

CONTENTS

S. No.	TITLE	Page No.
DRDO News		1-2
DRDO Technology News		1-2
1.	DRDO Hands over First Batch of Indigenous Leading Edge Actuators & Airbrake Control Module to HAL for LCA Tejas Mk1A	<i>Press Information Bureau</i> 1
2.	DRDO ने HAL को सौंपा तेजस MK-1A का एयर ब्रेक कंट्रोल मॉड्यूल	<i>TV 9 भारतवर्ष</i> 1
Defence News		2-12
Defence Strategic: National/International		2-12
3.	CDS Gen Anil Chauhan Embarks on an Official Visit to France	<i>Press Information Bureau</i> 2
4.	Indian Navy Conducts Exercise Poorvi Lehar on the East Coast	<i>Press Information Bureau</i> 3
5.	Traditional Boundaries of Land, Sea, Air, Cyber and Space Domains Getting Blurred, Says IAF Chief	<i>Deccan Herald</i> 4
6.	Army is Moving on with a Rs 6800 Crore Desi Shoulder-fired Missile Project for the Borders of China and Pakistan	<i>The Economic Times</i> 5
7.	Army Developing Missile Systems to Counter Threats along China, Pakistan Borders	<i>India Today</i> 6
8.	Israel-Iran Attacks Show India Needs Greater Thrust on Multi-layered Air & Missile Defence Systems	<i>The Times of India</i> 7
9.	India Delivers First Batch of BrahMos to Philippines	<i>The Hindu</i> 8
10.	India is a Top-tier Security Partner, Says Australia's New National Defence Strategy	<i>The Hindu</i> 9
11.	From Oil Rigs to Military Fortresses: US Navy's Innovative Defence Solution	<i>The Economic Times</i> 10
12.	Ukraine Needs at least Seven Patriot Air Defence Systems, Zelenskiy Tells NATO	<i>The Print</i> 11
Science & Technology News		12-14
13.	Will India's Aditya L-1 Mission Throw Light on Solar Eclipse? ISRO Chief Says...	<i>NDTV</i> 12
14.	NASA Shares Stunning Photo of Jupiter's Hellish Moon Io, Snapped by Juno Mission Spacecraft	<i>Hindustan Times</i> 13



**Press Information Bureau
Government of India**

Ministry of Defence

Fri, 19 Apr 2024

DRDO Hands over First Batch of Indigenous Leading Edge Actuators & Airbrake Control Module to HAL for LCA Tejas Mk1A

DRDO's Aeronautical Development Agency (ADA) has handed over the first batch of the indigenous Leading Edge Actuators and Airbrake Control Module to Hindustan Aeronautics Limited (HAL), marking a significant leap towards self-reliance in aeronautical technologies. The HAL, Lucknow has already made preparations for the production of these units for the current 83 LCA Tejas Mk1A order. The Secondary Flight Control of LCA-Tejas, comprising Leading Edge Slats and Airbrakes, now boasts state-of-the-art Servo-Valve based electro-hydraulic servo actuators and control modules. These high pressure, redundant servo actuators and control module, characterised by astute design, precision manufacturing, assembly, and testing, represent a culmination of ADA's relentless pursuit of indigenous technological prowess.

Collaborating with Research Centre Imarat (RCI), Hyderabad, and Central Manufacturing Technology Institute (CMTI), Bengaluru, ADA plans to achieve self-reliance in these technologies. The successful completion of flight trials for Leading Edge Actuators and Airbrake Control Modules has paved the way for production clearance, enabling HAL to gear up for equipping the Mk-1A variant of LCA Tejas. The production of these critical components is underway at the Accessories Division, HAL, Lucknow, marking a significant stride towards bolstering India's aerospace manufacturing capabilities. Noteworthy contributions from public and private industries, including Godrej Aerospace, Mumbai, alongside certification agencies such as CEMILAC and DGAQA, have been instrumental in this endeavor. Secretary, Department of Defence R&D and Chairman, DRDO and DG-ADA congratulated the entire team of ADA, RCI, HAL, CMTI and all participating industries for achieving this significant milestone.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2018282>



Sat, 20 Apr 2024

DRDO ने HAL को सौंपा तेजस MK-1A का एयर ब्रेक कंट्रोल मॉड्यूल

डीआरडीओ की एयरोनॉटिकल डेवलपमेंट एजेंसी ने एलसीए तेजस एमके-1ए के लिए स्वदेशी लीडिंग एज एक्चुएटर्स और एयरब्रेक कंट्रोल मॉड्यूल का पहला बैच हिंदुस्तान एयरोनॉटिक्स लिमिटेड (एचएएल) को सौंप दिया

है. इसे एयरोनॉटिकल टेक्नोलॉजी में आत्मनिर्भरता की दिशा में एक महत्वपूर्ण छलांग है. एचएएल, लखनऊ ने मौजूदा 83 एलसीए तेजस एमके-1 ए ऑर्डर के लिए इन युनिट्स के प्रोडक्शन की तैयारी पहले ही कर ली है.

