

मार्च

March  
2023

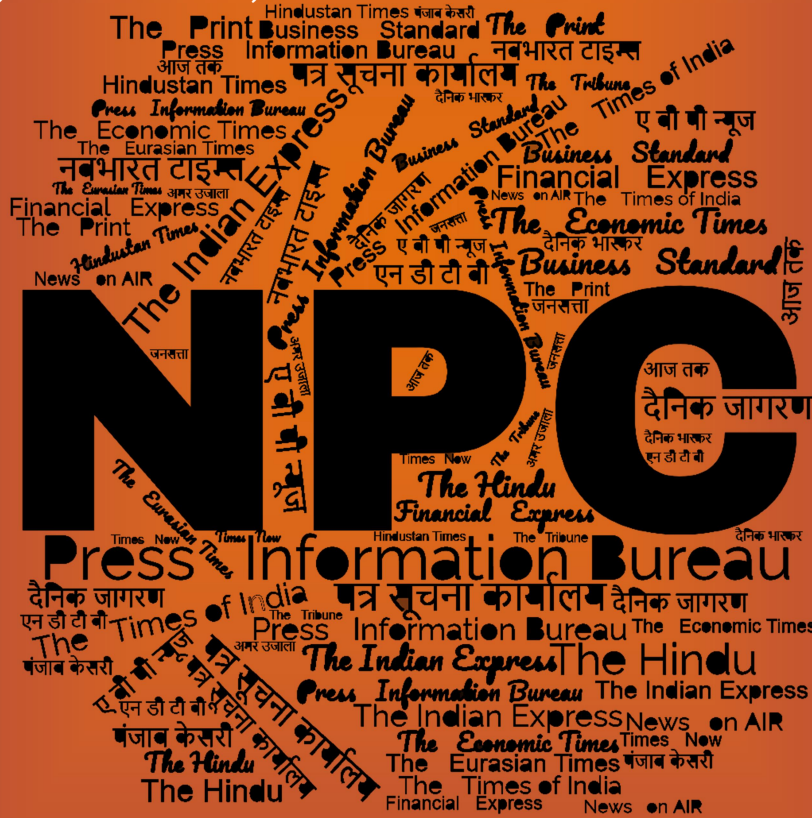
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# समाचार पत्रों से चयित अंश Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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### Indian Navy: ब्रह्मोस सुपरसोनिक मिसाइल के नौसैनिक संस्करण का हुआ सफल परीक्षण



भारतीय नौसेना (Indian Navy) ने डीआरडीओ (DRDO) द्वारा डिजाइन किए गए स्वदेशी साधक और बूस्टर (Seeker and Booster) के साथ ब्रह्मोस मिसाइल द्वारा अरब सागर में एक सफल सटीक हमला किया। जो आत्मनिर्भरता के प्रति प्रतिबद्धता को मजबूत करता है।

भारतीय नौसेना ने रविवार को ब्रह्मोस सुपरसोनिक मिसाइल के युद्धपोत संस्करण का अरब सागर में सफल परीक्षण किया। इस मिसाइल में स्वदेशी सीकर एंड बूस्टर लगा है। एक वरिष्ठ सैन्य अधिकारी ने बताया कि मिसाइल में लगे स्वदेशी सीकर एंड बूस्टर को रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने विकसित किया है और यह रक्षा क्षेत्र में आत्मनिर्भरता की दिशा में हमारी प्रतिबद्धता को मजबूत करता है।

भारत और रूस का संयुक्त उपक्रम ब्रह्मोस एयरोस्पेस प्राइवेट लिमिटेड ऐसी सुपरसोनिक क्रूज मिसाइलों का उत्पादन करती है जिन्हें पनडुब्बी, युद्धपोतों, युद्धक विमानों या फिर जमीन से

लांच किया जा सकता है। ब्रह्मोस मिसाइल की रफ्तार 2.8 मैक है जो ध्वनि की रफ्तार से लगभग तीन गुना है। ब्रह्मोस सुपरसोनिक क्रूज मिसाइल के युद्धपोत रोधी संस्करण का पिछला सफल परीक्षण गत वर्ष अप्रैल में किया गया था। भारत ब्रह्मोस मिसाइलों का निर्यात भी कर रहा है। पिछले वर्ष जून में भारत ने फिलीपींस के साथ इन मिसाइलों की आपूर्ति का 37.5 करोड़ अमेरिकी डालर का सौदा किया था।

<https://www.jagran.com/news/national-indian-navy-successfully-test-fires-brahmos-missile-with-indigenous-booster-designed-by-drdo-23348296.html>



*Mon, 06 Mar 2023*

## **'Big Boost to Atmanirbhar Bharat': Indian Navy Launches BrahMos Missile with Indigenous Seeker & Booster**

The launch of the BrahMos precision strike missile, which features an indigenous Seeker and Booster developed by the Defence Research and Development Organization (DRDO), on Sunday marked a significant milestone for the Indian Navy. A successful ship-based precision strike in the Arabian Sea was carried out by the Navy.

