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CONTENTS

Press Information Bureau
Government of India

Ministry of Defence

Sat, 04 Dec 2021 1:33PM

Raksha Mantri Shri Rajnath Singh attends MSME conclave organised by Ministry of Defence & SIDM

Exhorts MSMEs to invest more in R&D and develop new technologies for the country's security & progress

Key Highlights of RM's speech:

- ***We can create a world-renowned industrial base in India which caters to the domestic as well as global defence needs***
- ***MSMEs support large entities by manufacturing quality products at component level & at the same time generate employment***
- ***They can play a big role in empowering the youth & fulfilling their dreams***
- ***India will soon become state-of-the-art technology provider not only for the Indian Armed Forces but for the world as well***

Raksha Mantri Shri Rajnath Singh has called upon Micro, Small and Medium Enterprises (MSMEs) to invest more in research & development and manufacture new products & technologies and thereby contribute to the security and progress of the country. He was delivering the inaugural address at the MSME Conclave, organised by Department of Defence Production, Ministry of Defence in partnership with Society of Indian Defence Manufacturers (SIDM) in hybrid mode, in New Delhi on December 04, 2021. Shri Rajnath Singh urged MSMEs and SIDM to create an industrial base in India, on the lines of 'Mittelstand' (Mittel-Stunt) of Germany, which has been recognised by the whole world for manufacturing metal equipment.

Shri Rajnath Singh stated that the Government is according top priority to self-reliance in defence, in view of the ever-changing security scenario, adding that there is a need to move forward to unleash the full potential of MSMEs in the sector. He exuded confidence that Indian manufacturers and their associated MSMEs will play a major role in catering to the defence needs of the country and also meet the global requirement.

On the important role being played by MSMEs to realise Prime Minister Shri Narendra Modi's vision of 'Aatmanirbhar Bharat', the Raksha Mantri said, major industries play a big role in national security and economic development by manufacturing tanks, submarines, aircraft & helicopters, however, hidden behind these big platforms are small industries. In this era of outsourcing, huge platforms are assembled by thousands of components provided by these hidden MSMEs, he stated. Shri Rajnath Singh added that the MSMEs are not only supporting large entities by manufacturing quality products at sub-systems & component level, but are also generating direct and indirect employment for the people. Saying that large industries & MSMEs complement each other and together can bolster the security & economy of the country, he extended the full support of the Government in achieving this objective.

Shri Rajnath Singh described MSMEs as the backbone of the industry which is equally responsible for not only economic activities but also social development. “Today, there is a sizeable number of MSMEs in our country, which contribute 29 per cent to our GDP through their national and international trade. After the agriculture sector, it is the biggest source of providing employment to about 100 million people. MSMEs also work to involve innovators and mediators in large enterprises. They help to fulfill the objectives of large industrial entities by becoming an important part of the value chain and supply chain,” he added.

The Raksha Mantri pointed out that, as compared to large entities, the concentration of wealth by MSMEs is less and its distribution is dispersed, which helps in reducing economic inequality. MSMEs can definitely play a big role in empowering the youth of the country financially and fulfilling their dreams, he said.

“We brought policies related to banking and capital market so that our MSMEs can get maximum capital easily and at cheap rates. We came out with the policy of value chain integration and establishment of common facilities, industrial parks and two defence industrial corridors to reduce the fixed cost of MSMEs,” Shri Rajnath Singh said while voicing the Government’s commitment to tap the full potential of MSMEs. He listed out some of the initiatives which aim to promote indigenous design, development and manufacturing of defence and aerospace equipment in the country under 'Make in India' by harnessing the capabilities of public and private sector especially MSMEs. “We have an estimated Rs 85,000 crore industry of aerospace and defence. The contribution of the private sector in this has increased to Rs 18,000 crore. Our vision to make India a global defence manufacturing hub,” he said.

The steps taken to encourage MSMEs include issuance of Request for Proposal (RFP) to MSMEs without any financial condition in cases of procurement where the estimated cost does not exceed Rs 100 crore/year or the total value is less than Rs 150 crore, whichever is higher; earmarking of projects under Make categories, procurement of which does not exceed Rs 100 crore/year based on the delivery schedule at the time of Acceptance of Necessity (AoN) demand and revised Offset Policy 2020 where the Indian offset partner is an MSME.

Shri Rajnath Singh added that projects under Innovation for Defence Excellence (iDEX) and Technology development Fund (TDF) scheme are mainly reserved for startups and MSMEs. “These schemes extend financial assistance for development of defence technology and hand-holding by user services, thus providing necessary impetus to MSMEs, startups and individual innovators. They are being funded with financial grants to provide innovative solutions to the problem statements prepared by the Services and new technologies like Artificial Intelligence, Data Analytics and Robotics can be used,” he said.

The Raksha Mantri also mentioned about Ministry of Defence’s approval of a central sector scheme for iDEX with a budgetary support of about Rs 500 crore for the next five years from 2021-22 to 2025-26. The scheme will provide financial assistance to around 300 start-ups/MSMEs/individual innovators and about 20 partner incubators through Defence Innovation Organisation (DIO). He further said that the Ministry has earmarked Rs 1,000 crore for procurement from iDEX start-ups during 2021-22 to promote the development of new defence technologies and support the growing start-ups base in the country. He appreciated the fact at present more than 30 projects are in progress under TDF and over Rs 150 crore outlay has been utilised.

