



Space Alert

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The Proposed US Space Corps: A Turning Point for Space Security?

Daniel Porras

Introduction

A new proposal has been put forward by the US Congress that is likely to raise eyebrows among the international community and, in particular, among spacefaring nations. Representative Mike Rogers (R-AL) recently inserted an amendment to the US National Defense Authorization Act (NDAA), which passed in July, that calls for the creation of “Space Corps”, a dedicated branch of the military for outer space operations.

The stated purpose of this is to “fix the fragmented space acquisition process” and to establish a “subordinate, unified command for all space operations.” However, many countries, particularly those that have advocated for strict adherence to principles of “peaceful uses” of outer space, will likely be wary of what such a move will mean for the stability and security in outer space. Indeed, the tone of many discussions around Washington, DC are markedly more hawkish these days, with some even proposing that the US should force a renegotiation of the Outer Space Treaty (OST) to embrace conflict in space, or leave the Treaty regime altogether.

Yet, underneath the bluster that has become a hallmark of today’s US political scene, one can see that what the US is proposing is neither radical nor irresponsible by modern standards. Rather, the US is simply giving a central office for activities that already exist. Moreover, they are not proposing to turn outer space into a battlefield, but rather to take a position in defining the rules of engagement in space before the first shots are fired in orbit. In

this context, it may be worth exploring whether having a dedicated Space Corps will give the US sufficient comfort to explore more aggressive arms control agreements in outer space that the rest of the international community has been calling for.

A brief history of the US military in outer space

There is no denying the intimate relationship between the military and US space activities. Space technology is dual-use by nature. The first rockets were designed at the White Sands Missile Range, a US Army installation, and satellites were deployed as reconnaissance tools between the Cold War adversaries. Today, satellites provide critical information for US military operations around the world.

The Department of Defense also carries out numerous experiments involving highly secretive capabilities. Two months ago, the Air Force launched one of its most visible symbols of military space superiority, the X-37B. Built by Boeing and launched by SpaceX, the X-37B is an autonomous drone that has flown on six missions, each time exceeding the scheduled duration of its flight, the last mission lasting nearly two years. For its part, the Air Force has given virtually no indication as to the nature of the X-37B’s operations, leaving most to speculate that it is an intelligence-gathering platform (though it has been suggested that it could be refitted as an emergency life vehicle for the International Space Station).

The US military also conducts vital civilian services. It was the US Air Force that in the 1970’s and 1980’s launched the Global Positioning System (GPS), the first global navigation satellite service. It is nearly impossible to imagine a world today that did

not somehow benefit from this free service. Furthermore, the US Air Force maintains the oldest space situational awareness network operated out of the Vandenberg Air Force Base.

This network monitors not only satellites but also small (and dangerous) fragments of space debris. While the Air Force has dutifully managed this responsibility for all space actors, they are presently seeking the means to pass on the responsibility of civilian commercial space traffic management in favour of commercial actors, companies that will not have the restrictions of “classified” information that inhibit the military from disseminating information.

Over the years, numerous departments undertook these missions but with relatively few crossovers. Even within the Air Force, the branch that carries out the bulk of US military space activities, there is isolation between different applications. Consequently, today, there are pockets of space operations spread out throughout the US military with no central leadership to advocate for space applications or make comprehensive strategic decisions.

It is the hope of lawmakers that a Space Corps would give US forces the ability to react swiftly and decisively in the space theatre. It will also provide an advocate, in the form of the commander that oversees the Space Corps, whose sole responsibility is to advance the Space Corp’s interest on Capitol Hill, without having to subsume those interests to another branch such as the Air Force.

Is it so radical?

While some will undoubtedly gasp when they read the headlines that the US has institutionalised the first Space Corps in the

world, it certainly shouldn’t shock the conscience upon closer inspection. With more and more military resources being invested in outer space, it is logical that the US would want to consolidate their assets and streamline the chain of command. What’s more, with the growing threat of a nuclear-armed North Korea capable of launching a nuclear weapon into low-earth orbit (creating a devastating electromagnetic pulse that would disable worldwide satellite services), it is little wonder that Rep. Rogers is calling for a space-based missile-intercept system to be investigated.

What is also important is that the US is not calling for “open war” in outer space. In fact, those in the US who support the idea of a Space Corps also advocate for the institutionalisation of rules to prevent the indiscriminate use of force in space. For example, it has been proposed that a ban should be adopted for the testing of kinetic anti-satellite weapons as they create space debris harming other space assets.