The Indian Navy posted a tweet that read, ""#IndianNavy's successful precision strike in the #ArabianSea by ship launched #BrahMos missile with @DRDO\_India designed #Indigenous Seeker & Booster reinforces its commitment towards #AatmaNirbharta."



"The missile test was carried out from a Kolkata-class guided missile destroyer warship. BrahMos Aerospace is continuously working on increasing indigenous content in the missile," said Navy officials.

The Indian Navy pilots landed the LCA Tejas (Navy) and Mig-29K on the aircraft carrier INS Vikrant last month. INS Vikrant was India's first aircraft carrier. The LCA Tejas is also a locally constructed aircraft. Prime Minister Narendra Modi appointed the country's most memorable plane carrying warship at Cochin Shipyard Restricted in Kochi in September last year. Supersonic cruise missiles with a speed of 2.8 Mach, or roughly three times the speed of sound, are manufactured by BrahMos Aerospace Pvt Ltd, which is a joint venture between India and Russia.


The missiles can be fired from a variety of platforms, including ships, aircraft, submarines, and land. The missile's compact version, the BrahMos NG, is also being developed by BrahMos Aerospace. India and the Philippines agreed to supply the missile for \$375 million in January of the previous year. India is also looking at South Africa, Saudi Arabia, the United Arab Emirates, and Egypt to sell the missiles.

<https://news.abplive.com/news/india/indian-navy-launches-brahmos-missile-with-indigenous-seeker-and-booster-drdo-arabian-sea-1586373>

## DRDO on Twitter

 **DRDO**   
@DRDO\_India






#DRDOUpdates | On #NationalSafetyDay2023, DRDO reaffirms its commitment to promote safety awareness to prevent accidents & ensure that all safety mechanisms are in place to effectively deal with emergencies in the interest of organisations and nation at large.  
[@SpokespersonMoD](#)



The poster features four figures in different protective suits: a bright orange hazmat suit, a camouflage military suit, a green tactical suit, and a silver thermal blanket. The background is a blurred industrial or laboratory setting. Logos for DRDO, 75th Independence Anniversary, and G20 India 2023 are visible in the top corners. The text 'National Safety Day' is prominently displayed in the center. At the bottom, it says 'Committed to the safety of man and machine' and lists social media handles and the website.

**National Safety Day**

Committed to the safety of man and machine

 DRDO\_India  DPIDRDO  dpi.drdo  DRDO\_India  www.drdo.gov.in

11:52 AM · Mar 4, 2023 · 25.9K Views

DRDO Retweeted



**SpokespersonNavy** ✓

@indiannavy



#IndianNavy's successful precision strike in the #ArabianSea by ship launched #BrahMos missile with @DRDO\_India designed #Indigenous Seeker & Booster reinforces its commitment towards #AatmaNirbharta. #AatmaNirbharBharat

@DefenceMinIndia @PMOIndia @IN\_WNC @IN\_WesternFleet



A. Bharat Bhushan Babu and 9 others

5:55 PM · Mar 5, 2023 · 408.7K Views

## Defence News

### Defence Strategic : National/International



**Press Information Bureau**  
Government of India

Ministry of Defence

*Sun, 05 Mar 2023*

### **INS Trikand Participates in International Maritime Exercise/ Cutlass Express 23 (IMX/ CE-23)**

INS Trikand is participating in the International Maritime Exercise/ Cutlass Express 2023 (IMX/CE-23) being held in the Gulf region from 26 Feb to 16 Mar 23. She will exercise with participants from over 50 nations and international maritime agencies with the common aim of enhancing maritime security and keeping sea lanes in the region safe for maritime commerce.

IMX/CE-23 is one of the largest multinational maritime exercises in the world. While this is Indian Navy's maiden IMX participation, it also marks the second occasion where an Indian Naval ship is participating in an exercise conducted by the CMF. Earlier, in Nov 22, INS Trikand had participated in the CMF led Operation Sea Sword 2.

Participation in exercises like Sea Sword 2 and IMX/CE-23 enables the Indian Navy in strengthening relationships and enhancing interoperability and collective maritime capability with maritime partners in the IOR. It also enables the Navy contribute constructively to regional stability and security.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1904376>



**Press Information Bureau**  
Government of India

Ministry of Defence

*Sat, 04 Mar 2023*

### **6th JWGACTC Meeting in India (27 Feb – 03 Mar 23) Visit of US Joint Working Group on Aircraft Carrier Technology**

The 6th meeting of Joint Working Group on Aircraft Carrier Technology Co-operation (JWGACTC), constituted under the auspices of the Indo – US Defence Technology and Trade

Initiative (DTTI), was organised in India from 27th February to 3rd March. An 11 member US delegation headed by RAdm James Downey, Programme Executive Officer (PEO), Carriers visited various defence/ industrial installations in Delhi and Kochi. The opening session of the Joint Working Group Meeting was held on 27th February at New Delhi and was co-chaired by RAdm Sandeep Mehta, Assistant Controller Carrier Projects (ACCP).

During the meeting, RAdm Downey acknowledged India's status as one of the very few countries capable of constructing Aircraft Carriers and appreciated India's landmark achievement of operating the indigenous aircraft, LCA from the indigenous Carrier in a short span of time post commissioning of the Ship.

