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Press Information Bureau
Government of India

Ministry of Defence

Wed, 01 Nov 2023

Defence Secretary & his Singaporean Counterpart Co-chair 15th India-Singapore Defence Policy Dialogue in New Delhi

Agree to enhance collaboration in Service-to-Service interactions, bilateral exercises & emerging areas such as cyber security

The 15th India-Singapore Defence Policy Dialogue was held in New Delhi on November 01, 2023. The dialogue was co-chaired by Defence Secretary Shri Giridhar Aramane and Permanent Secretary (Defence), Singapore Mr Chan Heng Kee. During the meeting, both sides reviewed the existing defence cooperation between the two countries and agreed to enhance collaboration in Service-to-Service interactions and bilateral exercises. They also articulated steps to take forward cooperation in emerging areas like cyber security

Both sides identified means to enhance existing areas of collaboration, especially in the field of maritime security and multilateral cooperation. The Defence Secretary appreciated Singapore's efforts for coordinating and co-hosting the maiden ASEAN-India Maritime Exercise in May 2023. He highlighted the potential of the domestic defence industry with capacity and capability to meet the requirement of Singapore. Both sides reaffirmed their commitment to fully implement the 'Strategic Partnership' based on mutual trust and understanding, common interests and shared values of democracy and rule of law.

This was the first physical meeting at the level of Defence Secretary between India and Singapore post the COVID-19 pandemic.

Earlier, the Permanent Secretary (Defence) called on the Chief of Defence Staff and discussed issues of mutual interest. The Singapore delegation also visited various cultural places, including Pradhanmantri Sangrahalaya in New Delhi.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1973803>

Wed, 01 Nov 2023

भारतीय नौसेना ने दिखाया दम, बंगाल की खाड़ी में ब्रह्मोस का सफल परीक्षण

भारतीय नौसेना ने बुधवार को अपने युद्धपोत से ब्रह्मोस मिसाइल का सफल परीक्षण किया। परीक्षण के बाद नौसेना ने कहा उसने बंगाल की खाड़ी में अपने युद्धपोत से ब्रह्मोस मिसाइल का सफल परीक्षण किया है। इसमें कहा गया है कि मिसाइल ने मिशन के सभी उद्देश्य हासिल किए।

एक्स पर एक पोस्ट में नौसेना ने टेस्ट फायरिंग की एक तस्वीर भी साझा की। इसने लिखा, पूर्वी बेड़े के एक नौसेना विध्वंसक ने बंगाल की खाड़ी में ब्रह्मोस मिसाइल का सफल परीक्षण किया। मिसाइल ने अपने सभी मिशन उद्देश्यों को हासिल किया।

<https://www.jagran.com/news/national-brahmos-missile-indian-navy-shows-its-mettle-successful-test-of-brahmos-in-bay-of-bengal-23570879.html>



Wed, 01 Nov 2023

Navy Successfully Test-fires BrahMos Missile in Bay of Bengal

The Indian Navy on Wednesday said that it has successfully test-fired a BrahMos missile from its warship in the Bay of Bengal. The missile achieved all mission objectives, it said.

In a post on X, the Navy also shared a picture of the test-firing.

"An #IndianNavy destroyer of @IN_EasternFleet carried out successful firing of #BrahMos missile in the #BayofBengal. The missile achieved all mission objectives.

@DefenceMinIndia @SpokespersonMoD @IndiannavyMedia," it posted.

<https://www.indiatoday.in/india/story/navy-successfully-test-fires-brahmos-missile-in-bay-in-bengal-2456897-2023-11-01>



Thu, 02 Nov 2023

Advanced Electronic Warfare Suite 'Shakti' to Enhance the Potential of the Navy's Fleet Support Ships: Know all about this Advanced Warfare Suite

The Ministry of Defence is taking several steps to enhance the potential of the Indian defence force. To provide additional support to the ministry's moves, Hindustan Shipyard Limited (HSL) is

looking forward to enhancing the potential of the Indian Navy's Fleet Support Ships (FSS) by equipping them with the advanced Electronic Warfare (EW) System 'Shakti.'

