

**23 June 2017**

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**Collator**

Scott Hatton

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**In cooperation with**

The British Interplanetary Society

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**LISA gets green light from ESA** LISA - a mission to master the gravitational Universe was selected by ESA as part of its Cosmic Vision, along with PLATO that will search for Earth-like worlds.



**Europe selects grand gravity mission** The European Space Agency has given the green light to the LISA mission to detect gravitational waves. Ground-based laboratories in the US have recently begun detecting gravitational waves from coalescing objects that are 20-30 times the mass of our Sun. But by sending an observatory into space, scientists would expect to discover sources that are millions of times bigger still and to sense their activity all the way out to the edge of the observable Universe.



**Global nanosatellite market anticipated to reach \$6.35 billion by 2021** According to a new market intelligence report, the global market is expected to reach \$6.35 billion by 2021, growing at a CAGR of 37.91% during the forecast period. With the emergence of space technologies, which enable satellites to operate under harsh space environment, it has become easier to carry out cost-effective space missions.



**Vietnam, Israel sign agreement on space technology cooperation** The Vietnam National Satellite Centre and the Israel Space Agency inked an agreement on cooperation in science and technology and peaceful use of outer space, in Hano. At the signing ceremony, Israeli Ambassador to Vietnam Meirav Eilon Shahar said under the agreement, the two sides will boost cooperation in such areas as earth observation, space industry, and satellite activities.



**Galileo contract faces Brexit crunch** A contract signed is giving a German-UK consortium the go-ahead to build another eight satellites for Galileo - Europe's version of GPS. OHB System of Bremen and SSTL of Guildford have so far produced all of the fully operational satellites in the constellation. But it is highly unlikely that SSTL, which assembles the timing and navigation payloads on the spacecraft at its Surrey factory, will have completed its share of the production effort by Friday 29 March, 2019 - the date for Britain's withdrawal from the EU.



**Plan aims to secure UK space sector** A government plan to secure growth in the UK's  $\pounds$ 13.7bn space industry is laid out in the Queen's Speech. The stated purpose of the new Bill is to make the UK the most attractive place in Europe for commercial space - including launches from British soil. It would help increase the UK share of the global space economy from 6.5% today to 10% by 2030.



**Virgin Orbit nears 'Pathfinder' LauncherOne completion** Virgin Orbit, the newly created small satellite launch Virgin Group company, is nearing completion of the first 'pathfinder' LauncherOne test rocket.



**New Horizons team pulls off epic feat to spot next target beyond Pluto** The team behind the New Horizons mission to Pluto recently pulled off a challenging observation of the spacecraft's next target, MU69, as the object eclipsed a distant star.



**Ten ways that astronauts are helping you stay healthy** Astronauts on the International Space Station are growing crystals that could help develop new drugs for use on Earth.



**ESA okays project to seek alien life** Europe has approved the launch of a deep-space observatory to sniff out habitable planets in other star systems, along with any life forms they may host. "The PLATO mission will address fundamental questions such as 'how common are Earth-like planets?' and 'is our solar system unusual or even unique?'," the University of Warwick, whose scientists will take part in the project, said.



**Satellite image showcases centuries of desertification in India** A new image from the European Space Agency's Copernicus Sentinel-2A satellite showcases the extreme aridity of India's Thar Desert. Geologic and archaeological analysis suggests the region, which encompasses more than 123,000 square miles in India and Pakistan, was once green and lush. Centuries of farms have depleted water resources and taxed the soil, slowly drying out the land.



**Arianespace signs its initial launch contract for the new Vega C launcher** Arianespace has announced a first contract for the future Vega C launcher, while gearing up for the operation of Ariane 6.



**NASA, CNES express commitment to joint exploration** France and the United States have a long history of cooperation in space, combining their talents over the years to advance science and launch exploration missions whose results have been instrumental in creating entirely new fields of research. The leaders of the two space agencies, Acting NASA Administrator Robert Lightfoot, and CNES President Jean-Yves Le Gall, reaffirmed the agencies' cooperation efforts.

