

# Astronautical News

25 August 2017

**Russia plans 25  
satellite  
launches by  
year-end**

**Turning human  
waste into  
plastic,  
nutrients could  
aid long-  
distance space  
travel**

**Air Force stands  
up new Space  
Operations  
Directorate**

**Setting the  
spaceplane  
stage**



It is estimated that Voyager 1 finally left the Solar System on 25 August 2012  
Image: NASA

**Collator**

Scott Hatton

**Graphic Design**

Takiss Vessim

**In cooperation with**

The British Interplanetary Society

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**Big science from small spacecraft** Can cubesats and nanosats deliver in the space science arena?



**Satellite to test space garbage collection methods** A satellite designed to test various technologies that may help tackle the growing problem of space junk is undergoing final pre-flight testing.



**Internet of Things startup Helios Wire raises \$4 million for satellites** Helios Wire, a satellite-enabled Internet of Things startup led by former UrtheCast founder and chief executive Scott Larson, announced that it has closed a \$4 million funding round. Helios Wire will pay for satellites to help customers track and communicate with billions of devices worldwide. In December, Helios Wire plans to launch a small prototype satellite to demonstrate the technology. The firm plans to launch its first two operational satellites in 2018.



**India mounts aggressive plan to launch 21 rockets by 2021** The 21 launches will include the second test flight of India's heaviest rocket - the Geosynchronous Satellite Launch Vehicle.



**ICEYE raises additional financing to develop SAR constellation** ICEYE, which is developing synthetic-aperture radar (SAR) technology for microsatellites, announced US\$13 million in new funding, including an US\$8.5 million financing round led by Draper Nexus.



**Russia confirms existence of 'inspector' satellite** A smaller spacecraft has separated from the Kosmos-2519/Napryazhenie military satellite launched from the Plesetsk Cosmodrome on 23 June, the Russian Defense Ministry's press-service said.



**Russia plans 25 satellite launches by year-end** Russia's Roskosmos State Space Corporation plans as many as 25 rocket launches this year, and about the same number of launches next year, Igor Komarov, the head of Roskosmos, was quoted as saying.



**Last TDRS spacecraft launched** NASA's Tracking and Data Relay Satellite-M (TDRS-M), which is the third and final in a series of next generation communications satellites, has successfully been placed into orbit following separation from an United Launch Alliance (ULA) Atlas V rocket from Cape Canaveral Air Force Station in Florida. Ground controllers report the satellite is in good health at the start of a four-month checkout in space by its manufacturer, Boeing. NASA will conduct additional tests before putting TDRS-M into service in 2018.



**NASA's Parker Probe Will Explore The Sun's Hellish Atmosphere in 2018** During the US total solar eclipse, skywatchers can see the corona: the hellish, mysterious outer atmosphere that NASA plans to probe in 2018.



**Next stop for Parkinson's Disease research: outer space** In an effort to find new treatments for Parkinson's disease, researchers are sending their experiments to space.



**Russian cosmonauts on spacewalk deploy nanosatellites to honour Sputnik** Two cosmonauts stepped outside the International Space Station for a seven-hour spacewalk on 17 August, in part to deploy three small satellites in tribute to the dawn of the space age 60 years ago.



**Turning human waste into plastic, nutrients could aid long-distance space travel** Imagine you're on your way to Mars, and you lose a crucial tool during a spacewalk. Not to worry, you'll simply re-enter your spacecraft and use some microorganisms to convert your urine and exhaled carbon dioxide (CO2) into chemicals to make a new one. That's one of the ultimate goals of scientists who are developing ways to make long space trips feasible.



**Air Force stands up new Space Operations Directorate** The U.S. Air Force has announced that its new Space Operations Directorate begins initial operating capability this month. The 43-member staff of the directorate, or AF/A11, is composed of military, government and contractor personnel.