Benefits of equipping FSS with EW Shakti

The Shakti EW system has been designed and developed by the Defence Electronics Research Laboratory (DLRL) in Hyderabad, functioning under the Defence Research and Development Organisation (DRDO), to provide essential capabilities for the detection, interception, identification, classification and jamming of both conventional and modern radar systems.

Offering a crucial layer of defence against modern radars and anti-ship missiles, the Shakti Shakti EW system marks a significant development in electronic warfare capabilities. This advanced system has been prepared with the aim of replacing the earlier-generation EW Systems of the Indian Navy.

A protection from missile attack

To defend Indian Navy Ships against missile attacks, the Shakti EW system has been integrated with the wideband Electronic Support Measures (ESM) and Electronic Counter Measure (ECM). The Electronic Support Measures help the ships with the accurate direction and interception of modern radars. Additionally, the system is also equipped with a built-in radar fingerprinting and data recording replay feature that help soldiers with post-mission analysis.

First Shakti EW system installed on

Notably, the first Shakti EW system was installed on-board INS Visakhapatnam. Currently, it is also integrated with the Indigenous Aircraft Carrier, INS Vikrant. Notably, Bharat Electronics Ltd. (BEL) supported by more than fifty MSMEs is developing the 12 Shakti system with an investment of Rs 1805 crore.

Role of FSS in the Naval Fleet

Responsible for replenishing other ships at sea with water, fuel, ammunition, and stores, the FSS plays a crucial role in the naval fleet. It weighs around 44,000 Tons. The addition of Shakti EWS to the FSS will strengthen the support of the Indian Navy, allowing them to undertake prolonged missions without the need to return to the harbour. The FSS ships will enhance the strategic reach and mobility of the Naval Fleet.

Hindustan Shipyard Limited (HSL), a state-owned shipyard based in Visakhapatnam, inked a deal with the Ministry of Defence on August 25, 2023, to develop five Fleet Support Ships (FSS) for the Indian Navy at an overall investment of Rs 19,000 crore. The first ship will be received by the Indian Navy after around four years from the date of signing the contract. The remaining ships will be added to the Indian Navy fleet at intervals of ten months.

<https://www.news9live.com/knowledge/advanced-electronic-warfare-suite-shakti-to-enhance-the-potential-of-the-navys-fleet-support-ships-know-all-about-this-advanced-warfare-suite-2338228>



Thu, 02 Nov 2023

US State Secy Antony Blinken, Defence Secy Austin to Visit India for 2+2 Ministerial Dialogue this Month

US Secretary of State Antony Blinken is set to visit India this month to participate in the 2+2 Ministerial Dialogue. In a statement, the State Department said that Blinken will embark on the

visit of five nations, including India in the month of November. He will be visiting Israel, Jordan, Japan, South Korea and lastly India, the statement added.

US Secretary of Defence Lloyd Austin will be accompanying Blinken during his visit to India. During their visit, the US delegation will meet with top Indian leaders, including Defence Minister Rajnath Singh, External Affairs Minister S Jaishankar, and others, to discuss developments in the Indo-Pacific and bilateral and international issues.

Blinken's Israel visit

In Israel, Blinken will reiterate US support for Israel's right to defend itself against terrorism consistent with international humanitarian law. He is also likely to discuss efforts to safeguard US citizens in Israel, the West Bank, and Gaza, work to secure the immediate release of hostages, increase the pace and volume of humanitarian assistance entering Gaza for distribution to Palestinian civilians, and prevent the conflict from spreading, the statement read.

Blinken's to visit Jordan

Following this, Blinken will travel to Jordan, where he will emphasize the value of protecting civilian lives and the joint commitment to enabling the increased and ongoing provision of life-saving humanitarian aid to Gaza's civilian population, the restoration of vital services, and the prevention of Palestinians from being forcibly displaced outside of Gaza. He will also discuss urgent mechanisms to stem violence, calm rhetoric, reduce regional tensions, and reaffirm the US commitment to working with partners to set the conditions necessary for a durable and sustainable peace in the Middle East, the State Department added.

"Secretary Blinken will then lead US delegations to Tokyo, Seoul, and New Delhi to advance collaborative efforts to support a free and open Indo-Pacific region that is prosperous, secure, connected, and resilient," it added.

