

# समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा

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## **Defence preparedness: the way forward**

*The incentivisation of Micro, Small and Medium Enterprises bodes well for the future since they are the crucibles of innovation*

“Are things moving in [the] MoD [Ministry of Defence]?” is the question on everyone’s lips in defence seminars these days. It’s time for a reality check after the recently concluded **DefExpo** (which was the ninth in the series of biennial land, naval and internal homeland security systems exhibitions), and the newly released Defence Procurement Procedure (DPP) 2016.

It all boils down to the “environment” created by the government with three clear signals from the Union Defence Minister, Manohar Parrikar. First, the government can claim credit for demonstrating intent to energise the procurement process by accepting many of the suggestions of the Dhirendra Singh Committee set up to make recommendations to revamp the DPP. The introduction of a new category of Buy Indian (or IDDM, Indigenous Design Development and Manufacture), the graded acceptance of better quality through the introduction of an “enhanced” performance parameter clause, and the sudden energisation of private players in defence manufacturing are some cause for cheer.

Second, many of the rules that hitherto put the private industry at a disadvantage vis-à-vis the Defence Public Sector Undertakings (DPSU) have been modified or removed. Thus, “nomination” of a DPSU for absorbing transfer of technology has been done away with and the tax exemptions withdrawn, which effectively makes pricing more competitive.

### **Boosting MSMEs**

Third and most important, there is visible incentivisation of Micro, Small and Medium Enterprises (MSME) in many spheres. Their energetic response to the government’s initiatives is seen in their setting up of a Defence Innovators and Industry Association to “interact with Government decision-makers to ensure a policy that encourages design and development of defence equipment with IP [Intellectual Property] ownership in Indian companies”. This bodes well for the future since MSMEs, which are the Tier-II and -III suppliers, are the crucibles of innovation and the true determinants of indigenisation.

So far so good. But there is still a huge amount of work left. Acceptance of some of the far-reaching recommendations of the Dhirendra Singh Committee, even at the expense of expending political capital, is the need of the hour. There are four key requirements. Foremost is the creation of a Procurement Executive (PE) outside the government. The thought that the PE should be autonomous is a radical suggestion, but desperate times call for desperate measures. To quote the committee, “Steps should be initiated without further ado to set up a specialised structure outside the formal structure of the Ministry of Defence.”

Second, the acceptance of selecting strategic partners in six key sectors (aircraft, ship building, *et al.*) is good but would require diligent implementation. Opposition to this has already begun, but the laissez-faire approach of “anyone can make a complex item, so keep an open competition” has to be turned round through transparent, affirmative selection of private players who have the capability and capacity to deliver. Decades of pumping in billions in the research and development (R&D) budget of the Defence Research and Development Organisation (DRDO) has resulted in very little, and meandering in future through open competitions in these vital sectors would lead to the same results.

Third, the empowering of the private sector by letting them lead in large ‘Make in India’ projects, with support from the DRDO, is unique as is the suggestion to give weightage to quality by

following the L1T1 concept (selecting better technology, not necessarily at the lowest price) in the techno-commercial bid evaluation; both will incentivise them no end and result in true R&D generation. The challenge lies in its implementation in letter and in spirit.

Last, all good intentions will come undone if acquisition manpower remains untrained. The process has been ad hoc at best. Despite noble intentions, the tough world of defence procurements has seen us being bested in terms of selection of equipment, the contracting procedure, acceptance and the follow through in-service. All foreign manufacturers have dedicated professional procurement teams with decades of experience. Unfortunately, two years of this government have elapsed with absolutely no movement in this area.

### **Must be ‘election-proof’**

With the new DPP in place, one hopes that it empowers the procurement process to become election-proof — national security cannot be held hostage to ineffective functioning of personnel who constitute the MoD and the political system. The DPP should commit to action the people tasked with procuring capability for the war fighter so that the momentum of defence procurements cannot be derailed. The state of preparedness of the defence forces has to be an activity in continuum, with or without bipartisan support.