Further, both sides highlighted the good work undertaken by the Joint Working Group so far. Plans for future co-operation under various aspects of Aircraft Carrier Technology were also discussed and a joint statement released. As part of the visit, the US delegation also interacted with the senior leadership at both Delhi and Kochi. The meeting marked yet another significant milestone in the ongoing co-operation between the two countries in the field of Aircraft Carrier technology.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1904172>



Sun, 05 Mar 2023

## छोटे आकार के विशेष एंटीना करेंगे आतंकी गतिविधियों की निगरानी, डीआरडीओ के साथ मिलकर आइआइटी पटना ने बनाए

भारतीय प्रौद्योगिकी संस्थान (आइआइटी) पटना ने तीन विशेष प्रकार के एंटीना तैयार किए हैं।

इनके माध्यम से सीमावर्ती इलाकों में एक से तीन किलोमीटर तक के क्षेत्र में आतंकी गतिविधियों पर आसानी से नजर रखी जा सकेगी।

ये एंटीना आकार में अत्यंत छोटे हैं। सैन्य संस्थान के साथ समन्वय से तैयार तीनों एंटीना का सफल परीक्षण किया जा चुका है।

इन्हें दिल्ली में आयोजित विज्ञान एवं प्रौद्योगिकी प्रदर्शनी में भी सराहा जा चुका है। आइआइटी पटना के इलेक्ट्रिकल विभाग के इस प्रोजेक्ट के लिए विज्ञान एवं प्रौद्योगिकी विभाग के अंतर्गत आने वाले विज्ञान और इंजीनियरिंग अनुसंधान बोर्ड ने फंडिंग की है।

### आत्मनिर्भर भारत अभियान से मिली प्रेरणा

आइआइटी पटना में प्राध्यापक डा. अमित कुमार सिंह के निर्देशन में शोध छात्राओं सुचित्रा तिवारी व गजाला बशीर ने इस प्रोजेक्ट पर काम किया है। डा. अमित बताते हैं कि आत्मनिर्भर



भारत अभियान के तहत प्रधानमंत्री नरेंद्र मोदी के लगातार मिल रहे संदेशों के बाद रक्षा क्षेत्र में भी आत्मनिर्भरता की दिशा में काम करने की प्रेरणा मिली।

### **कहीं भी आसानी से लगाए जा सकते हैं एंटीना**

प्रोजेक्ट में शामिल छात्रा सुचित्रा तिवारी कहती हैं कि एंटीना के माध्यम से सीमावर्ती क्षेत्रों में आतंकी गतिविधियों पर नजर रखने के साथ-साथ संचार के लिए नेटवर्क मुहैया कराने में भी आसानी होगी। आकार में बहुत छोटे होने के बावजूद ये अत्यधिक मजबूत संकेत प्रदान करते हैं। इनका उपयोग 5-जी मोबाइल, रडार, ड्रोन डिटेक्शन और उपग्रह संचार में उपयोग किया जा सकता है। प्रोजेक्ट में शामिल गजाला बशीर के अनुसार, आकार में बहुत ही छोटे होने के कारण इन्हें आसानी से पेड़-पौधे के सहारे भी सीमावर्ती क्षेत्रों में लगाया जा सकता है।

आकार छोटा रखने के पीछे संस्थागत जरूरतों को पूरा करना है, ताकि इन्हें कहीं भी ले जाना व स्थापित करना आसान हो।

खासकर सीमावर्ती इलाकों में आसान 5-जी मोबाइल संचार नेटवर्क स्थापित करने के लिए इन्हें छोटा बनाया गया है।

### **डीआरडीओ की प्रयोगशाला में सफल परीक्षण**

आइआइटी पटना के इस प्रोजेक्ट में रक्षा अनुसंधान व विकास संगठन (डीआरडीओ) भी साथ रहा। बीते साल डीआरडीओ की प्रयोगशाला में इसका सफल परीक्षण किया जा चुका है।

इस सफल परीक्षण के बाद दिल्ली में आयोजित विज्ञान एवं प्रौद्योगिकी प्रदर्शनी में इसे सराहना मिली।

बीते अक्टूबर 2022 में आइआइटी दिल्ली में आयोजित शोध और तकनीक के प्रतिष्ठित मेला 'इनवेंटिव रिसर्च फेयर' में देश के सभी आइआइटी से जो 75 प्रोजेक्ट चुने गए, उनमें ये एंटीना भी शामिल रहे।

### **ये है खासियत**

**एंटीना एक:** पहला एंटीना एक रुपये के सिक्के के बराबर है। यह एक दिशा में एक किलोमीटर तक की गतिविधियों पर नजर रख सकता है। यह संबंधित इलाके में किसी भी व्यक्ति, ड्रोन, टैंक व पशु-पक्षी की गतिविधि का पता लगाकर उसकी जानकारी देने में सक्षम है।

**एंटीना दो:** 30 वर्ग एमएम आकार का दूसरा एंटीना 5-जी स्तर का है। यह एक साथ सभी दिशाओं में तीन किलोमीटर तक मोबाइल सेवा देने के साथ-साथ पूरे इलाके की गतिविधियों पर नजर रखने में भी सक्षम है।