## Recent Launch Activities

**China launches remote-sensing micro-nano satellites** China launched two remote-sensing micro-nano satellites on a Long March-4B rocket from Jiuquan Satellite Launch Center in northwest China's Gobi Desert. The OVS-1A and the OVS-1B, the first two satellites of Zhuhai-I remote-sensing micro-nano satellite constellation, are expected to improve the monitoring of geographical, environmental, and geological changes across the country.  
(17 June 2017)

**China launches its first X-ray space telescope** China successfully launched on Thursday its first X-ray space telescope - the Hard X-ray Modulation Telescope - to study black holes, pulsars and gamma-ray bursts, state media reported. A Long March-4B rocket carried the 2.5-tonne telescope into orbit from the Jiuquan Satellite Launch Centre.  
(16 June 2017)

**Russia launches space freighter to ISS** Russia on Wednesday launched an unmanned Progress cargo ship carrying supplies to the International Space Station (ISS) from Kazakhstan. "The Soyuz-2.1A booster rocket with the Progress MS-06 cargo ship launched successfully from Baikonur cosmodrome," Russian space agency Roscosmos said in a statement on its website.  
(14 June 2017)

**Russian rocket returns to service with launch of US satellite** Russia sent into space a Proton rocket carrying a US telecom satellite, Echostar-21, the first launch in a year after an engine glitch sparked a probe into manufacturing flaws. The Proton-M was successfully launched from the Baikonur cosmodrome in southern Kazakhstan, the Russian space agency Roscosmos said.  
(9 June 2017)

## Development Activities

**Europe selects grand gravity mission** The European Space Agency has given the green light to the LISA mission to detect gravitational waves. Ground-based laboratories in the US have recently begun detecting gravitational waves from coalescing objects that are 20-30 times the mass of our Sun. But by sending an observatory into space, scientists would expect to discover sources that are millions of times bigger still and to sense their activity all the way out to the edge of the observable Universe.  
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**LISA gets green light from ESA** LISA - a mission to master the gravitational Universe was selected by ESA as part of its Cosmic Vision, along with PLATO that will search for Earth-like worlds.  
(22 June 2017)

**China to launch four more probes before 2021** China will launch a further four space probes before 2021 as part of the efforts to develop space science, according to the State Administration of Science, Technology and Industry for National Defence. The first of these, the China-Italy Electromagnetic Monitoring Experiment Satellite, will be launched this August to study phenomena related to earthquakes from space.  
(19 June 2017)

**NASA eyes Neptune and Uranus for missions in the 2030s** Four possible missions to the ice giants are being proposed, including orbiters and a fly-by, to tell us what they're made of and how such planets form  
(17 June 2017)

**Russian Spektr-RG mission to identify 3 billion black holes after 2018 launch** The Spektr-RG (Spectrum Roentgen Gamma) space mission, slated to launch from the Baikonur Cosmodrome next year, will help to draw up a map of the universe including three million black holes, project scientist Rashid Sunyaev said. The Spektr-RG (Spectrum Roentgen Gamma) space mission intends to map at least three million black holes across the Universe.  
(16 June 2017)

**China discloses Chang'e 5 lunar probe landing site** China's Chang'e 5 lunar probe is expected to land in the Mons Rumker region, and to take moon samples back to earth at the end of the year, according to a Chinese space official.  
(9 June 2017)

**NASA mission into sun's atmosphere named after astrophysicist** The Parker Solar Probe will go closer to the surface of the sun than any previous probe, in order to discover more about the physics of stars and the origins of the solar wind  
(1 June 2017)

**NASA moves up launch of Psyche mission to a metal asteroid** Psyche, NASA's Discovery Mission to a unique metal asteroid, has been moved up one year with launch in the summer of 2022, and with a planned arrival at the main belt asteroid in 2026 - four years earlier than the original timeline.  
(27 May 2017)

## ISS Activities

**US spy satellite buzzes ISS** Vigilant amateur satellite observers keep tabs on a recently launched US spy satellite that is getting a little too close to the ISS for comfort  
(13 June 2017)

**NanoRacks deploys CubeSats from Cygnus spacecraft** NanoRacks said that it successfully deployed four Spire LEMUR-2 CubeSats from Orbital ATK's Cygnus spacecraft at a nearly 500-kilometre orbit.  
(12 June 2017)

