mission to continue.
(24 February 2017)

**Wonderful potentially habitable worlds around TRAPPIST-1** Scientists have found seven, Earth-size planets orbiting a star just 40 light years away. Three lie in the habitable zone and could have water on their surfaces.
(23 February 2017)

**NASA's Kepler mission could detect exomoons formed by giant impacts** The hunt is on for moons orbiting distant exoplanets - but only the most massive "exomoons" may be detectable.
(21 February 2017)

**Juno Jupiter probe won't move into shorter orbit** NASA's Juno spacecraft won't move into a closer orbit around Jupiter as originally planned, agency officials announced.
(20 February 2017)

**Big data for the universe** Astronomers at Lomonosov Moscow State University in cooperation with their French colleagues and with the help of citizen scientists have released "The Reference Catalog of galaxy SEDs" (RCSED), which contains value-added information about 800,000 galaxies.
(13 February 2017)

**Who will get first dibs on the powerful James Webb Space Telescope?** NASA has issued solicitation for science projects using the long-awaited and incredibly powerful successor to Hubble, which is scheduled to launch next year.
(10 February 2017)

**Angling up for Mars science** ESA's latest Mars orbiter has moved itself into a new path on its way to achieving the final orbit for probing the Red Planet.
(9 February 2017)

**Gravitational wave detector prepares to peer into bizarre stars** It has already made the discovery of the decade ?? next LIGO aims to model weird events so we can recognise them when they arrive
(8 February 2017)

**WorldView-4, DigitalGlobe's newest satellite, enters service** DigitalGlobe's WorldView-4 high-resolution-imaging satellite entered service this week, following nearly three months of in-orbit testing and calibration.
(7 February 2017)

**NASA spacecraft to hunt for Earth's asteroid 'ghosts'** NASA's asteroid-sampling Osiris-Rex mission will search for possible Trojan asteroids that could be travelling along with Earth around the sun.
(5 February 2017)

**Galactic X-rays could point way to dark matter** A small but distinctive signal in X-rays from the Milky Way could be key to proving the existence of dark matter. That is the claim of US scientists who analysed the energy spectrum of X-rays gathered by NASA's Chandra satellite. They found more X-ray photons with a particular energy than would be expected if they were produced only by familiar processes. Those photons could in fact have been generated by the decay of dark matter particles, say the researchers.
(2 February 2017)

**Fermi sees gamma rays from 'hidden' solar flares** An international science team says NASA's Fermi Gamma-ray Space Telescope has observed high-energy light from solar eruptions located on the far side of the sun, which should block direct light from these events.
(1 February 2017)

**Close views show Saturn's Rings in unprecedented detail** Newly released images showcase the incredible closeness with which NASA's Cassini spacecraft, now in its "Ring-Grazing" orbits phase, is observing Saturn's dazzling rings of icy debris. The views are some of the closest-ever images of the outer parts of the main rings, giving scientists an eagerly awaited opportunity to observe features with names like "straw" and "propellers."
(31 January 2017)

**Spacecraft sees water at Rosetta's comet while stranded in solar orbit** The Japanese PROCYON spacecraft may have gotten stuck in orbit after launch, but it's been able to do some impressive observations of 67P/Churyumov-Gerasimenko from afar.
(30 January 2017)

**China's hi-res SAR imaging satellite put into use** China's first high-resolution Synthetic Aperture Radar (SAR) satellite has passed all its in- orbit tests and is now operational, according to the State Administration of Science, Technology and Industry for National Defense. The Gaofen-3 satellite, which is accurate to one meter in distance, was launched in August 2016.
(27 January 2017)

**Gaia turns its eyes to asteroid hunting** Whilst best known for its surveys of the stars and mapping the Milky Way in three dimensions, ESA's Gaia has many more strings to its bow. Among them, its contribution to our understanding of the asteroids that litter the Solar System. Now, for the first time, Gaia is not only providing information crucial to understanding known asteroids, it has also started to look for new ones.
(26 January 2017)