## Recent Launch Activities

**SpaceX launches Taiwan's first home-built satellite** SpaceX launched the first satellite designed and built entirely in Taiwan, a spacecraft that aims to boost disaster forecasts and mapping, environmental observation and space research. The satellite, called FORMOSAT-5, weighs nearly 1,000 pounds (450 kilograms) and blasted off atop a Falcon 9 rocket at 11:51 am (1851 GMT).  
(25 August 2017)

**Japan launches satellite for better GPS system** Japan launched the third satellite in its effort to build a homegrown geolocation system aimed at improving the accuracy of car navigation systems and smartphone maps to mere centimetres. An H-IIA rocket blasted off from the Tanegashima space centre in southern Japan on 19 August, according to JAXA.  
(21 August 2017)

**Last TDRS spacecraft launched** NASA's Tracking and Data Relay Satellite-M (TDRS-M), which is the third and final in a series of next generation communications satellites, has successfully been placed into orbit following separation from an United Launch Alliance (ULA) Atlas V rocket from Cape Canaveral Air Force Station in Florida. Ground controllers report the satellite is in good health at the start of a four-month checkout in space by its manufacturer, Boeing. NASA will conduct additional tests before putting TDRS-M into service in 2018.  
(20 August 2017)

**NASA launches new satellite to beam back data from Hubble Telescope, Space Station** NASA launched another next-generation communications satellite to help beam data from the Hubble Space Telescope, the International Space Station (ISS) and other orbiting spacecraft down to Earth.  
(19 August 2017)

## Development Activities

**India mounts aggressive plan to launch 21 rockets by 2021** The 21 launches will include the second test flight of India's heaviest rocket - the Geosynchronous Satellite Launch Vehicle.  
(23 August 2017)

**NICER and LISA to confirm or disprove predictions of General Relativity** Two astrophysical missions, NICER and LISA, could soon change our understanding of the universe. Scientists hope that both instruments would help them answer fundamental questions about the universe, testing many aspects of Einstein's theory of general relativity.  
(22 August 2017)

**NASA's Parker Probe Will Explore The Sun's Hellish Atmosphere in 2018** During the US total solar eclipse, skywatchers can see the corona: the hellish, mysterious outer atmosphere that NASA plans to probe in 2018.  
(21 August 2017)

**NASA debates how to retrieve rocks from Mars** The agency's next Mars rover will cache samples for return to Earth, but how and when they will be delivered remains undecided.  
(17 August 2017)

**ISRO lines up 21 rockets, to launch 70 satellites in 5 years** India's space agency - the Indian Space Research Organisation - has lined up over 21 rocket launches, including the second test flight of its heaviest rocket the Geosynchronous satellite launch vehicle (GSLV) MK-III, which will be carried out over a period of the next three-four years.  
(14 August 2017)

**SwRI's small satellite mission moves forward** NASA has selected Southwest Research Institute (SwRI) to further develop the concept for a small satellite mission to image the Sun's outer corona. SwRI's "Polarimeter to Unify the Corona and Heliosphere" (PUNCH) program was selected for a mission concept study through NASA's Heliophysics Small Explorers Program (SMEX).  
(10 August 2017)

**Russian, US experts suggest launching satellite and balloons as part of Venus space probe** The Venera-D mission might be launched in 2026.  
(8 August 2017)

**NOAA's GOES-S and GOES-T satellites coming together** Progress continues on the development of NOAA's GOES-S and GOES-T spacecraft that will follow the successful launch of the Geostationary Operational Environmental Satellite or GOES-R, renamed GOES-16 upon reaching geostationary orbit.  
(6 August 2017)

## ISS Activities

**Russian space cameras on ISS may replace US models in 2018** Russian-made cameras for recording the activities of astronauts in outer space may replace similar US-made models as early as next year, Russia's Rocket and Space Corporation Energia (RSC Energia) said.  
(22 August 2017)

**Russian cosmonauts on spacewalk deploy nanosatellites to honour Sputnik** Two cosmonauts stepped outside the International Space Station for a seven-hour spacewalk on 17 August, in part to deploy three small satellites in tribute to the dawn of the space age 60 years ago.  
(20 August 2017)

**Astronauts grow cucumbers in space to help scientists understand root growth** Which factor is more important to root growth: gravity or water? To find out, scientists recruited astronauts to grow cucumbers on the International Space Station.  
(25 July 2017)

**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)

## Space Tourism

**Virgin Galactic Carries Out "Dry Run" for Powered SpaceShipTwo Flights** Virgin Galactic performed the latest glide flight of its second SpaceShipTwo suborbital spaceplane Aug. 4, calling it a "dry run" for upcoming powered test flights.  
(7 August 2017)

**Sentinel-1 speeds up crop insurance payouts**

For the first time in India, a state government is using satellites to assess lost crops so that farmers can benefit from speedy insurance payouts.

