

समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा

A Daily Current Awareness Service



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Tue, 30 Aug, 2016

IAF's women fighter pilots to start training



IAF's first women pilots are all set to begin their simulation training on the Hawk Advanced Jet Trainer at the Bidar air force station (AFS) in Karnataka.

Flying officers Bhawana Kanth, Avani Chaturvedi and Mohana Singh completed their first leg of training on Kiran and Pilatus aircraft at the Dundugal air force academy two months ago.

Sources told TOI the trio will initially train on Hawk simulators before flying supersonic aircrafts. After their training in basic formations for combat flying here, the women will proceed to the AFS in Midnapore, West Bengal, for advanced training. They will continue to fly Hawks there as well. But, the level of training will differ, the source added.

With their induction into the IAF, the women had put to an end the prolonged debate over women involvement in combat roles. Although the move by IAF is experimental, lasting only three years, experts believe it will have a significant impact in the future.

Tue, 30 Aug, 2016

HAL May Put in Rs 2,000 cr for Sukhoi 30 Spares Hub

By Manu Pubby

In The Wings: India and Russia will soon ink a pact allowing Air Force to source spares from HAL that will keep an inventory of fighter planes' parts

With defence minister Manohar Parrikar determined to increase the efficiency of the existing fighter fleet, state-owned PSU Hindustan Aeronautics Limited (HAL) is working on a pact with the air force and the Russian government to set up a spares hub for Sukhoi 30 fighters in India. The Russian origin aircraft has been facing technical difficulties with several fighters grounded for prolonged periods as the current process of ordering spare parts is time consuming and inefficient.

This has resulted in a situation in which at any given point of time, only 50-55 percent of the fleet is ready for operations. The aim is to increase this to at least 75 percent.

Sources have told ET that HAL is looking to invest over Rs 2,000 crore to create a spares hub that will store and deliver all parts needed for the fleet. A long term spares agreement is likely to be signed between India and Russia shortly that will help in reducing the amount of time frontline fighters are grounded due to technical issues. Senior officials said that as per the new agreement, the Air Force will source all its spares from HAL that will maintain an inventory of parts. As per current practice, spare parts are to be ordered separately with a lengthy process involving license, customs clearance and bank guarantees.

The plan is to have a system in place that will ensure that spare parts are delivered within days of the Air Force raising a requirement. Officials told ET that at times, the bureaucratic processes would lead to even a yearlong waiting time between the Air Force raising a requirement and the spare part getting manufactured.

The Su 30 fighter 272 of the planes have been ordered is India's largest fighter fleet with bases in the east as well along the western borders.

Tue, 30 Aug, 2016

Parrikar Given Enhanced Honour Cordon at Pentagon

Defence Minister Manohar Parrikar on Monday arrived here for talks on Defence and national security issues with his American counterpart Ashton Carter, who welcomed him with an enhanced honour cordon at the Pentagon. Parrikar is on his second trip to the US in less than a year. The enhanced honour is reserved for valued guests and visitors.

During normal honour cordon, visitors are greeted at the Pentagon stairs and welcomed with handshakes. During the enhanced honour cordon, national anthems are played.



Tue, 30 Aug, 2016

Use tech, up vigil along rivers, says post-Pathankot review

'Laser Walls Not Yet Installed In Infiltration-Prone Areas'

New Delhi: A committee led by former home secretary Madhukar Gupta, which was set up following the Pathankot terror attack to look into security gaps on the India-Pakistan border, has submitted its report to the government and is learnt to have suggested use of technology and heightened vigil on riverine frontiers.

The committee is also learnt to have flagged gaps and vulnerability in border fencing. Home ministry sources said the committee, while suggesting use of scientific methods, also expressed displeasure over not installing laser walls in many infiltration-prone areas due to treacherous and marshy terrain.

The panel gave separate recommendations for four states which touch the international border with Pakistan as each state has different topography and problems. Of the 3,323-km-long India-Pakistan border, 1,225 km falls in Jammu and Kashmir (including Line of Control), 553 km in Punjab, and 1,037 km in Rajasthan and 508 km in Gujarat. The committee was set up three months after the terror attack on Pathankot IAF base in January to suggest ways to address the issue of gaps and vulnerability border fencing.

It was mandated to study all types of gaps in fencing and other vulnerabilities along the border and suggest a comprehensive approach to fix them. As first reported by TOI, the government has okayed a five-layer plan to stop infiltration on the western border, which includes CCTV cameras, thermal imaging and night-vision devices, battlefield surveillance radar, underground monitoring sensors and laser barriers. The integrated set-up will ensure that if one device does not work, another will alert the control room in case of a transgression.

Tue, 30 Aug, 2016

Very Serious Issue, Says Navy Chief

Making his first public comment since the sensitive documents related to India's Scorpene submarine project were leaked, Navy chief Admiral Sunil Lanba said here on Monday, the force has viewed the issue "very seriously." He also said the French shipbuilder DCNS, was asked to launch an investigation into the leak and claimed the leak was not a "cause of worry."

Meanwhile, DCNS, which is collaborating with Mazagaon Docks Limited(MDL) in constructing six Scorpene submarines in Mumbai, approached a court in Australia on Monday to stop 'The Australian newspaper' from publishing further details of the documents and remove them from its website.