So, is there light at the end of the tunnel? Well, DefExpo this year did attract more participating countries — 46 from 30 in 2014 — but the proof of the pudding lies in Indian private enterprise now driving linkages with foreign manufacturers for technology and business. There has been a surge in the number of defence licences being issued by the MoD, and it is heartening to see majors like the Tatas, Reliance, L&T, Mahindras, and so on set up shop in varied defence manufacturing areas. Despite speed bumps like the delayed Rafale Fighter deal, the Avro aircraft replacement and mid-air refueller aircraft contracts, sentiment is positive. Procurement for defence can be as cruel as it gets, as there is no place for sentiment, just the brute successes in R&D and finished products. The energies generated following DefExpo and the new DPP-2016, if converted to actual, professional R&D, would be true indicators of the government being on the right track in enabling defence indigenisation and regaining its strategic autonomy.

*The Tribune  
19 Apr, 2016*

## **Huge opportunity for defence mfg, Navy chief tells captains of Indian industry**

Faced with a shortage of submarines and helicopters, Indian Navy chief Admiral RK Dhowan today explained to captains of the industry that ‘Make in India’ is the future and the Navy is firmly anchored on self-reliance and hence opening possibilities for Indian industry.

The Navy has tied up with FICCI to conduct a two-day seminar and look at capabilities in India. The Indian Air Force has planned a similar thing with CII tomorrow.

Admiral Dhowan outlined the Navy’s science and technology roadmap for next 15 years and said it has been shared with the industry. “It has nearly 100 sets of technologies which are to be absorbed in our warships and submarines,” he said.

Admiral Dhowan said the Navy would provide all support to MSMEs in research, design and development of weaponry.

He said the blueprint of the future of Indian Navy is firmly anchored in self reliance and indigenisation. This partnership with the Indian industry, both public and private, will ensure that our future warships, submarines and the aviation sector will be 100% made in India.

He highlighted the opportunities where the private sector can collaborate with the public sector in warship building. “There is a huge opportunity of indigenisation and partnering with the public and private sector,” he said.

नवभारत टाइम्स

19 अप्रैल, 2016

# बायर से बिल्डर बनी इंडियन नेवी: धवन

[ विशेष प्रतिनिधि | नई दिल्ली ]

साल 2027 तक भारतीय नौसेना को जितने युद्धपोतों और पनडुब्बियों की जरूरत होगी उन सबका निर्माण भारत में ही होगा। नौसेना प्रमुख एडमिरल आर के धवन ने वाणिज्य संगठन फिक्की द्वारा मेक इन इंडिया पर आयोजित एक अंतरराष्ट्रीय सम्मेलन में यह बात कही। उन्होंने कहा कि नेवी के लिए फिलहाल 46 युद्धपोतों का निर्माण भारत में ही हो रहा है।

एडमिरल धवन ने कहा कि नेवी अब एक खरीद करने वाली (बायर) नेवी से निर्माण करने वाली यानी बिल्डर नेवी के साथ-साथ डिजाइनर नेवी में बदल गई है। मोदी सरकार के मेक इन इंडिया अभियान में भारतीय नौसेना के एजेंडा की बात करते हुए धवन ने कहा कि प्राइवेट और पब्लिक सेक्टर को यह सुनिश्चित करना होगा कि ये पोत दुनिया के सर्वश्रेष्ठ हों। उन्होंने कहा कि हमने अगले 15 सालों के भीतर भारतीय पोतों में इस्तेमाल आने लायक करीब सौ ऐसी तकनीक की पहचान की है जिन पर

नेवी के लिए  
फिलहाल 46  
युद्धपोतों का  
निर्माण भारत में ही  
हो रहा है

आधारित प्रणालियों का उत्पादन भारत में होगा। उन्होंने कहा कि 2016 की रक्षा खरीद नीति में घरेलू डिजाइन, विकास और निर्माण करने को प्राथमिकता दी जाएगी। इसके अलावा अगले 15 सालों के लिये भारतीय नौसेना की स्वदेशीकरण योजना भी तैयार की गई है।

सरकार द्वारा की गई पहल के बारे में चर्चा करते हुए नीति आयोग के सीईओ अमिताभ कांत ने कहा कि पिछले 15-16 महीनों में हमने करीब 125 रक्षा उत्पादों के स्वदेशी उत्पादन के लाइसेंस मंजूर किए हैं और अब एक भी लाइसेंस आवेदन लंबित नहीं है। हम देश में रक्षा निर्माण को भारी प्रोत्साहन दे रहे हैं। सबसे महत्वपूर्ण बदलाव यह है कि भारत में प्राइवेट सेक्टर के रक्षा निर्माताओं को पब्लिक सेक्टर के बराबर माना जाएगा। इस सम्मेलन में दुनिया की कई अग्रणी रक्षा कंपनियां भाग ले रही हैं जिनके प्रतिनिधियों ने मेक इन इंडिया नीति के अनुरूप भारतीय प्राइवेट सेक्टर के सहयोग से निवेश करने का वादा किया है।

The Hindu

19 Apr, 2016

## Procedural delay hits Navy's submarine plans

*Highest priority to augmenting fleet, says Admiral Dhowan*

The Navy's plans to augment its submarine fleet under two different programmes continue to be delayed due to the incomplete Defence Procurement Procedure (DPP) 2016 though the Navy Chief says these projects have been accorded the highest priority.