Blinken's Japan visit

In Japan, Blinken will participate in the second G7 Foreign Ministers' Meeting of 2023, where G7 foreign ministers will build on the commitments made by leaders at the G7 Hiroshima Summit. The Secretary will also have bilateral meetings with Prime Minister Kishida Fumio and Foreign Minister Kamikawa Yoko to discuss bilateral priorities, including supporting Ukraine's economic recovery and energy needs and strengthening their bilateral cooperation in the Indo-Pacific.

Blinken to visit South Korea

Blinken will then travel to South Korea to meet with President Yoon Suk Yeol, Foreign Minister Park Jin, and National Security Advisor Cho Tae-yong. The Secretary will discuss ways the United States and the Republic of Korea (ROK) can respond to global challenges, including Russia's war against Ukraine and Russia's growing military cooperation with the DPRK, as well as instability in the Middle East. They will also discuss mutual efforts to support bilateral investment and economic security.

"In Tokyo and in Seoul, the Secretary will underscore the United States' ironclad commitment to the defence of Japan and the ROK and reaffirm the importance of robust and sustained trilateral engagement following the historic Camp David Summit in August," the State Department added.

<https://www.indiatvnews.com/news/world/us-state-secretary-antony-blinken-defence-secy-lloyd-austin-to-visit-india-for-2-2-ministerial-dialogue-indo-pacific-bilateral-issues-2023-11-02-900759>

Thu, 02 Nov 2023

Cyber Agency had Flagged 28 Cases of Security Threat in Apple Products in Last 10 Months

Apple may currently be facing heat over the possibility of state-sponsored hacking alert notices received by several opposition party leaders on their iPhones. However, the Indian Computer Emergency Response Team (CERT-IN), had detected and flagged 28 cases of vulnerabilities in the company's products between January and October this year. The latest such alert was issued on October 27.

Official sources said that notices with regard to these vulnerabilities were sent to Apple, requiring action on its part. The vulnerabilities flagged by CERT-IN related to multiple Apple products such as Apple iOS, iPadOS, Apple iTunes, Apple macOS, Apple Safari, Apple tvOS, watchOS, etc.

“Multiple vulnerabilities are found in Apple products, which could allow an attacker to execute arbitrary code, bypass security restrictions, gain access to sensitive information, data manipulation,” read the advisories issued by CERT-IN.

To protect personal data and security breaches, the agency had strongly recommended the users to install the latest updates for iOS, macOS, tvOS, watchOS, and Safari. It was not that such vulnerabilities were detected only in Apple products. Overall, around 300 such cases were detected by the agency during the period, involving other manufacturers and their products.

Interestingly, CERT-IN, a nodal agency under the ministry of electronics and information technology (Meity), which deals with cyber security threats, will also probe the current hacking alerts. Sources said that Apple has agreed to join the probe.

Queries sent to Apple on the matter did not elicit any response till the time of going to the press.

“We are unable to provide information about what causes us to issue threat notifications, as that may help state-sponsored attackers adapt their behaviour to evade detection in the future,” Apple had said on Tuesday in response to the state-sponsored hack alerts received by several opposition leaders.

With regard to the investigation in the matter, the government has sought more information from Apple, including the location from where the hack was attempted, time at which the hack was tried, IP addresses, and whether the attacker was able to hack into the devices, or not.

Calling the clarification provided by Apple as vague and non-specific in nature, communications and IT minister Ashwini Vaishnaw has said the investigation in the matter will be very technical requiring domain expertise. “A technically qualified agency like CERT-IN, which has global collaboration with all the major experts of the world will be investigating and will be taking help from all other law enforcement agencies as and when required,” the minister said.

Meanwhile, the hacking alert notices on Wednesday led to political wrangling with several opposition MPs demanding that the Parliamentary Standing Committee on Communications and IT should call an urgent meeting to look into the issue. However, BJP MP, Nishikant Dubey, who is a member of the panel, said that the committee cannot take up Apple's warning message issue as the matter comes under the government's jurisdiction according to Lok Sabha rules.

