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# समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology

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Press Information Bureau  
Government of India  
Ministry of Defence

Wed, 23 Feb 2022 8:18PM

## **DRDO and IIT Delhi Scientists demonstrate Quantum Key Distribution between two cities 100 kilometres apart**

A joint team of scientists from Defence Research and Development Organisation (DRDO) and Indian Institute of Technology (IIT) Delhi, for the first time in the country successfully demonstrated Quantum Key Distribution link between Prayagraj and Vindhyachal in Uttar Pradesh, a distance of more than 100 kilometres.

This technological breakthrough was achieved over a commercial grade optical fibre already available in field. With this success, the country has demonstrated indigenous technology of secure key transfer for bootstrapping military grade communication security key hierarchy. The performance parameters have been measured and have been found to be repetitively within the reported international standards at sifted key rates of up to 10 KHz. This technology will enable security agencies to plan a suitable quantum communication network with indigenous technology backbone.

Secretary Department of Defence R&D and Chairman DRDO Dr G Satheesh Reddy congratulated the scientists and faculty of DRDO and IIT Delhi for the demonstration of this technology. In his message to the involved scientific fraternity, he mentioned this as one of the shining examples of synergetic research between DRDO and Indian Institute of Technology, Delhi. Director IIT Delhi Professor Rangan Banerjee also congratulated the faculty of IIT Delhi and scientists of DRDO associated with this development for their dedicated efforts to enhance country's technological capability.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1800648>



पत्र सूचना कार्यालय  
भारत सरकार  
रक्षा मंत्रालय

Wed, 23 Feb 2022 8:18PM

## **डीआरडीओ और आईआईटी दिल्ली के वैज्ञानिकों ने 100 किलोमीटर दूर दो शहरों के बीच क्वांटम की डिस्ट्रिब्यूशन का प्रदर्शन किया**

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) और भारतीय प्रौद्योगिकी संस्थान (आईआईटी) दिल्ली के वैज्ञानिकों की एक संयुक्त टीम ने देश में पहली बार उत्तर प्रदेश के प्रयागराज और विंध्याचल के बीच

100 किलोमीटर से अधिक दूरी पर क्वांटम की डिस्ट्रिब्यूशन लिंक का सफलतापूर्वक प्रदर्शन किया है। यह तकनीकी सफलता उस क्षेत्र में पहले से ही उपलब्ध वाणिज्यिक ग्रेड के ऑप्टिकल फाइबर पर हासिल की गई थी। इस सफलता के साथ ही देश ने सैन्य ग्रेड संचार सिक्योरिटी की हायररकी बूटस्ट्रैपिंग के लिए सिक्योर की ट्रांसफर संबंधी स्वदेशी तकनीक का प्रदर्शन किया है। प्रदर्शन मापदंडों को मापा गया और उसे 10 किलोहर्ट्ज तक की दरों पर अंतरराष्ट्रीय मानकों के दायरे में पाया गया है। यह तकनीक सुरक्षा एजेंसियों को स्वदेशी प्रौद्योगिकी की बुनियाद के साथ एक उपयुक्त क्वांटम संचार नेटवर्क की योजना बनाने में समर्थ बनाएगी।

रक्षा अनुसंधान एवं विकास विभाग के सचिव और डीआरडीओ के अध्यक्ष डॉ. जी. सतीश रेड्डी ने इस प्रौद्योगिकी के प्रदर्शन के लिए डीआरडीओ के वैज्ञानिकों और आईआईटी दिल्ली के शिक्षकों को बधाई दी। उन्होंने इसमें शामिल वैज्ञानिक समुदाय के लिए अपने संदेश में कहा कि यह डीआरडीओ और भारतीय प्रौद्योगिकी संस्थान दिल्ली के बीच साथ मिलकर अनुसंधान करने का एक दमदार उदाहरण है। आईआईटी दिल्ली के निदेशक प्रोफेसर रंगन बनर्जी ने भी देश की तकनीकी दक्षता को बेहतर करने के समर्पित प्रयासों के तहत इस कार्य से जुड़े आईआईटी दिल्ली के शिक्षकों और डीआरडीओ के वैज्ञानिकों को बधाई दी।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1800686>

**R. REPUBLICWORLD.COM**

Thu, 24 Feb 2022

## DRDO-IIT Delhi successfully test cryptic Quantum Key Distribution tech over record length

*DRDO revealed that it established the Quantum Key Distribution link between Prayagraj and UP's Vindhyachal, which is a distance of more than 100 kilometres.*

*By Harsh Vardhan*

The Defence Research and Development Organisation (DRDO), in collaboration with IIT Delhi successfully demonstrated its Quantum Key Distribution (QKD) technology for a record distance. DRDO revealed that it established the Quantum Key Distribution link between Prayagraj and UP's Vindhyachal, which is a distance of more than 100 kilometres. DRDO had first tested the QKD technology in its December 2020 trials between two DRDO labs, DRDL and RCI in Hyderabad.



Image: Unsplash

According to DRDO, the breakthrough was achieved using a commercial-grade optical fiber. "With this success, country has demonstrated indigenous technology of secure key transfer for bootstrapping military-grade communication security key hierarchy", DRDO said as per ANI. "The performance parameters have been measured and have been found to be repetitively within the reported international standards at sifted key rates of up to 10 KHz", DRDO added. The development comes while the DRDO has participated in the 'Vigyan Sarvatra Pujyate', which is being held across the country on the occasion of the 75th year of India's independence.

### What is the QKD technology?

The QKD technology has been developed by DRDO to allow secure communication between defence and strategic agencies using cryptography. According to the Ministry of Defence, the QKD technology is a Quantum based communication method that allows the secure sharing of secret keys, which can be used to encrypt or decrypt a message. Developed by the Centre for

Artificial Intelligence and Robotics (CAIR), Bengaluru, and Mumbai-based DRDO Young Scientists' Laboratory-- Quantum Technology (DYSL-QT), the QKD underwent its first trials in Hyderabad in December 2020. The quantum-based technology was for the deployed system was validated at over 12 kilometres range through an optical fiber.

Back then, the Defence Ministry had said that results from the trials will be used to enable start-ups and SMEs in the domain of Quantum information technologies. "It will also serve to define standards and crypto policies that can leverage QKD system in a unified Cipher Policy Committee (CPC) framework for more secure and pragmatic key management for current and future military cryptographic systems", the Ministry added.

<https://www.republicworld.com/india-news/general-news/drdo-iit-delhi-successfully-test-cryptic-quantum-key-distribution-tech-over-record-length-articleshow.html>

## THE TIMES OF INDIA

Thu, 24 Feb 2022

### In a first, DRDO demonstrates quantum communication over distance of 100km

New Delhi: For the first time in the country, a joint team of DRDO and IIT-Delhi scientists successfully demonstrated Quantum Key Distribution link over a distance of 100 km. A quantum communication link was established between facilities in Prayagraj and Vindhyachal, UP. "This technological breakthrough was achieved over a commercial-grade optical fiber already available in the field. With this success, the country has demonstrated indigenous technology of secure key transfer for bootstrapping military grade communication security key hierarchy," said the Defence Research and Development Organisation (DRDO).

"The performance parameters have been measured and have been found to be repetitively within the reported international standards at sifted key rates of up to 10 KHz," it added.

A similar demonstration was conducted in December 2020 between DRDO's two labs in Hyderabad. In March 2021, the Indian Space Research Organisation (ISRO) also demonstrated quantum communication over a distance of 300 meters.

Quantum communication is one of the safest ways of connecting two places with high levels of code that cannot be decrypted. If a third entity tries to intercept the communication, it is easily detected as it changes the code.