Such a proposal has been made in the past but there was little impetus to drive the effort forward among the international community. However, in an age where political uncertainty and shifting alliances are putting the already tenuous stability in space at risk, it may be time to pursue what was once considered aggressive measures but may now seem far more reasonable.

Not everyone is on-board

As with everything in Washington, there is no consensus on the notion of US Space Corps. Many of the top brass, in fact, believe that a Space Corps is a distraction and is not needed at the present time, particularly in light of the efforts the US military is already taking to normalise operations in the military domain.

Even James Mattis, the Secretary of Defense, has been quoted as saying that Space Corps is “premature”. The Defense Budget must still be agreed upon by the Senate, so there is still a chance that this proposal will not be passed. Yet. At the rate things are going, it is probably more a matter of “when” than “if”.

What is also conspicuously absent as of yet is the opinion from the international community. What will the US allies think of a force dedicated to fighting in space? What about its enemies? What kind of signal will the US send to the international community if the Senate should approve the Space Corps provisions in the Defense Budget? While there is no reaction yet, the US would do well to temper the signal that will be sent out by this move in order to set nerves at ease among the international space community. Unfortunately, at present, there is little involvement from the US State Department, the branch of the US government that typically specialises in shaping important messages to the world and making sure that US actions are not misinterpreted.

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GLXP: Enabling Commercial Lunar Explorers

Vidya Sagar Reddy

The Google Lunar X Prize (GLXP) deadline for completing the mission requirements is now set to end of March 2018. The competition has been narrowed to five teams to win the grand prize of \$20 million. The prize is set to open the Moon for commercial exploration, services and exploitation.

An X Prize is setup to foster development of novel solutions to global problems that seem impossible to solve. With support from partners such as IBM, Shell, Qualcomm etc, there are at least a dozen XPrizes both awarded and running focusing on artificial intelligence, literacy, resources, environment, women's safety, breakthrough technologies etc.

The first space related prize, the \$10 million Ansari X Prize, was setup to promote private space travel. It is inspired by the Spirit of St. Louis that helped Charles Lindbergh win the Orteig Prize in 1927 for flying nonstop between New York and Paris. The prize was financed by the Ansari family. Anousheh Ansari, an Iranian-American, was the first Iranian and first female space tourist. She had spent eight days onboard the International Space Station with the intent to raise awareness about space tourism.

The challenge was to build a reliable, reusable, privately financed spacecraft capable of carrying three people to a height of 100 kilometers two times in two weeks. The prize was awarded to Mojave Aerospace Ventures for creating and launching SpaceShipOne. It received majority funding from one of the Microsoft co-founders to the tune of \$20 million. Scaled Composites, the company that

built the SpaceShipOne, is spurred to build bigger spaceplanes which will be marketed by Richard Branson under Virgin Galactic. Indeed, Virgin Galactic has built SpaceShipTwo to further research and development in space tourism. It already seems to be booking seats with Stephen Hawking confirming his flight.

The Northrop Grumman Lunar Lander X Challenge is a \$2 million prize for the private industry to build and land lunar spacecraft at a fraction of public spending on similar programmes. It was funded by NASA's Centennial Challenges programme and Northrop Grumman for a vehicle that could take-off vertically to more than 50 meters, fly laterally for 100 meters, land and return to the origin point.

GLXP takes this initiative forward by requiring the teams to demonstrate their technologies by performing a full scale mission. The teams must soft land on the moon, travel 500 meters along the lunar surface and beam two near real time videos to Earth. The spacecraft must also demonstrate data reception and transmission and most importantly secure funding from private persons and entities with government contributions limited to 10 percent of the total mission cost.

To reduce the financial burden and return value to the investments made so far, GLXP has awarded milestone prizes to teams that have demonstrated superior skills in landing, mobility and imaging to the tune of \$5.25 million. In addition to the grand prize, teams can also claim in-space milestone prizes for arriving at the Moon and soft landing. Instead of returning empty-handed, the teams can now claim part prizes in return for the amount of funding and risk involved with reaching these critical milestones.

GLXP has also awarded bonus prizes that can be claimed by telecasting video from an Apollo landing site, operating the spacecraft on two separate lunar days, moving on the lunar surface for five kilometers or providing proof of water. The ceiling for the total purse is set at \$40 million and the teams that have already received milestone prizes or future part prizes will have these amounts deducted if they went on to win the grand prize.