**एंटीना तीन:** 30 वर्ग एमएम आकार का तीसरा एंटीना दिशा बदलने में सक्षम है। यह दो किलोमीटर तक अलग-अलग दिशाओं में नजर रख सकता है।

आइआइटी पटना के इलेक्ट्रिकल विभाग में इसपर साल 2021 में काम शुरू किया गया था। यह नवंबर 2022 में पूरा हो गया। ये तीनों एंटीना बहुत छोटे हैं। इन्हें आसानी से कहीं भी स्थापित किया जा सकता है। - डा. अमित कुमार सिंह (प्रोजेक्ट निदेशक)

एंटीना का निर्माण रक्षा अनुसंधान व विकास संगठन की परियोजना के तहत हुआ है। यह संचार सुविधाओं के लिए काफी उपयोगी रहेगा। साथ ही सीमावर्ती क्षेत्रों में आतंकी घटनाओं को रोकने में भी मददगार बनेगा। - प्रो. (डा.) टीएन सिंह (निदेशक, आइआइटी पटना)

<https://www.jagran.com/bihar/patna-city-small-size-special-antenna-will-monitor-terrorist-activities-iit-patna-made-in-collaboration-with-drdo-23348345.html>



*Sat, 04 Mar 2023*

## **Navy Receives Indigenised Fuze YDB-60 for Underwater Rocket RGB 60; Major Boost to Anti-Submarine Warfare**

The Indian Navy has received a fully indigenised fuze YDB-60 for underwater Rocket RGB 60. The YDB-60 for underwater Anti-Submarine Warfare (ASW) Rocket RGB-60 will be used from major warships that Navy has in its arsenal.

Satyanarayan Nuwal, the CMD of M/s EEL, Nagpur handed over the first consignment of the fuze to Vice Admiral SN Ghormade, Vice Chief of Naval Staff (VCNS) on March 3.

Moving ahead with Prime Minister Narendra Modi's 'AatmaNirbharta' initiative, the Defence Ministry, Defence Research and Development Organisation (DRDO), Hindustan Aeronautics Limited (HAL) and other government-owned entities manufacturing defence related equipment.

The idea of Modi government's 'Aatmanirbhar Bharat Abhiyan' is to transform the defence sector to achieve self-reliance and boost the export of Defence items with active participation of public and private sector.

PM Modi announced fourth positive indigenisation list of 101 items during DefExpo 2022 in October 2022.

The Ministry of Defence had earlier promulgated 'First, Second and Third Positive Indigenisation Lists', comprising 310 items on August 21, 2020, May 31, 2021 and April 07, 2022 respectively. The 'Fourth Positive Indigenisation List' of 101 items was announced by the Prime Minister during the opening ceremony of DefExpo 2022 in Gandhinagar, Gujarat on October 19, 2022.

The government estimates that over Rs 1,75,000 crore worth orders would be placed on Indian Industry in the next 5-10 years.

Some items of Fourth Positive Indigenisation List

- Next Generation Frigates
- Shipborne Gun Direction Fire Control Radar
- 76.2 mm High Explosive (HE) Plugged Cartridges for Naval Applications
- Bullet Proof Security Vehicle for IAF
- Main and Nose Wheel Tyres for IL-76 and 78 Aircraft
- Main & Nose Wheel Tyres for LCA
- Main & Nose Wheel Tyres for Mi-17 Helicopter
- Nose Wheel Tyres with Tubes for MiG-29 Aircraft
- Batteries for AWACS Aircraft
- Batteries for Hawk Aircraft

<https://www.timesnownews.com/india/indian-navy-receives-indigenised-fuze-ydb-60-for-underwater-rocket-rgb-60-major-boost-to-anti-submarine-warfare-article-98406139>



*Sun, 05 Mar 2023*

## **Navy Chief: Ties with others must to Tackle Maritime Challenges**

There's a need for cooperation among countries to tackle maritime challenges, which are transnational and cannot be addressed individually by any one nation, Indian Navy Chief Admiral R Hari Kumar said on Saturday.

He was speaking at a panel discussion —The Future of Conflict: Lessons from the Third Decade — with Adm. John C. Aquilino, Commander, US Indo-Pacific Command of the United States, Adm. Sir Ben Key, First Sea Lord and Chief of Naval Staff, UK, Gen. Koji Yamazaki, Japan's Chief of Staff in the Ministry of Defence, and Vice Adm. Angus Topshee, Commander, Royal Canadian Navy.

His comments came a day after foreign ministers of Quad countries together called for peace in Ukraine and spoke about China's aggressive behavior in the Indo-Pacific region and its attempts to block designation of terrorists at the UN.

Talking about the importance of working together in groups, Admiral Kumar said the US Navy in 2015 had talked of a 1,000-ship Navy, which would include all friendly partner navies. "That is something we in the maritime domain always look forward to, to find how to cooperate and work together," he said.

Admiral Kumar said at present, countries and their navies are looking at issue-based converges, so there may be agreement on certain things but not necessarily on others.