<https://timesofindia.indiatimes.com/home/science/in-a-first-drdo-demonstrates-quantum-communication-over-distance-of-100km/articleshow/89775251.cms>



Thu, 24 Feb 2022

### देश में पहली बार 'क्वांटम की डिस्ट्रीब्यूशन लिंक' का सफल परीक्षण, जानें इस तकनीक के क्या होंगे लाभ

By Monika Minal

नई दिल्ली: भारत में पहली बार 'क्वांटम की डिस्ट्रीब्यूशन लिंक' का सफलतापूर्वक परीक्षण किया गया। DRDO और IIT-दिल्ली के विज्ञानियों की संयुक्त टीम ने उत्तर प्रदेश में प्रयागराज और विंध्याचल के बीच 100 किलोमीटर से अधिक की दूरी के बीच क्वांटम की (कुंजी) डिस्ट्रीब्यूशन लिंक का सफलतापूर्वक प्रदर्शन किया। रक्षा अनुसंधान और विकास संगठन (DRDO) ने इस बारे में जानकारी दी है।



उपयुक्त क्वांटम संचार नेटवर्क की बन सकेगी योजना

यह तकनीकी सफलता वाणिज्यिक ग्रेड पर हासिल की गई जो ऑप्टिकल फाइबर क्षेत्र में पहले से ही उपलब्ध है। इस सफलता से देश ने बूटस्ट्रैपिंग के लिए सुरक्षित कुंजी हस्तांतरण की स्वदेशी तकनीक का प्रदर्शन किया गया। यह भी बताया गया कि प्रदर्शन के दौरान मापदंडों को मापा गया और रिपोर्ट किए गए अंतरराष्ट्रीय मानकों के भीतर 10 किलोहर्ट्ज तक की प्रमुख दरों पर दोहराव पाया गया। यह तकनीक सुरक्षा एजेंसियों को स्वदेशी प्रौद्योगिकी के बलबूते एक उपयुक्त क्वांटम संचार नेटवर्क की योजना बनाने में सक्षम बनाएगी।

बेहतर तालमेल का शानदार उदाहरण

रक्षा अनुसंधान एवं विकास विभाग के सचिव और डीआरडीओ के अध्यक्ष डा.जी सतीश रेड्डी ने इस तकनीक के प्रदर्शन के लिए डीआरडीओ और आइआइटी दिल्ली के विज्ञानियों और शिक्षकों को बधाई दी। उन्होंने इस परीक्षण में शामिल विज्ञानी बिरादरी को भेजे अपने संदेश में कहा कि यह डीआरडीओ और भारतीय प्रौद्योगिकी संस्थान, दिल्ली के बीच बेहतर तालमेल का एक शानदार उदाहरण है। आइआइटी दिल्ली के निदेशक, प्रोफेसर रंगन बनर्जी ने भी इससे जुड़े डीआरडीओ के संकाय और विज्ञानियों को देश की तकनीकी क्षमता बढ़ाने के लिए उनके समर्पित प्रयासों के लिए बधाई दी।

<https://www.jagran.com/news/national-drdo-successfully-tests-quantum-key-distribution-tech-between-2-cities-100-km-apart-22493925.html>



Thu, 24 Feb 2022

## India's LCA Tejas set to debut in foreign air

*Five Tejas aircraft will take part in the exercise with IAF's C-17 heavy-lifters providing transport support for induction and de-induction.*

New Delhi: India's light combat aircraft (LCA) Tejas is set to make its debut on foreign soil next month, officials familiar with the matter said Wednesday. It will take part in a multinational air exercise called Cobra Warrior 22 at Waddington in the UK from March 6 to 27, the Indian Air Force said in a statement.

"The exercise is aimed at providing operational exposure and share best practices amongst the participating air forces, thereby enhancing combat capability and forging bonds of friendship. This will be a platform for LCA Tejas to demonstrate its manoeuvrability and operational capability," it added.

Five Tejas aircraft will take part in the exercise with IAF's C-17 heavy-lifters providing transport support for induction and de-induction.

Tejas Mk-1 fighter jets took part in the Singapore Air Show from February 15 to 18, with the move aimed at tapping the export potential of the locally-made LCA.

Three Tejas Mk-1 jets will take part in the air show. The aircraft previously took in the Malaysia, Dubai and Bahrain air shows but have never participated in a combat exercise in a foreign country.

The Tejas's participation in the Singapore air show came in the backdrop of India taking steps to transform itself from one of the world's biggest weapons importers into an export powerhouse. The military hardware that holds export potential includes LCA, Astra beyond-visual-range air-to-air



Experts believe LCA can help India get a foothold in foreign markets. (ANI)

missile, Akash surface-to-air missile system, BrahMos supersonic cruise missiles, tanks, sonars and a variety of radars, officials said.

India's BrahMos Aerospace and the Philippines last month signed a deal worth almost \$375 million for the Philippine Marines to acquire three batteries of the BrahMos cruise missile, a shot in the arm for New Delhi's efforts to emerge as an exporter of major defence hardware.

Experts believe LCA can help India get a toehold in foreign markets.

State-run plane maker Hindustan Aeronautics Limited (HAL) is expected to carry out the first test flight of the Tejas's latest variant, Mk-1A, soon. Last year, the defence ministry awarded a Rs.48,000-crore contract to HAL for 83 LCA Mk-1A jets for IAF. The first Mk-1A aircraft will be delivered to the air force by March 2024, with the rest slated to join its combat fleet by 2029.

"LCA Tejas has displayed its prowess at a few international air shows. The fact that IAF is deploying it for a multi-national exercise abroad reflects its confidence in the single-engine fighter plane," said Air Marshal Anil Chopra (retd), director general, Centre for Air Power Studies.

<https://www.hindustantimes.com/india-news/indias-lca-tejas-set-to-debut-in-foreign-air-101645640868861.html>



Thu, 24 Feb 2022

## IAF to deploy LCA Tejas at multilateral air exercise in U.K.

*Air Forces of Belgium, Saudi Arabia, Sweden and the U.S. to also take part in 'Cobra Warrior'*  
*By Dinakar Peri*

New Delhi: In a first, Indian Air Force (IAF) will deploy the indigenous Light Combat Aircraft (LCA) Tejas for multilateral air exercise 'Cobra Warrior' at Waddington, U.K., which will also see the participation of Air Forces of Belgium, Saudi Arabia, Sweden and the U.S., defence officials said. The exercise is scheduled from March 6 to 27. "Five Tejas aircraft will fly to the U.K. IAF C-17 aircraft will provide the necessary transport support for induction and de-induction," the IAF said in a statement. "IAF LCA will participate in the exercise along with fighter aircraft of the U.K. and other leading Air Forces."



Light Combat Aircraft (LCA) Tejas of the Indian Air Force participates in the Singapore Air Show 2022. | Photo Credit: PTI

### Greater exposure

This edition the U.K. was to host the exercise, so instead of a bilateral exercise, they invited us to join the multilateral format which would give us greater exposure, a defence official said. The exercise is aimed at providing operational exposure and to share best practices amongst the participating Air Forces, thereby enhancing combat capability and forging bonds of friendship, the IAF said. "This will be a platform for LCA Tejas to demonstrate its manoeuvrability and operational capability," it stated. The IAF would be fielding the LCA in Final Operational Clearance (FOC) configuration for the exercise, it has been learnt. The IAF has two squadrons of the LCA and has placed order for 83 LCA-Mk1A which are more capable than the IOC and FOC variants in service. Air exercise Indradhanush between India and the U.K. began in 2013 and the fifth edition was held at Air Force Station Hindan in February 2020.