The five teams that will get a moon shot are Team Indus (India), Hakuto (Japan), Moon Express (US), SpaceIL (Israel) and Synergy Moon (international). These teams have secured launch contracts with ISRO (Hakuto will share the ride with Team Indus), Rocket Lab, SpaceX and Interorbital Systems respectively. Interestingly, the launch service providers aiming for the Moon are also new to such missions.

ISRO had launched a lunar orbiter and a Mars orbiter using the Polar Satellite Launch Vehicle which has a high success rate, failing completely only twice out of 41 launches. However, one of these failures was most recent, ending a long streak of consecutively successful launches. This brings into question the managerial difficulties of sustaining the increased launch rate. Team Indus has reiterated its confidence on the launch vehicle though, which will start flying coming November. These developments are significant even for Hakuto as it will share the ride with Team Indus.

SpaceX was able to establish itself after a string of failures but it would be the first time to send a spacecraft moon bound. Rocket Lab is a new entrant to launch vehicle business and so far it flew one test flight in May which failed to reach orbit. The second test flight is scheduled for October and will be carrying small satellites into orbit. Interorbital Systems

also made a test flight but is yet to record a successful orbital launch. ISRO, Rocket Lab and Interorbital Systems are competing to offer low cost launches aimed at attracting small satellite companies.

But one of the favourites, Astrobotic that had won in all three milestone prizes (the \$5.25 million purse), removed itself from the race as it finds the deadline incompatible. It is expected to land on the Moon in 2019 using proven Atlas V launch vehicle. Although started as part of the GLXP, Astrobotic is now concentrating on commercial missions. It has already signed up nearly a dozen commercial payloads from across the world.

SpaceIL shares similar concerns about the deadline. The team is prepared to delay the mission unless it is satisfied that the probability of success is above 70 percent. However, since the teams have made launch contracts, GLXP managers believe that they will be compelled to launch and that ten years is an adequate time for the race.

Whether there would be another extension of deadline or not, GLXP might have achieved some success in its objectives. In addition to Astrobotic, Moon Express is on its way to providing commercial lunar exploration services. NASA is also interested in availing these services for its future lunar missions. SpaceIL would like to inspire next generation of scientists and entrepreneurs by making a mark of Israel's start-up culture on the Moon. GLXP has nurtured entrepreneurship and leadership capabilities in the next generation of leaders considering the median age of the teams in this competition.

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India's Space: ISRO's Tryst with Private Sector

Rajeswari Pillai Rajagopalan

India's leadership has traditionally thought of India's space programme as relevant for national development but today it is much more than this. The relevance of space in India's strategic and security context has gone up significantly. India still has only a few dedicated satellites for its military but this demand is likely to grow in the context of space becoming a force multiplier in military operations. This is in addition to the number of other functions that India's space programme is catering to, from geospatial to tele-medicine, tele-education and disaster prediction and management, just to name a few.

The rising profile of India's civil space organization, the Indian Space Research Organisation (ISRO), following its cost-effective Mars mission has also made India an attractive destination for many countries who want to launch their satellites. Launching of 104 satellites in a single rocket in February this year, breaking the previous world record of 37 satellites, highlighted India's sophisticated capabilities in the launch segment. The fact that nearly 100 of the 104 satellites were foreign ones shows the increasing confidence of the global community about ISRO's reliable capabilities.

Thus, the growing demand has two primary functions: national security and global commercial market. The changing security dynamics in Asia and among the established space players suggest that space is likely to emerge as yet another area of competition. Space technology is also being developed for area deniability especially by countries such as China that may not have as advanced and

sophisticated capabilities as the US. India has invested far too heavily in the sector ignore these developments. The \$300 billion global space market is undergoing some shifts. There is an effort underway to break down bigger satellite constellations into smaller ones and this provides India with an opportunity it can tap because India's strength lies in the small satellite segment.

According to Space Foundation, nano satellites constituted 48% of the launches in 2015. If this is an indicator of the global satellite market, ISRO must do everything to spur its launching capacities including the launch infrastructure to cash in on such demand. But because India is looking at this small satellite segment, it cannot but look at potential competition from private companies such as Jeff Bezos' Blue Origin and Elon Musk's SpaceX.