The progress of two crucial projects — a tender for a new line of submarines under Project-75 I and torpedoes for Scorpene submarines already under construction — hinges on guidelines under the new DPP, which technically came into effect on April 2 but without the crucial guidelines on strategic partnerships and new blacklisting norms.

“The P-75 I has been given the highest priority by the Navy and the Ministry. It is at the moment with the Ministry of Defence ...” Navy Chief Admiral R.K. Dhowan said on Monday to questions on the issue on the sidelines of a joint Navy-FICCI seminar on ‘Make in India’.

**Make in India**

Project-75 I, expected to cost over Rs. 60,000 crore, will be one of the first projects awarded to the private sector to build submarines with foreign collaboration under the Make in India initiative.

Defence Minister Manohar Parrikar had earlier said that the chapter on identifying strategic private sector partners was going “through an extensive exercise that will take another month or two” and it required approval from the Cabinet Committee on Security. It intends to identify major private sector companies eligible to take a lead role in various critical defence platforms.

On the other hand, Kalvari, the first of the Scorpene submarines being built in Mumbai, is scheduled to be commissioned in September this year but it will be without torpedoes, its primary weapon.

*Mail Today*  
*19 Apr, 2016*

## **Border issues top Parrikar’s list in China visit**

*Parrikar will meet Chinese Premier Li Keqiang today*

Defence Minister Manohar Parrikar in Beijing on Monday pressed the Chinese military leadership on border transgressions stressing the need to resume the process of clarifying the Line of Actual Control (LAC).

Parrikar, who met his Chinese counterpart General Chang Wanquan at the PLA headquarters in Beijing, also conveyed India's displeasure at China blocking the listing of Jaish-e-Mohammed chief Masood Azhar at the UN Security Council sanctions committee, expressing that "what happened in the UN was not the right direction that they have taken on terrorism because having a common line is in the interest of India and China both".

A similar message was conveyed by External Affairs Minister Sushma Swaraj when she met Chinese Foreign Minister Wang Yi along the sidelines of the Russia-India-China trilateral in Moscow.

The focus of the defence minister's visit was, however, the boundary issue and ensuring stability along the undemarcated LAC. While India has been pressing China to resume the process of clarifying the LAC over which differing perceptions in certain areas have led to what Indian officials describe as transgressions, Beijing has been reluctant. China has viewed the LAC clarification as a diversion from the boundary talks — of which the 19th round will be held on Wednesday when NSA Ajit Doval travels to Beijing.

“We are insisting it should be done in order to really ensure a very stable border. Because all the issues take place because of perception,” he told reporters.

Both sides did agree to increased confidence building measures, including adding new border personnel meeting points. After two new points in Daulet Beg Oldie in Ladakh and Kibithu in Arunachal were opened last year, they are looking at a sixth point in the middle sector.

Parrikar described the process of "actual marking" the LAC as "one of the preconditions of smooth border operations". “Without that everything goes by perceptions... which has caused problems sometimes.”

Parrikar said both sides moved closer to operationalising hotlines between military commands to enable faster addressing of any incidents. China officially responded to a draft memorandum put forward by India and the issue now appears close to be finally settled, officials said.

Earlier, Parrikar was given a grand welcome at the Ba Yi building, the PLA's sprawling headquarters in Beijing west of Tiananmen Square. Parrikar and Chang inspected a guard of honour before heading into the building for talks.

On Tuesday, the defence minister will meet Chinese Premier Li Keqiang before travelling to Chengdu as one of the first visiting foreign officials to see the PLA's new headquarters of its recently set up Western Theatre Command, which is in charge of the entire India border.

While the main focus of Parrikar's talks on Monday was on enhancing border management, the defence minister also raised issues that have recently emerged as prickly differences in ties.