<https://www.thehindu.com/news/national/iaf-to-deploy-lca-tejas-at-multilateral-air-exercise-in-uk/article65077018.ece>



पत्र सूचना कार्यालय  
भारत सरकार  
रक्षा मंत्रालय

Wed, 23 Feb 2022 2:17PM

## भारतीय वायुसेना इंग्लैंड में कोबरा वारियर युद्धाभ्यास में भाग लेगी

भारतीय वायु सेना 06 से 27 मार्च 2022 तक इंग्लैंड के वैडिंगटन में 'एक्स कोबरा वारियर 22' नामक एक बहु राष्ट्र वायु सेना युद्धाभ्यास में भाग लेगी। भारतीय वायु सेना के लाइट कॉम्बैट एयरक्राफ्ट (एलसीए) तेजस इंग्लैंड और अन्य शीर्ष वायु सेनाओं के लड़ाकू विमानों के साथ इस युद्धाभ्यास में भाग लेंगे।

इस अभ्यास का उद्देश्य भाग लेने वाली वायु सेनाओं के मध्य परिचालन प्रदर्शन करना और श्रेष्ठ प्रथाओं को साझा करना है, जिससे युद्ध क्षमता को बढ़ाना और मित्रता के बंधन को मजबूत बनाना है। यह एलसीए तेजस के लिए अपनी गतिशीलता और परिचालन क्षमता का प्रदर्शन करने वाला एक मंच होगा।

पांच तेजस विमान इंग्लैंड के लिए उड़ान भरेंगे। भारतीय वायु सेना के सी-17 विमान प्रवेश (इंडक्शन) और निकास (डी-इंडक्शन) के लिए आवश्यक परिवहन सहायता प्रदान करेगा।



<https://pib.gov.in/PressReleasePage.aspx?PRID=1800531>

## हिन्दुस्तान

Thu, 24 Feb 2022

### डीआरडीओ ने मॉडल में दिखायी देश की सुरक्षा

- डॉ. भीमराव आंबेडकर विश्वविद्यालय में किया जा रहा है महोत्सव का आयोजन
- एडीआरडीई ने दिखाए छात्रों के मॉडल, वक्ताओं ने व्यक्त किए संगोष्ठी में विचार

आगरा: डॉ. भीमराव आंबेडकर विश्वविद्यालय में छात्रों को डीआरडीओ ने देश की सुरक्षा के मॉडल को दिखाया। विवि में चल रहे विज्ञान महोत्सव कार्यक्रम के दूसरे दिन डीआरडीओ ने विभिन्न मॉडल प्रदर्शित किए। देश की सुरक्षा को मजबूत करने के लिए डीआरडीओ की ओर से किए गए अविष्कारों के मॉडल छात्रों ने समझे। प्रदर्शनी का आयोजन विवि के खंदारी परिसर स्थित इंजीनियरिंग संस्थान में किया गया।

विज्ञान महोत्सव के दूसरे दिन डीआरडीओ द्वारा लगाई गई प्रदर्शनी में बुलेट प्रूफ जैकेट, बुलेट प्रूफ हेलमेट का प्रदर्शित किया गया। इसके साथ ही पैरासूट और डीआरडीओ के अन्य प्रोजेक्ट को भी देखा। डीआरडीओ के विशेषज्ञों ने छात्रों को बूलेट प्रूफ जैकेट, हेलमेट पहनाकर दिखाए। इसके साथ ही कार्यक्रम के द्वितीय सत्र में जालमा इंस्टिट्यूट के डायरेक्टर डॉ. एमए खान ने लेप्रोसी तथा ट्यूबरक्लोसिस के बारे में



जानकारी दी। डॉ. अजय वीर सिंह ने बताया कि टीबी पर संस्थान बड़ा कार्य कर रहा है। टीबी के इलाज में हुए नए शोध के अच्छे परिणाम आ रहे हैं। संयोजक प्रो. संजीव कुमार ने बताया कि महोत्सव का उद्देश्य रिसर्च एंड इनोवेशन को बढ़ावा देना है। महोत्सव में डॉक्यूमेंट्री प्रदर्शनी, फोटोग्राफी प्रतियोगिता, क्विज प्रतियोगिता, डिबेट प्रतियोगिता, पोस्टर प्रेजेंटेशन, मॉडल प्रेजेंटेशन, साईकल रैली, पुस्तक मेला, विज्ञान प्रदर्शनी सहित विभिन्न कार्यक्रम आयोजित किए जाएंगे हैं।

<https://www.livehindustan.com/uttar-pradesh/agra/story-drdo-showed-the-country-39-s-security-in-the-model-5885057.html>

## DRDO on Twitter

**IANS** IANS Tweets  
@ians\_india

A joint team of scientists from Defence Research and Development Organisation (@DRDO\_India) and @iitdelhi, for the first time in the country successfully demonstrated Quantum Key Distribution link between Prayagraj and Vindhyachal in Uttar Pradesh, a distance of more than 100 km.



8:16 PM · Feb 23, 2022 · Twitter Web App

**ANI** ANI  
@ANI

A joint team of DRDO & IIT-Delhi scientists for the first time in the country, successfully demonstrated Quantum Key Distribution link between Prayagraj and Vindhyachal, UP, a distance of more than 100 kms: DRDO



8:09 PM · Feb 23, 2022 · Twitter Web App

**ANI** @ANI · 14h

Replying to @ANI

This technological breakthrough was achieved over a commercial-grade optical fiber already available in the field. With this success, country has demonstrated indigenous technology of secure key transfer for bootstrapping military grade communication security key hierarchy: DRDO

23 February 2022

**ANI** @ANI · 14h

The performance parameters have been measured and have been found to be repetitively within the reported international standards at sifted key rates of up to 10 KHz: Defence Research and Development Organisation (DRDO)

23 February 2022

**DRDO** @DRDO\_India · 3h

Technological breakthrough of QKD link achieved over a commercial grade optical fibre already available in field. Indigenous technology of secure key transfer met the performance parameters at sifted key rates of up to 10 KHz

[pib.gov.in/PressReleasePa...](http://pib.gov.in/PressReleasePa...)

23 February 2022

 **DRDO** @DRDO\_India · 5h

DRDO & @iitdelhi successfully demonstrated the Quantum Key Distribution link over a distance of about 100km. A major breakthrough in the area of Quantum technology research.  
@PMOIndia @DefenceMinIndia

#LeapWithDRDO  
#AtmanNirbharBharat

23 February 2022

DRDO Retweeted

 **Manohar Parrikar IDSA, New Delhi** @IDSANew Delhi · 7h

.@IDSANew Delhi held a Panel Discussion on "#India's #Strategy to Combat #Drone Threats" on Wed, 23 Feb 2022 at 1030 hrs. The event was moderated by DG @SujanChinoy. Participants: @NITI\_Aayog, @DRDO\_India, academia, #military, scholars. Concluding remarks by DDG @BipsBak



रक्षा मंत्री कार्यालय/ RMO India and 9 others


23 February 2022

 **PIB India** @PIB\_India

23 Feb 2022


Indian Air Force to participate in a multi-nation air exercise named 'Ex Cobra Warrior 22' at Waddington, UK from 06 to 27 March 2022 Read here: <https://pib.gov.in/PressReleasePage.aspx?PRID=1800502>



 **ANI** @ANI

IAF will participate in multi-nation air exercise #CobraWarrior at Royal Air Force base, Waddington, UK from 6-27 March. Five indigenous LCA Tejas fighter aircraft will participate in the exercise while a C-17 aircraft will provide transport support: Indian Air Force

(File pic)



1:26 PM - Feb 23, 2022 · Twitter Web App



Press Information Bureau  
Government of India  
Ministry of Defence

Wed, 23 Feb 2022 3:21PM

### Army Chief presents President's colours to units of the Parachute Regiment

General MM Naravane, The Chief of the Army Staff presented the prestigious 'President's Colours' to four battalions of the Parachute Regiment, namely 11 PARACHUTE (Special Forces), 21 PARACHUTE (Special Forces), 23 PARACHUTE and 29 PARACHUTE, during an impressive Colour Presentation Parade held at the Parachute Regiment Training Centre, Bangalore on 23 February 2022.

