

# Astronautical News

24 February 2017

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**NASA and MIT collaborate to develop space-based quantum-dot spectrometer**

**Wonderful potentially habitable worlds around TRAPPIST-1**

**Italy, Russia working closely on Mars exploration, Earth monitoring satellites**

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## Major Discovery! 7 Earth-Size Alien Planets Circle Nearby Star

Astronomers have never seen anything like this before: Seven Earth-size alien worlds orbit the same tiny, dim star, and all of them may be capable of supporting life as we know it, a new study reports.

More...



**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.



**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.



**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.



**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.



**NASA to study launching astronauts on first SLS mission** NASA plans to study putting astronauts on the first launch of its Space Launch System heavy-lift rocket, a move that could introduce new delays and other complications into the vehicle's development.



**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.



**China to launch robotic cargo ship for space lab in April** The country's first cargo-carrying spacecraft, known as Tianzhou-1, arrived at a launch site in Wenchang City in southern Hainan Province on Monday (Feb. 13), according to Chinese media reports.



**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.



**NASA funds two new research institutes to help humanity explore deep space** NASA will spend up to \$30 million over the next five years to set up and support two new research institutes dedicated to helping humanity extend its footprint out into the solar system.



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



**Think you can find planet 9?** Think you can find Planet 9? A new citizen-science project lets participants search for hidden objects beyond the orbit of Neptune, where a possible ninth planet may lie.



**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.



**Energia to make 2 modifications of Federatsiya spaceship** Russia's Energia rocket and space corporation is getting ready for the production of the Federatsiya spacecraft. Russia's Korolev Rocket and Space Corporation (RSC) Energia is developing two modifications of the Federatsiya spacecraft, which could carry four or six cosmonauts respectively, the corporation's general director told Sputnik.

## Recent Launch Activities

**Russia launches Progress MS-05 cargo mission to ISS** Russia launched the Progress MS-05 space freighter to the International Space Station from the Baikonur Cosmodrome earlier. It was the final flight of a Soyuz-U rocket that has been in use since 1973.  
(23 February 2017)

**SpaceX launches from historic NASA pad** SpaceX succeeded in launching on its second launch attempt at NASA's Launch Complex 39A, at Kennedy Space Center in Florida. The first attempt, scrubbed the day before. SpaceX aborted its planned Dragon cargo launch to the International Space Station just seconds before liftoff Saturday due to a "slightly odd" technical issue with the Falcon 9 rocket engine.  
(19 February 2017)

**India launches record 104 satellites in single mission** India has created history by successfully launching 104 satellites on a single mission, overtaking the previous record of 37 satellites launched by Russia in 2014. All but three of the satellites are from foreign countries, most of them from the United States. Observers say it is a sign that India is emerging as a major player in the multi-billion dollar space market.  
(15 February 2017)

**Ariane 5's first launch this year** An Ariane 5, operated by Arianespace, has delivered the Sky Brasil-1 and Telkom-3S telecom satellites into their planned orbits.  
(15 February 2017)

## Development Activities

**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)

**NASA wants to put a lander on Europa's surface to look for life** If it goes ahead, the proposed lander mission would be NASA's first search for life on the surface of another planet since the Mars Viking missions in the late seventies.  
(12 February 2017)

**China to launch night light observing satellite** China is set to launch its first remote-sensing satellite capable of detecting large lighted structures on the ground at night. The LuoJia-1A, a 10-kilogramme mini satellite, is being developed by scientists at Wuhan University in Hubei province and will carry a highly sensitive night light camera with a 100-meter ground image resolution. The satellite will be capable of detecting large lighted structures on the ground within its designated observation area, such as bridges over the Yangtze River.  
(12 February 2017)

**China looks to Mars, Jupiter exploration** China's plans for deep-space exploration included two Mars missions and one Jupiter probe. China plans its first Mars probe by 2020, said Wu Yanhua, vice director of the China National Space Administration. A second Mars probe will bring back samples and conduct research on the planet's structure, composition and environment, Wu said.  
(1 February 2017)

**China's Moon-sampling mission targeted for November** China is working to launch a sample-return mission to the moon before the end of 2017.  
(30 January 2017)