On China's infrastructure projects in PoK, Parrikar said India has made its stand very clear and expressed its strong reservations to Chinese activity in PoK. China, he said, has noted the concerns and explained the projects as economic ones not aimed at India from a defence or military perspective.

*The Hindu*  
19 Apr, 2016

## **India-China military hotline likely**

***"The issue should be closed within one or two months," says visiting Defence Minister Manohar Parrikar.***

India and China are close to a breakthrough in establishing a hotline between the two military headquarters as part of an effort to improve border management through a new round of confidence building measures (CBMs).

"The Chinese have returned the draft of the memorandum on establishing a hotline between the two military headquarters. The issue should be closed within one or two months," visiting defence minister Manohar Parrikar said at a media conference on Monday. Mr. Parrikar said that Monday's talks, first with the Chinese Defence

Minister Chang Wanquan, and, in the afternoon, with Vice Chairman of the Central Military Commission, Fan Changlong focused on CBMs through various means including establishing a hotline and increasing the local border meeting points, in addition to the five which have been already activated.

"We would now like to have further interaction" among officials to work out the details, the minister observed. The defence minister said he raised the issue of clarification of the Line of Actual Control (LAC) with his interlocutors in order to ensure "stability at the border". Highly placed sources told The Hindu that the Chinese side agreed to enhance CBMs to bolster border management, but did not demonstrate particular enthusiasm in the clarification of the LAC. Mr. Parrikar said that neither side specifically raised India's "in principle" agreement with the United States on the Logistics Support Agreement (LSA), though the Chinese side "indicated" its concerns on this topic. "I said that the autonomous policy of India is very clear and it is based on our national interests", the defence minister observed. The sources pointed out that, without referring to US defence secretary Ashton Carter's visit to India, the Chinese side pointed to India's tradition of pursuing an independent foreign policy.

The defence minister pointed out that he took up the negative fallout of the China-Pakistan Economic Corridor (CPEC) from Gwadar to Kashgar during talks. "We have made our stand very clear and expressed strong reservations in regards to China's activity in Pakistan Occupied Kashmir (POK)." Mr. Parrikar asserted that the Chinese side, in response, noted India's concerns, but highlighted the economic aspects of the corridor, which they insisted had nothing to do with defence or military aspects.

Asked to confirm whether the China-initiated Maritime Silk Road (MSR) was discussed, Mr. Parrikar said that he had flagged the need for maintaining peace in the Indian Ocean during talks. On China's role in blocking UN sanctions on Masood Azhar, head of the banned group Jaish-e-Mohammad (JeM), Mr. Parrikar said that he "expressed (that) it was not exactly the right direction

that they (the Chinese side) have taken”. He added: “Having a coordinated line on terrorism is in the interest of India and China both.” Mr. Parrikar stressed that India was keen to step up its interaction with Beijing as “engaging China more will resolve many of the issues”. Earlier, Mr. Parrikar said that “India attaches highest priority to its relations with China.”

*Mail Today*  
*19 Apr, 2016*

## **India US’ partner or dependant?**

India-US defence relations are the flavour of the season. The US Secretary of Defence rarely comes twice to a country within a year, unless that nation is either creating a problem or is a special friend. But India is neither, not yet atleast, so why this special attention? Is it because being democracies they are ‘natural allies?’

Due ad nauseum usage of this cliché but with precious little to show as results, it only draws yawns now. Is it due to geopolitical reasons that this embrace is being attempted by the Americans? The latter appears more likely and should be examined with due diligence.

### **Rebalance**

The US rebalance to Asia to check China requires the Americans to have stable allies. Conforming to the ‘enemy’s enemy is your friend’ cliché, strange alliances have developed over the past three decades.

Thus, Vietnam has a ‘comprehensive relationship’ with the US, Subic Bay in Philippines will soon see the reestablishment of an American base and President Obama has twice visited Myanmar as part of the rapprochement with Yangon; the US has also midwived the Trans-Pacific Partnership to balance the China-led Asia Infrastructure Investment Bank. With the Russians feeling isolated, being short of finances and sanctioned by the West, it was logical for them to move closer to China, leaving India as the only big country that had not yet decided its vector in this friends-making game.

India is also assuming the mantle of a frontline state against the spread of radical Islam, not just due its secular character but also due its geographical location — countries East and West of it are predominantly Islamic. It is a politically-stable fast growing economy, and is trying to overcome the handicap associated with an absent defence industrial base. Enter the US in the scene and on first look both nations appear to have a convergence of interests to partner each other in the defence materials front — India in need of cutting-edge technology and the US its provider. But there are issues that need careful analysis by the Indian establishment.