The 22,400 documents giving details of the combat capabilities of the Indian Scorpene submarines were suspected to have been leaked by a former employee of DCNS as part of corporate war and the French authorities were probing the matter. India had urged them late last week to investigate the issue urgently and share the findings with Indian authorities. "Any leak of information is viewed very seriously. We have viewed the leak of Scorpene data very seriously and we have asked (French firm) DCNS to launch an urgent investigation into this," the Navy chief said.

He noted the Defence Ministry has set up a high-level committee to investigate the matter and "based on the report of the committee, we will see what mitigation measures need to be taken." This observation came in the backdrop of Defence Minister Manohar Parrikar stating last week that the Navy was approaching the matter as the worst case scenario.

Officials said in this scenario they believed 90 per cent of the leaked documents were contractual or commercial in nature while the remaining ten per cent pertained to operational aspects. The committee was analyzing these papers and if need the Navy was capable of mitigating these issues, they had said.

Asked how serious a concern the leak was, the Navy chief said, "this is not a matter of much worry. The committee is analysing and they will see what data has been compromised and what mitigation steps have to be taken." The committee is expected to submit a detailed report to the Defence Minister by September 20.

The French shipbuilder said in a statement released from Paris said it has approached an Australian court demanding that 'The Australian' newspaper should remove the published Scorpene data from its website and prevent any further publication.

"DCNS, through the application filed, has demanded The Australian to remove the documents which it has published on its website and prevent further publishing of other documents," the statement said.

The company's lawyer on Sunday told the newspaper that the publication of this "highly valuable document" causes a direct harm to DCNS and its customer in terms of spread of sensitive and restricted information, image and reputation. The newspaper, which had said it will publish the documents regarding the weapons system of the submarine on Monday, has not done so.

The French public prosecutor has opened a preliminary investigation into the data leak, with DCNS filing a complaint of breach of trust. Since the MDL is manufacturing the Scorpene submarines under licence from DCNS, the intellectual property rights are with the French firm.

The Indian Navy has maintained that the leak is "not alarming" since it does not impact operational capabilities of the submarine. Giving some examples, they said the weapon systems including missiles and torpedoes were procured from at least 20 different contractors not related to DCNS. However, 'The Australian' claimed it had the details of the weapon systems and would publish them on Monday.

Business Standard

Tue, 30 Aug, 2016

Treating the Scorpene's sting

The challenge before Indian admirals is to move beyond instinctive denial and develop a nuanced plan of action

After an Australian newspaper began publishing reams of operational and technical data last week relating to six Scorpene submarines that will begin joining the Indian Navy next year, there is grave concern in some quarters. The Scorpene's vendor, France's Direction des Constructions Navales Services (DCNS), told an

Australian court that: "This highly valuable document causes a direct harm to DCNS and its customer". An American admiral who was its former top submarine commander in the Pacific puts it simply: "It is never good for an opponent to have your playbook." Yet, the Indian Navy has publicly pooh-pooed the danger and insisted optimistically that the leaked information could provide no advantage to an enemy. Only after five days of denial did the naval chief admit on Monday that the leak is of serious concern. Behind the navy's blitheness is the logic that compromised submarines are better than no submarines at all. Having taken 17 years to nurse Project 75 (the Scorpene project) this far, the admirals worry that the leaks could endanger it now. Anyhow, submarines sunk in some future war will be someone else's problem. The navy must abandon this inward-looking stance since this is an international issue. The first question to ponder is: What is driving the Scorpene leaks? There are seven possible answers, some more probable than others. First, this could be an attempt to change Australia's decision, announced in April, to award DCNS a \$38-billion contract to build 12 conventional submarines under its SEA 1,000 project. The losing vendors were Japanese (Mitsubishi/Kawasaki combine) and German (ThyssenKrupp Marine Systems, or TKMS). Second, this could be Canberra's ploy to release secrets harmless to Australia (though not to India) to pressure DCNS into lowering its price.

Third, it could be a foreign government stratagem (e.g. China) to scuttle Australia's SEA 1,000 project by portraying DCNS as unreliable. Fourth, it could be a dissatisfied former customer of DCNS - e.g. Pakistan, Chile, Brazil and Malaysia, if India could be removed from the list of potential suspects. Fifth, it could be a disgruntled DCNS employee, or agent, who was removed as a result of Europe's recent emphasis on anticorruption compliance. If this sounds far-fetched, recall that the killing of 11 DCNS engineers in Karachi by a suicide bomber in 2002 was blamed (by a DCNS-commissioned investigation) on a vengeful agent in Pakistan who was incensed that his commissions were discontinued. Since then, many more agents have been de-hired by European defence companies, presumably including DCNS. Sixth, Washington could have driven the leak to prevent sensitive American technologies (such as the combat management system or torpedoes) from being integrated into a French submarine. Seventh, and last, a rival submarine manufacturer such as TKMS could be discrediting DCNS to boost its own prospects in India's impending Project 75I - a multi-billion-dollar project to build six conventional submarines with air-independent propulsion (AIP), which New Delhi is currently mulling.