**China set to launch Moon-sampling mission in November** Two years after placing its very first rover on the surface of the moon, China has announced it would launch a mission to return lunar samples to Earth later in 2017. As it develops that mission, China's space agency is also getting ready to launch a different trip to the moon's far side.  
(25 January 2017)

**eROSITA X-ray telescope travels to Russia for launch in 2018** On 20 January 2017, the completed eROSITA X-ray telescope boarded a cargo plane and was transported from Munich, where it had been built at the Max Planck Institute for Extraterrestrial Physics, to Moscow. It is expected to arrive at the premises of Lavochkin Association, in the Moscow suburb of Khimki on 25 January.  
(24 January 2017)

## ISS Activities

**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 Station astronauts take spacewalk to upgrade power system** On Jan. 6, 2017, NASA astronauts Shane Kimbrough and Peggy Whitson spent more than six hours spacewalking outside the International Space Station to upgrade the outpost's power system. See photos from the spacewalk here.  
(9 January 2017)

## Space Tourism

**Russia's first private space tourism craft flight test set for 2020** First flight tests of Russia's reusable suborbital space tourism craft are slated for 2020, the head of the company that is spearheading the effort told Sputnik. Pavel Pushkin, director of CosmoCourse company, said the spacecraft's production is funded by a private investor. It is expected to be launched from a Russian cosmodrome and conduct space tours at an altitude of 100 kilometres.  
(16 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)

**Galileo begins serving the globe** Europe's own Galileo satellite navigation system has begun operating, with the satellites in space delivering positioning, navigation and timing information to users around the globe.  
(17 December 2016)

**Lockheed Martin and USAF move ahead with GPS backup ground system upgrade** The U.S. Air Force approved Lockheed Martin's design to upgrade the current GPS satellite ground control system with new capabilities that will enable it to operate more powerful and accurate GPS III satellites.  
(15 December 2016)

**Europe's own satnav, Galileo, due to go live** Seventeen years and more than 10 billion euros (\$11 billion) later, Europe's Galileo satnav system is set to go live Thursday, promising to outperform US and Russian rivals while boosting regional self-reliance.  
(14 December 2016)

**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.  
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(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)


**Odyssey recovering from precautionary pause in activity** NASA's Mars Odyssey orbiter, which has been in service at Mars since October 2001, put itself into safe mode - a protective standby status - on Dec. 26, while remaining in communication with Earth. The Odyssey project team has diagnosed the cause - an uncertainty aboard the spacecraft about its orientation with regard to Earth and the sun - and is restoring the orbiter to full operations.  
(2 January 2017)

**Looking ahead: Space exploration in 2017** An exciting year lies ahead for science and planetary spaceflight - by NASA and by other spacefaring nations.  
(1 January 2017)

**Russia plans early February Progress return to flight** Russia has tentatively scheduled the next Progress launch for early February, pending the outcome of an ongoing investigation.  
(31 December 2016)

 **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)

 **Russia's Proton rocket grounded by poor quality control** Russia's workhorse Proton rocket may be grounded until June or July, dealing another blow to the country's launch infrastructure. (28 January 2017)

 **Russia to construct Glonass satellite navigation station in Nicaragua** Experts from the Russian Central Research Institute of Machine Building (TsNIIMash) will construct a ground Glonass satellite navigation tracking station in Nicaragua, the TsNIIMash's press service said. "The TsNIIMash's specialists will construct a station for tracking data of the Glonass and other global satellite navigation systems in Nicaragua," the press release reads. (27 January 2017)

 **Space: Where we've been, where we're going** President Obama shook up space policy when he took office, and President Trump may be about to do the same. (25 January 2017)


 **Joint space projects to yield results soon: Iranian official** Iran's joint projects with other countries in the space field will yield results in the near future, Head of Iran's National Space Center Manouchehr Manteqi said. Iran has begun international cooperation in space projects, Manteqi said, adding that there was no such cooperation in the past. (23 January 2017)


 **US Air Force pursues strategy to defend anti-satellite attacks** While several countries are known to be making investments in the development of space weaponry, Chinese activities have engendered a particular concern among Pentagon leaders, analysts and threat assessment professionals. (22 January 2017)