**John Glenn Cygnus departs ISS begins secondary mission** Orbital ATK reports that its Cygnus spacecraft successfully unberthed from the International Space Station, beginning the next phase of its mission before it reenters Earth's atmosphere. The "S.S. John Glenn" now conducts three secondary payload missions including the Saffire-III fire experiment, deployment of four CubeSats and an experiment to further study spacecraft conditions upon  
(7 June 2017)

**Thomas Pesquet returns to Earth** ESA astronaut Thomas Pesquet landed on the steppe of Kazakhstan today with Russian commander Oleg Novitsky in their Soyuz MS-03 spacecraft after six months in space. Touchdown was after a four-hour flight from the International Space Station.  
(2 June 2017)

**Russia thinks microorganisms may be living outside the space station** Officials with Russia's space agency, Rosmoscos, say their scientists have identified plankton and other microorganisms among dust samples collected from the outside of the International Space Station. "The micrometeorites and comet dust that settle on the ISS surface may contain biogenic substance of extra-terrestrial origin in its natural form," Roscosmos officials said in a news release.  
(29 May 2017)

## Space Tourism

**Virgin Galactic Aims to Fly Space Tourists in 2018, CEO Says** Richard Branson's Virgin Galactic is on track to begin commercial passenger spaceflights before the end of 2018, the company's chief executive said.  
(1 May 2017)

**Global nanosatellite market anticipated to reach \$6.35 billion by 2021** According to a new market intelligence report, the global market is expected to reach \$6.35 billion by 2021, growing at a CAGR of 37.91% during the forecast period. With the emergence of space technologies, which enable satellites to operate under harsh space environment, it has become easier to carry out cost-effective space missions.  
(23 June 2017)

**Magnetic space tug could target dead satellites** Derelict satellites could in future be grappled and removed from key orbits around Earth with a space tug using magnetic forces.  
(21 June 2017)

**Quantifying the effects of climate change** Last year was the hottest on record, Arctic sea ice is on the decline and sea levels continue to rise. In this context, satellites are providing us with an unbiased view of how our climate is changing and the effects it is having on our planet.  
(6 June 2017)

**China launches advanced satellite navigation positioning system** China has launched a national satellite navigation and positioning system, the largest in the country Li Weisen, deputy director of the National Administration of Surveying, Mapping and Geoinformation, said that the system consists of 2700 base stations, a national database centre and 30 provincial level database centres. The system, featuring faster speed, higher accuracy and wider coverage, will be compatible with other satellite navigation systems, such as BeiDou.  
(29 May 2017)

**Russia aims for 15 remote sensing satellites in orbit by 2020** Russian President Vladimir Putin stated that the remote sensing technologies must be used to boost the Russian defense and security, develop the economy and social sphere, and increase the quality of the state's governance. The number of operating Russian remote sensing satellites orbiting the Earth will reach 15 by 2020, Russian President Vladimir Putin said.  
(15 May 2017)

**New nano-satellite fleet starts launch in June** An Australian-backed company is to launch the first three of a planned fleet of 200 new nano-satellites in the third week of June. Sky and Space Global (SAS) says the satellites will provide affordable communication services to those who are currently underserved across the equatorial belt.  
(18 May 2017)

**Novel use of satnav saves precious water** Water conservation is a growing concern globally, and particularly for farmers in the USA, where decades of irrigating huge fields has depleted vital resources of fresh surface water and groundwater. An ESA spin-off that can help to preserve water supplies while guaranteeing crop irrigation is now undergoing final testing.  
(15 May 2017)

**Iridium deploys first 10 Next satellites** Iridium Communications has integrated the first set of its Next satellites into the existing operational constellation to improve communications for shipping. This followed a rigorous testing and validation process of the 10 satellites in orbit.  
(11 May 2017)

**New look at satellite data questions scale of China's afforestation success** China has invested more resources than any other country in reversing deforestation and planting trees. However, given the large scale of these programmes it has been difficult to quantify their impact on forest cover. A new study shows that much of China's new tree cover consists of sparse, low plantations as opposed to large areas of dense, high tree cover.  
(8 May 2017)