(19 August 2017)

**25 years of global sea level data, and counting**

August 2017 marked the 25th anniversary of the launch of a revolutionary ocean research vessel - a space "ship." As the NASA/CNES Topex-Poseidon satellite ascended into orbit, it ushered in a new era of oceanography with the first highly accurate, global measurements of sea levels.

(17 August 2017)

**China's satellite sends unbreakable cipher from space**

Chinese scientists have become the first to realise quantum key distribution from a satellite to the ground, laying the foundation for building a hack-proof global quantum communication network.

(15 August 2017)

**CubeSats swarm Earth orbit**

A boom in nanosatellites could revolutionize space science and industry, but also dramatically increase the hazards of space junk

(26 July 2017)

**Galileo handover**

After four years of work, the ESA team tasked with keeping the world informed on the status of the Galileo satellite navigation system has formally passed on its responsibility to a European Union agency. This shift is part of a wider transfer of responsibilities, as this month see the official handover of the running of the Galileo system from ESA to the European Global Navigation Satellite Systems Agency, or GSA.

(24 July 2017)

**ESA drives to move past Galileo clock issue**

The European Space Agency says its well on the way to a full constellation of 24 operational satellites, the continuing renewal of which would probably require an average two satellites to be launched every year.

(14 July 2017)

**World's first demonstration of space quantum communication using a microsatellite**

The National Institute of Information and Communications Technology of Japan who developed the world's smallest and lightest quantum-communication transmitter (SOTA) onboard the microsatellite SOCRATES, have succeeded in the demonstration of the first quantum-communication experiment from space.

(12 July 2017)

**OneWeb vouches for high reliability of its deorbit system**

Satellite broadband startup OneWeb says no other system on its low-Earth orbit satellites will be built for higher reliability than the deorbit module it is including to prevent the creation of space debris.

(12 July 2017)

**Satellites see giant iceberg split from Antarctic**

One of the biggest icebergs ever recorded has just broken away from Antarctica. A US satellite observed the berg while passing over a region known as the Larsen C Ice Shelf. An infrared sensor on the American space agency's Aqua satellite spied clear water in the rift between the shelf and the berg.

(12 July 2017)

**India plans to roll out national GPS in 2018**

The Indian Space Research Organisation is set to offer GPS from its own navigation system for mobile users from next year, aiming to make it more accurate than foreign competitors' products.

(8 July 2017)

**Europe's Galileo satnav identifies problems behind failing clocks**

Investigators have uncovered the problems behind the failure of atomic clocks onboard satellites belonging to the beleaguered Galileo satnav system, the European Commission said. For months, the European Space Agency - which runs the programme - has been investigating the reasons behind failing clocks onboard some of the 18 navigation satellites it has launched for Galileo.

(5 July 2017)

**Satellite image project that helps spot and stop slavery sites from space**

A crowdsourcing project at the University of Nottingham, England which aims to - via satellite imagery - identify notorious sites that could be involved in modern slavery globally, has attracted a number of online volunteers.

(4 July 2017)

**Space junk colution? Tiny cubesat to test new de-orbiting thruster**

A tiny satellite that reached orbit will make history when it comes back down to Earth.

(3 July 2017)

**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.

(24 June 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.

(25 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)

**ISS to expand cosmic ray observation role** The International Space Station is poised to become quite the clearing house for galactic cosmic ray analysis.

(18 August 2017)

**Google-sponsored private moon race delayed for the fourth time** Competitors in the Google Lunar X Prize now have until 31 March 2018 to land a spacecraft on the moon

(18 August 2017)

**Satellites will watch the 2017 solar eclipse from space** Millions of people in the United States will watch the total solar eclipse on Aug. 21. The event will also capture the attention of several spacecraft, as well as astronauts aboard the International Space Station.

(16 August 2017)

**Cassini to begin final five orbits around Saturn** The Cassini spacecraft will enter new territory in its final mission phase, the Grand Finale, as it prepares to embark on a set of ultra-close passes through Saturn's upper atmosphere with its final five orbits around the planet.