Should New Delhi blacklist DCNS for laxity in preserving secrecy? Does the navy have a better alternative, or would it be forced to buy more Russian submarines, increasing its reliance on Moscow, which has already provided 10 of India's 14 attack submarines? Of the alternatives, America only builds nuclear-powered boats (as submarines are referred to), buying Chinese is inconceivable, British submarines are out-dated and Japanese boats too large and expensive. That leaves only European vendors, predominantly three - DCNS, TKMS and Kockums of Sweden. Meanwhile, very few countries are buying submarines. The US, Russia, China, UK and Japan all build their own boats. South Korea and Turkey have also developed indigenous submarine industries. Brazil and Australia have fixed on DCNS, and are holding course for now. That leaves Norway, which is looking to buy six submarines; with Poland and the Netherlands piggybacking on its order with possibly three each of their own. Besides those 12 boats, there is only India's Project 75I for another six. With the market depressed, Europe's submarine builders face consolidation.

Some years ago, TKMS (which owns Howaldtswerke-Deutsche Werft, or HDW, which built India's four Type-209 submarines) bought Swedish shipyard, Kockums - industry consensus was that TKMS wanted to strangle Kockums to eliminate the rival Swedish submarine industry. A furious Stockholm physically repossessed Kockums in April 2014, and eventually prevailed upon Swedish defence major, Saab, to buy back Kockums. That has left TKMS weakened amidst intensifying competition. If it were to lose the Norwegian tender, having already lost the Australian one, it would probably have to merge with DCNS to survive. With the French defence Budget (\$51 billion) significantly larger than Germany's (\$39 billion), Paris will inevitably, as the continent's biggest defence buyer, call the shots on Europe's defence industry.

Inevitably, DCNS will also swallow Saab Kockums, given that Sweden has ordered just two A-26 submarines and there are no more orders in sight. This means that, were India to penalise DCNS by shifting

its custom to TKMS or Saab Kockums, the broad trends of submarine industry consolidation would probably bring the order back to the DCNS stable. Even so, there remain key differences between these companies. DCNS, given France's Atlantic seaboard, colonial tradition overseas, and Great Power pretensions, has a tradition of building larger submarines, including nuclear-powered boats. Australia selected DCNS for its SEA 1,000 project primarily because it offered a large submarine - a slightly shortened version of the nuclear-powered Barracuda, christened the Shortfin Barracuda. With India signalling a new emphasis on nuclear-powered submarines (aiming at 18 conventional, plus six nuclear-powered boats), DCNS would be keen to partner India in its nuclear submarine programme, just as Russia does.

The US Navy is, by some margin, the global leader in nuclear submarine technology, but will not part with it for anything. However, TKMS continues to have relevance for India. Germany, given its limited coastline along the shallow Baltic and North Seas, has nurtured a tradition (dating back to its U-boats in World War I and II) of building smaller submarines with high quality sonars. The Indian Navy, given the variance in its coastal geography, needs small as well as large submarines. The former would be essential in the shallow Arabian Sea, where the waters 25 kilometres from Karachi are just 40 metres deep. In contrast, larger submarines (including nuclear-powered boats) can operate freely in the Bay of Bengal, where the waters 5 kilometres out from Visakhapatnam are over 3,000 metres deep. All this suggests that the Scorpene leaks, damaging though they are for operational security, must be treated from a strategic as well as a tactical and techno-commercial standpoint. India's strategic interests in the Indian Ocean demand a close partnership with Paris, to complement and balance the US-India relationship. French submarine building remains important for a navy that is looking beyond blockading Karachi, at blue water operations across the deep ocean. The challenge before the admirals is to move beyond reflexive denial and develop a nuanced plan of action that will cater to all these variables.



Tue, 30 Aug, 2016

Home-made Subs Cheaper than those Built with Foreign Tech

By Manu Pubby

Home Advantage: Assessment puts cost of 6 indigenous nuclear attack boats at Rs 35,000 crore Rs 60,000 cr while 6 conventional submarines built with foreign technology may cost country about `

India is grappling with a leak of sensitive data on its Scorpene submarines from the French company but an internal assessment has found that it could be cheaper to construct an indigenous set of nuclear-powered attack submarines rather than relying on a foreign vendor for technology.

India is currently building six Scorpene submarines under a licence agreement from France, a deal which was inked for Rs. 18,000 crore in 2005. The Rs. 3,000 crore a submarine tag would go up further if escalation and inflation is calculated for the ten year build period. However, ET has been told that an internal assessment has brought out that the cost of constructing six new nuclear-powered attack submarines, derived from the design and expertise gained from the INS Arihant -India's first nuclear boat -would be close to Rs. 35,000 crore.

The set of indigenous nuclear attack boats would not be as stealthy as a conventional, diesel electric submarine but would have much greater endurance and weapon carrying capability. According to our calculations, if we are to build six attack submarines based on the existing design of the Arihant, the cost would not exceed RS. 35,000 crore, a source involved in the process told ET.