Shri Rajnath Singh spoke about the 'Dare to Dream' innovation contest of Defence Research and Development Organisation (DRDO) which is a tribute to former President of India and eminent scientist Dr APJ Abdul Kalam. The contest enlists startups under the TDF scheme and provides them with financial and hand-holding support to develop cutting edge technologies & military products. He expressed confidence that the Indian industry will soon become a state-of-the-art technology provider not only for the Indian Armed Forces, but for the global market as well.

Reiterating the Government’s focus on encouraging exports, Shri Rajnath Singh hoped that India will soon become a net exporter from a net importer. “The government aims to achieve the export target of Rs 35,000 crore by 2024-25. Presently, India is exporting defence equipment to

around 70 countries. According to Stockholm International Peace Research Institute 2020 report, India is in the list of top 25 countries in defence exports," he said.

Shedding light on other steps like Srijan Portal, notification of positive indigenisation lists of 209 items and 'Strategic Partnership Model', the Raksha Mantri reiterated the Government's resolve of 'Make in India and Make for the World'. He stated that all these measures have resulted in an increase in the number of contracts being awarded to the indigenous defence industry. "From prioritising procurement of Indian/IDMM (Indigenously Designed, Developed and Manufactured) categories to supporting R&D, we are striving to harness technology through active collaboration with the industry, academia and technology providers, equipment manufacturers, quality controllers and users," he said, commending the Armed Forces for their continued support to the Government's efforts to achieve the objective of 'Aatmanirbhar Bharat' envisioned by Prime Minister Shri Narendra Modi.

Shri Rajnath Singh added that due to the reforms undertaken by the Government, the country's defence exports crossed Rs 38,000 crore mark in the last seven years; 12,000 MSMEs joined the defence sector and there has been an increase in R&D, startups, innovation & employment opportunities. SIDM has now more than 500 members due to these policies, he said.

The Raksha Mantri lauded the SIDM for actively working with the Government to promote private sector participation in defence manufacturing, saying that it is playing an important role by informing the industries about the initiatives of the Government, apprising the Ministry of their views and providing valuable suggestions in new policies being made. He said, the growth and ever-expanding reach of SIDM reflect the growth of the Indian defence industry. He hoped that this Conclave would provide them with newer growth opportunities.

In his opening remarks, SIDM President Shri Jayant Patil affirmed SIDM's commitment towards supporting the MSMEs and facilitating their growth. He looked forward to continue working proactively with Ministry of Defence to identify new opportunities for the MSMEs and integrating more with the sector.

The key objectives of the MSME Conclave are to unlock the potential of the non-defence sector MSMEs located in Tier II and Tier III cities across India by providing them with relevant information about the 'Make in India' programme in defence; to give a new impetus to the development of defence production in the country both for its domestic needs and also for exporting to friendly countries; to provide know-how to Indian MSMEs active in non-defence sectors for their entry into the defence sector; to familiarise them on various funding mechanisms established specifically for facilitating capable entrepreneurs low on capital or for capital intensive projects and to inform about the prospective market and business opportunities in Indian defence sector.

Currently in India, several thousand MSMEs are working in different sectors and are generally connected as Tiered Partners with various government establishments and large private sector OEMs. One of the key objectives of the 'Make in India' initiative is to bring MSMEs into the defence supply chain, thereby boosting self-reliance in defence and contributing in the defence exports market.

Senior officials of Ministry of Defence & SIDM and Industry representatives were present during the Conclave.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777975

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 04 Dec 2021 1:33PM

रक्षा मंत्री श्री राजनाथ सिंह ने रक्षा मंत्रालय और एसआईडीएम की ओर से आयोजित एमएसएमई संगोष्ठी में भाग लिया

एमएसएमई देश की सुरक्षा व प्रगति के लिए अनुसंधान एवं विकास में और अधिक निवेश करने व नई तकनीकों के विकास को प्रोत्साहित करता है

रक्षा मंत्री के भाषण की मुख्य विशेषताएं

- ***हम भारत में विश्व प्रसिद्ध औद्योगिक स्तंभ बना सकते हैं जो घरेलू और वैश्विक रक्षा जरूरतों को पूरा कर सकता है***
- ***एमएसएमई गुणवत्ता वाले उत्पादों का निर्माण करके बड़ी संस्थाओं का सहयोग कर रोजगार पैदा करते हैं***
- ***वह युवाओं को सशक्त बनाने और उनके सपनों को पूरा करने में बड़ी भूमिका निभा सकते हैं***
- ***भारत जल्द ही न केवल भारतीय सशस्त्र बलों के लिए बल्कि दुनिया के लिए भी आधुनिकतम तकनीकी प्रदान करने वाला बन जाएगा***

रक्षा मंत्री श्री राजनाथ सिंह ने सूक्ष्म, लघु और मध्यम उद्यमों एमएसएमई से अनुसंधान और विकास में अधिक निवेश करने व नए उत्पादों एवं तकनीकों का निर्माण करने के साथ ही देश की सुरक्षा और प्रगति में योगदान करने का आह्वान किया है। वह 4 दिसंबर, 2021 को नई दिल्ली में हाइब्रिड मोड में रक्षा मंत्रालय के रक्षा उत्पादन विभाग और सोसाइटी ऑफ इंडियन डिफेंस मैन्युफैक्चरर्स के संयुक्त तत्वावधान में आयोजित एमएसएमई संगोष्ठी में उद्घाटन भाषण दे रहे थे। श्री राजनाथ सिंह ने एमएसएमई और एसआईडीएम से जर्मनी के "मिटेएलस्टैंड" (मिटेएल स्टंट), जिसे पूरी दुनिया ने धातु उपकरणों के निर्माण के लिए मान्यता दी है उसी की तरह भारत में भी औद्योगिक स्तंभ बनाने का आग्रह किया।