 **From school to space: satellite built by Brazilian students launched into orbit** A satellite built by students of a Brazilian middle school was launched into space from aboard the International Space Station on January 16. The Tancredo-1 satellite, developed by the students of Tancredo de Almeida Neves Municipal School in the city of Ubatuba, measures only 13 centimeters in diameter and weighs about 700 grams. (21 January 2017)

 **Russia-China joint space studies centre may be created in southeastern Russia** A joint-working space centre of Russian and Chinese specialists could be built in Russia's southeastern Zabaikalsky Territory, the press service of the region's head said in a statement. A centre for joint work of Russian and Chinese specialists in the sphere of space studies could be built in Russia's southeastern Zabaikalsky Territory as a part of the comprehensive plan. (19 January 2017)

 **First Singapore satellite launched from the International Space Station** The first Singapore satellite launched from the International Space Station took place successfully. Called AOBA VELOX-III, it is a joint project between Nanyang Technological University (NTU) and Japan's Kyushu Institute of Technology (Kyutech). It will be conducting tests to evaluate the durability of commercial off-the-shelf microprocessors in space while orbiting at 400km above sea level. (17 January 2017)

 **Lightfoot, Radzanowski will head NASA temporarily** Associate NASA Administrator Robert Lightfoot will take over as acting administrator on 20 January. (14 January 2017)

 **Trump and space: panel forecasts changes to come** As Trump's "landing team" touches down at NASA, science community members mull ways to interact with politics. (11 January 2017)

## Opportunities

### **NASA History Division Internship - NASA (United States)**

As part of NASA 's Office of Communications, student interns will assist the NASA History Division by writing our social media posts; writing features for our

### **NASA Miro Center for Applied Atmospheric Research and Education (CAARE) - Urban Sustainability and Climate-UAH - NASA (United States)**

Space Science Technology Center (NSSTC) in Huntsville, Alabama working with NASA -affiliated researchers, Drs. Maury Estes, Robert Griffin, and Sue Estes (Earth

### **NASA Moo-Howard University: Energetic Radiation Environment at Mars and Phobos - NASA (United States)**

radiation environment will be assessed using data system resources of the NASA Space Physics Data Facility (SPDF), the Virtual Energetic Particle Observatory (VEPO),

### **NASA Office of Education: Educator Intern - NASA (United States)**

Student will support NASA Armstrong Flight Research Center's Office of Education programs using NASA STEM content to inspire and engage students and educators.

### **NASA Office of Education: Robotics Intern - NASA (United States)**

Student will support NASA Armstrong Flight Research Center's Office of Education programs using NASA STEM content to inspire and engage students and educators.

### **NASA Student Airborne Research Program (Sarp) - NASA (United States)**

The NASA Airborne Science Program invites highly motivated advanced undergraduates who will be rising seniors in summer 2017 to apply for participation in the 9th

### **Contracts Officer**

Vacancy in the Directorate of Industry, Procurement and Legal Services ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged. POST Contracts Officer in the Headquarters HQ, CSG and European Union Procurement Service, Launchers and HQ Procurement Division, Procurement Department, Directorate of Industry, Procurement and Legal Services. This post is for a limited duration of three years and is classified in the A2A4 grade band on the Coordinated Organisations salary scale. LOCATION ESA Headquarters, Paris France. DUTIES The postholder will report to the Head of the HQ and CSG Procurement Service in the Launchers and HQ Procurement Division and will have the following duties preparing requests for offers/invitations to tender participating in the evaluation of offers and tenders preparing and negotiating the resulting contracts participating in monitoring of the exec...