(11 August 2017)

**China's Tiangong-1 Space Lab to Fall to Earth by April 2018** The United Nations Office for Outer Space Affairs has reissued a notification by China on the future uncontrolled re-entry of the country's robotic Tiangong-1 space lab, which is expected to take place in the next eight months.

(7 August 2017)

**NASA selects proposals to study Sun, space environment** NASA has selected nine proposals under its Explorers Program that will return transformational science about the Sun and space environment and fill science gaps between the agency's larger missions; eight for focused scientific investigations and one for technological development of instrumentation.

(6 August 2017)

**Company loses contact with communications satellite while changing orbit** A 20-year old satellite in fleet operator EchoStar's constellation is drifting after an anomaly the company said has crippled communications.

(4 August 2017)

**ALMA confirms complex chemistry in Titan's atmosphere** Saturn's largest moon, Titan, is one of our solar system's most intriguing and Earth-like bodies. It is nearly as large as Mars and has a hazy atmosphere made up mostly of nitrogen with a smattering of organic, carbon-based molecules, including methane (CH<sub>4</sub>) and ethane (C<sub>2</sub>H<sub>6</sub>). Planetary scientists theorize that this chemical make-up is similar to Earth's primordial atmosphere.

(2 August 2017)

**NASA tests Webb Telescope's communication skills** NASA called, and the Webb telescope responded. NASA's James Webb Space Telescope recently completed its Ground Segment Test Number 1 (GSEG-1), for the first time confirming successful end-to-end communication between the telescope and its mission operations centre.

(2 August 2017)

**NASA's Voyager Spacecraft Still Reaching for the Stars After 40 Years** Humanity's farthest and longest-lived spacecraft, Voyager 1 and 2, achieve 40 years of operation and exploration this August and September. Despite their vast distance, they continue to communicate with NASA daily, still probing the final frontier.

(1 August 2017)

**Smallest satellite ever paves way for planned interstellar fleet** Breakthrough Starshot, the \$100 million project to send tiny spacecraft to Alpha Centauri, successfully operated a mini-satellite in orbit for the first time.

(29 July 2017)

**Has Cassini found a universal driver for prebiotic chemistry at Titan?** The international Cassini-Huygens mission has made a surprising detection of a molecule that is instrumental in the production of complex organics within the hazy atmosphere of Saturn's moon Titan.

(28 July 2017)

**Cassini finds surprises for Saturn's magnetic field** Even though it doesn't have long left to go, Cassini is busy surprising scientists with data it has collected while plunging through Saturn's rings.

(27 July 2017)

**Norwegian microsatellite deploys first-of-kind Yagi antenna** The Norwegian Space Centre has announced successful deployment of critical antennas and probes on the NORsat-1 and NORsat-2 microsatellites built by Canada's Space Flight Laboratory (SFL) and launched on 14 July from Kazakhstan. Most notable was deployment of a large Yagi antenna from NORsat-2 that will provide first-of-its-kind VHF Data Exchange (VDE) from space.

(25 July 2017)

**First lunar observatory for Moon's south pole in 2019** The International Lunar Observatory Association (ILOA) and Moon Express have announced a collaboration for the delivery of an instrument to image the Milky Way from the lunar surface

(25 July 2017)

**A new way to search for gravitational waves?** Scientists suggest looking for gravitational waves in data from a mission that is looking at star positions

(22 July 2017)

**A Final Farewell to LISA Pathfinder** With the push of a button, final commands for the European Space Agency's LISA Pathfinder mission were beamed to space on July 18, a final goodbye before the spacecraft was powered down. LISA Pathfinder had been directed into a parking orbit in April, keeping it out of Earth's way. The final action this week switches it off completely after a successful 16 months of science measurements.

(18 July 2017)

**First close-ups of Jupiter's Great Red Spot from Juno flyby** The closest-ever observations of our solar system's biggest storm could tell us how deep into Jupiter it extends and how it has continued to rage for centuries

(13 July 2017)

**Hubble Telescope captures stars forming just after the Big Bang** Paired with a cosmic magnifying glass, NASA's Hubble Space Telescope has revealed insight into star formation in the early universe.