<https://www.financialexpress.com/life/technology-cyber-agency-had-flagged-28-cases-of-security-threat-in-apple-products-in-last-10-months-3294347/>

Israel Shows its Air Prowess, Uses Arrow 3 ‘Missile-killer’ for First Time to Intercept Houthi Rockets

For the first time, Israel used its Arrow 3 "missile-killer", which is part of its ‘Star Wars’ missile killer system, while downing a rocket allegedly fired by Iran-backed Houthi rebels in Yemen.

The confirmation came from the Israeli Defence Forces (IDF) on Monday (Oct 31), saying that the missile was used to “thwart an aerial threat in the area of the Red Sea.”

The IDF added that the “surface-to-surface missile” was fired toward Israel but was intercepted before it could reach its target.

The lethal long-range air defence system is able to intercept ballistic missiles from thousands of miles away and blast them out of the sky.

“All the threats were intercepted outside the territory of the State of Israel. No intrusion into Israeli territory was detected,” the IDF added.

Following Israel's announcement, the Houthi rebels claimed responsibility for the aerial assault and claimed to have fired "a large number" of ballistic missiles and drones at Israel on Monday.

In a video statement, Houthi military spokesperson Yahya Saree claimed it was the third attack they had launched at Israel and vowed there would be more to come.

What is Arrow 3 'missile-killer'?

It is a lethal long-range air defence system which has the capacity to intercept ballistic missiles at altitudes of over 100 km (62 miles), and in greater ranges.

Arrow 3 is part of Israel’s Arrow weapon system (AWS), a stand-alone anti-tactical ballistic missile defence system.

It is a key part of the country’s multi-layered defence missile array, which also includes the Arrow 2, David’s Sling, and the Iron Dome active defence systems, and was inducted into the Israeli Air Force in 2017.

The missile was jointly developed Israel Aerospace Industries and Missile Defence Agency in the US.

After IDF confirmed its usage, the Israel Aerospace Industries praised the IDF for the successful interception.

Israel-Hamas war: Israel bombs Jabalia refugee camp in Gaza

“The Arrow is an advanced air defence system created and designed to intercept ballistic missiles outside of the Earth’s atmosphere,” IAI said.

“The Arrow system [...] demonstrated today that Israel possesses the most advanced technology for defence against ballistic missiles at various ranges,” CEO and President of the IAI, Boaz Levy, said.

Capacities of the missile system

This powerful state-of-the-art piece system detects, tracks and then fires a hit-to-kill warhead to intercept the incoming missile.

It can cleanly blast the incoming warheads out of the sky, therefore preventing damage to buildings and civilians.

The missile system earned the "Star Wars" moniker due to its capability to safely destroy incoming missiles outside Earth's atmosphere.

<https://www.wionews.com/world/israel-shows-its-airprowess-uses-arrow-3-missile-killer-for-first-time-to-intercept-houthi-rockets-654011>



Wed, 01 Nov 2023

China Keeps up Military Pressure on Taiwan, Sending 43 Planes and 7 Ships Near Self-governing Island

Taiwan said on Wednesday that China sent 43 military aircraft and seven ships near the self-ruled island, the latest sign that Beijing plans no let-up in its campaign of harassment, threats and intimidation. Taiwan's Defence Ministry said the figure was current for the 24 hours up to 6:00 a.m. on Wednesday and that 37 of the aircraft had crossed the median line in the Taiwan Strait, which China no longer recognises as an informal divider between the sides.

It said Taiwan had monitored the situation, scrambled jet fighters, dispatched ships and activated land-based missile systems, all standard responses to Chinese military activities, which include crossing into Taiwan's air defense identification zone but not into its actual airspace.

Such Chinese maneuvers have become frequent and aggressive since then-US House Speaker Nancy Pelosi visited Taiwan in August 2022. China suspended military communication with the US to show its displeasure over her trip to Taiwan, which Beijing considers part of its territory to be brought under its control by force if necessary.

China's military maneuvers are seen as intended to break down Taiwanese morale, exhausting its pilots and other personnel and wearing down its equipment. Despite that, the present status of de-facto independence remains widely popular among the island's voters and the defence budget has been increased to purchase new equipment from the US, its chief ally, and to produce some items locally, including submarines.