### **Development of Advanced Optical Diagnostics for NASA Ground Test Facilities - NASA (United States)**

of several non-intrusive, advanced optical measurement techniques for use in NASA wind tunnel facilities in support of several strategic thrusts identified

### **Development of CERS Using the NASA CADRe - NASA (United States)**

develop predictive cost estimating relationships (CERS) using data contained in NASA 's online cost data repository (CADRE-Cost Analysis Data Requirement) and through

### **Galileo Evolutions Consultant**

RHEA Group is currently recruiting a Galileo Evolutions Consultant for our client located in Prague, Czech Republic. Tasks and Activities The scope of work will include Provide mission analyses and technical assessments related to evolutions proposal for Galileos infrastructure and services, including support to the establishment of technical orientations mission, system for Galileo evolutions. Support on mission aspects will be conducted in the frame of GSAs contribution to activities of a Working Group on EGNSS Evolution WGEE, a working group on European GNSS Programme Committee, chaired by the Commission. Support on system aspects in the frame of GSAs contribution to European Commissions activities related to G2G System and Segment Level Phase B activities, conducted by ESA, and for which EC may require adhoc technical support. This will include, but not be limited to, technical support for infrastructure tradeoffs and sustainment, signals and services evolutions such as PRS, repro...

### **Head of the Product Assurance and Safety Department**

Vacancy in the Directorate of Technology, Engineering and Quality ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged. POST Head of the Product Assurance and Safety Department in the Directorate of Technology, Engineering and Quality. This post is classified A6 on the Coordinated Organisations salary scale. LOCATION ESTEC, Noordwijk Netherlands. DUTIES Under the direct authority of the Director of Technology, Engineering and Quality, part of the Technology and Operations Area, the Head of the Product Assurance and Safety Department is a member of the Directorates management team and participates in the decisionmaking process for all major activities covered by the Directorate. The Department also exercises an independent assurance function, with the corporate authority to request corrective actions in order to resolve identified quality problems and to communicate...

### **ICT Department Traineeship Helpdesk**

The European GNSS Agency GSA announces a traineeship opportunity for new graduates in Europe. The traineeship shall aim principally to aid in supporting the daily operations of the ICT department, in particular assisting in tasks related to the ICT Helpdesk service. The traineeship shall be based at the GSA headquarters in Prague 7, Janovskeho 4382, Czech Republic and shall last preferably from 1 May 2017 to 31 October 2017. The traineeship contract shall be concluded for 6 months, which may be extended for further 3 months maximum twice or further 6 months maximum once. The maximum duration of the contract is therefore 12 months however the GSA reserves the right to conclude individual contracts according to which the traineeship commencement will deviate from the above dates specified. The trainee will be expected to carry out the following duties under supervision Daily operation of a firstline helpdesk phone, email receiving and answering calls from the users, first quick asse...

### **ICT System Engineer**

RHEA is currently recruiting an ICT System Engineer for our client in Darmstadt, Germany. Tasks and Activities The scope of work will include Administer and maintain the ICT infrastructure. It should cover the full life cycle of a system specification, validation, implementation, operation, maintenance, decommissioning and disposal. Configuration and administration of the ICT platform e.g. virtualized infrastructure, linux systems, databases Installation of applications in the development environment Problem investigation and troubleshooting Internal security plan preparation and issues related to network infrastructure Design work related to new applications Documentation Adhoc support requests. Skills and Experience The following skills and experience are mandatory Applicants should have a university degree or equivalent qualification in computer science engineering with a strong background in the ICT infrastructure and operations Proven experience in technical IT Communication and ...

### **Internship Satellite Ground Station Simulation and Measurement Tools**

SES is the worldleading satellite operator with a fleet of more than 50 geostationary satellites. The company provides satellite communications services to broadcasters, content and internet service providers, mobile and fixed network operators and business and governmental organizations worldwide. SES stands for longlasting business relationships, highquality service and excellence in the satellite industry. The culturally diverse regional teams of SES are located around the globe and work closely with customers to meet their specific satellite bandwidth and service requirements. SES holds a participation in O3b Networks, a next generation satellite network combining the reach of satellite with the speed of fiber. Where others see barriers, we see opportunities. Do you enjoy supporting customers realizing breakthrough value? Do you stay attuned to your customers needs and visions? Do you like to work openly and supportively together with your colleagues and customers? Our work involv...