श्री राजनाथ सिंह ने कहा कि लगातार बदलते सुरक्षा परिदृश्य को देखते हुए सरकार रक्षा क्षेत्र में आत्मनिर्भरता को सर्वोच्च प्राथमिकता दे रही है साथ ही यह भी कहा कि इस क्षेत्र में एमएसएमई की पूरी क्षमता को निखारने के लिए आगे बढ़ने की जरूरत है। उन्होंने विश्वास जताया कि भारतीय निर्माता और उनसे जुड़े एमएसएमई देश की रक्षा जरूरतों और वैश्विक आवश्यकता को पूरा करने में प्रमुख भूमिका निभाएंगे।

प्रधानमंत्री श्री नरेन्द्र मोदी के आत्मनिर्भर भारत के दृष्टिकोण को साकार करने के लिए एमएसएमई द्वारा निभाई जा रही महत्वपूर्ण भूमिका पर रक्षा मंत्री ने कहा कि राष्ट्रीय सुरक्षा और आर्थिक विकास में प्रमुख उद्योग टैंक, पनडुब्बियां, विमानों और हेलीकाप्टरों के निर्माण से बड़ी भूमिका निभाते हैं, लेकिन इन बड़े प्लेटफॉर्मों के पीछे छोटे उद्योग होते हैं। उन्होंने आगे कहा कि इस आउटसोर्सिंग युग में पर्दे के पीछे से एमएसएमई की ओर से दिए गए हजारों घटकों द्वारा विशाल प्लेटफॉर्म संकलित किए गए हैं।

श्री राजनाथ सिंह ने कहा कि एमएसएमई न केवल उप प्रणालियों और घटक स्तर पर गुणवत्ता वाले उत्पादों का निर्माण करके बड़ी संस्थाओं का समर्थन कर रहे हैं बल्कि लोगों के लिए प्रत्यक्ष और अप्रत्यक्ष रोजगार भी पैदा कर रहे हैं। उन्होंने यह कहते हुए सरकार का पूरा समर्थन किया कि बड़े उद्योग और एमएसएमई एक-दूसरे के पूरक हैं और साथ में देश की सुरक्षा और अर्थव्यवस्था को मजबूत कर सकते हैं।

श्री राजनाथ सिंह ने एमएसएमई को उद्योग की रीढ़ बताया जो न केवल आर्थिक गतिविधियों के लिए बल्कि सामाजिक विकास के लिए भी समान रूप से जिम्मेदार है। आज हमारे देश में एमएसएमई की अच्छी बड़ी संख्या है, जो अपने राष्ट्रीय और अंतर्राष्ट्रीय व्यापार से हमारे सकल घरेलू उत्पाद में 29 प्रतिशत का योगदान करते हैं। कृषि क्षेत्र के बाद यह लगभग 100 मिलियन लोगों को रोजगार देने वाला सबसे बड़ा स्रोत है। एमएसएमई बड़े उद्यमों में अन्वेन्मेषकों और मध्यस्थों को शामिल करने के लिए भी काम करते हैं। उन्होंने आगे कहा कि वे बड़ी औद्योगिक संस्थाओं के उद्देश्यों को पूरा करने में महत्वपूर्ण हिस्सा बनकर मूल्य श्रृंखला और आपूर्ति श्रृंखला के जरिए मदद करते हैं।

रक्षा मंत्री ने इसका उल्लेख किया कि बड़ी संस्थाओं की तुलना में एमएसएमई द्वारा धन का केंद्रीकरण कम है और इसका वितरण फैला हुआ है, जो आर्थिक असमानता को कम करने में मदद करता है। उन्होंने कहा कि एमएसएमई निश्चित रूप से देश के युवाओं को आर्थिक रूप से सशक्त बनाने और उनके सपनों को पूरा करने में बड़ी भूमिका निभा सकते हैं।

श्री राजनाथ सिंह ने एमएसएमई की पूरी क्षमता का उपयोग करने के लिए सरकार की प्रतिबद्धता को व्यक्त करते हुए कहा कि हम बैंकिंग और पूंजी बाजार से संबंधित नीतियां लाए, ताकि हमारे एमएसएमई को आसानी से और सस्ती दरों पर अधिकतम पूंजी मिल सके। हम एमएसएमई की निश्चित लागत को कम करने के लिए मूल्य श्रृंखला एकीकरण और सामान्य सुविधाओं की स्थापना, औद्योगिक पार्कों और दो रक्षा औद्योगिक गलियारों की स्थापना की नीति लेकर आए।

उन्होंने 'मेक इन इंडिया' के तहत कुछ पहलुओं को सूचीबद्ध किया, विशेष रूप से जिनका उद्देश्य सार्वजनिक और निजी क्षेत्र में एमएसएमई की क्षमताओं का उपयोग करके देश में रक्षा और एयरोस्पेस उपकरणों के स्वदेशी डिजाइन, विकास और निर्माण को बढ़ावा देना है। उन्होंने कहा कि हमारे पास हवाई क्षेत्र और रक्षा का अनुमानित 85,000 करोड़ रुपये का उद्योग है। इसमें निजी क्षेत्र का योगदान बढ़कर 18,000 करोड़ रुपये हो गया है। हमारी दृष्टि भारत को वैश्विक रक्षा उत्पादन केंद्र बनाने की है।