**ISRO realigns orbit of Mars mission spacecraft 'Mangalyaan** Indian Space Research Organization has successfully realigned the orbit of its Mars Orbiter Mission 'Mangalyaan' so it is not affected by a long-duration eclipse, ISRO chairman A S Kiran Kumar said.
(23 January 2017)

**China's quantum science satellite begins experiments** The world's first quantum science and communications satellite has been handed over to Chinese scientists for the official start of experiments to test the phenomena of quantum entanglement and 'unhackable' quantum communication.
(19 January 2017)

**Breakthrough surveying other galaxies for planets to visit** A private plan to visit Alpha Centauri is boosting science on Earth today. Breakthrough's Starshot plan is looking for exoplanets in the 'Goldlocks Zone' of the Alpha Centauri binary system that might support life.
(18 January 2017)

**Curiosity finds Mars rock that may be a meteorite made from iron** NASA's Curiosity rover took a picture that appears to show a new iron-nickel meteorite on Mars, one of only eight that have been discovered by rovers there so far
(18 January 2017)

**Eutelsat America's all-electric satellite enters service after seven-month journey** The second of two all-electric satellites fleet operator Eutelsat gained through its acquisition of Satmex began service Jan. 16 after finishing a seven-month journey to its orbital location. Eutelsat 117 West B launched last June on a SpaceX Falcon 9 rocket with ABS-2A, a similar all-electric satellite Boeing built for Bermuda-based ABS. Both satellites formed the second set in a four-satellite order paired with Falcon 9 dual launches.
(17 January 2017)

**Chinese imaging satellites reach orbit after botched launch** China has received images from a pair of 0.5-meter high-resolution remote sensing satellites launched in late December last year. According to the China Aerospace Science and Technology Corporation (CASC), the satellites have reached their operational orbit after a partial launch failure.
(15 January 2017)

**Thousands of cosmic distances now catalogued** The universe just got an address book. A new NASA catalogue of objects will help scientists identify the distance of tens of thousands of objects that are so far away they date back to the beginning of the universe.
(9 January 2017)

**Mars Odyssey rebounds from Safe Mode** Mars Odyssey is resuming science observations this week, following a Dec. 26 safe mode incident.
(5 January 2017)

**NASA studying shared Venus science objectives with Russia** A team of NASA-sponsored scientists are meeting with the Russian Academy of Sciences' Space Research Institute (IKI) to continue work on a Joint Science Definition Team study focused on identifying shared science objectives for Venus exploration.
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(13 March 2017)

**ISRO makes more space for private sector participation in satellite making** The Indian Space Research Organisation (ISRO) is thinking of ways to enhance involvement of the private sector in its future satellite launches and include local firms in making integrated systems and sub-systems. It is part of the larger efforts of the Indian agency to augment capabilities and tap the growing commercial market for space-based surveillance and communication.
(12 March 2017)

**NASA Transition Authorization Act passes House** On March 7 the House passed the 'NASA Transition Authorization Act of 2017' which authorizes appropriations of $19.5 billion for the space agency in fiscal year 2017.
(11 March 2017)

**Kuwait Space Agency - a pipedream or reality** A number of Kuwaitis have started to wonder whether it was feasible to have a national space programme.
(11 March 2017)

**India has capability to develop space station, says top official** India has the capability to develop a space station, a top official of the state-owned space agency has said. "We have all the capabilities to set up a space station. The day the country takes the decision, we will okay the project. Just draw a policy and provide us necessary funds and time," Indian Space Research Organisation (ISRO) chief A.S. Kiran Kumar told media.
(7 March 2017)

**Turkey moves closer to launching own space agency** A draft bill for legislation to create a Turkish Space Agency is finalised and readied for review by the Turkish parliament. Finalising this long-envisioned dream will determine the country's space policies and help develop a national space industry.
(6 March 2017)