(9 July 2017)

**SES transfers capacity from AMC-9 satellite following significant anomaly** SES has announced that, following a significant anomaly, the company is in the process of transferring capacity from its AMC-9 satellite. The incident was noted on the morning of Saturday 17 June 2017. SES has taken immediate action in contacting all customers and is working to transfer services to alternative satellite capacity in order to minimise disruption.

(7 July 2017)

**Artificial brain helps GAIA catch speeding stars** With the help of software that mimics a human brain, ESA's Gaia satellite spotted six stars zipping at high speed from the centre of our galaxy to its outskirts. This could provide key information about some of the most obscure regions of the Milky Way.

(7 July 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)


 **Air Force stands up new Space Operations Directorate** The U.S. Air Force has announced that its new Space Operations Directorate begins initial operating capability this month. The 43-member staff of the directorate, or AF/A11, is composed of military, government and contractor personnel.  
(25 August 2017)

 **Russia plans 25 satellite launches by year-end** Russia's Roskosmos State Space Corporation plans as many as 25 rocket launches this year, and about the same number of launches next year. Igor Komarov, the head of Roskosmos, was quoted as saying.  
(25 August 2017)

 **Bids for government funding prove strong interest in LaunchUK** 26 joint proposals from potential spaceports and operators proves strong interest in UK market for small sat launch and sub-orbital flight. The number of responses for government funding to support UK spaceflight has highlighted a strong interest in the UK commercial market for small satellite launch and sub-orbital flight.  
(22 August 2017)

 **Russian military likely to give up using Baikonur Spaceport** Roscosmos and the Russian Ministry of Defense are likely to team up to facilitate the construction of the launch pad for the Angara heavy-lift carrier rockets, RIA Novosti contributor Andrei Stanavov writes, shedding light on why the Russian military is ready to give up using the Kazakhstan-based Baikonur cosmodrome.  
(21 August 2017)

 **China set to overtake NASA in number of 2017 space launches** China's National Space Administration (CNSA) has planned to overtake NASA in the amount of launches by the end of 2017 with 30, up from 21 in 2016.  
(14 August 2017)


 **US Senate restores funding for NASA Earth Science and satellite servicing programmes** An appropriations bill approved by a Senate committee would restore funding for several NASA Earth science missions slated for termination by the administration as well as a satellite servicing programme.  
(4 August 2017)

 **UK space companies to develop international partnerships** The UK Space Agency is working with research institutions, industry and non-profit organisations to develop strong international partnerships to help tackle economic, societal and environmental issues using satellite technology. The Agency will award funding through its International Partnership Programme (IPP), which is designed to partner UK space expertise with overseas governments.  
(3 August 2017)


 **Loss of MexSat-1 satellite not to hinder Russian-Mexican space cooperation** Mexico is ready for strengthening space and hi-tech cooperation with Russia despite an unsuccessful launch of the Russian Proton-M carrier rocket in 2015, which led to the incineration of Mexico's MexSat-1 communications satellite, Mexican Ambassador in Moscow Norma Bertha Pensado Moreno told Sputnik.  
(28 July 2017)


 **Iran in 'successful' test of satellite-launch rocket** Iran has tested a satellite-launch rocket. It said the launch vehicle, named Simorgh after a bird in Iranian mythology, was capable of propelling a satellite weighing 250 kilograms to an altitude of 500 kilometres  
(28 July 2017)

 **Japan's first private rocket set for launch** Japan's first privately developed rocket has been scheduled for launch on July 29 by developer Interstellar Technologies (IST).  
(26 July 2017)

 **UK wants continued EU Copernicus participation** The UK has given the clearest statement yet of its desire to stay within the European Union's Copernicus Earth observation programme after Brexit.  
(21 July 2017)


 **Egyptosat-2 replacement to be launched in 2019** The launch of the Egyptsat-A satellite is scheduled for 2019, Deputy Chief Executive Officer of Russia's RSC Energia corporation Alexander Derechin said.  
(21 July 2017)

 **Canadian presence in US space initiatives swells** Vancouver's MacDonald, Dettwiler and Associates is making inroads in satellite-servicing markets once dominated by U.S. companies.  
(20 July 2017)

 **Luxembourg Adopts Space Resources Law** The government of Luxembourg has passed a bill giving companies the rights to space resources they extract from asteroids or other celestial bodies.  
(20 July 2017)