The Parachute Regiment is an elite regiment of Indian Army which holds an enviable record in pre and post-independence operations. The Regiment has been awarded a number of laurels in diverse theatres such as Gaza, Korea, Bangladesh, Srilanka, Maldives, Rann of Kutch, Siachen, Rajasthan, Punjab, Jammu & Kashmir and in the Eastern theatre including Manipur, Nagaland & Assam. Post-independence, battalions of the Regiment have earned an impressive tally of 32 Chief of the Army Staff unit citations and its personnel have been awarded with 08 Ashoka Chakra, 14 Maha Vir Chakra, 22 Kirti Chakra, 63 Vir Chakra, 116 Shaurya Chakra & 601 Sena Medals for gallantry and exceptional bravery.

After reviewing the parade, the Army Chief appreciated the rich legacy of valour, sacrifice and traditions of the Parachute Regiment. The Army Chief also complimented the newly raised units for the remarkable performance within a short period of time and conveyed his best wishes to all ranks to serve the Nation with pride.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1800524>



पत्र सूचना कार्यालय  
भारत सरकार

रक्षा मंत्रालय

Wed, 23 Feb 2022 3:21PM

### थल सेना अध्यक्ष ने पैराशूट रेजिमेंट की बटालियनों को राष्ट्रपति ध्वज प्रदान किए

थल सेना अध्यक्ष जनरल एमएम नरवणे ने 23 फरवरी 2022 को बेंगलुरु स्थित पैराशूट रेजिमेंट प्रशिक्षण केंद्र में आयोजित एक प्रभावशाली ध्वज प्रस्तुति परेड के दौरान पैराशूट रेजिमेंट की चार



बटालियनों को प्रतिष्ठित 'राष्ट्रपति ध्वज' प्रदान किए। इन बटालियनों में 11 पैराशूट (विशेष बल), 21 पैराशूट (विशेष बल), 23 पैराशूट और 29 पैराशूट हैं।

पैराशूट रेजिमेंट भारतीय सेना की एक विशिष्ट रेजिमेंट है। यह स्वतंत्रता के पहले और बाद के अभियानों में अपना एक उल्लेखनीय रिकॉर्ड रखती है। इस रेजिमेंट को गाजा, कोरिया, बांग्लादेश, श्रीलंका, मालदीव, कच्छ के रण, सियाचिन, राजस्थान, पंजाब व जम्मू और कश्मीर जैसे विविध युद्ध क्षेत्रों व मणिपुर, नगालैंड और असम सहित पूर्वी युद्ध क्षेत्र में कई पुरस्कारों से सम्मानित किया गया है। आजादी के बाद पैराशूट रेजिमेंट की बटालियनों ने प्रभावशाली 32 सेना अध्यक्ष बटालियन प्रशस्ति पत्र प्राप्त किए हैं। वहीं, इसके जवानों को वीरता व असाधारण बहादुरी के लिए 8 अशोक चक्र, 14 महावीर चक्र, 22 कीर्ति चक्र, 63 वीर चक्र, 116 शौर्य चक्र और 601 सेना पदक से सम्मानित किया गया है।



सेना प्रमुख ने परेड की समीक्षा के बाद पैराशूट रेजिमेंट की वीरता, बलिदान और परंपराओं की समृद्ध विरासत की सराहना की। वहीं, सेना प्रमुख ने कम समय में उल्लेखनीय प्रदर्शन के लिए नई गठित की गई बटालियनों की भी सराहना की और गर्व के साथ राष्ट्र की सेवा करने के लिए सभी सैनिकों को शुभकामनाएं दीं।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1800529>

## THE TIMES OF INDIA

Thu, 24 Feb 2022

### NATO country places order for 5.56mm bullets with YIL-MIL

By Shishir Arya

Nagpur: The Indian Army may be phasing out 5.56mm bullets and the indigenous INSAS rifles, but the erstwhile ordnance factories turned corporations have got a massive order from a NATO country to make these very rounds. The indent is nearly three times the quantity of 5.56mm rounds the Indian Army purchases in a year on an average, said sources.

In another development, the defence public sector undertakings (DPSUs) have got an export order to make components for anti-aircraft ammunition from a European country.

Both the orders will be implemented by Yantra India Limited (YIL), and Munitions India Limited (MIL), which are headquartered at Nagpur and Pune respectively. YIL will make the hardware with ammunition filling to be done by MIL.

The factories have capacity to make more 300 million rounds a year. The current order is expected to help the companies utilize the machinery close to their full capacity.

The Indian Army has drastically cut down the orders for 5.56mm bullets and also the INSAS rifles which fires the round. The INSAS, which fires the 5.56mm, has been the standard issue rifle for soldiers. However, since nearly 10 years ago, the Army began reporting problems with the



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INSAS rifle functioning. The rounds too were reported to be not as effective during operations against militants.

The 5.56mm bullets are of a smaller caliber and are meant to injure rather than kill. The philosophy is to injure enemy soldiers rather than kill, so it engages other soldiers in evacuating the wounded person. The argument goes that this theory may have been effective in war but not in operations against militants.

The Army now wants to change the rifle and the bullets. A factory to make AK-203 has been set up by Indo-Russian Rifles Private Limited, a joint venture with Russia's Kalashnikov, at Amethi.

At present the Indian Army is taking delivery of limited number of 5.56mm bullets as it may soon be phased out. Sources said a number of nations still use 5.56mm bullets along with the 7.62 caliber rounds.

The second order at YIL is for components of 40mm anti-aircraft ammunition fired from the L-70 guns. The order is expected to compensate for the dwindling orders from the Indian Army.

After corporatization, the erstwhile Ordnance Factory Board (OFB) has been converted into seven defence PSUs. The ordnance factory at Ambajhari comes under YIL, which has seven other units under it. The ordnance factories at Chandrapur and Bhandara have gone under MIL.

<https://timesofindia.indiatimes.com/city/nagpur/nato-country-places-order-for-5-56mm-bullets-with-yil-mil/articleshow/89783406.cms>



Thu, 24 Feb 2022

## Indian Army procures 'Mini Remotely Piloted Aircraft Systems for Surveillance in high-altitude areas

*The Army has initiated a number of measures to bolster its surveillance mechanism along the LAC following the eastern Ladakh standoff.*

New Delhi: The Indian Army on Wednesday said it has acquired 'mini remotely piloted' aircraft systems which will further enhance its surveillance capabilities in high-altitude areas. The Army has been significantly focusing on cranking up its surveillance mechanism along the Line of Actual Control (LAC) with China as part of a broad strategy to beef up overall military preparedness.

"As part of ongoing modernization & induction of niche & emerging technologies at the tactical level, #IndianArmy has acquired "Mini Remotely Piloted Aircraft Systems". These #RPAs will further enhance the surveillance capabilities in High Altitude Areas," the Army tweeted.

The Army has initiated a number of measures to bolster its surveillance mechanism along the LAC following the eastern Ladakh standoff.

<https://www.news18.com/news/india/indian-army-procures-mini-remotely-piloted-aircraft-systems-for-surveillance-in-high-altitude-areas-4803704.html>



The Army has been significantly focusing on cranking up its surveillance mechanism along the LAC with China as part of a broad strategy to beef up overall military preparedness. (Image: Indian Army Twitter)



Thu, 24 Feb 2022

## Three more Rafale jets arrive in India from France

*India on Tuesday evening received three more Rafale fighter jets from France.*

*By Manjeet Negi*

New Delhi: Three more Rafale fighter aircraft of the Indian Air Force (IAF) reached India on Tuesday evening from France. The aircraft took off from a French airbase and were provided mid-air refuelling by the Air Force of the United Arab Emirates (UAE).

With the arrival of the latest three aircraft, India has now received a total of 35 of the 36 Rafale jets for which it signed a contract with France in September 2016.