**Satellites track Antarctic ice loss over decades** Over two decades of observations by five radar satellites show the acceleration of ice loss of 30 glaciers in Western Palmer Land in the southwest Antarctic Peninsula.  
(3 May 2017)

**Space debris problem getting worse, say scientists** Scientists sounded the alarm over the problems posed to space missions from orbital junk - the accumulating debris from mankind's six-decade exploration of the cosmos. In less than a quarter of a century, the number of orbiting fragments large enough to destroy a spacecraft has more than doubled, a conference in Germany heard.  
(19 April 2017)

**ESA helps faster cleaner shipping** With around 90% of world trade carried by ships, making sure a vessel follows the fastest route has clear economic benefits. By merging measurements from different satellites, ESA is providing key information on ocean currents, which is not only making shipping more efficient but is also helping to reduce carbon dioxide emissions.  
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(15 April 2017)

**China considering cooperation with Russia on space debris** China is contemplating developing cooperation with Russia with respect to space debris, China's National Space Administration Secretary-General Yulong Tian told Sputnik.  
(12 April 2017)

**China's BeiDou system to expand cooperation to SE Asia** China's home-grown BeiDou Navigation Satellite System (BDS) will expand its cooperation to Thailand and Sri Lanka, and then to the entire Southeast Asia, in a bid to go global, the system's operator has said.  
(1 April 2017)

**Decommissioned Earth Science satellite to remain in orbit for decades** A NASA Earth science satellite whose mission is ending this week will remain in orbit through the middle of the century, far longer than the limit set by orbital debris mitigation guidelines.  
(30 March 2017)

**Satellites shed new light on earthquakes** Satellite radar scans of last year's earthquake in New Zealand are changing the way we are thinking about earthquake hazards in regions where our planet's tectonic plates meet.  
(25 March 2017)

**ICESat-2 to provide more depth to sea ice forecasts** In March, the Arctic sea ice pack is supposed to reach its greatest extent - but this year it's far below average, off by an area about the size of Texas and New Mexico combined. Satellite observations currently reveal how much of the ocean surface is covered by ice, but there is another critical measurement to make.  
(23 March 2017)

**30 years of deforestation** While the world marks the International Day of Forests, satellites continue to monitor the long-term effects of human activities on our planet's precious resources  
(22 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)

**NASA releases Kepler Survey Catalog with hundreds of new planet candidates** NASA's Kepler space telescope team has released a mission catalogue of planet candidates that introduces 219 new planet candidates, 10 of which are near-Earth size and orbiting in their star's habitable zone, which is the range of distance from a star where liquid water could pool on the surface of a rocky planet.  
(20 June 2017)

**The future of the Orion constellation** A new video, based on measurements by ESA's Gaia and Hipparcos satellites, shows how our view of the Orion constellation will evolve over the next 450 000 years. Stars are not motionless in the sky: their positions change continuously as they move through our Galaxy, the Milky Way.  
(17 June 2017)

**A whole new Jupiter: First science results from NASA's Juno mission** Early science results from NASA's Juno mission to Jupiter portray the largest planet in our solar system as a complex, gigantic, turbulent world, with Earth-sized polar cyclones, plunging storm systems that travel deep into the heart of the gas giant.  
(26 May 2017)

**Juno spacecraft has close encounter with Jupiter's cloud tops in sixth flyby** Juno skimmed the cloud tops of Jupiter at a range of just 3,500 kilometres during its close approach, NASA officials said. The manoeuvre marked the sixth time the Juno probe's orbit has brought it up close with Jupiter.  
(21 May 2017)

**LIGO could detect gravitational waves' permanent space-time warp** When gravitational waves permanently distort space-time, it causes a 'memory signal' which may help LIGO find some of the universe's most exotic objects  
(20 May 2017)

**Fermi satellite observes billionth gamma ray with LAT instrument** On April 12, one of the spacecraft's instruments - the Large Area Telescope (LAT), which was conceived of and assembled at the Department of Energy's SLAC National Accelerator Laboratory - detected its billionth extraterrestrial gamma ray.  
(15 May 2017)