एलसीए-तेजस का सेकेंडरी फ्लाइट कंट्रोल, जिसमें लीडिंग एज स्ट्रैटस और एयरब्रेक शामिल हैं, अब अत्याधुनिक सर्वो-वाल्व आधारित इलेक्ट्रो-हाइड्रोलिक सर्वो एक्चुएटर्स और कंट्रोल मॉड्यूल का दावा करता है. ये हाई प्रेशर, निरर्थक सर्वो एक्चुएटर्स और नियंत्रण मॉड्यूल, जो अद्भुत डिजाइन, सटीक मैनुफैक्चरिंग, असेंबली और टेस्ट की विशेषता रखते हैं. स्वदेशी तकनीकी कौशल की एडीए की निरंतर खोज की परिणति का प्रतिनिधित्व करते हैं.

आत्मनिर्भरता हासिल करने की योजना

हैदराबाद और सेंट्रल मैनुफैक्चरिंग टेक्नोलॉजी इंस्टीट्यूट (सीएमटीआई), बंगलुरु के साथ सहयोग करके, एडीए इन टेक्नोलॉजी में आत्मनिर्भरता हासिल करने की योजना बना रहा है. लीडिंग एज एक्चुएटर्स और एयरब्रेक कंट्रोल मॉड्यूल के लिए उड़ान परीक्षणों के सफल समापन ने उत्पादन मंजूरी का मार्ग प्रशस्त कर दिया है. इससे एचएएल एलसीए तेजस के एमके-1 ए वर्जन को लैस करने के लिए तैयार हो गया है.

प्रोडक्शन एक्सेसरीज डिवीजन

इन महत्वपूर्ण घटकों का प्रोडक्शन एक्सेसरीज डिवीजन, एचएएल, लखनऊ में चल रहा है, जो भारत की एयरोस्पेस मैनुफैक्चरिंग क्षमताओं को बढ़ाने की दिशा में एक महत्वपूर्ण प्रगति है. इस प्रयास में CEMILAC और DGAQA जैसी सर्टिफिकेशन एजेंसियों के साथ-साथ गोदरेज एयरोस्पेस, मुंबई सहित सार्वजनिक और निजी उद्योगों का उल्लेखनीय योगदान रहा है. सचिव, रक्षा अनुसंधान एवं विकास विभाग और अध्यक्ष, डीआरडीओ और डीजी-एडीए ने इस महत्वपूर्ण उपलब्धि को हासिल करने के लिए एडीए, आरसीआई, एचएएल, सीएमटीआई और सभी भाग लेने वाले उद्योगों की पूरी टीम को बधाई दी.

<https://www.tv9hindi.com/india/drdo-hands-over-air-brake-control-module-of-tejas-mk1a-to-hal-2560912.html>

Defence News

Defence Strategic: National/International



Press Information Bureau
Government of India

Ministry of Defence

Sun, 21 Apr 2024

CDS Gen Anil Chauhan Embarks on an Official Visit to France

Chief of Defence Staff (CDS) General Anil Chauhan has proceeded on an official visit to France. The visit is aimed to further reinforce the robust defence ties between the two nations, which have gained considerable momentum in the last few years.

During his visit, General Anil Chauhan is scheduled to interact with the senior civil and military leadership of France, including his counterpart the French CDS (CEMA), General Thierry Burkhard, Director IHEDN (National Institute for Higher Defence Studies), and Director General Armament.

General Anil Chauhan will visit the French Space Command, the Land Forces Command and address student officers of the Army and Joint Staff Course at Ecole Militaire (School of Military). He is scheduled to visit and interact with a few reputed defence industries in France, including Safran Group, Naval Group, and Dassault Aviation.

The CDS will also visit the Neuve-Chappelle Memorial and the Indian Memorial at Villers-Guislain and lay a wreath in honour of the brave Indian soldiers, who made the supreme sacrifice during the First World War.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2018390>



Press Information Bureau
Government of India

Ministry of Defence

Sat, 20 Apr 2024

Indian Navy Conducts Exercise Poorvi Lehar on the East Coast

Indian Navy conducted Exercise Poorvi Lehar on East Coast under the Operational Control of The Flag Officer Commanding-in-Chief, Eastern Naval Command. The exercise aimed at validation of procedures towards assessment of Indian Navy's preparedness to meet Maritime Security challenges in the region.