The joint statement after the Ashton Carter visit last week says, “defence relationship is a key component of the strategic partnership between India and the US”. The starting point, thus, is ‘partnership’ but the moot point is whether the two nations, disparate in many ways, can be partners in the real sense? An article titled ‘Rebalancing US Military Power’ in the Winter 2013-14 issue of US Army War College magazine ‘Parameters’ says a partnership can succeed only if it is grounded in mutual indispensability, since “anything less creates a dependency, and a dependency by definition is not partnership”. Are India and the US indispensable to each other? If they are not, then they cannot be true partners.

### **Indispensable?**

Taking cues from the Parameters article again, a test of indispensability can be done by answering questions about three possible partnership models.

In the first, both parties should be equals, interchangeable and should be able to blend seamlessly. In the second, both sides should be so implicitly intertwined that a division of labour is possible; thus, it should be possible to divide the tasks into sectors that can be shared equally towards a

successful fulfillment of the undertaking. And in the third test, the two sides should be able to complement each other such that expertise possessed by each party complements and fills voids that exist with the other.

Alas, in all three cases, the attempted Indo-US ‘partnership’ does not pass muster due to the asymmetry that exists in technological and financial capability and capacity of the two nations. But can the same be said of the Indo-USSR defence relationship? If that was a true partnership, why not the proposed Indo-US one?

### **The answer**

The answer lies in the political indispensability of India that the USSR had to factor in, even as it brought its technological capability to the relationship; China and the US were USSR’s antagonists and it could have ill afforded to dump India, like the US did with Pakistan after the Soviet withdrawal from Afghanistan – the US-Pakistan ‘partnership’ broke due to loss of Pakistan’s indispensability to the relationship, which earlier had been vital.

The Indo-Russian partnership is still strong as India needs Russian arms, civil nuclear technology, among others, and the Russians need money and a foothold in South Asia. Does India have an indispensability quotient in the proposed partnership with the US? Sadly, no, as it is far from meeting the technology and financial norms to meet criteria #2 and #3 of a stable partnership. India can become indispensable only as a political equal and whose services can blend seamlessly with the US as per the first criteria — that’s a lot of ground to be covered.

If the US wants a true partnership, then it has to work towards making India indispensable to itself (the US) — that can happen only if it truly imbues a ‘special’ friendly slant to its inputs in the relationship. In the world of realpolitik, India alone has to ensure its interests in the geographical area it is placed, not the US; a situation of dependency needs to be avoided at all costs to retain strategic autonomy. Our eyes should be WIDE open.

*The Statesman*  
*19 Apr, 2016*

## **US ‘pivot to Asia’**

The recent visit of US Defence Secretary Ashton Carter once more directed attention to the strategic dimension of India-US relations. This has been a shifting and unpredictable matter from the start, beginning with a sympathetic mutual reaching out in the early days that lost its way during the frictions of the Cold War. The USA was at times a close supporter and friend to India, at others a critic and impediment. Its regional policy was frequently at odds with that of India, so relations could be bumpy. Though such matters are now left well behind, and the bilateral relationship is in very good shape, a residue from the ups and downs of the past still remains and can be manifested in their institutionalized caution in dealing with change and with defence-related issues. The relevant departments and agencies of the two governments have never worked with the kind of intimacy that developed, for instance, between Washington and Islamabad, where relations were often in flux, as they are today, but useful familiarity between their respective establishments is ingrained.

Yet despite the persistence of some differences, India-US relations in strategic matters have advanced steadily and developed increasing momentum. The landmark event was the nuclear deal that served to end the censorious US attitude towards India’s nuclear policy and opened the way to cooperation in fields earlier off limits, including purchase by India of advanced military equipment from the USA and participation in joint military exercises. Carter’s visit brought attention to bear on the arms supply relationship, and though nothing very specific by way of new agreements was announced, there appear to have been useful conversations that could encourage closer

collaboration in the future. India's perennial concern at US arms supplies to Pakistan, emphasized by the recent US decision to go ahead with a deal for the supply of warplanes to Pakistan, was not permitted to overshadow the visit, though India's neighbourhood concerns are strong and continue to affect ties with the USA. Unexpectedly, the US visit seemed to have triggered movement in the long stalled effort to bring to a conclusion the deal for the supply of advanced military aircraft by France. There may be no connection between the two events, for the two parties are essentially rivals in this field, but there was a notable near-simultaneity between these developments.