A Case to Make in India

<p>Navy will float tender for six conventional submarines, called Project 75I, which is expected to cost over ₹60,000 cr</p>	<p>The cost of building six nuclear-powered indigenous subs, derived from the INS Arihant design would be close to ₹35,000 crore only</p>	<p>The ₹18,000-cr price tag of 2005 for the 6 Scorpene submarines would be much more today if cost escalation and inflation is considered for the ten-year build period</p>	<p>The huge difference in cost is due to the licence fees involved in the Scorpene deal and the technology cost to be factored in Project 75I</p>
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Nuclear Attack Submarine Vs Nuclear Missile Submarine

<p>A nuclear attack submarine is powered by a nuclear reactor but carries conventional weapons to attack other ships or submarines</p>	<p>A nuclear missile submarine (like INS Arihant) is powered by a nuclear reactor and carries nuclear-tipped missiles as a deterrent against any attack on Indian soil</p>
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DESIGN EDGE
In the case of the indigenous nuclear attack submarines, the only cost would be the construction and fitment of weapons as the country already has the design

ARIHANT EXPERIENCE
The Navy has a submarine design bureau that has gained considerable expertise while building INS Arihant, which has successfully undergone trials and is ready for deployment

Contrast this to an upcoming tender the Navy will float for six more conventional submarines which is expected to cost over Rs. 60,000 crore, called Project 75 I. French company DCNS, from which the leak has occurred, is one of the companies contesting for this order. The huge difference in pricing, officials told ET, is due to the licence fees charged in the case of the Scorpene and the cost of technology development that would be factored into project 75I from the vendor. In the case of the indigenous nuclear attack submarines, the design is already with us. It has been designed in India and the only cost would be the construction and fitment of weapons, the source said. The Navy has a submarine design bureau that has gained considerable expertise due to the Arihant project. As reported by ET, INS Arihant, which is a nuclear powered submarine armed with nuclear weapons, has successfully undergone trials and is ready for deployment.

Navy Taking Scorpene Leak 'Very Seriously'

Leak of information related to Scorpene submarine is being viewed very seriously, but it is not a matter of much worry, Navy Chief Admiral Sunil Lanba said on Monday in his first comment after over 22,000 pages of data detailing the vessel's capabilities became public. Any leak of information is viewed very seriously. We have viewed the leak of Scorpene data very seriously and we have asked (French firm) DCNS to launch an urgent investigation into this, Lamba said. He noted that the defence ministry has set up a high-level committee to investigate the matter. Asked how serious a concern the leak was, the Navy chief said, This is not a matter of much worry. The committee is analysing and they will see what data has been compromised and what mitigation steps have to be taken.

The high-level committee is expected to submit a detailed report to Defence Minister Manohar Parrikar by September 20.



Tue, 30 Aug, 2016

DCNS obtains restraint order against newspaper

DCNS moves New South Wales court to prevent newspaper from releasing more info.

French submarine builder DCNS on Monday obtained a temporary restraint order against *The Australian* newspaper from releasing any more classified documents related to Indian submarines into the public domain. The temporary order directs newspaper to remove all sensitive data from its website and not

to publish any new information. The order expires on Thursday as the Australian Supreme Court is set to hear the case filed by DCNS. DCNS has argued that publication of the data would cause direct harm to DCNS and its customer in terms of spread of sensitive and restricted information, image and reputation.

The newspaper has over the last week released several pages of classified information from among the 22,400 pages it obtained, in redacted form, detailing the stealth and combat capabilities of the Scorpene under construction for the Indian Navy.

Any leak serious: Navy - Meanwhile, speaking for the first time on the Scorpene submarine data leak since it came into the public domain, Navy Chief Admiral Sunil Lanba said that the service was taking the issue very seriously but observed that it was not a matter of much worry.

Any leak of information is viewed very seriously. We have viewed the leak of the Scorpene data very seriously, we have asked DCNS to launch an urgent investigation, we have ourselves set up a high-level committee to investigate this, he told reporters outside the South Block on Monday.

Cameron Stewart of *The Australian* who broke the story told *The Hindu*: It is a matter for the courts now. But I would note that DCNS, by its actions, appears to have greater concerns about the sensitivity of the leaked documents than does India's defence minister. Last week Defence Minister Manohar Parrikar had stated that what is on the website is not of concern to us.



Tue, 30 Aug, 2016

Fuel tanks fall from Navy's MiG-29K plane

Two external fuel tanks of a Navy MiG-29K plane fell off separately at the naval air station INS Dega and near CISF quarters in Visakhapatnam on Monday, even as the pilots miraculously escaped unhurt, PTI reports from Vishakapatnam.

A minor fire broke out on the runway of INS Dega when a drop tank, which carries additional fuel, jettisoned accidentally, while the MIG was taking off on a routine training sortie around 10 am, Navy sources said.

Ground support staff quickly doused the flames and no one was injured in the fire. There was also no damage to the aircraft or the runway, the sources maintained. The pilot was directed to jettison the second drop tank in the sea but it could not be done due to malfunctioning of the system. And when the aircraft was coming back for landing, the second drop tank fell near the CISF quarters.



Tue, 30 Aug, 2016

India, US ink key defence accord

India and the US today signed an important agreement that will make the two nations logistical allies and enable both militaries to use each other's assets and bases for repair and replenishment of supplies.

Welcoming the signing of the bilateral Logistics Exchange Memorandum of Agreement (LEMOA), Defence Minister Manohar Parrikar and US Defence Secretary Ashton Carter said the pact will facilitate opportunities for practical engagement and exchange. The two reached an agreement in principle in April, but hadn't finalised the details yet.

LEMOA allows sharing of military assets

- The Logistics Exchange Memorandum of Agreement (LEMOA) allows both militaries to use each other's land, air and naval bases for repair and replenishment of supplies, and provides a framework to govern them

LEMOA facilitates the provision of logistical support, supplies, and services between the US and Indian militaries on a reimbursable basis, and provides a framework to govern them.