The exercise witnessed participation of Ships, Submarines, Aircrafts and Special Forces. XPOL was conducted in multiple phases including combat training in a realistic scenario during the Tactical Phase and successful conduct of various firings during the Weapon Phase towards reaffirming Indian Navy's capability to deliver ordnance on target. With operation of aircraft from diverse locations, a near continuous Maritime Domain Awareness was maintained throughout the Area of operations. In addition to the participation of assets from Eastern Naval Command, the exercise also witnessed participation of assets from IAF, Andaman & Nicobar Command and Coast Guard indicating a very high degree of interoperability amongst the Services.

The Exercise offered valuable lessons to participating forces operating under realistic conditions, thereby enhancing their readiness to respond effectively to maritime challenges in the region.

The successful conclusion of XPOL 2024, reaffirms Indian Navy's resolve to meet growing security challenges in the maritime domain.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2018336>

Traditional Boundaries of Land, Sea, Air, Cyber and Space Domains Getting Blurred, Says IAF Chief

Chief of Indian Air Force (IAF), Air Chief Marshal V R Chaudhari has said that the traditional boundaries of the land, sea, air, cyber and space domains are increasingly becoming "blurred", bringing about a "paradigm shift" in war fighting.

In a recorded video address that was played at the inaugural session of the three-day Indian Defence Space Symposium here on Friday, the IAF chief also said in order to "maintain our strategic autonomy", capabilities must be developed that would be necessary to "defend our interests in space".

In his address, the air chief marshal underlined that with a massive surge of new technologies and opening up of space to private players, there is a "disruption in the established scheme of things".

"New possibilities based on audacious financing are introducing new perspectives for innovative solutions and low-cost access to outer space," he said.

However, with these new possibilities, "new threats" are also coming to the fore, the IAF chief added.

"We are seeing the democratisation of space with increased private sector involvement. Civilian space travel, a dream 25 years ago, is a reality today," he said.

Domain experts, senior officials from the armed forces and representatives of the space sector industry are taking part in the symposium that is being held from April 18 to April 20 at the Manekshaw Centre here.

"With growing exploitation of space by private players and the military, space has definitely become the ultimate high ground," he said.

"The traditional boundaries of the land, sea, air, cyber and space domains are increasingly becoming blurred, bringing about a paradigm shift in war fighting. I feel, in order for us to maintain our strategic autonomy, we must develop capabilities that would be necessary to defend our interests in space and guarantee not only the freedom of access but also the freedom of action," he asserted.

The IAF chief said to "achieve our full potential in space", there is a requirement for greater public-private participation and interaction among all the stakeholders, including the armed forces.

While the National Space Policy 2023 is in the "right direction" and will give a definitive impetus to "aatmanirbharata" (self-reliance), "we will need to work together and create a robust, thriving and vibrant space ecosystem in India," Air Chief Marshal Chaudhari said.

<https://www.deccanherald.com/india/traditional-boundaries-of-land-sea-air-cyber-and-space-domains-getting-blurred-says-iaf-chief-2986336>

Army is Moving on with a Rs 6800 Crore Desi Shoulder-fired Missile Project for the Borders of China and Pakistan

The Indian Army is advancing two cases totaling more than Rs 6,800 crore for the development of Very Short Range Air Defence Systems domestically in light of a scarcity of shoulder-fired missiles to counter aerial threats on borders with China and Pakistan.

The Army intends to construct and purchase more than 500 launchers and around 3000 missiles using domestic suppliers. In the meantime, given the delays in finding a replacement for the outdated Igla-1M missiles, the Indian Army and other interested parties are considering the idea of reviving an earlier tender in which the Russian Igla-S was chosen. According to representatives of the Defense Ministry, the Igla 1M VSHORAD missile system was introduced in 1989 and was scheduled for de-induction in 2013. The present VSHORAD missiles in the inventory of the Indian Army and Indian Air Force are all equipped with IR homing guidance systems.

"At present, there is a Rs 4800 crore project in which a public sector unit headquartered in Hyderabad and a private sector Pune-based firm have been engaged for developing a laser beam riding VSHORADS which would be used by the forces to protect the borders to provide protection from enemy drones, fighter aircraft and choppers," defence forces' officials told ANI.