Carter came to India and to other countries in Asia at a time of important change. Rapid economic development led by China has altered the strategic picture and has created fresh possibilities and rivalries. Nor is it Asian countries alone that are affected, for the USA is a conspicuous factor in Asian affairs, having been a dominant and often embattled presence in Asia ever since the Second World War. As a token of its continued involvement, the USA has now developed a fresh doctrine, which is described as a 'pivot to Asia'. What exactly is implied by the concept of 'pivot' in this context is not entirely clear -- no more was India's 'Look East' doctrine spelt out in any detail when first proclaimed some two decades ago. What is significant is that US policy-makers have shown renewed and strengthened interest in Asia, and this is an important development affecting the region as a whole. While several others have been welcoming of the 'pivot', China has been critical and considers that it aims at limiting China's freedom of action and threatens to sharpen differences within the region, perhaps even to encourage confrontation rather than harmonious evolution of relationships. Quite what these fresh initiatives and doctrines signify for the longer term is not clear but the differences in Asia between two of the weightiest countries, USA and China, are apparent. If the USA is showing doctrinal innovation with its concept of 'pivot', so too is China, with its promotion of a new Silk Road across Asia and its concept of One Belt One Road across the Indian Ocean. The US Defence Secretary's visit thus took place at a time of new and unpredictable regional developments, with a visible competitive edge among major nations.

In this context, it is relevant that for some time now US interest in India has been on the increase, to the point that some strategists, especially in US think-tanks, consider that a strong, independent India should be promoted as a counterweight to China, a democratic bulwark against authoritarian rule. A natural affinity between India and other democratic countries like Japan is regarded as a balancing factor with considerable strategic potential. At the same time, nobody sees value in trying to confront China. On the contrary, there is something of a scramble to draw closer to that country and expand economic contact. Even the USA, regarded as the great strategic rival, has been and remains the prime partner in China's headlong economic growth. Not much was said on this theme in the public exchanges between Carter and his Indian counterparts though it may well have figured in their private conversations.

Official comment may have been limited, but quite a lot was said elsewhere about the broader implications of closer Indo-US ties as seen in the Carter visit. A couple of useful agreements came out of the visit, nothing of dramatic import but enough to indicate steady growth of strategic comfort between the two parties. There will be some shared use of military facilities between them and enhanced cooperation in high technology, and more besides. Maybe we will even see US fighter jets being built in India, in the spirit of the 'Make in India' policy, and the warming strategic ties between the two countries.

At the same time, it is evident that India's nonalignment dies hard and is not readily eradicated from its dealings with the world. The former quest for equidistance between rival blocs is irrelevant today, but not so the pursuit of an independent foreign policy that expresses India's international interests. These may not be identical at all points with those of a friendly power like the USA -- for instance in the key matter of nuclear rearmament President Obama has called for India, and others, to reduce their holdings of nuclear weaponry, which is something India may prefer to pursue in its

own time according to its own judgment. Nor do the two countries, for all the values they share, face comparable challenges in South Asia. Carter's visit served to show goodwill and to emphasize the strategic convergence between the two, and it also showed them clinging to their sometimes separate notions of how to respond to changing times in Asia.

*The Hindustan Times*  
19 Apr, 2016

## **China lands first military plane on disputed S China Sea Island**

A military aircraft has for the first time landed at a new airport on an island China has built in the disputed South China Sea, state media said on Monday, raising the prospect that China could base fighter jets there.

The move is believed to be the first openly acknowledged mission of its kind.

A brief statement on the ministry's website said the plane was on patrol when it was diverted to Fiery Cross Reef on Sunday morning to pick up three injured construction workers.

The plane then flew to San ya on China's southernmost island province of Hainan where it landed at F enghuang International Airport, the ministry said.

Details about the plane and where it was based were not given, although a photo accompanying the report showed a four propeller Y-8 transport being met by an ambulance.

The Global Times newspaper said Sunday's flight marked "the first time a Chinese military plane has openly landed on Yongshujiao", using the Chinese name for Fiery Cross Reef. The speed with which the mission was accomplished was a testament to China's long-term policy of patrolling over the South China Sea, said the paper, a nationalist tabloid published by the ruling Communist Party mouthpiece People's Daily.