But these companies are yet to make a big difference to India so far. Blue Origin is yet to make a breakthrough in terms of launch contracts with NASA and the US government. SpaceX, meantime, appears to have given up on the small satellites segment and has gone on to bigger satellites, servicing International Space Station (ISS) and Mars mission. It is also a fact that even with re-usable rockets, SpaceX may not be able to offer as cost effective missions as India does.

Of course, India's launch of a heavy communication satellite weighing over three tonnes in June this year has put it in an exclusive club of the United States, Russia, China, Japan, and the European Space Agency. Thus, India may be in a position to tap into even those demands that come from the heavy satellite launch market. India's strength also comes from the cost effectiveness of its launches as compared to American and European options. ISRO's

current workhorse, the Polar Satellite Launch Vehicle (PSLV) and development of the Re-Usable Launch Vehicle (RLV) puts India in an advantageous spot. However, a complication is US legislation which puts restrictions on US firms launching satellites on non-US rockets.

The key question is whether ISRO has the capacity to keep up with the growing demand. Recently, the ISRO Chairman Dr. AS Kiran Kumar is reported to have said that India's space capacity of 34 working commercial communications satellites is capable of serving "barely half of India's current needs."

Other Indian officials have echoed this. M Annadurai, Director of ISRO Satellite Centre in Bengaluru was recently quoted as saying: "There is a gap between what we are capable of doing now versus what we are supposed to make. There is a gap between the requirement and our capability. That gap we want to fill up with support from the industry. ...16 to 17 satellites we have to make every year. So it is a really-really quantum jump and to fill that gap..., we thought the industry could come in."

As India contemplates its role in these two dimensions – national security and commercial needs – there has to be policy changes but this has to be driven by the political leadership. Policy innovation to facilitate greater private sector participation is critical if India has to sustain the momentum created in recent years. ISRO has begun to appreciate the important role the private sector can play in closing the gap between demand and supply.

Privatization of PSLV operations is a case in point. ISRO is involving a consortium of private players to produce PSLV launchers and the goal is to increase the manufacturing of launchers from the current four to 10 to 12 annually and the hope is that the consortium

will manage the programme on an end-to-end basis by 2020. Outsourcing manufacture of two of the NAVIC navigation satellites to Alpha Design Technologies, a private firm based in Bangalore is another instance of ISRO's outsource and outreach to the private sector. This indeed has been a major step for ISRO. Speaking recently at the Red Brick Summit (RBS) at Indian Institute of Management, Ahmedabad, ISRO Chairman Dr. AS Kiran Kumar said the agency is increasingly looking at the private sector also in the areas of manufacturing launch vehicles and satellites.

With the current personnel strength of around 16,000, the ISRO leadership has recognized the challenge of meeting these growing requirements. In a country with so much talent in the non-governmental sector, this should not be a hard task. Citing the example of a Bangalore-based company, Bellatrix, ISRO Chairman is reported to have said, "We need the help of industry players to achieve our goals. We are open to startups and smaller companies that meet our requirements."

The statements by the ISRO leadership offer a leaf of hope but the real challenge is in terms of this playing out in a clear timeframe. The ISRO should do everything to play the role of a facilitator for the private sector in order to increase India's overall capability and capacity. A new, publicly-stated policy that would facilitate the process could possibly help.

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FROM THE MEDIA

39 successes later, PSLV launch fails

This was the PSLV's first failure after 39 continuously successful launches and only the second such instance since 1993. "The mission was unsuccessful," said A.S. Kiran Kumar, Chairman of ISRO.

Source: [The Hindu](#), September 1, 2017

Will Resume Satellite Launches by December: ISRO Chief

"We will resume the launches by November or December, with one of the remote sensing satellites though we are yet to finalise with which," said A.S. Kiran Kumar, Chairman of the Indian Space Research Organisation (ISRO).

Source: [News18](#), September 16, 2017

Tatas, Bharti on a call to explore joint front in telecom and DTH

The Tata Group and Bharti Enterprises have held exploratory talks to evaluate a mega alliance involving their telecom, overseas cable and enterprise services, and direct-to-home TV businesses

Source: [Economic Times](#), July 7, 2017

Indigenous NavIC to navigate all future Indian rocket launches, replacing GPS

Indian Space Research Organisation (ISRO) has taken a decision to replace US-owned GPS with NavIC (Navigation with Indian Constellation) in all future missions for navigation, guidance and control.