At an international defence forum in Beijing on Monday, China's second-ranking military official Gen. Zhang Youxia reiterated threats by the Chinese government to retaliate against moves toward establishing Taiwan's formal independence, saying that "no matter who tries to split Taiwan from China in any form, China and the Chinese military will never allow that to happen".

Zhang, who is also vice chairman of the Central Military Commission, which oversees the world's largest standing military, opened the three-day event in the absence of former Defence Minister Gen. Li Shangfu, who would have normally hosted the event.

Li was removed from his position last week after a two-month absence from public view. The government has not provided any reason for his removal.

<https://www.financialexpress.com/business/defence-china-keeps-up-military-pressure-on-taiwan-sending-43-planes-and-7-ships-near-self-governing-island-3293753/>

Pentagon Awards USD1.3 Billion for PWSA Prototype Development

The US Department of Defense (DoD) has closed the second of two prototype development contracts for the next phase of the Space Development Agency's (SDA's) Proliferated Warfighter Space Architecture (PWSA) development, bringing the total cost of both contracts to USD1.3 billion, according to a 30 October agency statement.

The DoD's SDA inked a USD732 million deal with Northrop Grumman Space Systems to develop, deliver, and operate 38 low Earth orbit (LEO) space vehicles (SVs) for the Tranche 2 Transport Layer-Alpha (T2TL-Alpha) phase of the PWSA, SDA officials said in the statement. Along with SV development, the Northrop Grumman deal will also finance prototype work for “associated ground systems and operations and sustainment capability” tied to the 38 T2TL-Alpha SVs, they added. The 30 October SDA statement on the Northrop Grumman deal came less than a month after agency officials finalised the first of the two T2TL-Alpha prototype contracts with Colorado-based York Space Systems. That USD617 million contract covered the development, fielding, and operation of 62 T2TL-Alpha SVs and associated subsystems.

“The T2TL-Alpha constellation will provide global communications access and deliver persistent, regional, and encrypted connectivity to support missions like beyond-line-of-sight targeting and missile warning and missile tracking of advanced missile threats”, including potential hypersonic weapons, SDA officials said. The initial launch for the T2TL-Alpha SVs is expected no later than December 2026, they added.

<https://www.janes.com/defence-news/news-detail/pentagon-awards-usd13-billion-for-pwsa-prototype-development>

Science & Technology News



**Press Information Bureau
Government of India**

Ministry of Science & Technology

Wed, 01 Nov 2023

Novel Therapeutic Formulation Developed for Improved Treatment of Indian Red Scorpion Sting

A new therapeutic drug formulation (TDF) comprising of low doses of commercial equine anti-scorpion antivenom (ASA), α 1- adrenoreceptor agonist (AAAs) and vitamin C, for inhibiting the Indian red scorpion venom-induced toxicity and associated symptoms can help improve clinical management of scorpion sting patients.

Scorpion envenomation is a severe problem in many countries of the world. The Indian red scorpion (*Mesobuthus tamulus*), with its life-threatening sting, is one of the world's most dangerous scorpions. Intravenous administration of equine anti-scorpion antivenom (ASA), raised against *M. tamulus* venom (MTV), is the only available treatment for scorpion stings. However, the low proportion of venom-specific antibodies against the most abundant low molecular mass channel toxin is a barrier to efficient clinical management of scorpion sting patients. Therefore, the high antivenom requirement may lead to adverse serum reactions in treated patients. Scorpion envenomation and its treatment needs extensively research and alternative therapies.

Conventionally, α 1- adrenoreceptor agonist (AAAs), such as Prazosin, is also used alone or in combination with commercial ASA for the treatment of stung patients; however, this therapy is less effective and associated with certain limitations.

To solve this critical issue, a team of scientists from Institute of Advanced Study in Science and Technology (IASST), an autonomous institute of Department of Science and Technology as well as reserachers from scholars from Tezpur University NIELIT, Guwahati have invented novel therapeutic drug formulations (TDF) comprised of low doses of commercial ASA, AAA, and vitamin C, for inhibiting the Indian red scorpion venom-induced toxicity and associated symptoms.

The drug's efficacy was first tested on *Caenorhabditis elegans*, a free-living nematode model, as an alternative to an in vivo animal model. The research was recently published in the journal *Toxins*. An Indian patent has also been filed on this novel drug formulation.