The Indian Army, which is the project's primary user and will get the majority of the project's 1200 missiles and 200 launchers, will lead the development of these weapons for the Indian Air Force and Army. It is anticipated that it will receive 700 of the 1200 missiles that are intended to be included in the project; the remainder will go to the IAF. According to them, the two companies are required by the Defence Acquisition Procedure's Indian Designed, Developed, and Manufactured provision to create the system's prototype. Industry sources have, however, reported that this program's progress has not been very encouraging. The Design and Development project, which is being carried out by the DRDO to create an infra-red homing-based VSHORADS, is another initiative that is being advanced. AdDefence and I-Comm, two of the DRDO's development and production partners, are collaborating with the former to create Laser Beam Riding Vessels. According to the officials, the DRDO has tested the system using a tripod, and they are now anticipated to reduce the system's size so that it may be launched from the shoulder.

Meanwhile, the Indian Army and Air Force purchased about 96 Russian Igla launchers under its Emergency Procurement powers. Of these, 48 have already arrived as part of the first batch of purchases placed under EP-1, and the remaining 48 are scheduled to come soon. A proposal to resurrect the contract, which was abandoned more than five years ago, has also been made in the interim. In that deal, the Russian side was the lowest bidder, offering its Igla-S system.

Meetings amongst project stakeholders are anticipated shortly to discuss how to implement the project under the 'Make in India' initiative. The Defence Ministry canceled a project that was estimated to be valued about Rs 4,800 crore.

According to representatives of the Defense Ministry, the value and adaptability of "VSHORAD missiles have been regularly proven in battle, including the recent Russia-Ukraine conflict." The Indian military has been moving forward with replacing their antiquated VSHORADS system.

<https://economictimes.indiatimes.com/news/defence/army-progressing-rs-6800-cr-desi-shoulder-fired-missile-projects-for-china-pakistan-borders/articleshow/109478842.cms>

Army Developing Missile Systems to Counter Threats along China, Pakistan Borders

The Indian Army, in a bid to enhance the country's defence capabilities against threats from enemy drones and fighter jets, is working on two crucial projects to develop indigenous shoulder-fired air defence missile systems.

These initiatives are meant to bolster the armed forces' readiness to counter potential threats along the borders with both China and Pakistan by providing 350 launchers and around 2,000 missiles to the troops from both the Army and Air Force.

According to defence officials, the first project focuses on the development of a highly effective laser beam riding Very Short Range Air Defence System (VSHORADS). This project involves collaboration between a defence Public Sector Undertaking (PSU) based in Hyderabad and a private sector company from Maharashtra.

Both entities have received project sanctioned orders to develop prototypes domestically, signalling a significant stride towards self-reliance in defence technology. While the project is currently underway, officials have expressed optimism about the progress achieved so far, citing it as highly encouraging.

The second project is being undertaken by the Defence Research and Development Organisation (DRDO) in collaboration with selected partners, including Adani Defence and I-Comm Engineering Limited, a Hyderabad-based firm.

The DRDO system, initially developed as a tripod-based system for targeting airborne threats, is now being adapted to enable soldiers to launch missiles from their shoulders, sources familiar with the development told India Today TV.

India's pursuit of indigenous shoulder-fired missile systems dates back to 2009, with efforts focused on replacing and augmenting the existing inventory, primarily comprising Russian Igla-1M missiles.

Despite previous attempts to find a suitable replacement through tender processes, including the procurement of the Igla-S system from Russia, the project faced setbacks and was subsequently discontinued. However, there are plans to revive the project under the Make in India initiative, with discussions among relevant officials expected to take place soon.

Indian forces have received over 48 launchers from Russia under emergency procurement measures, with an additional 48 launchers anticipated in the near future. However, the overall requirement of the armed forces exceeds 500 launchers, underscoring the urgency and importance of indigenous development initiatives in bolstering India's defense capabilities.

<https://www.indiatoday.in/india/story/india-army-developing-air-defence-missile-protect-borders-pakistan-china-2529904-2024-04-21>

Israel-Iran Attacks Show India Needs Greater Thrust on Multi-layered Air & Missile Defence Systems

Missile defence is technically complex and very expensive. It's virtually like firing a bullet to stop an incoming bullet. But with the sheer operational criticality of air and missile defence systems being reinforced by the tit-for-tat attacks between Israel and Iran, India needs to majorly crank up efforts to make its airspace as impregnable as possible.

India has taken some strides in the arena but much more clearly needs to be done for an effective multi-layered integrated air and missile defence shield, with an overlapping network of early-warning and tracking sensors, reliable command and control posts, land and sea-based batteries of advanced interceptor missiles.