**India's Moon mission on 2018 target, says ISRO chief** ISRO boss AS Kiran Kumar says the second lunar mission Chandrayaan 2 is making good progress; it is scheduled for launch next year. But critics question why should India get into the manned spaceflight race when the US and Russia have scaled back.
(4 March 2017)

**Space Wars: U.S. Air Force defends its turf** As the nation's space mission grows, does the service have enough clout to manage it all?
(2 March 2017)

**Italy, Russia working closely on Mars exploration, Earth monitoring satellites** There are neither sanctions nor politics in space and cooperation there between Russia, the US and Europe is absolutely vital. In an interview with Sputnik, the head of the Italian Space Agency (ASI), Roberto Battiston, spoke about the joint projects being implemented by ASI and Russia's Roscosmos space agency.
(23 February 2017)

**Mystery surrounds return of Pentagon's secretive X-37B spaceplane** After nearly two years in space, one of the US Air Force's biggest mysteries may be returning to Earth.
(22 February 2017)

**India takes Russian help to analyze chemical composition of lunar surface** ISRO has started a series of ground tests for testing the performance of sensors and actuators for soft landing of the Lander on the lunar surface. India Space Research Organization (ISRO) has selected Russian company JSC Isotope for supply of Radionuclide curium-244 (Cm-244) that enables sources to determine chemical composition of any rocks and soils.
(21 February 2017)

**Could Glasgow Prestwick airport host UK's first spaceport?** Detailed plans to create the UK's first spaceports are set to be unveiled.
(20 February 2017)

**Small satellite rocket booster arrives at New Zealand's first launch site** Rocket Lab is one among dozens of companies around the world building rockets to handle an expected boom in demand for small satellite launches.
(18 February 2017)

**SatRevolution to launch Poland's first satellite plant** Polish company SatRevolution S.A. has unveiled plans to set up the country's first satellite production facility that is to make small spacecraft in cooperation with foreign space industry players.
(17 February 2017)

**Indonesia sees long but possible path to developing own satellites** Indonesia is taking steps to reduce its dependence on foreign telecommunications satellites through technology-transfer arrangements and micro-satellite development.
(14 February 2017)

**UK may lose access to EU Galileo GPS system after Brexit** The United Kingdom may be cut off the new EU global positioning system (GPS) Galileo, which has been developed with active participation of British companies, and will have to hold separate negotiations to obtain access to the system after London leaves the European Union, media reported.
(14 February 2017)

**North Korea plans to continue satellite launches despite UN objections** North Korea intends to continue launching satellites, despite UN Security Council sanctions and resolutions. According to the newspaper Rodong Sinmun, the country will continue to launch satellites when and where its leadership determines.
(11 February 2017)

**Minister inaugurating Greek space agency** The agency will be a public limited company called National Centre for Space Applications (EKDE in Greek), aimed at "making up for the country's huge deficit in this area," the ministry said. "The launch of the Hellas Sat satellite this year will create important commercial opportunities, which will be developed by a space policy agency along European lines," the announcement said.
(8 February 2017)

**UAE aims to launch its first ever Mars mission in 2020** The United Arab Emirates has set an ambitious goal of sending nation's first mission to Mars in 2020, launching its unmanned orbiter from Japan's space centre.
(7 February 2017)

**UK spaceport developments at Cambeltown** UK Space science and technology firms QinetiQ and Telespazio VEGA UK have agreed Memorandum's of Understanding (MoU) to work with Discover Space UK on investigating the potential for a horizontal launch spaceport at the Campbeltown site on the West Coast of Scotland.
(29 January 2017)

## Opportunities

**NASA Ames Outreach Education Intern - NASA (United States)**
The Office of Education and Public Outreach (OEPO) at NASA Ames serves as the main organization that executes the centers' outreach efforts. Some of the main

**NASA Ames SPHERES/Astrobee Facility - NASA (United States)**
NASA Ames SPHERES/Astrobee Facility Brief description of duties: The successful applicant would be involved with software development and general support of the