**Astrophysicists find that planetary harmonies around TRAPPIST-1 save it from destruction** When NASA announced its discovery of the TRAPPIST-1 system back in February it caused quite a stir, and with good reason. Three of its seven Earth-sized planets lay in the star's habitable zone, meaning they may harbour suitable conditions for life. But one of the major puzzles from the original research describing the system was that it seemed to be unstable.  
(14 May 2017)

**First results from Jupiter probe show huge magnetism and storms** Observations from the Juno spacecraft are confounding astronomers with revelations about the weather and magnetism of our solar system's biggest planet  
(5 May 2017)

**Cassini radio signal from Saturn picked up after dive** The Cassini spacecraft is sending data back to Earth after diving in between Saturn's rings and cloudtops. The probe executed the daredevil manoeuvre on Wednesday - the first of 22 plunges planned over the next five months - while out of radio contact.  
(27 April 2017)

**NASA's Cassini, Voyager missions suggest new picture of Sun's interaction with galaxy** New data from NASA's Cassini mission, combined with measurements from the two Voyager spacecraft and NASA's Interstellar Boundary Explorer, or IBEX, suggests that our sun and planets are surrounded by a giant, rounded system of magnetic field from the sun - calling into question the alternate view of the solar magnetic fields trailing behind the sun in the shape of a long comet tail.  
(26 April 2017)

**China's first cargo spacecraft docks with space lab** China's first cargo spacecraft, Tianzhou-1, successfully completed docking with an orbiting space lab, the Beijing Aerospace Control Center said.  
(24 April 2017)

**Gaia's snapshot of another galaxy** While compiling an unprecedented census of one billion stars in our Galaxy, ESA's Gaia mission is also surveying stars beyond our Milky Way. A new image of M33, also known as the Triangulum galaxy, shows tens of thousands of stars detected by Gaia, including a small stellar census in its star-forming region NGC 604.  
(24 April 2017)

**Cassini probe heads towards Saturn 'grand finale'** Cassini has used a gravitational slingshot around Saturn's moon Titan to put it on a path towards destruction. The flyby swept the probe into an orbit that takes it in between the planet's rings and its atmosphere. This gap-run gives the satellite the chance finally to work out the length of a day on Saturn, and to determine the age of its stunning rings. But the manoeuvre means also that it cannot escape a fiery plunge into Saturn's clouds in September.  
(22 April 2017)

**NASA and partners survey space weather science** NASA scientists worked with scientists and engineers from research institutions and industry during a pair of intensive week-long workshops in order to assess the state of science surrounding this type of space weather.  
(22 April 2017)

**Saturn moon 'able to support life'** Saturn's ice-crusted moon Enceladus may now be the single best place to go to look for life beyond Earth. The assessment comes on the heels of new observations at the 500km-wide world made by the Cassini probe. It has flown through and sampled the waters from a subsurface ocean that is being jetted into space. Cassini's chemistry analysis strongly suggests the Enceladean seafloor has hot fluid vents - places that on Earth are known to teem with life.  
(14 April 2017)

**New Horizons spacecraft enters hibernation** The New Horizons spacecraft has entered hibernation, reported by Johns Hopkins University Applied Physics Laboratory.  
(13 April 2017)

**Milky Way stars on the move - satellite data used to see into the future** The motion of 2 million stars over the course of 5 million years into the future is depicted in this new animation from the European Space Agency. Data from their Gaia Mission was used to create it.  
(13 April 2017)

**Metal detected in Mars' Atmosphere** NASA's MAVEN spacecraft has spotted iron, magnesium and sodium ions  $Fe^{+}$ ,  $Mg^{+}$ , and  $Na^{+}$  electrically charged atoms - high up in the Red Planet's atmosphere over the past two years, a new study reports.  
(12 April 2017)

**Cassini prepares for last plunge** NASA's unmanned Cassini spacecraft is preparing for its final plunge into Saturn later this year, after two decades of helping Earth-bound scientists make new discoveries about the sixth planet from the Sun and its mysterious rings.  
(8 April 2017)