### **Office 365 Lead Engineer**

RHEA Group is currently recruiting a Lead Engineer to support the IT Department at our clients premises in Frascati, Italy. The duration of the project will be from March 2017 to end October 2017 with a possible extension. Tasks and Activities The scope of work will include Definition of requirements SoW Analysis of proposals from providers, pilot and POC definition and followup, service model analysis and recommendation, WPactivity management, acceptance of deliverables and transfer to operations Skills and Experience The following skills and experience are mandatory Degree qualified in IT subject computing, software with at least 5 years of relevant work experience. Office 365 POC Skype for business pilot 2 in 1 devices pilot Dell and MS IBM Verse and hybrid cloud POC Mobile access to corporate tool ESABox study Windows 10 Office 2016 project Study for office SaaS adoption How to Apply Looking to take your career to the next level? Interested applicants should submit their CV and Cove...

### **On board Software Production Engineer**

RHEA Group is currently recruiting an On board Software Production Engineer to support the UKs Data Processing OnBoard Software department at our clients premises in Stevenage, UK. Tasks and Activities The scope of work will include Software detailed design Code and unit test activities Software integration activities. Supporting software validation testing when applicable. Developing validation tests that exercise prove adherence to requirements Analysingdebugging nonconformance Skills and Experience The following skills and experience are mandatory Engineering degree in software, computer science or similar Experience of Realtime embedded software engineering lifecycle process. Min. 3 years relevant experience in realtime embedded Software engineering domains design, codetest, integration, validation Software process oriented. Disciplined quality mindset onquality, onschedule, oncost Excellent software problem solving skills diagnostic approach solutionoriented Good communication ...

### **Onboard Software Validation Engineer**

RHEA Group is currently recruiting an Onboard Software Validation Engineer to support the UK Central Engineering On Board Software Department at our clients premises in Stevenage, UK. Tasks and Activities The scope of work will include Understanding detailed functional requirements on complex embedded software, both existing requirements and enhancements to be introduced in order to meet evolving users needs. Elaboration of adequate test strategies sufficiently thorough but not overengineered to demonstrate the softwares fulfillment of functional requirements. Traceability of test steps to functional requirements. Mastery of test environment simulated spacecraft hardware and operations environment. Understanding the embedded softwares command control interface telecommands and its status and event reporting telemetry packets. Anomaly investigation, including liaison with software designers and requirements authors. Inspection of peers test procedures versus applicable technical and pro...

**Opportunity Title: NASA Miro Center for Applied Atmospheric Research and Education (CAARE) - Air Quality and Climate Effects on**

### **Public Health - USRA - NASA (United States)**

This internship opportunity is part of a NASA -funded project entitled "Center for Applied Atmospheric Research and Education (CAARE)" that is led by San Jose State

### **Payable Accountant**

RHEA Group is currently recruiting a Payable Accountant to support the Financial Operations Section at our clients premises in Noordwijk, The Netherlands. Tasks and Activities The scope of work will include Processing and verification of both electronic and paper invoices in accordance with the ESA Financial Regulations and Instructions, provision of invoicepayment details to industry at their request, etc. Calculation and verification of travel claims inline with the ESA Staff Rules and Regulations. Processing of all related financial transactions. Verification of cost assignment for new procurement actions. Reconciliation and clearing of vendor accounts. Balance sheet reconciliations. Preparing vouchers for examination by the external/internal auditors and filing of accounting vouchers inline with the prevailing instructions. Skills and Experience The following skills and experience are mandatory MBA or equivalent University degree from a recognised Institution of secondary studies o...

### **Public Regulated Services PRS Access Officer**

The PRS Access Officer reports to the GSMC Operations Manager or his/her assignees. The overall role of the PRS Access Officer is to ensure the provision of services to the Competent PRS Authorities CPA in Member States as part of the overall Galileo PRS provision. His/her work will involve ensuring the execution of Member State requests via procedures, ensuring that authorised users are able to access and use PRS in accordance with their needs and the provision of advice analysis to resolve conflicts or to assist CPAs in achieving their needs. The jobholders tasks and responsibilities shall in principle include without limitation and subject to adjustment by his/her reporting line manager Supporting the ramping up of the GSMC PRS operations in terms of operational procedures development and Galileo Security Facility GSF equipment validation Supervision of the PRS status of the Galileo system using dedicated GSMC security tools Ensuring the timely execution of Member State PRS requests a...