Unlike India, Israel of course has only a small territory to defend. And it did so effectively on April 13, thwarting Iran's mass missile and kamikaze drone attack with its wide array of defence systems, from the short-range Iron Dome to long-range Arrow, as well as help from some others like the US.

India's air defence systems are geared towards protecting only some vital areas and installations. "India is simply too vast to be effectively protected from all kinds of aerial threats. But yes, apart from buying bullets, we need to invest much more in bulletproof jackets as well. Missile defence is now an overwhelming tactical necessity rather than a strategic one," a senior officer said.

For one, India needs to get cracking on operationally deploying its indigenous two-tier ballistic missile defence (BMD), which as per DRDO is designed to track and destroy nuclear and other ballistic missiles both inside (endo) and outside (exo) the earth's atmosphere at altitudes from 15-25 km to 80-100 km for "a higher kill probability".

After "successfully completing" a series of tests for Phase-1 of the land-based BMD system quite a while ago, the DRDO also conducted the maiden flight-trial of a sea-based interceptor missile in April last year.

The government, however, has so far not sanctioned full-scale deployment of the BMD system at any vital location. This could be due to the exorbitant costs involved or a few technological gaps, or even strategic calculations that it may provoke Pakistan to go in for a larger nuclear arsenal and countermeasures to defeat the BMD system, as reported by TOI earlier.

IAF, of course, now has three squadrons of Russian S-400 Triumf surface-to-air missile systems, which can detect, track and destroy incoming strategic bombers, jets, spy planes, drones and even some intermediate-range ballistic missiles at a range of 380-km. They are deployed in north-west and east India to cater for both China and Pakistan.

Delivery of the remaining two S-400 squadrons, under the \$5.43 billion contract inked in 2018, has been delayed to 2025-26 due to the ongoing Russia-Ukraine war.

Parallely, India is developing its own long-range surface-to-air missile (LR-SAM) system under the ambitious Project Kusha. With an interception range of around 350-km, this air defence system should be ready by 2028-29.

Then, there is the Barak-8 medium range surface-to-air missile (MR-SAM) systems, with an over 70-km range, jointly developed with Israel. After the Navy and IAF, Army in Feb last year

operationalized its first 'Abhra' MR-SAM regiment in the 33 Corps, which defends the frontier with China in Sikkim and the Siliguri Corridor.

Army and IAF have also inducted the indigenous Akash air defence missile systems, with an interception range of 25-km, while a new-generation sleeker version is also now ready for user trials.

The armed forces also have a variety of shorter range air defence weapons. These range from the older Russian Igla-1M (5-km), OSA-AK-M (10-km) and Pechora missiles and upgraded L-70 anti-aircraft guns (3.5-km) to the newer Israeli low-level Spyder quick-reaction anti-aircraft missiles (15-km range) and Russian man-portable Igla-S (6-km) systems. DRDO is also testing the indigenous very short-range air defence system (VSHORADS) missiles, which has a range of up to 6-km.

<https://timesofindia.indiatimes.com/india/israel-iran-attacks-show-india-needs-stronger-air-and-missile-defence-systems/articleshow/109448246.cms>



Fri, 19 Apr 2024

India Delivers First Batch of BrahMos to Philippines

India delivered the first batch of BrahMos supersonic cruise missiles to Philippines on Friday. In January 2022, Philippines concluded a \$375-million deal with India for three batteries of shore-based, anti-ship variant of the BrahMos becoming the first export customer for the joint venture missile between India and Russia.

The first batch was delivered onboard transport aircraft of the Indian Air Force which landed in Philippines on Friday afternoon. Specifics of the delivery made were not immediately available. Philippines is acquiring the systems under the Horizon 2 of the Revised Armed Forces of the Philippines Modernization Programme.

The delivery comes amid the showdown between Philippines and China in the South China Sea which has been ongoing for the last few months and will significantly augment the defensive posture of the Philippines armed forces once the systems are operationalised.

During his visit to Philippines in March, External Affairs Minister S. Jaishankar in a meeting with the Secretary of National Defence of Philippines Gilberto C. Teodoro, Jr. reaffirmed India's commitment to upholding a rules-based international order and promoting peace and security in the Indo-Pacific region. "During the high-level meeting, Secretary Teodoro welcomed India's unwavering support for the Philippines' position on the West Philippine Sea/South China Sea issue," the Philippines Ministry of the armed forces said in a statement.

In January 2022, then Philippines Defence Secretary Delfin N. Lorenzana, who signed the contract, had said, "As the world's fastest supersonic cruise missiles, the BrahMos missiles will provide deterrence against any attempt to undermine our sovereignty and sovereign rights, especially in the West Philippine Sea."