Talking about groupings such as the Indian Ocean National Symposium, which has 25 partner countries and eight observers, the Columbo Security Conclave, Goa Maritime Conclave and others, the Navy Chief said working in smaller groups serves multiple purposes. "It generates a

lot of trust among partner countries. You work towards building capacity, it results in increased interoperability, better domain awareness and regular engagements. All these finally lead to maritime security,” he said.

He added that there is a saying that rising tide lifts all boats. “So India as a country looks at everybody in the region prospering together,” he said.

<https://indianexpress.com/article/india/navy-chief-ties-with-others-must-to-tackle-maritime-challenges-8479733/>



*Sat, 04 Mar 2023*

## **Government will decide between F/A-18 Super Hornet, Rafale M: Navy Chief**

Boeing’s F/A-18 E/F Super Hornet and Dassault Aviation’s Rafale M jets meet the requirements of the Navy and a selection between them will be the government’s decision, Navy chief Admiral R. Hari Kumar said on Friday, adding that the Rafale M has commonality with the Air Force in terms of spares and support.

“It will be a decision of the government... Both aircraft are ok. They have proved themselves. Now there will be other issues, like for example, we already have Rafales for the Air Force. There will be commonality of spare parts and support, etc. Each has got its own strengths and weaknesses,” Adm. Kumar said on the sidelines of the Raisina Dialogue. The dialogue, jointly organised by the Observer Research Foundation and the Ministry of External Affairs, concluded on Friday.

An indigenous Twin Engine Deck-Based Fighter (TEDBF) is under development by the Aeronautical Development Agency under the DRDO to operate off the Navy’s aircraft carriers. The 26 jets planned to be procured from abroad will fill the gap in the interim as the existing MiG-29Ks may not last till then. Adm. Kumar said the Navy may get the TEDBF by 2034 or so.

Adm. Kumar was speaking at a session on the “future of warfare” that saw the participation of several chiefs of Navy from other countries. Maritime domain challenges were not just traditional and non-traditional, but also transnational, he stated. While all countries may not agree on some issues, most come together on others as part of issue-based convergence, he said.

Referring to regional groups in the Indo-Pacific, Adm. Kumar said, “When we work in small groups, it serves a lot of purposes, generates a lot of trust among partner countries, builds capacities, increases interoperability and better domain awareness.”

Also on the panel were Gen. Koji Yamazaki, Chief of Staff, Japan Ground Self-Defence Force; Adm. John C. Aquilino, Commander of the U.S. Indo-Pacific Command; Adm. Sir Ben Key, First Sea Lord and Chief of Naval Staff of the U.K. and Vice Adm. Angus Topshee, Commander of Royal Canadian Navy.

Adm. Aquilino said that the benefit of Artificial Intelligence in the short-term is decision-making in real-time. “However, it’s important not to lose sight that the military has a human dimension and interaction as the world moves towards AI and machine learning,” he cautioned.

On similar lines, Adm. Key said that AI could crunch data faster than a human. However, it wasn’t capable of human instinct, intuitiveness and understanding of risk, he noted.

Gen. Yamazaki noted that cyber space and outer space were two important domains of the future. “Japan is working towards building comprehensive defence capabilities to become secure and resilient in this regard,” he said.

Noting that fundamentally naval operations remained the same, Vice Adm. Topshee said that Canada was working with its allies on a range of issues. “The opportunity to interact with other Navies provides us access to various perspectives to formulate a comprehensive way forward,” he added.

<https://www.thehindu.com/news/national/choice-between-rafale-m-and-f-18-super-hornet-will-be-the-governments-decision-navy-chief/article66581123.ece>



*Fri, 03 Mar 2023*

## **Defence Minister Rajnath Singh Talks with Israeli Counterpart Yoav Gallant on Phone**

During the conversation, Mr. Singh underlined the government’s priority for indigenisation and domestic manufacturing of defence equipment under ‘Aatmanirbhar Bharat Abhiyaan’. He acknowledged the cooperation of Israeli industries towards nurturing a vibrant and world-class defence manufacturing ecosystem in India. He invited Israeli Industries to deepen their investments in Joint Ventures with Indian companies.

Mr Singh expressed pleasure at the signing of some important MoUs between Indian and Israeli companies during the recently concluded Aero India 2023.

The Defence Minister of Israel highlighted the positive role played by India in the region and conveyed his Government’s keen interest in enhancing the strategic partnership between the two countries. Both the Ministers affirmed their commitment to further deepening of bilateral defence relationship under the framework of the ‘Vision Statement’ adopted last year.

<https://newsonair.com/2023/03/03/defence-minister-rajnath-singh-talks-with-israeli-counterpart-yoav-gallant-on-phone/>

# Business Standard

*Sat, 04 Mar 2023*

## **More India is Strong, more Calm Things will be: Former US Defence Secy**

Former US Defence Secretary Jim Mattis said on Friday that Indian defence forces need good technology as "more India is strong, the more calm things are going to get in this world."