According to government officials, the final aircraft will arrive in India from France in a few weeks. Over 30 of these aircraft had been ferried by the IAF, flying directly without any halts.

The last Rafale aircraft which will have India-specific enhancements will be delivered after all its trials are conducted, Air Chief Marshal VR Chaudhari had said earlier.



File photo of Rafale aircraft (Photo: India Today)

In 2016, India signed its largest-ever defence deal with France, as part of which 36 Rafale fighter jets were to be inducted into the IAF. The Rafale can carry a variety of weapons, including the Meteor, developed by the European missile manufacturer MBDA, and the Scalp cruise missile.

France's defence minister, Florence Parly, had earlier stated that France was willing to provide more Rafale fighter jets to India, and that the use of the same aircraft by the two strategic partners reflected the "strength" of their ties.

<https://www.indiatoday.in/india/story/three-more-rafale-jets-arrive-in-india-from-france-1916900-2022-02-23>

Thu, 24 Feb 2022

## India, Lanka close to sealing 3 defence-related pacts to boost maritime security

*India and Sri Lanka had close to firming up three defence-related pacts and arrangements to boost maritime security ahead of Sri Lanka finance minister Basil Rajapaksa's visit this week*

*By Rezaul H Laskar*

New Delhi: Ahead of a visit by Sri Lanka finance minister Basil Rajapaksa to India this week, the two countries are close to finalising three defence-related agreements and arrangements that are expected to boost cooperation for maritime security.

Rajapaksa, the younger brother of President Gotabaya Rajapaksa and Prime Minister Mahinda Rajapaksa, has been coordinating with the Indian side to firm up an economic assistance package to help Sri Lanka tide over a severe balance of payments crisis. He is expected to visit New Delhi during February 25-26, his second trip to the Indian capital since December.



Sri Lanka's finance minister Basil Rajapaksa is expected to visit New Delhi during February 25-26, his second trip to Delhi since December. (AFP File Photo)

While a \$1-billion line of credit to be provided by India to Sri Lanka to purchase food, medicines and essential items will be the focus of Rajapaksa's visit, the two sides are close to finalising three defence-related

agreements and arrangements that will bolster the capabilities of Sri Lanka's armed forces and boost cooperation for maritime security.

In addition to agreements for the purchase of two Dornier aircraft and the acquisition of a 4,000-tonne naval floating dock by Sri Lanka, Colombo has agreed to post a naval liaison officer at the Indian Navy's Information Fusion Centre-Indian Ocean Region (IFC-IOR) in Gurugram, people familiar with the matter said.

The centre tracks merchant shipping and monitors threats such as maritime terrorism and piracy in regional waters. The Sri Lankan liaison officer will join counterparts from 10 of India's partner nations, including Australia, France, Japan, the Maldives, Singapore, the UK and the US.

The naval floating dock is a facility equipped with automated systems for the quality and swift repairs of warships. Such docks have the capability to lift large ships such as frigates and destroyers, and are designed to be berthed alongside a jetty or moored in calm waters to carry out planned or emergency repairs of ships.

The people cited above said another potential area for defence cooperation is the expansion of training for Sri Lankan military personnel in Indian facilities and institutions. Along with the erstwhile Afghan national security forces, Sri Lanka has been one of the biggest beneficiaries of military training programmes offered by India.

Over the past few months, India has extended financial assistance to Sri Lanka as part of a four-pillar package decided during Rajapaksa's last visit to New Delhi in December. The Indian side has provided a \$500-million line of credit for purchasing fuel and a currency swap of \$400 million under the Saarc facility. It has also deferred the payment of \$515 million due to the Asian Clearing Union.

The finalisation of the long-gestating project to refurbish and develop the British era Trincomalee oil farm, an 850-acre storage facility with a capacity of almost one million tonnes, has also given a boost to bilateral cooperation.

<https://www.hindustantimes.com/india-news/india-lanka-close-to-sealing-3-defence-related-pacts-to-boost-maritime-security-101645635108333.html>



Thu, 24 Feb 2022

## **With mission Rafale accomplished, France now eyes bigger deal for Dassault Fighters for Indian Air Force & Navy**

*India's External Affairs Minister S. Jaishankar's three-day France visit seems to have provided a new thrust to the strategic and defense partnership between the two countries.*

*By Ashish Dangwal*

The purchase of 36 Rafale fighter jets by India is frequently defined as a milestone in their defense relationship. On February 23, Jaishankar delivered a speech at the French Institute of International Relations on 'How India Sees France'. Interestingly, France also completed the delivery of the three aircraft on February 23 night.

The Indian Air Force has so far received 35 of the 36 Rafales ordered. The last one with India-specific enhancements is expected to land next month.

According to Jaishankar, in the past two decades, New Delhi has "transformed many of its relationships, in its extended neighborhood as much as at the global level".

"Our relationship with France, though, is one that bridges multiple generations. History is certainly an asset for this particular account. What is now happening is a shared endeavor to take it

to a still higher level. I can assert with genuine confidence that it is the strongest now since our journey as an independent nation began 75 years ago,” he said.

“It is a relationship that has been free from sudden shifts and surprises that we sometimes see in other cases. Indeed, these ties have continuously adapted to change and come out stronger for that,” the minister added.

In terms of the defense relationship, Jaishankar said, “Our first acquisition of French fighter aircraft was in the early 1950s. Since then, succeeding generations of French aircraft and other platforms and equipment have been an integral part of the Indian military force. India, therefore, has strong reason to see France as a critical partner for its national security.”



**Rafale Fighter Via Dassault Aviation**

Stressing that multiple crises are raging around the world now, including one in Europe, he said, “It is taking place in the midst of significant geopolitical, geoeconomics, and technological upheavals. The pandemic’s widespread disruption has heightened, if not expedited, these patterns. These developments, taken together, have posed fresh challenges to the international order. We no longer have the comfort of the familiar.”

“I am also pleased to share my thoughts on how India sees France. It is particularly appropriate that I am doing so following a bilateral meeting with Foreign Minister Le Drian, Defence Minister Parly and the Indo Pacific Ministerial Forum for which I came here. These occasions captured the strategic priorities that provide a compelling framework of what I believe is a truly unique partnership between India and France,” he said.

### **France Eyes New Deal**

As the delivery of 36 Dassault Rafales is almost completed (the last one arriving next month), there have been discussions on purchasing another 36 under the Multi-Role Fighter Aircraft (MRFA) program, loosely called MMRCA 2.0.

The IAF’s fighter strength is depleting, prompting this new procurement program. Out of a sanctioned strength of 42 squadrons, the IAF currently operates 32. The MRFA jets would replace aging aircraft such as MiG-21s, Mirage 2000s, and Jaguars.

The Rafale could be suitable for this new procurement, according to a recent survey by The EurAsian Times. France is keen to secure this deal. Last year, France’s Minister of the Armed Forces, Florence Parly, stated that Paris is prepared to respond to any additional needs or requests for additional Rafale fighter jets from India, including for its indigenous aircraft carrier.

Last November, the two countries also agreed to strengthen their defense and security cooperation by improving intelligence and information sharing, strengthening capabilities, expanding military drills, and pursuing new maritime, space, and cyber activities.

The Indo-French defense collaboration has increased significantly after Australia, the United Kingdom, and the United States announced a new security alliance — AUKUS — last September, in response to China’s assertiveness in the Indo-Pacific region.

The pact promises eight state-of-the-art nuclear submarines for Australia. This came as a big blow to France as Canberra subsequently withdrew from its submarine agreement with Paris.

### **Rafale-M For Indian Navy**

The Indian Navy is looking for a new carrier-based fighter jet, and the Rafale-M, manufactured by France, is a leading contender.

Previously, the naval variant of the Rafale was flight-tested at a shore-based facility in Goa, where conditions comparable to those aboard the indigenously-developed aircraft carrier INS Vikrant were emulated, as previously reported by EurAsian Times.