एमएसएमई को प्रोत्साहित करने के लिए उठाए गए कदमों में खरीद के मामलों में बिना किसी वित्तीय स्थिति के एमएसएमई को प्रस्ताव के लिए अनुरोध (आरएफपी) जारी करना शामिल है, जहां अनुमानित लागत 100 करोड़ रूपये प्रति वर्ष से अधिक नहीं है या कुल मूल्य 150 रूपये करोड़ से कम है, इनमें से जो भी अधिक हो, निर्माण परियोजनाओं का निर्धारण, आवश्यकता की स्वीकृति (एओएन) की मांग और संशोधित ऑफसेट नीति 2020 के समय वितरण कार्यक्रम के आधार पर जिसकी खरीद 100 करोड़ प्रति वर्ष से अधिक नहीं है, जहां एमएसएमई भारतीय ऑफसेट पार्टनर है।

श्री राजनाथ सिंह ने कहा कि रक्षा उत्कृष्टता के लिए नवाचार आईडीईएक्स और तकनीकी विकास फंड टीडीएफ के तहत परियोजनाएं मुख्य रूप से स्टार्टअप्स और एमएसएमई के लिए आरक्षित हैं। ये योजनाएं रक्षा तकनीकी के विकास और उपयोगकर्ता सेवाओं द्वारा सहायता प्रदान करने के लिए वित्तीय सहायता प्रदान करती हैं, इस प्रकार एमएसएमई, स्टार्टअप और व्यक्तिगत अन्वेषकों को आवश्यक प्रोत्साहन देती हैं। उन्होंने कहा कि समस्याओं के अभिनव समाधान के लिए उन्हें आर्थिक अनुदान के साथ वित्त पोषित किया जा रहा है, ताकि आर्टिफिशियल इंटेलिजेंस, डेटा एनालिटिक्स और रोबोटिक्स जैसी नई तकनीकों का उपयोग किया जा सके।

रक्षा मंत्री ने रक्षा मंत्रालय द्वारा 2021-22 से 2025-26 तक अगले पांच वर्षों के लिए लगभग 500 करोड़ रुपये के बजटीय सहयोग के साथ आईडीईएक्स केंद्रीय कार्यक्षेत्र की योजना को मंजूरी देने का भी उल्लेख किया। यह योजना रक्षा नवाचार संगठन डीआईओ के माध्यम से लगभग 300 स्टार्टअप एमएसएमई व्यक्तिगत अन्वेषकों और लगभग 20 भागीदारों को वित्तीय सहायता प्रदान करेगी। उन्होंने आगे कहा कि मंत्रालय ने नई रक्षा तकनीकों के विकास को बढ़ावा देने और देश में बढ़ते स्टार्ट अप आधार को समर्थन करने के लिए 2021-22 के दौरान आईडीईएक्स स्टार्टअप्स से खरीद के लिए 1,000 करोड़ रुपये निर्धारित किए हैं। उन्होंने इस तथ्य की सराहना की कि वर्तमान में टीडीएफ के तहत 30 से अधिक परियोजनाएं प्रगति पर हैं और 150 करोड़ रुपये से अधिक का उपयोग किया जा चुका है।

श्री राजनाथ सिंह ने रक्षा अनुसंधान और विकास संगठन डीआरडीओ की 'डेयर टू ड्रीम' नवाचार प्रतियोगिता के बारे में बात की जो भारत के पूर्व राष्ट्रपति और प्रख्यात वैज्ञानिक डॉ. एपीजे अब्दुल कलाम को समर्पित है।

टीडीएफ योजना के तहत स्टार्टअप्स को सूचीबद्ध किया जाता है और उन्हें अत्याधुनिक तकनीकों व सैन्य उत्पादों को विकसित करने के लिए वित्तीय और हाथों हाथ सहायता प्रदान करती है। उन्होंने विश्वास व्यक्त किया कि भारतीय उद्योग न केवल भारतीय सशस्त्र बलों के लिए बल्कि वैश्विक बाजार के लिए भी एक अत्याधुनिक तकनीकी देने वाला बन जाएगा।

निर्यात को बढ़ावा देने पर सरकार के दावों को दोहराते हुए श्री राजनाथ सिंह ने उम्मीद जताई कि भारत जल्द ही शुद्ध आयातक से विशुद्ध निर्यातक बन जाएगा। सरकार का लक्ष्य 2024-25 तक 35,000 करोड़ रुपये के निर्यात लक्ष्य को हासिल करना है। भारत वर्तमान में लगभग 70 देशों को रक्षा उपकरणों का निर्यात कर रहा है। उन्होंने कहा कि स्टॉकहोम इंटरनेशनल पीस रिसर्च इंस्टीट्यूट 2020 की रिपोर्ट के अनुसार भारत रक्षा निर्यात में शीर्ष 25 देशों की सूची में है।