 **Heinrich Hertz satellite shows military reluctance to expand commercial satcom** The German government's decision to contract for a new telecommunications satellite is the latest example of governments' continued reluctance to outsource satellite telecommunications to the private sector. It will also likely mean reduced purchases of commercial satellite services as the Bundeswehr moves more of its requirements to the government-owned Heinrich Hertz satellite. The formal go-ahead for Heinrich Hertz, which has been debated for several years inside the German government before being approved by the German parliament, was confirmed on June 28.  
(19 July 2017)

 **Netherlands and Norway join forces in space** The Netherlands and Norway are going to conduct scientific research in the field of space. It concerns matters that are relevant to military operations. The focus is on designing a 'space demonstrator' using a small satellite.  
(18 July 2017)

 **Ghana launches satellite into orbit** Ghanasat-1 was released from the International Space Station, nearly a month after its launch from the Kennedy Space Center on Elon Musk's SpaceX flight 11.  
(10 July 2017)

 **Russia to carry out five launches from Vostochny Space Centre in 2018** Russia will conduct five launches from the Vostochny space center in Russia's Far East in 2018, Deputy Prime Minister Dmitry Rogozin told Sputnik. Vostochny is expected to reduce Russia's dependency on the Baikonur space centre in Kazakhstan. Baikonur is on lease to Russia until 2050.  
(8 July 2017)

 **Japan reveals plans to put astronaut on moon by 2030** Japan has revealed ambitious plans to put an astronaut on the Moon around 2030 in new proposals from the country's space agency. This is the first time the Japan Aerospace Exploration Agency (JAXA) has said it aims to send an astronaut beyond the International Space Station, an agency spokeswoman told AFP.  
(3 July 2017)

 **Launch of Hellas Sat 3 satellite brings Cyprus into the space era** The launch of the Hellas Sat 3 satellite, the biggest European telecommunication satellite, promotes Cyprus into the space era and more specifically in space technology, Minister of Transport, Communication and Works Marios Demetriades has told CNA. Demetriades, who attended the launch of the satellite at the European Space Station of Kourou, in the French Guiana, said that the Hellas Sat 3 satellite will bring many benefits for Cyprus.  
(2 July 2017)

 **President Trump Re-Establishes National Space Council** U.S. President Donald Trump signed a long-awaited executive order June 30 re-establishing the National Space Council.  
(1 July 2017)

**India, Portugal shake hands on space cooperation** Indian Prime Minister Narendra Modi during his visit to Lisbon agreed with Portuguese authorities on creation of alliance to advance space research, the Indian Foreign Ministry said in a statement. India, Portugal sign a memorandum of understanding (MoU) on cooperation in the field of space, according to the statement.  
(29 June 2017)

## Opportunities

### **NASA Education Specialist (Nspace) - Oklahoma State University (United States)**

## Job Summary NASA Educational Programs are dedicated to supporting kindergarten through post-doctorate level students, educators and education communities prepare

### **NASA Immersive 360th Multimedia and Video Winter/Spring Internships - NASA (United States)**

INTRODUCTION: Immerse yourself in NASA via our first internship dedicated to exploring the intersection of science and immersive/360 multimedia storytelling. Work

### **NASA IV&V Guidance Navigation & Control Software Engineer - Engility (United States)**

is the sole provider of Independent Verification and Validation (IV&V) services to the NASA IV&V Program located in Fairmont, West Virginia. At the NASA IV&V

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### **NASA IV&V Systems Engineer - Engility Corporation (United States)**

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### **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 Postdoctoral Fellowships - Universities Space Research Association (United States)**

NASA Postdoctoral Program - Application Deadline November 1, 2017 The NASA Postdoctoral Program (NPP) supports NASA 's goal to expand scientific understanding

### **NASA SMD- Rotation Program 1/2 - The Aerospace Corporation (United States)**

and game-changing innovators. Are you ready to launch your career? Responsibilities NASA 's Science Mission Directorate (SMD) is the

organization responsible for the

**NASA Support Coordinator - Raytheon (United States)**

Raytheon is looking for a NASA Support Coordinator to assist the Sponsor in planning, formulating, managing and implementing policy and security procedures for

**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

**Branch Customer Services Associate/ NASA Goddard Branch - NASA Federal Credit Union (United States)**

largest credit unions in the region and top performing in the nation, NASA Federal Credit Union members enjoy banking with an organization that's well established,