The contract includes the delivery of three missile batteries, training for operators and maintainers as well as the necessary Integrated Logistics Support package. The coastal defence regiment of the Philippine Marines will be the primary user of the missile systems. From January 23 to February 11, 2023, 21 Philippine Navy personnel were trained in the operations and maintenance of the

systems in Nagpur and were awarded interim missile badges by Indian Navy Chief Admiral R. Hari Kumar after they completed the operator training.

As reported earlier, several countries have expressed interest in acquiring BrahMos systems and discussions are in advanced stages with Indonesia and Thailand among others.

BrahMos is a joint venture between DRDO and Russia's NPO Mashinostroyeniya and the missile derives its name from Brahmaputra and Moskva rivers. The missile is capable of being launched from land, sea, sub-sea and air against surface and sea-based targets and has been long inducted by the Indian armed forces.

The range of the missile was originally capped at 290km as per obligations of the Missile Technology Control Regime. Following India's entry into the club in June 2016, the range has been extended to 450km and work is on to extend it to 600km and beyond.

<https://www.thehindu.com/news/national/india-delivers-first-batch-of-brahmos-to-philippines/article68084161.ece>



Sun, 21 Apr 2024

India is a Top-tier Security Partner, Says Australia's New National Defence Strategy

India is a top-tier security partner for Australia, stated its new National Defence Strategy (NDS) 2024 released last week and through the Comprehensive Strategic Partnership between Australia and India, the government is continuing to prioritise practical and tangible cooperation that directly contributes to Indo-Pacific stability.

“Australia will continue to support India's key role in the region by increasing the depth and complexity of our defence cooperation. The government will continue to seek opportunities with India to drive practical bilateral and multilateral cooperation, defence industry cooperation and information sharing,” the NDS released on April 17 said.

The 2024 Integrated Investment Programme (IIP) was also released which sets out the specific defence capabilities Australia will invest in to give effect to the NDS. As per this, the Albanese government has allocated \$330 billion for the IIP over the decade to 2033-34. Adding other commitments announced, the defence funding as a proportion of Gross Domestic Product is projected to rise to around 2.4% by 2033-34 — up to 0.3% higher than the spending trajectory set by the former government, a statement from the Australian government said.

India is a “top tier” security partner for Australia, Australian envoy in India Philip Green said on social media ‘X’. “Under the 2024 National Defence Strategy, Australia will support India's role in our region and seek to drive practical bilateral and multilateral cooperation, defence industry opportunities and information sharing.”

Australia will also invest in deepening our defence relationships with partners across Southeast Asia and the Pacific, as well as in the Indian Ocean and North Asia regions, the NDS said. “This includes continuing to expand our partnerships with Japan and India. Australia will also continue to work closely with like-minded partners outside the Indo-Pacific, including key European nations.”

On the broader geopolitical situation, the NDS noted that the risk of a crisis or conflict in the Taiwan Strait is increasing, as well as at other flashpoints, including disputes in the South and East

China Seas and on the border with India. There is increasing competition for access and influence across the Indian Ocean, including efforts to secure dominance over sea lanes and strategic ports, it noted also adding, “Some of China’s initiatives in the Indo-Pacific also lack transparency around their purpose and scope.”

Terrorism threat

“There remains potential for tension and miscommunication between India and Pakistan, and between India and China — with the risk of nuclear weapons use or proliferation a factor in each potential flashpoint,” it further said, noting, “The threat of terrorism from politically and religiously motivated extremist groups will endure, fuelled in part by ongoing violence and volatility in the Middle East.”

The Northeast Indian Ocean is central to Australia’s security and sea lines of communication, the NDS declared and in addition to engagement with India, the government’s defence engagement in the Indian Ocean region will focus on regularising the Australian defence forces’ presence, including increasing deployments, training and exercises with Sri Lanka, the Maldives and Bangladesh.

Defence and strategic cooperation between India and Australia has been transformative in recent years with series of exchanges, high-level visits and exercises, both bilateral and multilateral. In addition, MDA, subsurface domain awareness and Anti-Submarine Warfare have been major focus areas for the Quad group of countries comprising India, Australia, Japan and the U.S. in the backdrop of rapid expansion of Chinese naval presence in the Indian Ocean Region.

Chief of Royal Australian Navy Vice Admiral Mark Hammond visited India earlier this month from April 2 to 6. His discussions with Navy Chief Admiral R. Hari Kumar focused on avenues to strengthen bilateral maritime cooperation, including increased operational engagements, training exchanges and information sharing, the Navy said.