सृजन पोर्टल, 209 मदों की सकारात्मक स्वदेशीकरण सूचियों की अधिसूचना और रणनीतिक भागीदारी मॉडल जैसे अन्य कदमों पर प्रकाश डालते हुए रक्षा मंत्री ने मेक इन इंडिया और मेक फॉर द वर्ल्ड के सरकार के संकल्प को दोहराया। उन्होंने कहा कि इन सभी उपायों के परिणामस्वरूप स्वदेशी रक्षा उद्योग को दिए जाने वाले अनुबंधों की संख्या में वृद्धि हुई है। उन्होंने कहा कि भारतीय आईडीएमएम (स्वदेशी रूप से डिजाइन, विकसित और निर्मित) श्रेणियों की खरीद को प्राथमिकता देने से लेकर अनुसंधान एवं विकास का समर्थन करने तक हम उद्योग, शिक्षा और तकनीकी देने वालों, उपकरण बनाने वाले, गुणवत्ता नियंत्रकों और उपयोग करने वालों के साथ सक्रिय सहयोग के माध्यम से प्रौद्योगिकी का उपयोग करने का प्रयास कर रहे हैं। उन्होंने प्रधानमंत्री श्री नरेन्द्र मोदी द्वारा परिकल्पित आत्मनिर्भर भारत के उद्देश्य की प्राप्ति के लिए सरकार के प्रयासों को निरंतर समर्थन देने के लिए सशस्त्र बलों की सराहना की।

श्री राजनाथ सिंह ने कहा कि सरकार द्वारा किए गए सुधारों के कारण पिछले सात साल में देश का रक्षा निर्यात 38,000 करोड़ रुपये का आंकड़ा पार कर गया, 12,000 एमएसएमई रक्षा क्षेत्र में शामिल हुए जिससे अनुसंधान एवं विकास, स्टार्टअप, नवाचार और रोजगार के अवसरों में वृद्धि हुई है। उन्होंने कहा कि इन नीतियों के कारण अब एसआईडीएम के 500 से अधिक सदस्य हैं।

रक्षा मंत्री ने रक्षा निर्माण में निजी क्षेत्र की भागीदारी को बढ़ावा देने के लिए सरकार के साथ सक्रिय रूप से काम करने के लिए एसआईडीएम की सराहना की। उन्होंने कहा कि यह उद्योगों को सरकार की पहल से अवगत कराता है, मंत्रालय को उनके विचारों से अवगत कराकर नई नीतियों के निर्माण में बहुमूल्य सुझाव देकर महत्वपूर्ण भूमिका निभा रहा है। उन्होंने कहा, एसआईडीएम में बढोतरी और लगातार बढ़ रही पहुंच

भारतीय रक्षा उद्योग के विकास को दर्शाती है। उन्होंने आशा व्यक्त की कि यह संगोष्ठी विकास के नए अवसर प्रदान करेगी।

अपने उद्घाटन भाषण में एसआईडीएम अध्यक्ष श्री जयंत पाटिल ने एमएसएमई का समर्थन करने और विकास को सुविधाजनक बनाने के लिए एसआईडीएम की प्रतिबद्धता की पुष्टि की। उन्होंने रक्षा मंत्रालय के साथ सक्रिय रूप से काम कर एमएसएमई के लिए नए अवसरों की पहचान और इस क्षेत्र के साथ अधिक समग्रता के साथ काम जारी रखने की आशा जताई।

एमएसएमई संगोष्ठी का मुख्य उद्देश्य रक्षा क्षेत्र में मेक इन इंडिया कार्यक्रम के बारे में प्रासंगिक जानकारी प्रदान करके पूरे भारत में टियर 2 और टियर 3 शहरों में स्थित गैर रक्षा क्षेत्र एमएसएमई की क्षमता को बढ़ावा देना, देश में रक्षा उत्पादन के विकास को एक नई गति देना, अपनी घरेलू जरूरतों और मित्र देशों को निर्यात करना, गैर रक्षा क्षेत्रों में सक्रिय भारतीय एमएसएमई को रक्षा क्षेत्र में उनके प्रवेश के लिए जानकारी प्रदान करन के साथ ही सक्षम उद्यमियों को कम पूंजी या पूंजी गहन परियोजनाओं के लिए विशेष रूप से स्थापित विभिन्न वित्त पोषण तंत्रों से परिचित कराने और भारतीय रक्षा क्षेत्र में संभावित बाजार और व्यापार के अवसरों के बारे में सूचित करने को लेकर था।

वर्तमान में भारत में कई हजार एमएसएमई विभिन्न क्षेत्रों में काम कर रहे हैं और आम तौर पर विभिन्न सरकारी प्रतिष्ठानों और बड़े निजी क्षेत्र के ओईएम के साथ नजदीकी साझेदार के रूप में जुड़े हुए हैं। मेक इन इंडिया पहल के प्रमुख उद्देश्यों में से एक एमएसएमई को रक्षा आपूर्ति श्रृंखला में लाना है, जिससे रक्षा में आत्मनिर्भरता को बढ़ावा देना और रक्षा निर्यात बाजार में योगदान करना है।

संगोष्ठी में रक्षा मंत्रालय और एसआईडीएम के वरिष्ठ अधिकारी और उद्योग के प्रतिनिधि मौजूद रहे।

https://pib.gov.in/PressReleasePage.aspx?PRID=1778050

THE HINDU

Sun, 05 Dec 2021

India's defence exports in past seven years have crossed ₹38,000 crore: Rajnath Singh

The Defence Minister urged the MSMEs to invest more in research and development as it would help strengthen the nation's security

New Delhi: India has exported defence items worth more than ₹38,000 crore in the past seven years and the country hopes to become an overall net exporter soon, Defence Minister Rajnath Singh said on December 4.

Defence Minister Rajnath Singh. File

"We have an estimated ₹85,000 crore industry of aerospace and defence. The contribution of the private sector in this has increased to ₹18,000 crore," he said in his speech at the MSME conclave of the Society of Indian Defence Manufacturers (SIDM).

Mr. Singh urged the MSMEs to invest more in research and development as it would help strengthen the nation's security.

"You should bring new technologies, new products. You should not think that just because of you are small, you cannot do great innovation," he added.