**NASA LaRC Autonomy Incubator - NASA (United States)**
This is a multidisciplinary team consisting of engineering from a variety of disciplines including aeronautic, electrical, computer, and mechanical. Other disciplines

**NASA LaRC: Crew Systems and Aviation Operations - NASA (United States)**
NASA is conducting research in the areas of intelligent flight systems, autonomous systems, aviation operations, flight deck systems, and crew

**NASA LaRC: Flight Deck Technologies - NASA (United States)**
NASA is conducting research into Increasingly Autonomous Systems (IAS) for the flight deck. This work involves computer programming, machine learning, and human in

**BepiColombo Data Analysis Scientist**
Serco is a specialist at delivering vital services on behalf of European, National and Local Governments. Serco Europe employs a large workforce in Belgium, Luxembourg, France, Switzerland, Germany, Holland, Spain, Italy and the UK. Our European operations have ca. 2,000 employees delivering critical services to public institutions throughout Europe. Package description Full details on application. Relocation assistance provided if applicable. Main responsibilities a Tasks to be provided in support to the Science QuickLook Analysis QLA implementation and operation. Before Launch Contribute to the BepiColombo Science QuickLook Analysis QLA System requirement specification and design, by assisting in the definition of user requirements and reviewingassessing completeness and adequacy of system being designed and implemented Specify routinesalgorithms for the generation of science quicklook products in collaboration with the instrument teams, and follow up their implementation with the S...

**BepiColombo Data Analysis Senior Scientist**
Aurora is an established supplier of skilled manpower to ESA and in particular at ESTEC and ESAC. Aurora has the opportunity to expand our support to Gaia within ESAC. Overview BepiColombo is a joint ESAJAXA mission to Mercury. The mission comprises two spacecraft, ESAs Mercury Planetary Orbiter MPO and JAXAs Mercury Magnetospheric Orbiter MMO. The two spacecraft will be launched in 2018 with arrival at Mercury in 2025. The activities of the MPO Science Ground Segment SGS include Science Operations Planning of the MPO payload, science data processing and data distribution to the instrument teams, quick look data analysis of science data and archiving of data in the BepiColombo science archive. The MPO SGS has interfaces with the Operational Ground Segment OGS at ESOC, the MMO JAXA Sagamihara Space Operations Centre SSOC, the MPO Instrument Teams and the Scientific Community. The SGS is based at the European Space Astronomy Centre ESAC in Villanueva de la Caada, Madrid, Spain. This ser...

**BepiColombo Science Operations Engineer**
Aurora is an established supplier of skilled manpower to ESA and in particular at ESTEC and ESAC. Aurora has the opportunity to expand our support to Gaia within ESAC. Overview BepiColombo is a joint ESAJAXA mission to Mercury. The mission comprises two spacecraft, ESAs Mercury Planetary Orbiter MPO and JAXAs Mercury Magnetospheric Orbiter MMO. The two spacecraft will be launched in 2018 with arrival at Mercury in 2025. The activities of the MPO Science Ground Segment SGS include Science Operations Planning of the MPO payload, science data processing and data distribution to the instrument teams, quick look data analysis of science data and archiving of data in the BepiColombo science archive. The MPO SGS has interfaces with the Operational Ground Segment OGS at ESOC, the MMO JAXA Sagamihara Space Operations Centre SSOC, the MPO Instrument Teams and the Scientific Community. The SGS is based at the European Space Astronomy Centre ESAC in Villanueva de la Caada, Madrid, Spain. This wor...

**Controller**
RHEA Group is currently recruiting a Controller to support the Corporate Services Division at our clients premises in Noordwijk, The Netherlands. Tasks and Activities The scope of work will include Support to the planning, preparation, execution and followup of projects programmes activities in terms of schedule, related procurement actions, costs including preparation of CaC as relevant, manpower including support, etc. including assisting in preparing, developing and maintaining programme level plans assisting in the definition and in maintaining related workprocurement plans and related execution and contract actions plans using local tools as applicable monitoring of the implementation of the programmes and of activities, as appropriate, and preparation of related reports and provision of management information as required evaluating the results and main achievements of the programme, elaborating related KPIs, and preparing periodic overview publications In the field of resources...