### **Quality Assurance Engineer**

One of our space clients based in Germany is seeking a Quality Assurance Engineer to provide consultancy support within the Low Earth Orbit LEO Division. The submission deadline for applications is 21.03.17. Tasks QA activities in the following areas System Integration and Validation SIVV. Operations Preparation. Launch and Early Orbit Phase LEOP. The tasks of the key person shall include the following Implement QA policies in the assigned areas, in accordance with the Programme specific QA plan for all phases covered by this SoW and the relevant contract, more specifically Implement the EPSSG QA plan for the management of the activities in the assigned area of responsibility, and propose updates as appropriate. Define and maintain QA procedures for Phase CD, in the assigned area of responsibility. Ensure the correct implementation of the relevant processes in the assigned area of responsibility. Ensure that the baseline definition of the System Requirement Document including mana...

### **Senior Space Segment Engineer**

Are you a space industry professional looking for an exciting new career opportunity based within an international and dynamic environment? If the answer is yes then take advantage of this fantastic vacancy from EUMETSAT, Europes Meteorological Satellite Agency. Based at ESAESTEC, Netherlands, you shall act as deputy to the European Space Agency's ESA MetopSG Programme Manager. You shall be EUMETSAT's representative in the Single Space Segment Team for technical and programmatic aspects maintaining close coordination with the EUMETSAT EPSSG Programme Manager and his team. This is a challenging and rewarding role related to the commissioning of both MetopSecond Generation SG protoflight model satellites 2023 Along with a university degree or equivalent in an engineering discipline you shall ideally have skills and experience in each of the following areas Ten or more years professional experience in Space Segment engineering, procurement and management, preferably in the frame of an Ear...

### **Software Validation Engineer**

RHEA Group is currently recruiting a Software Validation Engineer to support Flight Software Systems Section of the Software Systems Division at our clients premises in Noordwijk, The Netherlands. Tasks and Activities The scope of work will include Project support related to all technical aspects development and qualification of flight software. General Support to Software Validation Facilities and Avionics Test Bench infrastructure activities. Skills and Experience The following skills and experience are mandatory Masters degree or equivalent qualification in Electronic Engineering, Space Systems Engineering, Computer Science, Mathematics or a related discipline. In particular experience with Software engineering and objectoriented programming Space systems and Space Systems engineering Programming languages CC and/or others Embedded Real Time Systems and Real Time Kernels Microprocessors such as SPARC LEON, ARM, multicores etc Communication protocols Mil1553, SpaceWire, CAN Software ...

### **Software Engineer**

RHEA Group is currently recruiting a Software Engineer to support our MOIS Support and Development team at in both RHEA and ESOC premises in Darmstadt, Germany. RHEA's MOIS product is an integrated set of software tools for spacecraft test and mission operation procedure preparation and execution. It is used by ESA on all current and upcoming missions and is also provided as a commercial product to the space industry, including prime contractors and spacecraft operators. The software is used for more than 80 satellites. Tasks and Activities As a Software and Support Engineer, your envisaged tasks and activities include Providing high quality technical user support for the MOIS software tool to various spacecraft project and mission teams at ESA ESOC. Implementing missionspecific enhancements to the MOIS product. Taking ownership of technical issues, and working closely with the MOIS Development Team to resolve more advanced issues where necessary. Ensuring timely bug fixes and communic...

### **Technology RD Engineer**

RHEA Group is currently recruiting a Technology RD Engineer to support the Management and Implementation of the GSTP TRP Programmes at our clients premises in Noordwijk, The Netherlands. Tasks and Activities The scope of work will include Evaluation of proposals for technology RD activities on their technical merit, consistency and defined priorities. Preparation of the planning of the Technology programmes and of inflight demonstration opportunities. Monitoring of the implementation of the programmes and of activities and provision of management information as required. This also to pursue consistency with the Technology EndtoEnd process and procedures. Monitoring of the consistency of the various ProgrammesInitiatives with respect to other ongoing technology programmes and defined industrial policy objectives. Followup and monitoring the conduction of concerted technology actions, mainly linked to the Technology programmes. Evaluation of the results and preparation of periodic

overvi...

**Technology Transfer Program - Bringing NASA Technology Down to Earth - NASA (United States)**

NASA 's Kennedy Space Center (KSC) conducts a wide...across a broad spectrum of technical disciplines to help NASA meet its mission goals and objectives. As a

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