Mattis said this while speaking at the Panel Discussion On "The Old, the New, and the Unconventional: Assessing Contemporary Conflicts" at the 8th Edition of the Raisina Dialogue 2023 on Friday.

"The human factors remain dominant even as new technology comes in. The Indian Army needs good technology because the more India is strong and speaks for itself, the more calm things are going to get in this world. We want that sort of strength, but we don't need it in the hand of a creature straight out of Dostoyevsky who will act on his impulses of hatred," Mattis said

Regarding the fear of the usage of nuclear power in the Russia-Ukraine conflict, he said that all NATO could do was remind Putin that NATO is a nuclear-armed alliance. Its message was that Russia should not even think about it.

"I must point out, here in India, Prime Minister Modi's firm statement about no use of nuclear weapons. I think that India has a connection to Russia that may have made that message strong and effective. We are thankful to your Prime Minister for it," he said while hinting at India's growing global influence under the leadership of Prime Minister Narendra Modi.

Quoting a saying from history he said, "Nations with allies thrive, nations without allies wither."

"We are watching Russia wither before our very eyes. The Western nations can continue to provide this aid so long as the will of the people because we are democracies. Our governments follow the will of the people. So long as that holds, we can continue to do this. It was the human factors that threw the Russians under a tenacious leader who is reminding us that leadership matters," he added. Especially when Prime Minister Modi pointed out, this is not an era of war, but when war intrudes, you've to deal with it.

Recalling his service days in NATO, he pointed out that earlier Russia had never considered NATO a threat. "Back when I was a NATO Supreme Allied Commander, I had Russian officers on my staff. Russian officers walked freely through the NATO headquarters in the 1990s and 2000s until 2014. They went to the cafeteria. We sat down next to them. They'd wander into our offices. Why did we do that? Because democratic nations are willing to be transparent in an effort to deter hostilities, to create understanding. The Russian army knew that NATO was no threat," he recalled.

"They (Russians) have moved their troops off the NATO lines and they're down attacking in Ukraine. this proved that they know that there was never a threat from NATO," he said.

[https://www.business-standard.com/article/international/more-india-is-strong-more-calm-things-will-be-former-us-defence-secy-123030400044\\_1.html](https://www.business-standard.com/article/international/more-india-is-strong-more-calm-things-will-be-former-us-defence-secy-123030400044_1.html)

## **China Hikes Defence Budget for 8th Consecutive Year with 7.2 per cent Increase to USD 225 Billion**

China on Sunday hiked its defence budget by 7.2 per cent, marginally higher than last year, to 1.55 trillion yuan (about USD 225 billion), marking the eighth consecutive year of increase in its military spending, amidst global unease about the PLA's increasingly aggressive behaviour.

China pegged its defence budget at 1.45 trillion yuan last year, a 7.1 per cent increase. This year the defence spending is increased to 1.55 trillion yuan.

However, in view of the appreciation of the dollar against the yuan, this year's defence spending of China totalled, according to the state-run China Daily, is about USD 225 billion.

Last year, in dollar terms China's defence spending to modernise the People's Liberation Army (PLA) amounted to USD 230 billion. This is for the eighth consecutive year that China has announced a single-digit percentage point increase in its military budget.

In his work report presented to the opening session of the National People's Congress (NPC) - the country's rubber-stamp parliament - outgoing Premier Li Keqiang spoke highly of the armed forces' achievements at the borders without directly referring to the still unresolved eastern Ladakh standoff with India.

“They carried out operations in a firm and flexible way, and they effectively conducted major missions relating to border defence, maritime rights protection, counterterrorism and stability maintenance, disaster rescue and relief, Covid-19 response, peacekeeping, and merchant ship escorting,” Li's work report said.

The reference to “major missions relating to border defence” was regarded as significant in the context of offensive actions by the PLA in Eastern Ladakh in May 2020 along the Line of Actual Control (LAC) with India, triggering a prolonged standoff that has virtually frozen the relations between the two countries.

Both sides held 17 rounds of high-level military talks to resolve the standoff and the 18th round was expected to take place soon.

China is the second biggest spender on defence next to the US whose defence budget for 2023 totalled USD 816 billion.

From India's point of view, however, China's defence budget continued to be over three times higher. India's defence budget for 2023-24 amounted to Rs 5.94 lakh crore (about USD 72.6 billion). Aided by increasing defence budgets, the two-million-strong PLA, the world's largest military, is increasingly getting powerful and assertive with the ever-expanding military modernisation of its Army, Navy and Air Force.

The Chinese military is headed by President Xi Jinping, who is the Chairman of the powerful Central Military Commission, the overall high command of the PLA. Xi, 69, the only Chinese

leader to have been elected for an unprecedented third five-year term by the ruling Communist Party of China (CPC) in October last year, also heads the party besides the presidency.

Under his leadership, the Chinese military has embarked on a massive military modernisation with a goal to be on par with the US armed forces in the next few years.

The Chinese Navy, the fast-expanding arm of the Chinese military, has now three aircraft carriers while its Air Force continued to be modernised with a vast variety of military jets including stealth jet fighters.

Li's work report also said: "Our national defence mobilisation capability was boosted. With these efforts, we fully safeguarded China's sovereignty, security, and development interests".