They agreed on the importance (that) this framework will provide to facilitate innovative and advanced opportunities in defence technology and trade cooperation. To this end, the US has agreed to elevate defence trade and technology sharing with India to a level commensurate with its closest allies and partners, said a joint statement after the pact was signed.

The visit — their sixth official interaction to date — demonstrates the importance both sides place on strengthening defence ties across many areas: from strategic and regional cooperation, to deepened military-to-military exchanges, to expanded collaboration on defence technology and innovation, it said.

Carter reaffirmed US support for India's membership in the Nuclear Suppliers Group (NSG). Earlier today, Parrikar was accorded an enhanced honor cordon by Carter after he arrived at the Pentagon here.



Tue, 30 Aug, 2016

India's Russian fleet turns American with Chinooks

By Chidanand Rajghatta

Few purchases are more demonstrative of the changing nature of US-India ties than the deal that will result in the gradual makeover of the Indian military's helicopter fleet from a largely Russian line-up to a mostly American one.

'From choppy to chipper' could well be the title of this saga, as India's defence minister Manohar Parrikar arrived in Washington DC for his sixth meeting in less than two years with his US counterpart on Monday, with a sortie thrown in to a chopper manufacturing facility in nearby Philadelphia, where Boeing makes the CH-47F Chinook heavy-lift helicopters.

With 15 units on order at a cost of \$1.1 billion, the storied American Chinook will replace (New Delhi prefers the word 'supplement') the haloed Russian Mi-26, the last of which is currently limping out of the Indian Air Force. The Russian machine has written itself into history by transporting heavy stuff ranging from a 25-tonne block of ice encasing a 23,000-year-old Woolly Mammoth to gargantuan railway equipment from Konkan to Kashmir.

But such is the current weight and momentum of US-India ties that the Russian workhorse has gotten eclipsed by the distinctive twin-rotor US chopper that has been part of every American march of folly from Vietnam to Iraq. Also in the chopper mix are 22 AH-64E Apache Longbow attack helicopters worth \$1.4 billion that New Delhi has contracted to buy almost simultaneously to replace the aging Mi-35, some of which Afghanistan is getting as hand-me-downs.

The 37 choppers, worth \$2.5 to \$3 billion in all — to be delivered by 2020 — bespeaks of a military relationship that was once so choppy that the very mention of US military equipment evoked images of bullying and confrontation. And there is more to come.

Today, everything from an aircraft carrier to the latest fighter jet is on the table as Washington seeks to expand its ties with a country to which it is already the largest supplier of arms, stacking up some \$13 billion in sales over the past decade. In fact, the Chinook-Apache deal with India (both choppers ironically named

after Native American tribes that Americans call 'Indians', is just a tip of the India's military equipment upgrades that will eventually cost more than \$150 billion over the next decade.

The cynical-skeptical view of this is that the American masters of war and merchants of death have finally gained a foothold in India. But the practical-realist view is that India was going to have to upgrade its military in any event given its aging equipment and the threats it faced, and the US was a strategic choice given that compulsion.

Officials on both sides emphasise that the ties are more than just about military sales. On Monday, ahead of his sortie to Philly, Parrikar was also heading out to Fort Meade in Maryland where the US Cyber Command (US CyberCom) is located -another first in the bilateral military relations. It certainly won't be the last.



Tue, 30 Aug, 2016

Air space violation by Pak aircraft?

A Pakistani aircraft reportedly violated Indian air space on Monday when it hovered over Indian Territory for a minute in the R S Pura sector in J&K, sending an alarm in the security establishment.

A Border Security Force jawan, posted near International Border in the sector, noticed the aircraft around 1.05 pm, said sources.

The Indian Air Force radars are trying to ascertain the details of the alleged air space violation. The sole eyewitness informed his seniors that he saw a small, silver colour six-wing aircraft entering the Indian airspace and flying back after one minute.

The jawan said the aircraft was clearly inside the Indian air space. The IAF was immediately informed so that its location, route and other details could be assessed, said an official.

It was not confirmed whether it was a manned aircraft or a drone. Officials are trying to ascertain whether it belonged to the Pakistan army. BSF will submit a report on the same to the ministry of home affairs.

However, government officials also said it is being investigated whether the BSF personnel's claim that the aircraft violated Indian air space was correct. According to officials, Indian and Pakistani aircraft usually fly 4-5 km from the border to avoid chances of inadvertently crossing the zero line.



Tue, 30 Aug, 2016

No plans to introduce nuclear submarines: South Korea

South Korea's Defence Ministry said on Monday it has no plans to introduce nuclear-powered submarines, despite calls by lawmakers to do so following a recent test of a submarine-launched missile by rival North Korea.

The ballistic missile travelled about 500 kilometres, the greatest distance achieved by North Korea for such a weapon. Last week's test caused jitters among many South Koreans because submarine-based missiles are harder to detect before launch than land-based ones.

A group of 21 ruling party lawmakers issued a joint statement on Sunday calling for the introduction of nuclear-powered submarines to better deal with increasing security threats from North Korea.

But the Defence Ministry said on Monday it has no such plan, without elaborating.