**Business Development Director- \*Nasa\* - The Aerospace Corporation (United States)**

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**Business Development Director- NASA - The Aerospace Corporation (United States)**

The Civil Systems Group is seeking qualified individuals experienced in working with NASA for the position of Account Director. The position supports the NASA

**Chef de projet quipements lectroniques hf**

Airbus Defence and Space est une division du groupe Airbus, ne du regroupement des activits de Cassidian, Astrium et Airbus Military. Cette nouvelle division est le numro un europen de lindustrie spatiale et de la dfense, le numro deux mondial de lindustrie spatiale et fait partie des dix premires entreprises mondiales du secteur de la dfense. Elle ralise un chiffre daffaires annuel denviron 14 milliards deuros avec un effectif de quelque 40 000 employs. Un poste de Chef de Projet en quipements lectroniques hf est pourvoir chez Airbus Defence Space lancourt, au sein de Space Equipment. Airbus DS Space Equipment est un fabricant commercial dquipements spatiaux, fournissant le march mondial, offrant des produits hauts de gamme, garantissant une ractivit et une scurit des affaires. Notre portfolio offre une couverture totale des segments de march des quipements satellites et lanceurs Avionique ordinateur de bord, quipement dinterface, Puissance et panneaux solaires, quipements de charge...

**Director, NASA Civil Programs - HX5 (United States)**

Position: Director, NASA Civil Programs Location: Washington, DC Job Id: 1360 # of Openings: 1 Business Development Director of NASA Civil Programs HX5 is an

**Documentation Management Support**

You will have the opportunity to provide Documentation Management support to the PLATO mission. The position is based in Stevenage, United Kingdom. Tasks and Activities The scope of work will include You will be maintaining the documentation data base for PLATO in accordance with the established processes You will distributing the documentation both internally and externally You will be performing the archiving of all documents You will be interfacing with the information system department to resolve software tools anomalies as necessary You will be implementing specific constraints, if any, related to export controlled documents e.g. ITAR You will be providing monthly metrics for the elapsed month activity Skills and Experience The following skills and experience are mandatory You have a university degree in Information management, Business administration, Engineering or in another area relevant to the job. You have at least 3 years of working experience as a Documentalist in documen...

**Earth Observation Remote Sensing Specialist**

With the Sentinels and other satellite platforms delivering Earth observation data on a daily basis and at an unprecedented rate there is a significant commercial opportunity to derive value added information for clients, as well as maximising these resources for the benefit of humanity. As part of its growth strategy the SCISYS Space Division has successfully secured contracts in the Earth observation downstream market and is currently bidding for additional work in a variety of markets. Given this overall trend within the space sector, it is an excellent opportunity for an Earth Observation and Remote Sensing specialist to join the team and be part of a growing and significant part of the business for SCISYS. SCISYS delivers a wide range of software services, solutions and consultancy to our institutional and commercial clients around the world. Developing robust, realworld software is our core business, as well as providing support services that create a real benefit to our custome...

**Full Stack Development - NASA Open Source - 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):

### **Javascript Expert Developer - NASA Open Source 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  
Be a critical member of the

### **Junior Cyber Security Consultant**

As part of the current CyberRisk consulting unit, you will have the opportunity to be involved into risk assessment initiatives and presales support. Ideally this positions should be based in Milan however if this is not possible for you, you will be able to work for our office in Rome. Tasks and Activities Information Security Management System ISMS engineering activities Supporting a solution development team, planning and reporting on fortnightly increments. Defining, conducting, evaluating and reporting on surveys for information gathering. Proposing, engineering, testing, and implementing an ISMS information system to keep records, documented information, schedules, etc. Defining, conducting, evaluating and reporting on gap analyses based on interviews and review of evidence records towards ISO 27001 compliance. Proposing, reviewing, and presenting the necessary documented information towards ISO 27001 compliance Collaborating closely with the team responsible for ISMS operations...