The study by the team comprising Prof. Ashis Mukherjee, Director, Dr. M. R. Khan, Associate Professor, and Dr. Aparup Patra, IPDF from IASST, Dr. Bhabana Das, and Upasana Pujari from Tezpur University, and Dr. S. Mahanta, from NIELIT, Guwahati demonstrated for the first time that *C. elegans* can be a good model organism for screening the neutralization potency of the drug molecules against a neurotoxic scorpion venom.

The novel TDF efficiently neutralized the Indian red scorpion venom, induced increase in blood glucose level, organ tissue damage, necrosis, and pulmonary edema in Wistar rats, much better than commercial ASA, AAA, and vitamin C. The treatment holds promise for effective treatment against scorpion stings and will save the lives of millions of patients worldwide.

Link to publication:

<https://doi.org/10.3390/toxins15080504>

For more details, please contact: Prof. Ashis Mukherjee, Director, IASST at akm@tezu.ernet.in or Dr. M. R. Khan, Associate Professor, IASST at mojibur.khan@iasst.gov.in

<https://pib.gov.in/PressReleasePage.aspx?PRID=1973644>

THE TIMES OF INDIA

Thu, 02 Nov 2023

ISRO to Power up Ocean Studies, Blue Economy

Oceanographers and ocean scientists looking to study the mysteries of the deep seas can use the expertise and technology developed by Indian space research organization to further their research work, said S Somanath, Isro chairman.

Speaking at the ninth convocation ceremony of the Kerala University of Fisheries and Ocean Studies (Kufos), Somanath said while India is exploring space, it is also exploring the ocean's depths. Both space and ocean put us together on a journey of discoveries, he said. He cited the

collaboration between Isro and the Tamil Nadu government in this endeavour and the groundbreaking research Isro is preparing for, involving a six-kilometre-deep study of ocean waters. The study is expected to enhance the success rate of blue economy projects, he said.

In his address, state governor Arif Muhammad Khan called upon fisheries and ocean sciences students and researchers to direct their efforts towards securing affordable, healthy diets for the population while safeguarding rural livelihoods and natural resources.

<https://timesofindia.indiatimes.com/city/kochi/isro-to-power-up-ocean-studies-blue-economy/articleshow/104903517.cms>



Wed, 01 Nov 2023

Biggest Chinese Antarctic Fleet Sets off to Build Research Station

Two Chinese icebreaker research vessels and a cargo ship set sail on Wednesday for the Antarctic with more than 460 personnel on board to help complete construction of China's fifth station on the world's southernmost continent. China's biggest flotilla of research vessels deployed to the Antarctic will focus on building the station on the rocky, windswept Inexpressible Island near the Ross Sea, a deep Southern Ocean bay named after a 19th century British explorer.

Work on the first Chinese station in the Pacific sector began in 2018. It will be used to conduct research on the region's environment, state television reported.

China has four research stations in the Antarctic built from 1985 to 2014. A U.S.-based think tank estimated the fifth could be finished next year. The facility is expected to include an observatory with a satellite ground station, and should help China "fill in a major gap" in its ability to access the continent, the Center for Strategic and International Studies (CSIS) said in a report this year.

The station is also well situated to collect signals intelligence over Australia and New Zealand and telemetry data on rockets launched from Australia's new Arnhem Space Centre, it said.

China rejects suggestions that its stations would be used for espionage.

The two icebreakers, Xuelong 1 and Xuelong 2, the name means "Snow Dragon" in Chinese, set sail from Shanghai with mostly personnel and logistics supplies on board.

The cargo ship "Tianhui", or "Divine Blessings", taking construction material for the station, set off from the eastern port of Zhangjiagang.

The five-month mission will include a survey on the impact of climate change.

The two icebreakers will also conduct environmental surveys in the Prydz Bay, the Astronaut Sea in southeast Antarctic, and in the Ross Sea and Amundsen Sea in the west.

The mission, China's 40th to the Antarctic, will also cooperate with countries including the United States, Britain, and Russia on logistics supply, state media said.

<https://www.reuters.com/business/environment/biggest-chinese-antarctic-fleet-sets-off-build-research-station-2023-11-01>