"They stepped up military training, increased combat preparedness, and became a much more modernised and capable fighting force," it said.

China's armed forces, with a focus on the goals for the centenary of the PLA in 2027, should work to carry out military operations, boost combat preparedness and enhance military capabilities so as to accomplish the tasks entrusted to them by the CPC and the people, Li said.

The armed forces should intensify military training and preparedness across the board, develop new military strategic guidance, devote greater energy to training under combat conditions, and make well-coordinated efforts to strengthen military work in all directions and domains, Li said.

China has been ramping up its defence expenditure as it vied with the US for global influence.

China is engaged in hotly contested territorial disputes in the South and East China Seas. Beijing has also made substantial progress in militarising its man-made islands in the past few years.

Beijing claims sovereignty over all of the South China Sea. But Vietnam, Malaysia, the Philippines, Brunei and Taiwan have counterclaims. In the East China Sea, China has territorial disputes with Japan.

China is also asserting pressure on Taiwan, the self-governing island democracy which Beijing claims as its own despite never having ruled.

Ahead of the NPC session, its spokesman Wang Chao on Saturday defended China's steady increases in annual defence budgets, saying that the country's defence spending as a share of the GDP was lower than the world average.

Wang said the increase in the defence budget is needed to meet the complex security challenges for China to fulfil its responsibilities as a major country.

China's military modernisation will not be a threat to any country but a positive force safeguarding regional stability and world peace, he said.

<https://economictimes.indiatimes.com/news/defence/china-plans-7-2-defence-spending-rise-this-year-faster-than-gdp-target/printarticle/98421749.cms>



## Science & Technology News



**Press Information Bureau  
Government of India**

**Ministry of Science & Technology**

*Fri, 03 Mar 2023*

### **G20 RIIG Experts Discussed Mechanisms to Collaborate and Work for Sustainable Energy Technologies**

Delegates deliberated on ways of working jointly to solve the energy challenges collectively to achieve carbon emission net-zero goals for environment protection and sustainability at the G20 conference on Materials for Sustainable Energy on 2nd March 2023 at Ranchi.

Dr. S. Chandrasekhar, Secretary, Department of Science and Technology (DST) and RIIG Chair, said that many G20 nations, including India, have enormous minerals and materials wealth that is required to be sustainably used for meeting our energy requirements.

Highlighting the theme of the G20 under India's Presidency, "Vasudhaiva Kutumbakam" or "One Earth, One Family, One Future" Dr. N. Kalaiselvi, Secretary, DSIR and DG, CSIR said it underlines the need for the entire world to come together and focus on sustainable energy so that we can have one global future with net zero emissions.

As G20 delegates from Indonesia and Brazil, the other two troika countries, reiterated the importance of the conference, delegates from several countries called upon the G20 nations to join hands for furthering research and developing technological solutions in sustainable energy storage, distribution and management.

Various facets of 'Materials for Sustainable Energy' were discussed under three sessions ---21st century challenges related to energy materials & devices, solar energy utilisation and photovoltaic technology, and materials and processes for green energy.

A total 21 foreign delegates from 16 G20 members countries, invited guest countries and international organisations participated in the conference along with about 40 Indian experts. The Conference was coordinated by the Council of Scientific and Industrial Research (CSIR), New Delhi.

Following this Conference on 'Materials for Sustainable Energy' in Ranchi, three more RIIG events will be held in Dibrugarh (Assam), Dharamshala (HP) and Diu on the themes 'Circular-bio-economy', 'Eco-Innovations for Energy Transition' and 'Scientific Challenges and Opportunities towards Achieving a Sustainable Blue Economy' respectively.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1903985>



**Press Information Bureau  
Government of India**

**Ministry of Science & Technology**

*Sat, 04 Mar 2023*

**India and Mexico Today Signed a Memorandum of Understanding on Research, Technology and Innovation Collaborations with focus on Several Key Technology Areas like Aerospace, Electronics, Earth & Ocean Sciences and Water, Mining, Minerals, Clean Energy, Biotech and Healthcare**

**The Multi-Sectoral Historic Agreement was signed in the August Presence of Union Minister for Science & Technology, Dr Jitendra Singh and Foreign Minister of Mexico, Marcelo Ebrard at the India Science Centre, Lodhi Road, New Delhi.**

**Dr Jitendra Singh assures the Mexican Foreign Minister that the three priority areas of Water, Lithium and Vaccines flagged by the Mexican side will be taken care of the CSIR and other Sister Organizations and India will provide tangible results in coming few months.**

**Foreign Minister of Mexico, Marcelo Ebrard thanked profusely Prime Minister Narendra Modi for sending COVID Vaccines during the peak of the pandemic and he underlined that India was the first country to send Vaccines to Mexico, when many other advanced powers and friends shown initial reluctance**

India and Mexico today signed a Memorandum of Understanding on research, technology and innovation collaborations with focus on several key technology areas like Aerospace, Electronics Instrumentation & Strategic Sectors; Civil, Infrastructure & Engineering; Ecology, Environment Earth & Ocean Sciences and Water; Mining, Minerals, Metals & Materials; Chemicals (including leather) and Petrochemicals; Energy (Conventional & Non-Conventional) and Energy Devices; Agri, Nutrition & Biotech and Healthcare.