The Rafale-M is competing with the US-made Super Hornet for India’s carrier-based fighter jet contract. The INS Vikrant, India’s second aircraft carrier, is slated to be commissioned in August.

Last month, the Rafale-M fighter was said to have been tested for 12 days at the INS Hansa facility in Goa, utilizing a 283-meter artificial ski-jump ramp. Parallel tests for Boeing's Super Hornet or F/A-18E/F jet are planned at INS Hansa next month. The French aircraft's weight-to-power ratio and maritime attack capabilities are thought to favor its possible entry into the Indian Navy.

### **Jet Engine Technology**

In his latest statement, Jaishankar mentioned the possibility of a technology partnership between the two countries. He added that France is one of the most important countries as India works to achieve industrial self-sufficiency in the defense sector, which he sees as a top priority.

India takes inspiration from France's own national self-sufficiency in this regard. New Delhi is also considering ambitious concepts for collaborative ventures in India, given the history of defense cooperation between two countries, he said.

Considering the growing defense collaboration between the two nations, Jaishankar may hold negotiations with the French government about the transfer of technology to produce 100-kilonewton Safran aircraft engines in India as part of the 'Aatmanirbhar Bharat' (self-reliant India) program.

The engine development agreements between the two countries have been ongoing for quite some time. Indian Defense Minister Rajnath Singh said in December last year that France has agreed to jointly produce aircraft engines in India to increase the country's self-reliance in the defense manufacturing sector.

"A big French company will manufacture an engine in India, thus far not made in the country, in collaboration with an Indian firm," Rajnath Singh then said, most presumably referring to the Safran group.

France had earlier also proposed an enticing proposal to revive plans to develop the indigenous Kaveri jet engine as part of the Rafale agreement, as previously reported by The EurAsian Times. In addition, a detailed presentation on developing an aircraft engine ecosystem in India was given.

Safran, which develops engines and electronics for the Rafale fighter, has offered to co-develop the Kaveri engine for the Indian Light Combat Aircraft (LCA) program, which currently relies on American GE engines.

In early 2021, Hindustan Aeronautics Limited (HAL), India's state-owned aircraft maker, and Safran signed an MoU (Memorandum of Understanding), announcing their intention to collaborate on engine technology.

France had indicated that India will be the sole country to get such advanced technology transfer, ensuring that New Delhi would achieve complete "sovereignty" in the field of aero-engine technology.

<https://eurasianimes.com/france-now-eyes-dassault-fighters-for-indian-air-force-navy/>

## All-women sailing expedition team of Indian Army completes maiden journey

*The expedition team completed its gruelling journey on the Chennai Nizampatnam-Vizag-Nizampatnam-Chennai and returned to the Chennai Port Trust on Wednesday.*

The first ever all-women sailing expedition of the Indian Army completed its journey and returned to the city on Wednesday, officials said.

Governor of Telangana and Lieutenant Governor of Puducherry Tamilisai Soundararajan had formally flagged off the event on February 15 organised by the Electronics and Mechanical Engineering (EME) Sailing Association of the Army under the aegis of Southern Command Sailing Node, EME Sailing Association and the Army Adventure Wing.



Image: PTI/Rep

The expedition team completed its gruelling journey on the Chennai Nizampatnam-Vizag-Nizampatnam-Chennai and returned to the Chennai Port Trust on Wednesday, a press release said here.

On its arrival at the Chennai Port Trust, Major General S S Dahiya, Chief of Staff, Dakshin Bharat Area, flagged off the expedition and complemented the EME Sailing Association and the Army Adventure Wing for the event.

The expedition would not only give an impetus to sailing as a sport, but would also inspire young girls to don the olive greens and serve the nation, Dahiya said.

Major Mukta Gautam of the Electronics and Mechanical Engineers (EME) led the expedition with the team comprising -- Major Priya Semwal, Priya Das, Rashmil Sangwan, Arpita Dwivedi and Sanjana Mittal and Captain Jyoti Singh, Malvika Rawat, Shubham Solanki and Sonal Goyal.

"The officers were trained in blue water sailing and watermanship under the tutelage of EME Sailing Association and HBTC Marve, before embarking on the expedition," the release said.

The Navy and Coast Guard provided its support throughout the expedition by tracking the team besides offering necessary assistance.

The Dakshin Bharat Area headquarters provided the logistics support for the expedition. Chennai Port Trust Deputy Chairman Balaji Arun Kumar, officials from Navy and Coast Guard were also present on the occasion.

The successful completion of the expedition is yet another step towards women empowerment and the sustained efforts towards enhancing the role of women officers in the Army, the release said.

The EME Sailing Association has undertaken a large number of offshore sailing expeditions over the last two decades, including -- Mumbai-Kochi expedition in 2009, Mumbai-Goa-Mumbai in 2017, and the Indian Peninsula Offshore Sailing expedition in 2018.

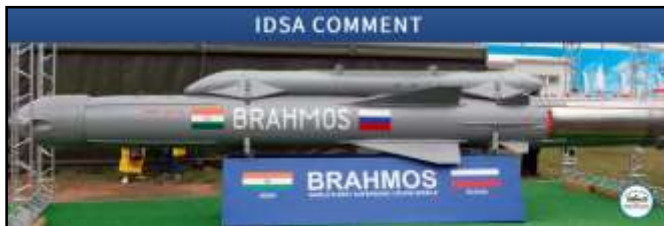
<https://www.republicworld.com/india-news/general-news/all-women-sailing-expedition-team-of-indian-army-completes-maiden-journey-articleshow.html>



# What BrahMos deal with Philippines means for Indo-Pacific

*By Niranjan Chandrashekhar Oak*

The US\$ 375 million BrahMos deal between India and the Philippines signed on 28 January 2022 is not just a one-off arms deal, but a milestone in India's relations with the Indo-Pacific region. The deal posits a complex geopolitical picture in the region. For the Philippines, the missile batteries will equip the country's naval forces with much-needed deterrent capacity against China, thus tilting a favourable balance of power towards Manila, contributing to the stability of the Indo-Pacific. Further, the agreement is a testimony to India's shining record as an adherent of international law. Moreover, it marks a convergence between India's Act East and Defence Export policies by increasing India's profile as a defence trade partner of medium/high technology products. The BrahMos Aerospace chief, Atul Dinkar Rane, described the deal as "the first export deal that India had signed for a full major weapon system and would pave the way for many more to come forward".<sup>1</sup> Thus, it would be prudent to take a closer look at the BrahMos missile deal to understand its ramifications for the region.



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## Complex Geopolitics

The BrahMos agreement between India and the Philippines indirectly involves players beyond the two countries. The BrahMos Aerospace is a collaboration between Defence Research and Development Organisation (DRDO), India and Joint Stock Company "Military Industrial Consortium" "NPO Mashinostroyeniya", Russia (earlier known as Federal State Unitary Enterprise NPOM of Russia) with 50.5 per cent and 49.5 per cent stakes respectively.<sup>2</sup> The Philippines is a treaty ally of the United States (US), and the agreement is aimed at China which is a close partner of Russia in the current times. Thus, the deal can be read in multiple ways. It shows an urge to diversify the defence hardware on Manila's part. Further, the Philippines' choice of India—a partner of both Russia and the US—has exhibited the country's sagacity in selecting strategic partners. As is apparent from the recently published Indo-Pacific strategy, the US perceives India positively, and China's muted reaction owes to its close partner Russia. By selling defence equipment to China's adversaries, Russia has sent a subtle message to China that it be treated as an equal. Despite its economic woes, Kremlin remains a force to reckon with.