**Data Analysis Scientist for BepiColombo**
RHEA Group is currently recruiting a Data Analysis Scientist for BepiColombo to support the Science Operation Division at our clients premises in Madrid, Spain Tasks and Activities The scope of work covering both prelaunch and postlaunch will include Contribute to the QuickLook Analysis QLA System requirement specification and design, by assisting in the definition of user requirements and reviewingassessing completeness and adequacy of system being designed and implemented. Specify routinesalgorithms for the Generation of science quicklook products in close collaboration with the Instrument Teams Prepare the procedures for operating the QLA system and for the assessment of the QLA products. Operation of the Science Data Processing and Quick Look Systems after launch and analysisassessment of the scientific products. Generation of higherlevel science products. Followup implementation of system bug fixesimprovements SPRs, SCRs,.., and validate accordingly Enhancement of the BepiColombo...

**Facilities Management Process Improvement - NASA Independent Verification and Validation (IV&V) Program Support Office (PSO) - NASA (United States)**
Activities for which internship efforts within the NASA Independent Verification and Validation (IV&V) Program Support Office (PSO) consist of basic facilities

**Security Police Officer, NASA -Ci - Chenega Corporation (United States)**
CHENEGA INFINITY, LLC. **Company Job Title:** Security Police Officer (SPO), NASA **Chenega Job Title:** Police Officer I **Clearance:** Secret **Location:**

**Senior/Senior Advanced Quality Engineer (NASA) - KBRwyle (United States)**
Title: Senior/Senior Advanced Quality Engineer ( NASA ) Location: US-US-MD-GREENBELT Job Number: 1049577 There are no relocation funds, however we are offering a

**Software Engineer**
RHEA is currently recruiting a Senior Software Engineer to strengthen the system architectengineering team of the System Engineering, Security and Solutions SESS division. The role will be based in Harwell, UK. Your main first tasks will be working on the development of a Drought Flood Mitigation System for Uganda. You will be part of the RHEA team working together with different project partners consisting of commercial companies, NGOs and governmental organisations. Tasks and Activities The scope of work will include Actively participate and drive the software side of the definition, design, development, testing, packaging and delivery of the project solutions. Report to and provide input to the Systems Architect to ensure that realistic project and quality plans are prepared and maintained. Support the management and controlling of the projectsoftware development processes according to RHEA QA standards. Skills and Experience The following skills and experience are mandatory Degree...

**Software Engineer (NASA) - Harris Corporation (United States)**
Job Description: Description: Title: Software Engineer ( NASA ) Req ID: CN-12469 Work Location: Greenbelt, MD Job Description: Harris is actively recruiting for a

**Student Trainee (Engineering) - NASA Pathways Intern Employment Program - John Glenn Research Center at Lewis Field (United States)**
About the Agency To receive consideration, you must submit a resume and answer NASA -specific questions. The NASA questions appear after you submit your resume

**System Engineer**
RHEA Group is currently recruiting a System Engineer to support the Human Spaceflight and Exploration activities at our clients premises in Noordwijk, The Netherlands. Tasks and Activities Provide system engineering support to the preparation of future lunar and exploration missions. Support to early feasibility and definition involving mission and system requirements analysis, performance analysis of GNC contribution to system performances, GNC conceptual definition and tradeoff studies with respect to feasibility and technology Participation in the evaluation of industrial proposals and project reviews Review, evaluation and checking of industrial contractors GNC designs identification of design deficiencies and problem areas and assistance in their resolution Support to other system engineering disciplines e.g. propulsion , thermal control within the Future Exploration Systems Section. Contribution to the elaboration of new activities in the area of GNC technologies. Skills and Exp...

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