The Australian Navy Chief also visited the Southern Naval Command at Kochi and went onboard India’s indigenous aircraft carrier INS Vikrant. He had also visited the Western Naval Command at Mumbai as well as the defence shipyard Mazagon Dock Shipbuilders Limited.

India and Australia signed a mutual logistics support agreement in 2020 and the two Navies had signed the ‘Joint Guidance for the India – Australia Navy to Navy Relationship’ document in August 2021. Australia also has a Liaison Officer at the Indian Navy’s Information Fusion Centre for Indian Ocean Region (IOR). In addition, the two sides are in an advanced stage of discussion to conclude implementing arrangements on hydrography cooperation and cooperation for air-to-air refueling.

<https://www.thehindu.com/news/national/india-is-a-top-tier-security-partner-says-australias-new-national-defence-strategy/article68091354.ece>

THE ECONOMIC TIMES

Sun, 21 Apr 2024

From Oil Rigs to Military Fortresses: US Navy's Innovative Defence Solution

The US Navy has revealed an ambitious project aimed at converting surplus oil rigs into mobile missile defense and resupply bases, responding to escalating missile threats in the Pacific region,

notably from China. This innovative initiative, unveiled at the Sea Air Space 2024 expo in Washington DC, is part of a broader effort to enhance US military capabilities in the region.

Transforming Surplus Oil Rigs

The project, developed by Gibbs & Cox, a Leidos company, aims to transform surplus oil platforms into large floating island bases capable of operating independently for over 12 months. Known as the Mobile Defense/Depot Platform (MODEP) concept, these converted platforms will be positioned at an ideal distance from shore, serving as mobile missile defense and resupply bases.

Enhancing US Air Defense Capabilities

The converted platforms are expected to play a crucial role in enhancing US air defense capabilities and aiding in strike missions. With the capacity to hold up to 512 vertical launch system (VLS) cells or 100 large missile launchers, these platforms offer a significant increase in capabilities compared to existing naval vessels.

Strategic Importance and Cost-Effectiveness

Heruningtyas Desi Purnamasari, an official at the US Navy, highlighted the strategic importance of these floating bases, emphasizing their potential to substantially reduce risks and costs associated with land-based defense systems. Additionally, the project offers a cost-effective solution, with the converted platforms estimated to cost only 10% of a new build Ballistic Missile Defense (BMD) system.

Debate Over Feasibility and Effectiveness

Despite the potential benefits, the feasibility and effectiveness of these floating bases have been subjects of debate among experts. Some experts have raised concerns about the high costs, vulnerability to missile attacks, and relative ineffectiveness compared to conventional capabilities of these semi-permanent offshore military bases.

Adapting to New Geopolitical Realities

The US Navy's ambitious project reflects a broader shift in military strategy as the US adapts to new geopolitical realities and technological advancements in warfare. The project aims to bridge the gap between sea and land-based BMD capabilities effectively, highlighting the US military's commitment to maintaining its strategic advantage in the region.

<https://economictimes.indiatimes.com/news/defence/from-oil-rigs-to-fortresses-us-navys-innovative-defence-solution/articleshow/109479624.cms>

ThePrint

Sat, 20 Apr 2024

Ukraine Needs at least Seven Patriot Air Defence Systems, Zelenskiy Tells NATO

President Volodymyr Zelenskiy told NATO members on Friday that Ukraine needed a minimum of seven Patriot or other high-end air defence systems to counter Russian air strikes, exhorting them to step up their military assistance for Kyiv. In an emotional speech by video link to the NATO-Ukraine Council, the Ukrainian leader described the current level of foreign aid as “very limited” and said Israel had not been left to fend for itself during Iran’s massive air strike on Saturday.

“(Russian President Vladimir) Putin must be brought down to earth, and our sky must become safe again.. And it depends fully on your choice... (the) choice whether we are indeed allies,” Zelenskiy said in his speech.

Russia has increased its long-range bombardment of Ukraine’s energy infrastructure and its cities in recent weeks, ratcheting up the pressure on Kyiv as Moscow’s more numerous and better equipped forces slowly advance on the battlefield in the east.

Just this year, Zelenskiy said, Ukraine had been attacked by almost 1,200 Russian missiles, more than 1,500 drones and 8,500 guided bombs amid a slowdown in Western military assistance.

“We are telling this directly – to defend, we need seven more ‘Patriots’ or similar air defence systems, and it’s a minimum number. They can save many lives and really change the situation,” he said.

NATO chief Jens Stoltenberg said after the meeting between allied defence ministers and Zelenskiy that the allies had agreed to provide Kyiv with additional air defence systems.