China completed the runway on Fiery Cross Reef last year and in January flew three commercial jets to the island as a test.



## **S Korea's Park confirms signs North preparing nuclear test**

South Korean President Park Geun-Hye today confirmed a flurry of intelligence reports suggesting that North Korea is readying to conduct a fifth nuclear test in defiance of tightened UN sanctions.

"Signs that it is preparing a fifth nuclear test have recently been detected," Park told a cabinet meeting.

Her remarks followed South Korean media reports in which unnamed government and intelligence officials spoke of a spike in activity at the North's Punggye-ri nuclear test site.

A fresh test would see Pyongyang doubling down in the face of tough sanctions adopted by the UN Security Council following its last nuclear test in January, and would throw down a gauntlet to the international community as it struggles to find new ways to curb the North's nuclear ambitions.

North Korea is gearing up for a rare and much-hyped ruling party congress early next month, at which leader Kim Jong-Un is expected to take credit for pushing the country's nuclear weapons programme to new heights.

Numerous analysts have suggested the regime might carry out a fifth nuclear test as a display of defiance and strength just before the congress opens.

"It is uncertain what kind of unexpected provocations it would stage," Park said at the cabinet meeting.

The South Korean Defence Ministry said it was alert to the likelihood of a fifth test.

"Given current activities, we believe that there is a possibility that the North may stage an underground nuclear test, and are monitoring the situation accordingly," ministry spokesman Moon Sang-Gyun told reporters.

Tension has been high on the divided peninsula since the North conducted its fourth nuclear test in January and a rocket launch a month later that was widely seen as a disguised ballistic missile test.

The UN Security Council responded by imposing its strongest sanctions to date over the North's nuclear weapons programme.

Pyongyang has responded defiantly, staging a series of short- and mid-range missile tests and claiming a series of significant technical breakthroughs in its nuclear strike capability.

It claimed it had miniaturised a nuclear warhead to fit on a missile and successfully tested an engine designed for an inter-continental ballistic missile that could reach the mainland US.

While some experts say the claims are exaggerated, most acknowledge that the North's nuclear and ballistic missile programmes have made significant strides.

## **Bharti, Virgin fund tiny satellite project**

OneWeb Ltd, a privately owned startup bank rolled by Richard Branson's Virgin Group and other well-known firms, will build a factory to mass produce small satellites near Nasa's Kennedy Space Centre in Florida, two sources involved in the project told Reuters.

OneWeb plans an initial production run of 900 satellites to provide global, high-speed Internet access as early as 2019. The multibillion-dollar network will be more than 10 times larger than any

previous satellite constellation. Led by founder and chief executive Greg Wyler, a highly-regarded satellite pioneer, OneWeb has raised \$500 million from Virgin, Airbus, India's Bharti Enterprises, chipmaker Qualcomm Inc., Hughes Network Systems, Intelsat SA, The Coca-Cola Co., and Mexico's Totalplay.

An official announcement about the factory is scheduled for Tuesday morning at an industrial park adjacent to Nasa's spaceport, where the plant will be located. A number of localities in Florida and elsewhere had vied for the project. The OneWeb venture will also mark the first time satellites are mass-produced, a potential game-changer in the rapidly evolving commercial space industry.

Similar projects are under development by Elon Musk's Space Exploration Technologies, or SpaceX, which last year landed a \$1 billion investment by Google Inc and Fidelity Investments for another space-based Internet constellation. OneWeb intends to not only manufacture its own spacecraft for high-speed Internet access, but also sell satellites configured for other purposes to other companies and organisations. Europe's Airbus Space and Defence Group, a partner in the project, has begun manufacturing an initial batch of 10 satellites for OneWeb at its Toulouse, France, manufacturing facility.

OneWeb will receive about \$20 million in state and county financial incentives to locate near the Kennedy Space Centre in the same industrial park where Jeff Bezos' space company, Blue Origin, is building a rocket factory. Some of OneWeb's satellites will be flown by Branson's space company, Virgin Galactic, which is developing a low-cost, small satellite launcher, as well as a suborbital passenger spaceship. OneWeb also has signed launch contracts with Arianespace for 21 Soyuz rocket flights from the European Space Agency's spaceport in French New Guinea. Up to 36 OneWeb satellites can fly on a single Soyuz rocket.