**NASA observations reshape basic plasma wave physics** When NASA's Magnetospheric Multiscale - or MMS - mission was launched, the scientists knew it would answer questions fundamental to the nature of our universe - and MMS hasn't disappointed. A new finding, presented in a paper in Nature Communications, provides observational proof of a 50-year-old theory and reshapes the basic understanding of a type of wave in space.  
(6 April 2017)

**Prolific Mars Orbiter Completes 50,000 Orbits** The most data-productive spacecraft yet at Mars swept past its 50,000th orbit this week, continuing to compile the most sharp-eyed global coverage ever accomplished by a camera at the Red Planet. In addition, the spacecraft - NASA's Mars Reconnaissance Orbiter (MRO) - recently aided preparations for NASA's next mission to Mars, the InSight lander.  
(3 April 2017)

**NASA orbiter shows Mars lost 90 per cent of its CO<sub>2</sub> to space** The MAVEN spacecraft has completed the key part of its mission: to track down how much argon Mars's atmosphere is giving up as a proxy for carbon dioxide loss  
(2 April 2017)

**ExoMars: Rover scientists to study Mawrth Vallis option** Scientists are going to investigate a second site on Mars as a possible destination to send ESA's 2021 rover. Scientists spent two days considering the options and plumped in the end for Mawrth Vallis - an area rich in clay minerals that must have formed during prolonged rock interactions with water. Mawrth joins Oxia Planum, which was selected for study in 2015.  
(29 March 2017)

**New treasures from Juno: Jupiter dazzles during fourth close approach** Image processor Björn Jónsson shares some of his latest stunning images of Jupiter, created using data from NASA's Juno spacecraft.  
(28 March 2017)

**NASA's SDO sees a stretch of spotless Sun** For 15 days starting on March 7, 2017, NASA's Solar Dynamics Observatory, or SDO, returned visible light images of a yolk-like spotless sun. This is the longest stretch of spotlessness since the last solar minimum in April 2010, indicating the solar cycle is marching on toward the next minimum, which scientists predict will occur between 2019- 2020.  
(26 March 2017)

**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)



**Vietnam, Israel sign agreement on space technology cooperation** The Vietnam National Satellite Centre and the Israel Space Agency inked an agreement on cooperation in science and technology and peaceful use of outer space, in Hano. At the signing ceremony, Israeli Ambassador to Vietnam Meirav Eilon Shahar said under the agreement, the two sides will boost cooperation in such areas as earth observation, space industry, and satellite activities.

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(21 June 2017)



**Kazakh man dies in fire following Russian rocket launch** A Kazakh man died and another was hospitalised after they were caught in a fire on the steppes triggered by falling debris from a Russian space launch, emergency services said. The blaze, reaching 15 kilometres across, was unleashed by parts of a rocket that fell to Earth after launch from the nearby Baikonur cosmodrome. The rocket had been used to successfully launch a supply ship destined for the International Space Station, emergency services in Kazakhstan said.

(17 June 2017)



**Russian aerospace firm to cooperate with China on Lunar exploration missions** Russia's Lavochkin Research and Production Association will work with China on designing lunar exploration missions, including orbital and return ones, Sergei Lemeshevsky, the Russian company's director general, told Sputnik.

(13 June 2017)



**US House bill seeks to help commercial space companies** The House Science Committee is trying to remove barriers to commercial space companies with a new bill, the American Space Commerce Free Enterprise Act of 2017.

(11 June 2017)



**Chinese experiment reaches Space Station in historic first** A Chinese experiment is now on the International Space Station (ISS), having reached the orbiting lab Monday (June 5) aboard a SpaceX Dragon cargo spacecraft.

(11 June 2017)



**Roscosmos says cooperation with NASA unaffected by 'political outbursts'** Sergey Krikalev stated that the cooperation between Russia's Roscosmos space corporation and NASA is going normally and successfully. Political "outbursts" have little effect on space agencies, the Executive Director for manned space flight programs told Sputnik.

(9 June 2017)



**New law and space agency to support Luxembourg's space resources ambitions** The government of Luxembourg expects to soon have in place both a new national space law and a national space agency, two key steps in the small European country's outsized contribution to the development of a space resources industry.