Source: [New Indian Express](#), July 10, 2017

Indigenous Ship Bound Terminal tracks PSLV-C38 Trajectory Successfully

Based on the launch vehicle trajectory and visibility requirement, many a time, the TTC stations are to be located in mid sea, wherein, conventional Ground Station Antenna will not be suitable. In order to cater to these specific requirements, ISTRAC has designed and developed a 4.6 meter Ship Borne Transportable (SBT) Antenna Terminal.

Source: [ISRO](#), July 10, 2017

Professor UR Rao, ex-Isro chief and renowned space scientist, passes away

He has published more than 350 scientific and technical papers covering cosmic rays, interplanetary physics, high energy astronomy, space applications and satellite and rocket technology and authored many books.

Source: [Times of India](#), July 24, 2017

ISRO searches for new makers of rocket parts

ISRO plans to have parallel vendors for all rocket hardware, starting with interstages and light alloy structures for the PSLV's four stages, fuel tanks, and solid motors, among others. The latest search is for makers of payload fairings or the nose cone at the top of launchers.

Source: [The Hindu](#), July 15, 2017

Isro's space battery to power govt's e-vehicle drive

The space agency has agreed to transfer the sophisticated technology, which is originally

meant for space applications, at a cost to industries for mass production of e-vehicles. The use of Isro's indigenous battery technology is bound to reduce the cost of e-vehicles, whose manufacture is currently dependent on costly imported parts.

Source: [Times of India](#), July 18, 2017

DARPA trying to launch smallsat experiment on an Indian rocket

Citing delays with its original launch on a SpaceX Falcon 9 rocket, the U.S. Defense Advanced Research Projects Agency is trying to launch an experimental small satellite mission on a Polar Satellite Launch Vehicle from India.

Source: [SpaceNews](#), July 3, 2017

ISRO all set to offer desi GPS for mobile users from next year

The final version would be an 11-channel chipset (7 NavIC satellites and four GPS satellites) operating under dual frequency (S and L bands). This actually delivered higher accuracy than GPS.

Source: [New Indian Express](#), July 3, 2017

ISRO is going to launch the Chandrayaan 2 mission on a GSLV MKII in March 2018

The orbiter will be deployed at an altitude of 100 km above the surface of the Moon. The lander will attempt a soft landing on the Moon. A six wheeled rover will then separate from the lander, and explore the surface of the Moon. The total cost of the mission is expected to be around Rs 450 crore. The purpose of the mission is to conduct mineralogical and elemental studies of the lunar surface.

Source: [First Post](#), September 28, 2017

ISRO working on substitute navigation satellite

Work has begun in Bengaluru to assemble a substitute navigation spacecraft, which became essential after the main backup was lost in a failed launch on August 31, 2017. IRNSS-II was earlier approved as a ground spare, to be sent to space in an emergency. The Indian Space Research Organisation has been training a team from an industry consortium to assemble this spacecraft and its lost fellow satellite, IRNSS-1H.

Source: [The Hindu](#), September 21, 2017

India needs 75 new satellites in next 4 years: Isro scientist

The deputy director of the ISRO's satellite center S.V.Sharma on Saturday said there is a need of 75 new satellites in next four years as the requirement for the space-based research and application increases in the country.

Source: [Deccan Chronicle](#), September 17, 2017

Isro's Mars Orbiter Mission completes 3 years in orbit

India's rendezvous with the red planet continues as its celebrated Mars Orbiter Mission (MOM) completes three years in orbit. "As the country's low-cost Mars Orbiter Mission completes three years in its Martian orbit, the satellite is in good health and continues to work as expected," the Indian Space Research Organisation (ISRO) said.

Source: [Live Mint](#), September 25, 2017

Odisha CM Naveen Patnaik congratulates Odia girl & 'Interstellar Indian' Sushmita Mohanty

She has helped institutions like Osaka Institute of Technology, Japan and Google Terra Bella's SkySat-3, the first commercial American microsatellite, onboard the PSLV. She is pursuing a dream of untapping the potential of Indian space sector so that it can grab at least a quarter of the global space market of over \$300 billion.

Source: [Orissa Diary](#), July 30, 2017

Trai, Malaysian Telecom Regulator ink pact

Collaboration is planned in various global fora "including but not limited to" the International Telecom Union, the Association of Southeast Asian Nations and the Asia-Pacific Telecommunity. The pact came amid the ongoing Asia-Pacific regulators' roundtable jointly organised by the International Telecom Union and Trai.