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## **Nasa turns to students for 3D printed 'expandables'**

The Nasa has launched a new challenge for students to design an expandable object for astronauts that can be printed using the newest 3D printer onboard the International Space Station (ISS).

To celebrate the arrival of the first expandable habitat to the ISS and the launch of the first commercial 3D printer to space, the ASME Foundation and Nasa have issued a brand new Future Engineers challenge.

The "Think Outside the Box" challenge asks students to design an object for astronauts that can be printed within the bounds of the newest 3D printer on the space station (10cm x 10cm x 14 cm), but can be assembled or expanded to become larger than that box, the Nasa said.

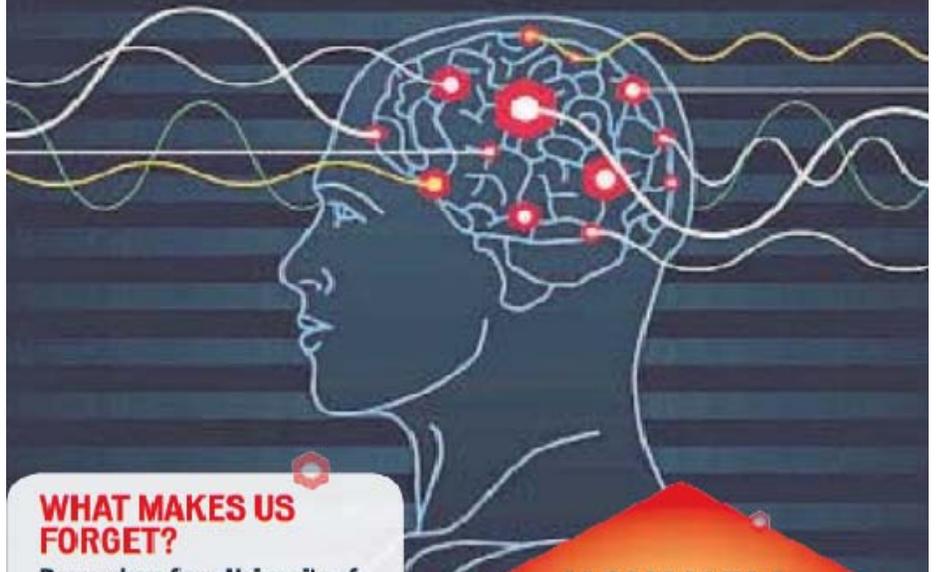
In space exploration, scientists and engineers often strive to make more from less.

Smaller rocket payloads are needed to save cargo space and fuel, while sustainable technologies are needed to reduce, reuse and recycle what is brought to space.

Nasa's advanced exploration systems division pioneers new approaches for rapidly developing prototype systems, demonstrating key capabilities, and validating operational concepts for future human missions beyond low-Earth orbit. Two demonstrations of such pioneering space technologies include the Bigelow Expandable Activity Module (BEAM) and Made In Space's Additive Manufacturing Facility (AMF). BEAM is a module made up of layers of fabric that will be expanding after it is installed. It is designed to test and validate expandable habitat technology, paving the way for future habitats on deep space missions.

# BRAIN TRAIN

Forgot what you were about to say? The same brain system that stops physical body movements may be derailing your train of thought as well



## WHAT MAKES US FORGET?

Researchers from University of California and the Oxford University studied the brain's stopping system, called subthalamic nucleus (STN)

This small cluster of densely packed neurons in the midbrain, earlier research shows, is engaged when the body must stop an action, especially when the brain has to stop the whole body from moving

The researchers wanted to know if STN was involved in stopping thoughts too

## FINDING A LINK

The study analysed signals from the scalp of 20 healthy subjects

All volunteers were asked to hold in mind a string of letters, and then tested if they could recall them

As they thought of the letters, and right before the recall test, a simple tone was played to them

During some of the trials, this sound was suddenly replaced by an unexpected sound

## HOW WILL THIS HELP?

These findings could be investigated further to see if treatments can target STN circuits in the brains of people who are easily distracted — like those with Attention Deficit Hyperactivity Disorder (ADHD).

## SHOCK AND STOP

The volunteers' brain activity was recorded when this sudden sound was introduced, and then their accuracy in recalling the letters was studied

The results showed unexpected events use the same brain system the body uses to actively stop an action

The results show the degree to which such surprising events affect our ongoing trains of thought.

JAN WESSEL, University of California