### **Junior Engineer, Software**

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 involves many different minds and skills, it cant be done alone. Its a great time being SES. SES is the worldleading satellite operator providing endtoend communication solutions. SES leads across new technologies in video, enterprise, mobility and government We are a team of people coming from all across the globe who work together to make a real difference in the world. We help to bridge the digital divide by connecting millions of people on the African continent. We make it possible for people to stay connected while flying 10km up on a commercial airplane. We provide extensive satellite coverage of all of the worlds seas and ocean regions via our dedicated mobility beams We distribute 7,400 channels to more than 1 bil...

### **Manager PMO Electronics Platform Navigation**

HE Space is a successful international space company. For over 30 years, we have been supporting our customers with qualified experts in the field of engineering, science and administration. We are currently looking for a Manager PMO Electronics Platform Navigation to support our customer in Germany. Manager PMO Electronics Platform Navigation Key Tasks and Responsibilities As part of the Platform Navigation Team, you will have the following responsibilities and provide support in the following areas Project manager on cost on time and on quality delivery of projects Assurance of customer satisfaction during processing of contracts together with the project manager Controlling and administrative support as well as backtracking of actual expenses and forecasts of future costs Adaptions of programme forecasts management in risks an challenges and compiling of regularly risk and opportunity assessments Resource management, Internal coordination of work packages, Supplier management Sav...

### **Mission Control Operations Engineer**

Telespazio VEGA Deutschland is the first choice aerospace company for IT and engineering solutions and services. With more than 350 employees in Germany we shape the future of aerospace together and beyond. Our staff play a key role in determining our success through their qualifications, motivation, enthusiasm, different cultural backgrounds and their sense of teamwork. We are passionate about delivering exciting Space Programs for and with our customers. Through our large frame contracts with ESOC, EUMETSAT and DLR, we offer a futureoriented and trusting work environment, multicultural teams, as well as challenging jobs on space missions for graduates up until experienced professionals. The successful applicant will work at the core of meteorological satellite operations in Europe as Mission Control Operations Engineer for Telespazio VEGA and provide support to the system development and operations preparation of the MTG mission. The Mission Control Operations Engineer will be suppo...

### **OnBoard Payload Data Processing Engineer**

Serco is a specialist at delivering vital services on behalf of European, National and Local Governments. Serco Europe employs a large workforce in Belgium, Luxembourg, France, Switzerland, Germany, Holland, Spain, Italy and the UK. Our European operations have ca. 2,000 employees delivering critical services to public institutions throughout Europe. For our activities in ESTEC, we are currently looking for an OnBoard Payload Data Processing Engineer, to work under the domain of TECEDP Electromagnetics Components Data Power Systems Engineering. Package description Full details on application. Relocation assistance provided if applicable. Main responsibilities A diverse range of support tasks is required to be carried out by the Key person within the above domains, encompassing hardware, software and system aspects. These can be grouped within the following main headings Validation of signal and image processing algorithms via simulation techniques e.g. Matlab, prototyping SW Definitio...

### **Products Commercial Manager**

Your Mission consists in managing the complete commercial lifecycle of our new products for the space market. This is an exciting new position at SYDERAL that is of high importance in implementing our strategy of company growth and generating new revenue streams based on new products. You report to the Commercial Director and, with your creative ideas and energy, are a main contributor to the development of the company. You are regularly in contact with our Customers and Prospects to understand their product needs and collaborate with our internal teams to discuss feasibility and cost. You produce and update the Business Plans for each product and are responsible for the sales strategy. You are responsible, in agreement with the Commercial Director, of defining the sales objectives of the products and achieving these objectives. Your Activities Understanding and anticipating the needs of the market through regular contacts with our Customers and Prospects Support our CTO and technical...

### **Schedule Control Risk Administration Support**

You will have the opportunity to provide Schedule Control and Risk Administration support to the PLATO mission. The position is based in Stevenage, United Kingdom. Tasks and Activities The scope of work will include Schedule Control You will be managing the schedule as defined in the ESA requirements and ECSSMST60C consistent with established processes You will be consolidating the schedule inputs from Industrial and Work Package Managers You will be consolidating the schedule inputs from the subsystem and equipment suppliers You will be identifying the logical relationships among schedule activities and develop the schedule You will be updating the Current Working Schedule with agreed changes You will be conducting Critical Path Analysis, schedule compression, simulations, whatif scenario analysis You will be providing regular internal and external schedule reporting Risk Administration You will be supporting the PLATO Project Manager in the implementation of the risk management acti...

**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,

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