(8 June 2017)



**Russia on the way to adopt new programme on development of space centres** The federal programme for the development of Russian space launch centres for the period of 2017-2025 may be adopted as early as by September, the head of Roscosmos State Space Corporation Igor Komarov said. Komarov said in May that the programme had been submitted to the government, and it was expected to keep within the budget not exceeding 340 billion rubles (some \$6 billion).

(7 June 2017)



**NOAA budget request prioritizes current satellite programmes over future ones** The fiscal year 2018 budget request for the National Oceanic and Atmospheric Administration offers full funding for ongoing major weather satellite programs while deferring work on future efforts.

(2 June 2017)



**Iran to launch sensor-operational satellite in 2018** Iran will launch its first sensor-operational satellite in 2018, a top official of Iran Space Research Centre said on Sunday.

(31 May 2017)



**Ireland will be launching its first satellite into space** The EIRSAT-1 satellite will be launched from the International Space Station and will orbit the earth for 12 months, gathering data on Gamma Ray Bursts and testing innovative space technologies. Researchers and students from University College Dublin and Queen's University in Belfast are leading the project, which is being developed under the European Space Agency's (ESA) 'Fly Your Satellite! 2017' programme.

(30 May 2017)



**Australian satellite in orbit** The first Australian satellite in 15 years, UNSW-ECO, was successfully deployed from the International Space Station, but the UNSW engineers who built it were unable to establish contact when it made its first pass above Sydney.

(28 May 2017)



**Cruz to hold hearing on updating the Outer Space Treaty** The chairman of the US Senate's space subcommittee said May 16 that his committee will hold a hearing to hear testimony on possible updates to a 50-year-old treaty that is the cornerstone of international space law.

(25 May 2017)



**SA space agency, Airbus launch challenge to find new uses for satellite data** The South African National Space Agency (Sansa) and Airbus Defence and Space has launched an open innovation challenge to entrepreneurs, universities and other interested parties seeking homegrown and novel uses for earth observation data obtained by satellites.

(23 May 2017)



**Brazil starts satellite trials** The Brazilian government has started the testing procedures for its first own satellite, built to boost broadband capacity in the country as well as security of critical defence information.

(21 May 2017)



**Could Brexit blow a hole in UK's space ambitions?** There are possible effects on the long-established cooperation of the UK and ESA.

(19 May 2017)



**US military satellites in crisis as foreign weapons advance and proliferate** The U.S. military's satellite communications are facing a crisis, threatened by a growing array of foreign weapons, including cyberattack capabilities, lasers, electronic jammers and anti-satellite weapons, according to a Pentagon study. An executive summary of the report by the Defense Science Board warns that military satellite communications used for global operations "will be contested by a myriad of effects ranging from reversible to destructive."

(18 May 2017)



**Washington still has no engine to replace Russian-made RD-180** US aerospace company Blue Origin suffered a setback while testing its Blue Engine 4 (BE-4), a staged-combustion rocket engine designed to replace Russian-made RD-180s, meaning that Washington still does not have an indigenously built version of a key piece of equipment needed to propel its Atlas V launch vehicles or its analogues into space.

(17 May 2017)



**Bulgarian satellite to launch on reused SpaceX Falcon 9 rocket in June** A communications satellite built for a Bulgarian operator will be the second payload to launch on a previously-flown Falcon 9, that operator announced.

(11 May 2017)



## Opportunities

### **NASA AFRC Internship - NASA (United States)**

previous work. Students are given an opportunity to interact with NASA researchers, engineers, and technicians in design, construction, implementation, verification

### **NASA Information Assurance Engineer - KeyLogic (United States)**

As a NASA Information Assurance Engineer you will become an integral part of our growing organization. As a member of the KeyLogic Team, you will be able to expand your

### **NASA Journalism, Multimedia, Social Media Winter/Spring Internships - NASA (United States)**

INTRODUCTION: NASA invites students working towards degrees in journalism, communications, media relations, science writing, immersive journalism, or broadcast