Source: [Economic Times](#), August 23, 2017

Isro's launch capacity will get boost with new facility at Sriharikota by year-end

"Because of just one vehicle assembly building, final assembling of components (stages of rockets) was a bottleneck. Therefore, the second vehicle assembly building is being constructed. The work on the building is nearly complete and by the end of this year, it will become operational," ISRO Chairman said.

Source: [Times of India](#), July 30, 2017

40 years of Voyager-2: Indian music still resonates in space

Voyager-2 was launched on August 20, 1977, and is the first spacecraft to have flown by all the four outer planets--Saturn, Uranus, Jupiter and Neptune. The music of India is a Hindustani classical composition called "Jaat

Kahan Ho", rendered by Surshri Kesarbai Kerkar, a noted khayal singer of the second half of the 20th century.

Source: [Times of India](#), August 7, 2017

SpaceX appears to have pulled the plug on its Red Dragon plans

"There was a time when I thought the Dragon approach to landing on Mars, where you've got a base heat shield and side mounted thrusters, would be the right way to land on Mars. But now I'm pretty confident that is not the right way," Musk said.

Source: [Ars Technica](#), July 20, 2017

Plano man admits illegally smuggling U.S. space technology to China, Russia

He used one of his eyeglass lens companies, American Coating Technologies, to buy the microchips from two American manufacturers, according to the charging document filed by the U.S. attorney for the Eastern District of Texas. Zuccarelli then shipped the chips, known as "radiation hardened integrated circuits" but mislabeled as "touch screen parts," from his Carrollton company to customers in China and Russia, federal court records said.

Source: [Dallas News](#), August 3, 2017

NASA proposes rapid Mars sample return architecture

"This is a much more lean architecture," said Thomas Zurbuchen, NASA associate administrator for science. "It goes straight for what I would consider the jugular issue, which is how to land and take off the planet."

Source: [Space News](#), August 28, 2017

US Space Company Makes History With Client from China

For a price, NanoRacks can help almost anyone, anywhere send an experiment or small satellite to the International Space Station in orbit around the Earth. The company made history this summer with a client from China. “We’re all about democratizing access to space. It’s really important to me that we involve as many nations as possible,” NanoRacks Chief Executive Officer Jeffrey Manber said.

Source: [VOA News](#), August 24, 2017

Jeff Bezos calls for a dynamic, entrepreneurial boom in space

Bezos called for a "dynamic, entrepreneurial explosion in space just as I've witnessed over the last 20 years on the internet – thousands of companies and tens of thousands of start-ups doing interesting things online."

Source: [CNBC](#), September 6, 2017

Billionaire Moguls Join Musk, Bezos in Race to Outer Space

There are 13 others among the world’s 500 richest people who have an investment in a space enterprise, according to data compiled by the Bloomberg Billionaires Index and consulting firm Bryce Space & Technology.

Source: [Bloomberg](#), August 21, 2017

China tests self-sustaining space station in Beijing

President Xi Jinping wants China to become a global power in space exploration, with plans to send the first probe to the dark side of the moon by 2018 and to put astronauts on the moon by 2036. The Lunar Palace 365 experiment may allow them to stay there for extended periods.

Source: [Reuters](#), July 9, 2017

Iran successfully tests space-launch vehicle: State TV

Such tests are allowed under the 2015 nuclear deal that Iran struck with world powers. However, American officials argue that they violate the spirit of the accord that saw the Islamic Republic limit its uranium enrichment program in exchange for the lifting of economic sanctions.

Source: [Hindustan Times](#), July 27, 2017

Russia and US will cooperate to build moon's first space station

The project envisages building a crew-tended spaceport in lunar orbit that would serve as a “gateway to deep space and the lunar surface,” Nasa has said. “The partners intend to develop international technical standards which will be used later, in particular to create a space station in lunar orbit,” the Russian agency said in a statement.

Source: [The Guardian](#), September 27, 2017

Australia to establish national space agency

“While there is more work to be done in this review, from the extensive consultation process to date, one point is overwhelmingly clear: the case for establishing an Australian space agency is compelling. So I am pleased today to announce that the Australian government will be establishing a national Australian space agency,” Sen. Simon Birmingham said.

Source: [Space News](#), September 24, 2017

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