## Balance of Power in Indo-Pacific

The BrahMos deal—a part of the Philippines' modernisation efforts under Horizon 2 (2018–2022)—is a way for the Philippines to maintain a positive balance of power in its favour. The contract signed between Defence Secretary of Philippines Delfin N. Lorenzana and BrahMos Aerospace Pvt. Ltd aims to supply three batteries of an anti-ship variant of the missile to the Philippines Navy. The agreement also includes training for operators and an integrated logistics support package. In the past few years, the Philippines has been under intense pressure from China vis-à-vis its sovereignty and territorial integrity in the South China Sea (SCS), also known as the West Philippines Sea in Manila. The Permanent Court of Arbitration, The Hague ruling in favour of the Philippines, has failed to restrain China from challenging the country's territorial sovereignty. To maintain the balance of power in the region, the Philippines, like other member states of the Association of Southeast Asian Nations (ASEAN), rely on external as well as internal

balancing. While externally Manila has decided to continue its alliance with Washington, the country is on the path to modernise its armed forces.

The deployment of the world's fastest supersonic cruise missile on the western flank of the archipelagic nation will provide the Philippines an option to employ an anti-access/area denial strategy to safeguard its territorial integrity, especially its exclusive economic zone.<sup>3</sup> Thus, the BrahMos deal is likely to enhance the deterrence capabilities of the Philippines, contributing to the stability of the Indo-Pacific. Although three batteries of shore-based BrahMos is too small to deter the mighty Chinese Navy, it shows intent on the part of Manila to defend its territory in the worst-case scenario. Moreover, robust intelligence, surveillance and reconnaissance (ISR) capabilities with the help of the US will increase the effectiveness of the missile system manifold.

### **Convergence of India's Act East and Defence Export Policy**

The culmination of the BrahMos deal is a crucial milestone in India's endeavour to give substance to the Act East policy in the security and defence realm. During the 9th East Asia Summit (EAS) in 2014, Prime Minister Narendra Modi had declared India's intention to graduate from Look East to Act East policy, indicating a proactive approach towards Southeast Asia. Hitherto, the India–Southeast Asia defence relations were restricted to training, port visits, bilateral/multilateral military exercises and export of low-end technology weapons and non-lethal military equipment. However, with the operationalisation of the Act East policy, India's defence ties with Southeast Asia have matured to include defence trade of medium/high technology items.

India has extended defence-related Line of Credit to ASEAN countries such as Vietnam and the Philippines in the past few years. Vietnam has already decided to purchase high-speed guard boats<sup>4</sup> while the Philippines has gone for BrahMos cruise missiles. Manila is interested in more BrahMos missiles for its army under Horizon 3 (2023–2027) and is expected to order the same in the coming months.<sup>5</sup> In 2017, India had exported Advanced Light Torpedo 'Shyena' to Myanmar.<sup>6</sup> Moreover, the ASEAN countries like Vietnam, Indonesia, Malaysia, Thailand and the Philippines are eyeing export-ready Indian medium/high technology products such as Light Combat Aircraft 'Tejas', Advanced Light Helicopter 'Dhruv' and a medium-range surface-to-air missile 'Akash' for their respective armed forces. India's draft Defence Production and Export Promotion Policy 2020 is likely to further boost indigenous defence production and export.<sup>7</sup> Although many of these deals have not been clinched yet, India is certainly increasing its profile in the region as a reliable defence trade partner.

### **India Walks the Talk on International Law**

The recently held Quad summit emphasised international law and rules-based order. According to the joint statement, the "Quad partners champion[ed] the free, open, and inclusive rules-based order, rooted in international law, that protects the sovereignty and territorial integrity of regional countries."<sup>8</sup> For India, the "international law" and "rules-based order" are not just words, as is evident from the export of BrahMos missile to the Philippines, which is consistent with the Missile Technology Control Regime (MTCR) guidelines. The MTCR is a multilateral export control regime "to restrict the proliferation of missiles, complete rocket systems, unmanned air vehicles, and related technology." It is applicable for systems that are "capable of carrying a 500-kilogram payload at least 300 kilometres (km), as well as systems intended for the delivery of weapons of mass destruction (WMD)".<sup>9</sup> Although India has developed an extended-range version of BrahMos after entering into MTCR in 2016, India's export variant of BrahMos cruise missile has a range of 290 km, in conformity with the regime's restrictions. Moreover, even before becoming a member of MTCR, India had harmonised its policies according to MTCR guidelines in 2005.<sup>10</sup>

### **Conclusion**

The significance of the BrahMos deal could be gauged from the fact that the signing of the deal was followed up by the External Affairs Minister of India S. Jaishankar's visit to the Philippines on 13–15 February 2022. The two maritime nations recognised the importance of maintaining stability in the Indo-Pacific. Moreover, the Philippines recognised India as a "partner in promoting peace and security in the region, as well as in advocating the rule of law in the face of armed ambition

and the anarchy that follows it”.<sup>11</sup> More ASEAN countries are likely to be interested in the missile system if the deal meets Manila’s expectations. Moreover, India’s Indo-Pacific formulation includes Africa’s east coast and parts of West Asia. Thus, the defence market in this part of the world also awaits India’s medium/high technology defence products. By establishing itself as a trustworthy defence partner and a responsible international actor, India stands a chance to play a more significant role in the Indo-Pacific.

*Views expressed are of the author and do not necessarily reflect the views of the Manohar Parrikar IDSA or of the Government of India.*

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**Press Information Bureau**  
Government of India

**Ministry of Defence**

*Wed, 23 Feb 2022 9:26PM*

## **Indian Navy’s multi-national exercise MILAN-2022 to commence 25 February 2022**

The latest edition of Indian Navy’s multilateral exercise MILAN 2022 is scheduled to commence from 25 Feb 22 in the ‘City of Destiny’, Visakhapatnam. MILAN 22 is being conducted over a duration of 9 days in two phases with the harbour phase scheduled from 25 to 28 February and Sea Phase from 01 to 04 March. India is celebrating the 75th year of its independence in 2022, and MILAN 22 provides an opportunity to commensurate this milestone with our friends and partners. The theme of the MILAN 2022 exercise is ‘Camaraderie – Cohesion – Collaboration’ which aims to project India as a responsible maritime power to the world at large. The aim of the

exercise is to hone operational skills, imbibe best practices and procedures, and enable doctrinal learning in the maritime domain, through professional interaction between friendly navies.

### **About MILAN**

MILAN is a biennial multilateral naval exercise incepted by Indian Navy in 1995 at Andaman and Nicobar Command. Since its inception, the event has been held biennially except for 2001, 2005, 2016 and 2020. While the 2001 and 2016 editions were not held due to International Fleet Reviews, the 2005 edition was rescheduled to 2006 due to the 2004 Tsunami. 2020 edition of MILAN was postponed to 2022 due to COVID-19.

Starting with the participation of only four countries, viz Indonesia, Singapore, Sri Lanka and Thailand, in the 1995 edition, the exercise has since transitioned leaps and bounds in terms of number of participants and complexity of exercises. Originally conceived in consonance with India's 'Look East Policy', MILAN expanded in ensuing years with the GOI's 'Act East policy' and Security And Growth for All in the Region (SAGAR) initiative, to include participation from island nations in the Western IOR as also IOR littorals. Participation increased from six regional countries to 18 countries in 2014 which included IOR littorals.



With Indian Navy's engagement with Friendly Foreign Countries (FFCs) expanding over the decades, a need was felt to further consolidate the naval cooperation by enhancing the scale and complexity of the MILAN exercise and engaging both regional and extra regional navies of the world. Considering the infrastructure requirements of a large naval gathering, it was decided to shift the event to mainland, and Visakhapatnam, being the Headquarters of Eastern Naval Command, was nominated to host the event.