Around 12,000 MSMEs have joined the defence industry due to the government's initiatives, he added.

"Defence exports from India during the last seven years have been of more than ₹38,000 crore due to the government's initiatives," he noted.

Innovation, research and development and the number of startups have increased in the defence industry due to these initiatives, Mr. Singh said.

Reiterating the government's focus on encouraging exports, the Minister expressed hopes that India will soon become a net exporter from a net importer.

"The government aims to achieve the export target of ₹35,000 crore by 2024-25. Presently, India is exporting defence equipment to around 70 countries. According to Stockholm International Peace Research Institute 2020 report, India is in the list of top 25 countries in defence exports," he said.

The Indian armed forces have completely supported the self-reliance initiative of the government, he stated.

"Therefore, the number of contracts given to indigenous defence industry has increased," he said.

Mr. Singh accepted that the big companies have a major role to play in defence manufacturing but the reality is that the work of numerous small companies is hidden behind that of big companies.

"Big defence platforms are assembled from numerous small parts and most of them are provided by the MSMEs," he noted.

"Therefore, I believe that the term 'industry' really means MSMEs as they are not only responsible for economic activities but also for societal progress," he added.

https://www.thehindu.com/news/national/indias-defence-exports-in-past-seven-years-have-crossed-38000-crore-rajnath-singh/article37837671.ece

The Indian EXPRESS

Mon, 06 Dec 2021

India developing indigenous anti-drone technology, forces will get it soon: Amit Shah

"The best technology available in the world will be given to you for border security. It is the government's commitment," Amit Shah said.

New Delhi: India is developing indigenous technology to thwart the growing threat of drones on the country's borders and it will soon be made available to the security forces, Union Home Minister Amit Shah said Sunday.

"The best technology available in the world will be given to you for border security. It is the government's commitment. To meet the threat of drones, the BSF, the NSG, and the DRDO are together working on an anti-drone defence system. I have full confidence in our scientists. Very soon we will have an indigenous anti-drone system in the country," Shah said while addressing BSF personnel on the occasion of the force's 57th Raising Day in Jaisalmer, Rajasthan.

This is the first time BSF's Raising Day is being celebrated near the India-Pakistan border. The Home Minister appreciated this move by the force and said that such celebrations should indeed be made at places where the force's jawans are setting examples of bravery every day and not in Delhi.

"Any country can only progress and make its culture prosper when it is secure. And you are the ones who secure the country. The nation is proud of you. For the Modi government, the meaning of border security is national security. So remember, you are not just securing the borders but giving the nation an opportunity to secure its position in the world," Shah said.

Shah said the government was not only committed to the welfare of the force personnel but was also investing heavily in improving border infrastructure. "For better infrastructure on the borders, the budget for road construction has been increased from Rs 23,000 crore between 2008 and 2014 to Rs 44,600 crore between 2014 and 2020. This shows we are committed to improving border infrastructure," Shah said.

The home minister also laid stress on improving relations between BSF personnel and civilians living in border areas. He said BSF must take care of the people and see if all government schemes are being implemented on the ground.

"The government has launched multiple welfare schemes for those living near the borders. I urge BSF jawans that along with securing the borders, whenever you find time, pay some attention to the implementation of these schemes. If we are able to keep our border people happy, make their facilities better, it will help you in securing the borders. I am sure you will both maintain relations and communications with the border people," he said.

According to BSF, Shah paid rich tributes to the jawans of BSF who laid down their lives in the line of duty. "He reminisced the role of BSF in various historic events like the 1971 War when BSF personnel fought bravely against a numerically superior force despite being in the nascent stage of its raising," the BSF said.

"During the parade, the contingents of different Frontiers of Border Security Force marched past the inspection dais, showcasing the Seema Praharis' valour, saga and commitment to the nation. The parade comprised a march past of 12-foot contingents including Mahila Prahari contingent, decorated officers and men, the famed Camel Contingent and Camel Band, mounted column, dog Squad, communication contingent displaying the technological advances by the force, special appearance by BSF Bagpipers," it added.

https://indianexpress.com/article/india/amit-shah-anti-drone-technology-bsf-7657083/

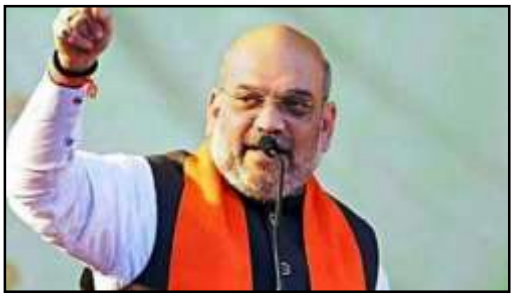
R.भारत

Mon, 06 Dec 2021

स्वदेशी ड्रोन रोधी प्रौद्योगिकी विकसित कर रहा भारत, सुरक्षाबलों को जल्द होगी उपलब्ध: अमित शाह

अमित शाह ने रविवार को कहा कि देश की सीमाओं पर ड्रोन उपकरणों से बढ़ते खतरे को विफल करने के लिए भारत स्वदेशी ड्रोन रोधी तकनीक विकसित कर रहा है।