Acquiring nuclear submarines is a sensitive issue for South Korea because it could trigger opposition from nations such as the United States and China amid worries about a regional arms race.

After North Korea's fourth nuclear test in January, some conservative lawmakers and scholars demanded that South Korea develop its own nuclear weapons, but the government dismissed the request.

The United States, which stations about 28,500 troops in South Korea, has long said the protective "nuclear umbrella" it provides South Korea is meant to deter an attack on its ally by North Korea.

North Korea is seeking to develop nuclear-armed missiles capable of reaching the continental US. Outside experts say the country doesn't yet have such weapons.

 **जनसत्ता**

Tue, 30 Aug, 2016

आइएस के खिलाफ लड़ाई में ब्रिटेन युद्धपोत भेजेगा

लंदन, 29 अगस्त (भाषा)। इस्लामिक स्टेट के आतंकवादियों के खिलाफ संयुक्त अभियानों में शामिल होने के लिए ब्रिटेन अपनी नौसेना का एक जंगी जहाज खाड़ी भेजेगा।

ब्रिटेन के रक्षा मंत्री माइकल फैलन ने सोमवार को कहा कि शुक्रवार को एचएमएस डेयरिंग को आइएस के खिलाफ अभियान चला रहे अमेरिकी विमान वाहकों की मदद के लिए भेजा जाएगा। फैलन ने कहा कि यूरोप में सबसे बड़े रक्षा बजट और नाटो में दूसरा सबसे बड़ा सहयोगी होने के नाते

हमारे सशस्त्र बल विश्वभर में योगदान दे रहे हैं। बीबीसी के अनुसार बीएई सिस्टम्स का बनाया गया विध्वंसक और इसके चालक दल के 190 सदस्य ठीक उसी तरह की भूमिका निभाएंगे जैसी एचएमएस डिफेंडर ने जुलाई में ब्रिटेन लौटने से पहले निभाई थी। यह ब्रिटिश पोत अमेरिकी विमानवाहक पोतों को हवाई रक्षा कवर उपलब्ध कराएगा। अमेरिका के विमानवाहक पोत इराक और सीरिया में हमलों के लिए विमान खाना करते हैं।

The Statesman
PEOPLE'S PARLIAMENT, ALWAYS IN SESSION

Tue, 30 Aug, 2016

Iran deploys S-300 air defense around nuclear site

Iran has begun deploying a Russian made S-300 air defense system around its underground Fordo nuclear facility, state TV reported. Video footage posted at late Sunday on state TV's website showed trucks arriving at the site and missile launchers being aimed skyward. It did not say whether the system was fully operational. The large, underground facility is located in some 100 kilometres south of the capital, Tehran. Russia began delivering the S-300 system to Iran earlier this year under a contract signed in 2007. The delivery had been held up by international sanctions over Iran's nuclear programme, which were lifted this year under an agreement with world powers.

"S-300 air defence system is a defensive instrument, not offensive," Iran's Supreme Leader Ayatollah Ali Khamenei said earlier on Sunday. "But the Americans applied all their efforts for Iran not to have it."

The Fordo site, built at a depth of 90 metres below a mountain, was revealed by Western nations in 2009.

Critics of Iran's nuclear programme pointed to Fordo as further proof of Tehran's intention to secretly develop nuclear weapons. Iran insists it has never sought nuclear arms, and says the security around the site is intended to protect it from the US or Israeli airstrikes. Neither country has ruled out a military strike on Iran's nuclear facilities.

Iran halted nuclear enrichment at Fordo under the landmark nuclear agreement and says the facility is now being used for research and the production of medical isotopes. On Monday, Iran inaugurated a new radar system which it says is capable of detecting radar-evading aircraft like the US-made U-2, RQ-4 and MQ-1, state TV reported. It said the Nazir system is located in the heart of desert of Iran and is capable of detecting ballistic and cruise missiles, as well as drones flying at an altitude of over 3,000 metres.



Tue, 30 Aug, 2016

Pocket-Friendly Rockets

ISRO's 'scramjet' engine is a big achievement

The successful testing of the 'scramjet engine' by the Indian Space Research Organisation (ISRO) on Sunday at Sriharikota is undoubtedly a rare and remarkable achievement for the entire scientific community of the country. The test has helped India joining the elite club of other nations like America, Russia, Japan, China and Europe which are already in the league. It is a testimony that our space scientists have acquired world class skills that can make both space and intercontinental transportation much cheaper than the existing ones.

Though the development of the actual scramjet engine may take decades for bringing it into the field for application, yet the successful experiment rightly showcased that the nation can develop such crucial and complex technology as K Sivan, the director of the Vikram Sarabhai Space Centre argues. Apart from its technical advancements, the scramjet can boost economic fortunes of an emerging nation like India which is constantly vying for global connectivity to upscale its developmental efforts in the years to come.

Scramjet engines were first test fired by the National Aeronautics and Space Administration (NASA) in 2004, the Japan Aerospace Exploration Agency in 2006 and China in 2015. This shows how the scramjet is fast becoming an alternative tool for replacing the conventional rocket engines which is highly expensive at the moment. A scramjet engine unlike the conventional ones which carry fuels like hydrogen and oxygen for propelling a rocket will operate with liquid hydrogen and takes oxygen from the atmosphere only.