The Multi-Sectoral Historic Agreement was signed in the August Presence of Union Minister for Science & Technology, Dr Jitendra Singh and Foreign Minister of Mexico Marcelo Ebrard at the India Science Centre, Lodhi Road in presence of High-Level Delegations from both the sides.

Welcoming Mr Ebrard and his Delegation, Dr Jitendra Singh said, the Government Delegation coming with Private Successful Start-Up ventures is a welcome sign and both the sides will exploit the Innovative Eco-System fully to have Sustainable Start-Ups.

Dr Jitendra Singh conveyed to the Mexican Delegation that the Prime Minister Narendra Modi gives high priority to scientific innovation and he highlights scientific projects in each of his speeches, like marine science, climate change and bio-fuels among others. Terming India and Mexico as 'Privileged Partners', the Minister said, the two countries can complement and supplement each other in many areas and we are on right course.

Dr Jitendra Singh assured the Mexican Foreign Minister that the three priority areas of Water, Lithium and Vaccines flagged by the Mexican side will be taken care of the CSIR and other Sister Organizations and India will provide tangible results in coming few months. He said, Lithium is becoming a real connect between India and Mexico, apart from the future vision of Sustainable Start-Ups. The Minister appreciated the presence of Foreign Minister for signing of the MoU and said, it reflects the seriousness, the Mexican Government attaches to its relationship with India.

Dr Jitendra Singh pointed out that CSIR and Mexican Agencies through this MoU could contribute effectively to the global society through Research and Innovation Partnerships for technology development, upscaling of each other's Intellectual Property for commercialization and Research Infrastructure Development & Sharing. He said, in addition to regular research & development, capacity building & training and participation in Knowledge dissemination activities, a special focus on Technology and Industry collaboration has been structured in the MoU.

The Minister also informed that as a way forward to identify specific collaborative proposals, topical interaction meetings between scientists from CSIR and institutions in Mexico are planned in this month itself, specifically focusing on Health, Energy, Aerospace and Environmental protection aspects. He said, it will be highly relevant to finalize collaboration proposals in consultation with industries and other stakeholders.

Foreign Minister of Mexico, Marcelo Ebrard thanked profusely Prime Minister Narendra Modi for sending COVID Vaccines during the peak of the pandemic and he underlined that India was the first country to send Vaccines to Mexico, when many other advanced powers and friends shown initial reluctance.

Mr Ebrard said that Mexican President Mr Andreas Manuel Obrador has instructed the Mexican Delegation to forge close ties with India and work for Joint Strategic Vision. He said, India-Mexico bilateral relations are though old and time tested, but this is the "Best Moment of Bilateral Engagement".

It may be recalled that Marcelo Ebrard called on Dr Jitendra Singh in March last year during his visit to India and flagged technology partnership between the two countries to new areas like vaccines, Information Technology, green revolution, health, biotechnology and space.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1904221>



*Sat, 04 Mar 2023*

## **Bengaluru IISc Reaches out to Science Buffs on Open Science Day**

Bengaluru's Indian Institute of Science (IISc) observed its annual Open Science Day after a gap of two years, during which it was suspended because of the Covid pandemic. Students and science and technology enthusiasts got an opportunity to visit the institute and explore its

initiatives and activities on Saturday. Lectures, experimental demos, poster presentations, exhibitions quiz contests, and other competitions were held in various departments and centres. A kids' zone was also organised, with a number of science and technology demos on display.

The IISc's aerospace engineering department prepared a roadmap to avoid the collision of unmanned aerial vehicles. "In the coming days the number of UAVs will be enormous, so we need to control them to avoid collisions. If a drone fails, steps need to be taken to avoid maximum damage. Our roadmap deals with that," said Ishfaq Zahoor Bhat, a PhD scholar with the department.

The Interdisciplinary Centre for Water Research at the IISc explained the causes of urban flooding and measures to contain the damage. Balaram, a researcher with the department, said, "Here we have prepared a model showing how concretisation of urban areas leads to flooding. We have prepared a model showing what was the core reason behind the flooding in Bengaluru in 2022. A lake plays an important role in controlling flooding and this is what we are showing to the kids."

The Centre for Brain Research, which was inaugurated in 2022 by Prime Minister Narendra Modi, announced a pilot study called "multimodal intervention trial for the prevention of dementia".

"This is a pilot study where we are looking for volunteers above the age of 55. We will see if lifestyle-based interventions could reduce the risk of dementia. The interventions would be in terms of physical and brain exercises along with diet," said Dr Thomas, who is heading the study.

The Defence Research and Development Organisation (DRDO) displayed models of TAPAS-UAV, anti-tank guided missiles and the Archer UAV.

Opposite to the IISc's heritage block was Vigyan Adda, where the public could interact with the scientists.

<https://indianexpress.com/article/cities/bangalore/bengaluru-iisc-reaches-out-to-science-buffs-on-open-science-day-8479471/>