केंद्रीय गृह मंत्री अमित शाह ने रविवार को कहा कि देश की सीमाओं पर ड्रोन उपकरणों से बढ़ते खतरे को विफल करने के लिए भारत स्वदेशी ड्रोन रोधी तकनीक विकसित कर रहा है जो जल्द ही सुरक्षा बलों को उपलब्ध करायी जाएगी। सीमा सुरक्षा बल (बीएसएफ) के 57वें स्थापना दिवस समारोह के अवसर पर शाह ने यहां कहा कि मोदी सरकार के लिए, सीमा सुरक्षा राष्ट्रीय सुरक्षा है और वह बल को दुनिया में सर्वश्रेष्ठ सीमा सुरक्षा तकनीक प्रदान करने के लिए प्रतिबद्ध है। उन्होंने कहा कि 1965 में जब बीएसएफ का गठन हुआ है, तब से यह पहली बार है जब सीमा पर इसका स्थापना दिवस समारोह मनाया जा रहा है।



शाह ने बीएसएफ कर्मियों से कहा, "एक देश सुरक्षित होने पर ही दुनिया में आगे बढ़ सकता है और समृद्ध हो सकता है। आप देश की सुरक्षा सुनिश्चित करते हैं... हमेशा याद रखें कि सीमाओं की रक्षा करके आप देश की सुरक्षा सुनिश्चित कर रहे हैं और इसे विश्व स्तर पर एक मंच प्रदान कर रहे हैं।" उन्होंने कहा कि सरकार यह सुनिश्चित करेगी कि बीएसएफ को दुनिया की बेहतरीन तकनीकें उपलब्ध कराई जाएं। शाह ने कहा, "यह सरकार का संकल्प है। ड्रोन से बढ़ते खतरे का जिक्र हुआ था। बीएसएफ, डीआरडीओ और एनएसजी ड्रोन रोधी तकनीक विकसित करने की कोशिश कर रहे हैं। मुझे अपने वैज्ञानिकों पर पूरा भरोसा है कि हम जल्द ही स्वदेशी ड्रोन रोधी तकनीक विकसित करने में सक्षम होंगे।"

शाह ने कहा कि 2014 से मोदी सरकार ने सीमा सुरक्षा पर विशेष जोर दिया है। उन्होंने कहा, "जहां भी सीमाओं पर घुसपैठ की कोशिश हुई, सुरक्षा बलों और सीएपीएफ पर हमले हुए, हमने तत्काल जवाबी कार्रवाई सुनिश्चित की है।" गृह मंत्री ने कहा, "भारत ने सुनिश्चित किया है कि कोई भी हमारी सीमाओं या सैनिकों को हल्के में न ले। प्रधानमंत्री मोदी के नेतृत्व में केंद्र सरकार ने उरी और पुलवामा हमलों के बाद क्रमशः सर्जिकल स्ट्राइक और हवाई हमलों के रूप में एक मजबूत जवाबी कार्रवाई सुनिश्चित की। पूरी दुनिया ने इस कार्रवाई की सराहना की।"

उन्होंने कहा कि बीएसएफ में रिक्त पदों को भरने के लिए सरकार ने 50,000 जवानों की भर्ती की है और उनका प्रशिक्षण शुरू हो गया है। शाह ने कहा, "2008-14 के दौरान सीमावर्ती क्षेत्रों के लिए सड़क निर्माण का बजट 23,000 करोड़ रुपये था। 2014 से 2020 के बीच मोदी सरकार ने बजट को 23,700 करोड़ रुपये से बढ़ाकर 44,600 करोड़ रुपये कर दिया। यह सीमावर्ती क्षेत्र के बुनियादी ढांचे में सुधार के लिए मोदी सरकार की प्रतिबद्धता को दर्शाता है।"

https://bharat.republicworld.com/india-news/general-news/india-developing-indigenous-anti-drone-technology-will-be-available-to-security-forces-soon-amit-shah

The Indian EXPRESS

Mon, 06 Dec 2021

Conference on 'Recent Innovation & Challenges in Aerospace, Defence Related Mechanisms' concludes

The conference, titled 'ARMS-21', was organised in association with Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO).

Pune: The Pune chapter of Indian National Society for Aerospace and Related Mechanisms (INSARM) organised a three-day national conference in Pune between December 2 and 4 on the theme 'Recent Innovation and Challenges in Aerospace and Defence Related Mechanisms.'

The conference, titled 'ARMS-21', was organised in association with Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO). The sessions of the conference were held at Dr APJ Abdul Kalam Auditorium and DRDO's Armament Research and Development Establishment (ARDE) in Pashan.

Organisers said that more than 375 delegates from DRDO, ISRO, industries, academia and colleges across India participated in the conference. On the first day, a tutorial was held for aspiring students, scientists, technologists and researchers. Informative discussions and talks were given by leading academicians and researchers in the field of Artificial Intelligence, Aerospace and related mechanisms.

For the inaugural session, Lt Gen DB Shekatkar was present as the Guest of Honour while the inaugural address was delivered by DRDO Chairman Dr G Satheesh Reddy.

https://indianexpress.com/article/cities/pune/conference-on-recent-innovation-challenges-in-aerospace-defence-related-mechanisms-concludes-7657993/

THE WEEK

Sat, 04 Dec 2021

Opinion: Can DRDO make India a leading defence exporter?

From fighter jets to underwater drones, DRDO products could have a global market

By Dr O.R. Nandagopan

Can the Defence Research and Development Organisation (DRDO) make India a leading defence exporter? It is a valid question, since the Government is seeking ways and means to achieve its 5 trillion dollar target by 2025. But before answering it, we have to examine three related questions.

One: How much do defence exports make at present? Two: Why should DRDO, a research and development agency, get into exports? Three: What can DRDO export?