It helps the hypersonic engine to reach supersonic speed to burn the fuel for propulsion of the rockets, missiles and space planes in future once it is fully developed. Such engines may help reducing the weight of the rockets by half, enhancing its efficiency, while cutting down the exorbitant cost that is currently incurred and enable carrying heavier payload. ISRO has no immediate plan to space plane, but it is attempting to integrate the scramjet with a reusable launch vehicle which is under process at the moment.

This will open a slew of opportunities for numerous application of the hypersonic engine. It must be noted that this engine is not going to replace the cryogenic engines that are in use, but it can be used as a supplement. Also an in-depth research is on at the ISRO for designing and developing a new vehicle as the scramjet engine cannot be put into use in the existing launch vehicles. Hope, 'air breathing', the very philosophy of the scramjet engine that lessens the amount of oxidiser to be carried along with the fuel, may well make the space launching much cheaper and expanding it to the commercial air space will definitely do miracle for sure.

Tue, 30 Aug, 2016

Rosetta space probe captures comet outburst

Berlin: European Space Agency's Rosetta space probe has unexpectedly captured a dramatic comet outburst that may have been triggered by a landslide. Nine of Rosetta's instruments, including its cameras, dust collectors, and gas and plasma analysers, were monitoring the comet from about 35 km in a co-ordinated planned sequence when the outburst happened on February 19 this year. "Over the last year, Rosetta has shown that although activity can be prolonged, when it comes to outbursts, the timing is highly unpredictable, so catching an event like this was pure luck," said Matt Taylor, ESA's Rosetta project scientist.

"By happy coincidence, we were pointing the majority of instruments at the comet at this time, and having these simultaneous measurements provides us with the most complete set of data on an outburst ever collected," said Taylor. The data were sent to earth only a few days after the outburst. Subsequent analysis has allowed a clear chain of events to be reconstructed.

A strong brightening of the comet's dusty coma was seen by the OSIRIS (Optical, Spectroscopic, and Infrared Remote Imaging System) wide-angle camera, developing in a region of the comet that was initially in shadow. Rosetta recorded outburst signatures that exceeded background levels in some instruments by factors of up to a hundred. For example, the ultraviolet brightness of the sunlight reflected by the nucleus and the emitted dust increased by a factor of six, while a significant increase in gas and plasma were also detected around the spacecraft.

MIRO (Microwave Instrument for the Rosetta Orbiter) recorded a 30 degrees Celsius rise in temperature of the surrounding gas. Rosetta was also blasted by dust. Almost 200 particles were detected in three hours during the outburst, compared with a typical rate of 3-10 collected on other days in the same month.

The startrackers, which are used to navigate and help control Rosetta's attitude, measured an increase in light scattered from dust particles as a result of the outburst.

Tue, 30 Aug, 2016

'Monotony was hardest part of Mars isolation experiment'

Team spends a year inside dome on a remote site in Hawaii for a NASA test

Six people who were isolated on a remote site in Hawaii for one year to help NASA plan for a mission to Mars emerged from their dome Sunday, happy to breathe fresh air and meet new people.

The team was based on the barren northern slope of the Mauna Loa volcano, and spent their time inside a dome 36 feet in diameter and 20 feet tall.

The experiment shows that "a mission to Mars in the close future is realistic," said French astrobiologist Cyprien Verseux in a Periscope interview by organisers posted on Twitter. "The technical and psychological problems can be overcome," he said. Video footage of the team as they emerged shows the three men and three women looking a bit bewildered as they met and posed for selfies with visitors and well-wishers. Organisers gave them fresh fruit and vegetables.

The most challenging aspect of the experiment was the monotony — we were always in the same place, always with the same people,” Mr. Verseux said.

His advice to new volunteers on a similar isolation experiment: “Bring books.”

Another mission member, American Tristan Bassingthwaite, agreed, urging future participants to bring “lots of books.”

Mr. Bassingthwaite said that team members engaged in hobbies such as salsa dancing and playing the ukelele to stave off the boredom. “If you can work on something that is self developmental...you will not go crazy,” he said.

Team members could venture outside only in spacesuits, and Mr. Bassingthwaite said that the “astronauts” removed a vast amount of garbage from the flanks of the volcano in their excursions.

Quest for water - Christiane Heinicke from Germany said that her main experiment was extracting water from the ground — and the volcanic soil on Mauna Loa is very similar in mineral composition to the Martian soil.

“You can actually get water from a ground that is seemingly dry,” she told the organisers in a video also on Periscope. “The implication is that you could get water from Mars.”

The crew also included a pilot, a doctor/journalist and a soil scientist. The dome was located in an abandoned quarry far from animals and vegetation. The team locked themselves in on August 28, 2015.

The men and women had their own small rooms, with space for a sleeping cot and desk, and spent their days eating food like powdered cheese and canned tuna.

The dome had composting toilets and showers, and was powered by solar energy. Team members had limited Internet access.

NASA can currently send a robot to the Red Planet in eight months, but astronauts travelling to Mars face a trip lasting between one and three years.

Volunteers sought - NASA is studying how these long-term isolation scenarios play out on Earth — in a program called Hawaii Space Exploration Analog and Simulation (HI-SEAS) — before pressing on toward Mars, which the U.S. space agency hopes to reach sometime in the 2030s.