### **NASA Programs Acquisition Manager - Centech (United States)**

Overview: THE CENTECH GROUP, Inc. (CENTECH(R)) is seeking a Capture Manager/ NASA Programs Acquisition Manager. The person in this position will manage the

### **NASA Programs Acquisition Manager - THE CENTECH GROUP (United States)**

THE CENTECH GROUP, Inc. (CENTECH(R)) is seeking a Capture Manager/ NASA Programs Acquisition Manager. The person in this position will manage the CENTECH-approved

### **NASA UAS Traffic Management (UTM) project - NASA (United States)**

As part of the NASA UAS Traffic Management (UTM) project, research is in progress to enable integration of small unmanned aerial vehicles (UAV) into the National

### **Civil Rights Analyst - Headquarters, NASA (United States)**

vacancy announcements. To receive consideration, you must submit a resume and answer NASA -specific questions. The NASA questions appear after you submit your

### **Client Executive, NASA / Department of Energy - VMware (United States)**

As the NASA / DoE Client Executive, you will be responsible for driving VMware solutions to NASA and the scientific community. The ideal candidate would preferably

### **Client Executive, NASA / Department of Energy - VMware, Inc. (United States)**

Job ID 80872BR As the NASA / DoE Client Executive, you will be responsible for driving VMware solutions to NASA and the scientific community. The ideal candidate

### **Data Management Analyst - NASA Open Data Project - Qualified Technical Services, Inc (United States)**

Work Location: NASA Ames Research Center (Mountain View, CA) Minimum Citizenship: US Citizen Clearance: US Government JOB DESCRIPTION Interested in improving the

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

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

### **Full Stack Developer - NASA Open Data Project - Qualified Technical Services, Inc (United States)**

Work Location: NASA Ames Research Center (Mountain View, CA) Minimum Citizenship: US Citizen Clearance: US Government REQUIREMENTS Education: BS Discipline(s):

**International Program Specialist - Headquarters, NASA (United States)**

vacancy announcements. To receive consideration, you must submit a resume and answer NASA -specific questions. The NASA questions appear after you submit your

**Operations Research Analyst - Headquarters, NASA (United States)**

the financial health of the organization, including responsibility for ensuring that NASA resources are effectively employed toward the achievement of NASA 's

**Part-Time Institutional Assistant/ NASA Finance Coordinator - University of Arkansas at Little Rock (United States)**

Qualifications Posting Number FNC00902 UALR Functional Title Part-Time Institutional Assistant/ NASA Finance Coordinator / P98024 Position Number P98024 Department

**Science Driven Long Duration Venus Lander Concepts (NASA Space Academy at Glenn) - NASA (United States)**

1. Brief background & NASA mission/program support: Venus is a key planet to help better understand Earth and our solar system. Due to the thick acidic cloud layers,

**Senior Environmental Health Officer - Headquarters, NASA (United States)**

Office of the Chief Health and Medical Officer (OCHMO) and serves as NASA 's Senior Consultant and Advisor for environmental health matters (Industrial Hygiene, Health

**Senior Full Stack Node.js Developer, NASA Project Open Data - Senior Software Engineer V - SGT Inc (United States)**

Senior Full Stack Node.js Developer, NASA Project Open DataInterested in improving the discoverability and accessibility of NASA 's open source data and code?The Open

**Senior Project Leader Supporting NASA - The Aerospace Corporation (United States)**

Lead to join a team that takes pride in their products to the NASA Centers. The successful candidate will be working with and coordinating on business development

**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

**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

**Systems Capability Leader for In Situ Resource Utilization (Isru) - Headquarters, NASA (United States)**

across the Agency for in situ resource utilization (ISRU) in support of NASA 's human exploration missions. Provides stewardship of NASA 's critical capabilities in

**Technical Fellow for Reliability and Maintainability - Headquarters, NASA (United States)**

Job Overview ## Job Overview Summary About the Agency The NASA Technical Fellows Program was established to recognize technical excellence and leadership in the

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# INTERNATIONAL ASTRONAUTICAL CONGRESS 2017

ADELAIDE, AUSTRALIA  
25-29 SEPTEMBER 2017

68<sup>TH</sup> IAC  
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