### **This Edition**

MILAN 22 will witness its largest ever participation, with more than 40 countries sending their warships/ high level delegations. This edition of MILAN would be larger in 'scope and complexity' with focus on exercises at sea including exercises in surface, sub-surface and air domains and weapon firings. Operational Conferences and Seminars are also being conducted, providing participating navies/ delegations an opportunity to express their views on maritime security. The high profile foreign delegates will comprise highest level naval leadership, agency heads, Ambassadors and equivalent.

### **Key Events**

Key events planned during MILAN 22 include an Opening Ceremony followed by inauguration of MILAN Village on 26 February. An Op Demo followed by International City Parade is scheduled on the evening of 27 February with participation of foreign contingents. MILAN 22 will also host an International Maritime Seminar with the theme - '*Harnessing Collective Maritime Competence through Collaboration*' on 27-28 February. Other activities include Professional/ Subject Matter Expert Exchanges, DSRV demonstration, MILAN of Young Officers, Sports Fixtures, and Cultural Visits to Agra and Bodh Gaya for foreign visitors. The Sea Phase of the exercise for countries participating with ships/ aircraft is scheduled from 01-04 March.

### **Fostering Bonds across the Oceans**

Indian Navy is an instrument not only for power projection, but also for diplomatic outreach. Towards this, conduct of joint/ multi-lateral exercises is an important activity to bring together different Navies. While Navies may operate in different regions, there is always a need to co-operate on issues of common interest such as anti-piracy, HADR missions, maritime security etc. Navy to Navy interactions enhance mutual understanding, cooperation and inter-operability between maritime forces. MILAN 22 will provide an invaluable opportunity to foster bonds of maritime brotherhood across the oceans.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1800604>



# ISRO-NASA building new generation US\$1 billion satellite: Ex-ISRO Chairman Kiran Kumar

*Both agencies will be involved in mission design, instruments, payloads and the launch*

Hyderabad: Indian Space Research Organisation (ISRO) and the National Aeronautics and Space Administration (NASA) are jointly building a US\$ 1 billion satellite with latest large reflectors, high antenna and others, for clear data transmission. “It is a unique mission where both agencies will be involved in mission design, instruments, payloads and the launch vehicle with the US agency pitching in most funds”, said former ISRO chairman A. S. Kiran Kumar on Wednesday.

The eagerly awaited ‘Human Space Mission Programme’ got delayed due to the pandemic and this project will give a big filip to the country’s development as a large number of science & technology platforms are working on it, he said, during a virtual presentation on ‘Space Technology Development and Use: An Indian Approach’ organised by the Administrative Staff College of India (ASCI).

Indian space programme has always sought collaborative efforts and is running about 50 satellites tracking weather, communication, strategic issues, etc., and this number has to be doubled with the help of the private sector for enhancing capacities. “Space laws and policies have to be modified as globally it is the private entities leading the innovation,” he said.

The Government has initiated ‘New Space India Ltd’ to own the launch vehicles and space assets of ISRO and Tata Sky has signed up to make use of capacities in the upcoming satellite ‘GSAT-24’ to be launched by Arianespace. ‘IN-Space’ is another entity to regulate space activities and facilitate offering public facilities and expertise to start ups and 40 proposals were received, said Dr. Kumar, also the Vikram Sarabhai professor at ISRO.

Tracing the growth of space programme under the ‘visionary leadership’ of Dr. Sarabhai, he said the objective has always been make “innovative use of accessible technology for addressing societal problems and build what is not available”. ISRO has been able to have a trailblazing run because of “freedom to take decisions and a robust review system”.

It began with ‘sounding rockets’ borrowed from developed nations to be launched from Thumba (Kerala) from a dilapidated church building to ‘SITE’ experiment where common man could be reached in remote places through satellite television and so on which helped trigger the “telecom, broadcasting and meteorology services revolution”.

”DTH - Director to Home TV is a follow up of SITE and with help of indigenous INSAT series, we are able to forecast a cyclone four days in advance saving lives, helping fishermen reach their fishing spots directly even while guiding them about weather in their mother tongue. ‘GAGAN’ – Geoaugmented navigation is for planning and precision landing of planes and used by railways for real time monitoring,” he explained.

Satellite data is helping in mapping of landmass, agriculture planning, water resources identification, disaster management and recently in tracking the COVID virus spread. ‘Chandrayan’ series was another landmark project as presence of water in moon was first identified. Future projects are in dealing with space debris threat and mining of the asteroids for precious metals as 12,000 each year pass close to earth, apart from space travel. ASCI faculty Valli Manickam and DG Nirmalya Bagchi, also spoke.

<https://www.thehindu.com/news/national/teelangana/isro-nasa-building-new-generation-us1-billion-satellite-ex-isro-chairman-kiran-kumar/article65076962.ece>



## Chandrayaan-2 Orbiter detects solar proton events: Space Agency ISRO

*"Chandrayaan-2 Large Area Soft X-ray Spectrometer (CLASS) on-board Chandrayaan-2 Orbiter detected SPE due to an M5.5 class solar flare," ISRO said.*

Mumbai: A Large Area Soft X-ray Spectrometer (CLASS), a payload on-board Chandrayaan-2 Orbiter, has detected solar proton events (SPEs) which significantly increase radiation exposure to humans in space, the Indian Space Research Organisation (ISRO) said on Wednesday.

The instrument on January 18 also recorded coronal mass ejections (CMEs), a powerful stream of ionised material and magnetic fields, which reach the Earth a few days later, leading to geomagnetic storms and lighting up the polar sky with auroras, it said.

Such multi-point observations help us understand the propagation and its impact on different planetary systems, the ISRO said. When the Sun is active, spectacular eruptions called solar flares occur that sometimes also spew out energetic particles (called Solar Proton Events or SPEs) into interplanetary space. Most of these are high energy protons that impact space systems and significantly increase radiation exposure to humans in space. They can cause ionisation on large scales in Earth's middle atmosphere, the space agency said.

Many intense solar flares are accompanied by CMEs, a powerful stream of ionised material and magnetic fields, which reach the Earth a few days later, leading to geomagnetic storms and lighting up the polar sky with auroras.

Solar flares are classified according to their strength. The smallest ones are A-class, followed by B, C, M and X. Each letter represents a 10-fold increase in energy output. This means that an M class flare is ten times more intense than C-class flare and 100 times intense than B-class flare, the ISRO said. Within each letter class there is a finer scale from 1 to 9 - a M2 flare is twice the strength of M1 flare.

"Recently, there were two M-class solar flares. One flare (M5.5) spewed out energetic particles into interplanetary space and the other flare (M1.5) was accompanied by a Coronal Mass Ejection (CME)," the space agency said.

The SPE event was seen by NASA's Geostationary Operational Environmental Satellite (GOES) satellite orbiting around Earth. However, the CME event was not detected by GOES.

"Chandrayaan-2 Large Area Soft X-ray Spectrometer (CLASS) on-board Chandrayaan-2 Orbiter detected SPE due to an M5.5 class solar flare that occurred on January 20, 2022," the ISRO said.

"The CLASS instrument also detected a CME event as it passed through the moon due to an M1.5 class solar flare that occurred on January 18," it added.

CME travels at a speed of about 1000 km/s and it takes about 2-3 days to reach the Earth.

"The signature of this event is missed by the GOES satellite, as Earth's magnetic field provides shielding from such events. However, the event was recorded by Chandrayaan-2," the ISRO said.

"The CLASS payload on Chandrayaan-2 saw both the SPE and CME events pass by from two intense flares on the Sun," it added.

Planned to land on the South Pole of the Moon, Chandrayaan-2 was launched on July 22, 2019. However, the lander Vikram hard-landed on September 7, 2019, crashing India's dream to become the first nation to successfully land on the lunar surface in its maiden attempt.

The ISRO had then said the mission had achieved 98 per cent of the success as the orbiter continues to share data with the ground station.

<https://www.ndtv.com/india-news/chandrayaan-2-orbiter-detects-solar-proton-events-space-agency-isro-2785669>