“In addition to Patriots, there are other weapons that allies can provide, including (the French system) SAMP/T, and many others, who do not have available systems, have pledged to provide financial support to purchase them for Ukraine,” Stoltenberg told reporters in Brussels.

URGENCY

Zelenskiy said Kyiv’s troops needed to receive long-range missiles and artillery shells now.

“This year we can’t wait for decisions to be made,” he said.

U.S. military aid has been delayed for months in Congress, but the House of Representatives is expected on Saturday to vote on a bill that would release tens of billions of dollars of military aid.

“We’re still waiting for new support packages from the United States – American support has been in question for too long,” Zelenskiy said.

His speech was delivered to the NATO-Ukraine Council behind closed doors, but his office published the text and video of it on its website.

<https://theprint.in/world/ukraine-needs-at-least-seven-patriot-air-defence-systems-zelenskiy-tells-nato/2048999/>

Science & Technology News



Sun, 21 Apr 2024

Will India's Aditya L-1 Mission Throw Light on Solar Eclipse? ISRO Chief Says...

ISRO chief S Somnath on Sunday said that the Aditya L1 solar mission of the premier space research agency is continuously sending data about the Sun.

Mr Somnath, who was speaking to reporters here, said several instruments of the spacecraft are working continuously to feed data on many aspects.

"We are looking into the sun in a continuous manner - UV magnetic charges observation, corona graph observation, X-ray observation and other things," he said.

India's first solar mission craft, the Aditya-L1 spacecraft was launched on September 2, 2023.

"As we are keeping this satellite for five years, the observation will be analysed as a long-term measure. It is not like your instant news that something has been reported about the sun today, something else will happen tomorrow, things will happen every day," he explained.

All observations will happen now but the results will be known later, he said.

"Eclipse happens as the sun is blocked by the moon. It is not like that anything happens within the sun during an eclipse. But obviously, our mission is also collecting data about the sun before, during, and after an eclipse," Mr Somnath said while answering a question on whether the mission will throw light on the solar eclipse.

Speaking about collaborations with other space agencies, he said ISRO is building a joint satellite NISAR (NASA-ISRO Synthetic Aperture Radar).

<https://www.ndtv.com/india-news/will-indias-aditya-l-1-mission-throw-light-on-solar-eclipse-isro-chief-s-somanath-says-5492999>



Fri, 19 Apr 2024

NASA Shares Stunning Photo of Jupiter's Hellish Moon Io, Snapped by Juno Mission Spacecraft

Jupiter is the biggest planet in the solar system and it has a huge number of moons, unlike Earth which has just one. And notably, while the Earth's satellite is a gentle and unremarkable world, the Jovian moons are quite active and volatile places that would terrify anyone. In fact, it has been dubbed as being the most volcanically active moon in the solar system. Io is just a little bit bigger than our moon. And now, US space agency, the National Aeronautics and Space Administration (NASA), has shared some terrifying images of Jupiter's moon Io.

These have been derived from the recent flybys of the Juno mission spacecraft and these have been turned into some striking animations that highlight two of the Jovian moon's most dramatic features: a mountain and an almost glass-smooth lake of cooling lava.

As per NASA's report, Juno executed remarkably tight flybys of Io in December of 2023 and February of 2024. Juno, which is powered by solar energy, ventured to a distance of approximately 930 miles (1,500 kilometers) from the moon's surface, capturing the first close-up snapshots of its north region.

Scott Bolton, Juno's lead researcher revealed that volcanoes are all over this moon and several were even seen in their active state. The spacecraft also provided close-up views and gathered data on a lava lake there known as Loki Patera, which spans 200 kilometers (127 miles) in length.

The data recording suggest that parts of the moon's surface are as smooth as glass. Bolton compared it to volcanically created obsidian glass back on our planet.

Among the many discoveries made are that Io's surface is relatively smooth compared to Jupiter's other Galilean moons. And that its poles are colder than its middle latitudes.

About Juno mission spacecraft

Launched on August 5, 2011, NASA's Juno spacecraft was sent on a 5-year journey to Jupiter. Juno's many discoveries have changed our view of Jupiter's atmosphere and interior. However, after half-a-decade, its prime mission was over, it did flybys of the moon Ganymede. In effect it became a full Jovian system explorer. Now, Juno is in its extended mission that will continue till September 2025, or until it reaches its end of life period. This extension has led the spacecraft to also investigate two moons of Jupiter - Io and Europa.

<https://www.hindustantimes.com/science/nasa-shares-stunning-photo-of-jupiter-s-hellish-moon-io-snapped-by-juno-mission-spacecraft-101713528247743.html>

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