The first HI-SEAS experiment involved studies about cooking on Mars and was followed by a four-month and an eight-month cohabitation mission. Two more HI-SEAS missions are planned starting in January 2017 and 2018. Both are scheduled to last eight months, and organisers are already looking for volunteers.



Tue, 30 Aug, 2016

Anti-leprosy drug can enhance BCG vaccine efficacy

Indian researchers have been able to bring about more than 50-fold improvement in the efficacy of the commonly used TB vaccine — Bacillus Calmette Guerin (BCG) — by giving mice the anti-leprosy drug (clofazimine) for a month along with a dose of the vaccine. The duration of protection lasted till the end of the trial protocol period of 120 days. Results were published on August 29 in *The Journal of Infectious Diseases*.

“Mice vaccinated with BCG will remain equally protected if just two doses of anti-leprosy drug are given on the day of vaccination and on day seven. This is because the drug has a long half-life of 28 days in mice,” says Prof.

Gobardhan Das, the corresponding author of the paper from the Special Centre for Molecular Medicine, Jawaharlal Nehru University, Delhi. To test the efficacy of the novel strategy, the BCG-vaccinated mice that

were co-treated with anti-leprosy drugs for a month were exposed to TB bacteria. At the end of 60 days after infection, the bacterial load was more than 50 times lesser in mice that got the vaccine and the drug compared with mice that got only the vaccine, says Dhiraj Kumar Singh, a co-author of the paper from JNU.

Long-lasting memory cells

The BCG vaccine efficacy is critically dependent on the generation of long-lasting memory cells called the central memory T (T_{cm}) cells. The T_{cm} cells generate effector memory T (T_{em}) cells that kill the TB bacteria.

Though effective in children, the vaccine's efficacy diminishes with time, particularly in TB endemic regions. This is because people in TB endemic countries are continuously exposed to TB bacteria. With regular exposure to TB bacteria, T_{em} cells that fight the bacteria get used up and the pool of T_{cm} cells that get converted to T_{em} cells eventually get exhausted, thereby rendering the host vulnerable to TB infection, explains Mr. Singh.

If the T_{cm} cells are much higher in number to start with then they can convert to T_{em} cells for a longer period and produce a much rapid and stronger response against TB bacteria and protect the individual from TB infection for an extended period. This is precisely what the team led by Prof. Das achieved.

The researchers nearly doubled the size of T_{cm} cell pool by administering anti-leprosy drug (5 mg/kg body weight) to mice already vaccinated with BCG.

Initially after vaccination both T_{cm} and T_{em} cells are produced. Because we don't want T_{em} cells, we try to make most of the cells into T_{cm} cells.

This is achieved by administering the anti-leprosy drug on the same day of BCG vaccination. Since the drug blocks the potassium channel of T_{em} cells, the production of T_{em} cells is slowed down or inhibited and the cells are pushed to become T_{cm} cells. This leads to an increase in T_{cm} pool, says Prof. Das.



Tue, 30 Aug, 2016

Job test 'leaked', IAF orders probe

By Deepkamal Kaur

In what apparently seems to be a case of paper leak, 14 of the 100 questions for the Air Force Common Admission Test (AFCAT), conducted yesterday for short service commission in the Indian Air Force, allegedly appeared on the Internet at least 25 minutes prior to the commencement of the first shift of the test at 9 am. The Indian Air Force has ordered a probe into the incident.

A B. Tech student from Jalandhar, who appeared for the test in Amritsar, said he was checking the answer key for the paper last night when he stumbled upon a website that showed conversation among candidates leaking and discussing the paper online at 8.35 am yesterday, while the exam was to start at 9 am.

I was shocked to see those questions in both sets. Later, I decided to highlight the matter in the media, said the candidate's father pleading anonymity.

Three-mark questions were repeated in a different order for the afternoon paper starting at 1 pm, which gave candidates four hours and 25 minutes to prepare. Around 7 lakh students took the test across the country for getting entry into flying, technical and ground duty branches.

The hints

- The 14 questions leaked by a person with an identity “tk” came in short hints as: “Book of Sharad Pawar, shooting 50 m rifle, highest civil award of Australia, lifetime achievement in cricket, environmental conference, Hyder Ali won with British, fundamental right part-3, Commonwealth Game 2018 Australia, solar eclipse, Mirage 2000, Piku-Deepika, IRNSS satellite, Goswami Ashoka Chakra and acid rain.”

Some questions in the test

- The book “On My Terms: From the Grassroots to the Corridors of Power” is the autobiography of? (Sharad Pawar is an option in the answer)
- Indian ruler who defeated British in early stage of their rule in India was? (Hyder Ali is an option in the answer)
- Fundamental Rights are enshrined in the Constitution of India in which part? (Part 3 is one of the options in the answer)
- Deepika Padukone has received Filmfare award 2016 for the Best Actress in the movie? (Piku is an option in the answer)...

The conversation that followed

- As “tk” leaked the paper, another person with an identity “Rohit Sindhu” responded with a message at 10.05 am, “Dear Tapendra, thanks for sharing, we appreciate your efforts”.
- Then the criticism begins, “How the hell did u get hold of these questions man? The paper was held after 9 am and u had posted here by 8.30 am”.
- The discussion goes on till next day with a message appearing, “How is this possible? This should be reported to media! Paper leaked”.