India's defence exports were Rs 4,682 crore ($0.66 billion) in 2017–2018 and Rs 10,500 crore ($1.47 billion) in 2018–2019. The major exports during 2014-15 and 2020-21 included armoured protection vehicles, light-weight torpedos, weapons locating radars, fire control systems and tear gas launchers. India exports defence equipment to more than 75 countries around the globe. However, this is paltry, considering the huge volume of global military sales.

Now comes the second question. Why should the DRDO, which is an R&D agency, get into the business of marketing and exporting? While it is true that marketing for and getting export orders is a responsibility of the production agency, it would be prudent to have a centralized agency with representatives from industry partners and users. They can help to identify areas where systems developed in India have both technical and operational superiority. For that, it is advisable to co-opt both researchers and developers.

This will bring a focused approach in which DRDO can identify potential systems for export. If required, a committee or a dedicated export wing with participation from DRDO, MoD, users and industry can be constituted to study the requirements based on political and geopolitical considerations. The committee can apply statistical tools to identify high-value systems and also highly critical systems. The best way is to have a commercial arm aiming only at the export of defence equipment and systems developed within the country.

It is easier said than done. Marketing and fetching orders is a challenging task and it needs a dedicated, trained and experienced team with strong decision-making leaders, to achieve Aatma Nirbhar Bharat. Here the commercial wing of the R&D body, with members drawn from all stakeholders, can achieve better focus than commercial salespersons. It is also recommended that this wing carry out market surveys based on geographical and political situations and give inputs to MoD for future global requirements. This will have to be a continuous process, and regular interaction with all stakeholders is essential.

To achieve future cutting edge technology and thereby to develop world-class systems, it is essential to adopt an integrated approach that brings together academia, manufacturers and users (the military)—apart from the MoD. Academia should be able to establish centres of excellence in specific fields and continue to work in that specific domains with the required infrastructure and test facilities. This can be achieved only under the R&D body which is the DRDO.

Baby steps have already been taken. This year, some universities started offering M.Tech in Defence Technology, under the guidance of DRDO. This initiative should hopefully yield more knowledgeable manpower in defence production, integration of systems, design engineering, quality and testing of military technologies. This trained manpower can be made available also for the up-gradation of export arsenals.

Export opportunities for DRDO

Now, let us see what DRDO can offer for export currently. Indeed, there are dozens of products and technologies, but I would rather confine to a few here, which are known to have good export potential.

LCA Tejas:

Designed and developed by the Aeronautical Development Agency (ADA) and manufactured by HAL, the Tejas has proved its aerobatic capability and has been showcased in several air shows, most recently in Dubai. It has good export potential.

Light Combat Helicopter (LCH):

This excellent HAL-designed LCH has a greater range than its global counterparts. Its ability to perform at high altitudes makes it a good choice.

Arjun

The Main Battle Tank, designed and developed by CVRDE, DRDO, is inducted into the armed forces. It can be explored for export markets, especially for countries locked with land borders and need an affordable Main Battle Tank. This also has to be showcased in International Defence Expos to give visibility to Arjun.

Autonomous Underwater Vehicle (AUV):

Since most of the countries in the world have sea connectivity and may not be able to operate and maintain submarines, AUVs are going to populate the blue waters. These AUVs can be explored for defence and commercial applications by every country. Since many countries may not have resources to spend on development, these countries will be procuring from the available global market. Considering its variants from man-portable to fishing boat size to midget submarine size, these vehicles will be in high demand in the not-so-far future. Its modular construction allows it to be tailored to the need of the customers as well as to their preferred price tags.

While drones are already flooding the aerial market, in the underwater scenario, the picture is slightly different. As the saying goes, "The early bird catches the worm". Our vehicles should show their presence.

Autonomous uncrewed marine surface vehicle:

This is another high-value platform that will be dominating the world in a short time. Plus, this system can be realized and demonstrated to the world on a war-footing. India has already achieved its dominance in software terms. Having said this, algorithm development, software development based on “concept of operations” can emerge from India to other countries. This has huge export potential and based on the need of the customer, the configuration can be redrawn.

Weapon systems:

India has been testing many weapon systems successfully in the missile and underwater categories. These weapon systems with version control can be exploited for export to friendly countries.

Indeed, all this needs a focused approach from the government, which has to act as a facilitator. First of all, the government’s negative import list is to be expanded further to ensure homegrown technologies for the requirements of India’s armed forces. The need of the hour is for time-bound achievements, review by experts to address technical challenges and continuous monitoring by high-level teams.

(The author is a former Director of NSTL, DRDO.)

https://www.theweek.in/news/biz-tech/2021/12/03/can-drdo-make-india-a-leading-defence-exporter.html

The EurAsian Times

Mon, 06 Dec 2021

Turkey's Hurjet challenges India's Tejas LCA for Malaysian Fighter Jet contract after JF-17 exit — Reports

By Sakshi Tiwari

Can Turkey's Hurjet topple India's Tejas LCA and others to win the Malaysian aircraft deal? The Malaysian tender for a Light Fighter Jet and Advanced Trainer Aircraft opened briefly in June this year before closing soon after, in October.

India's Tejas LCA showcased its superior flying skills at the Dubai Airshow. (via Twitter)

As six bidders for the tender have been finalized by Malaysia and the tender is fast gathering steam, two key competitors — Turkish Aerospace Industries (TAI) and India's Hindustan Aeronautics Limited (HAL) — appear to be in a close contest to grab the deal, according to reports.

The Malaysian government recently announced the six bidders for the tender and the requirements that they must meet. The content of these standards has lately been revealed in the country's media, although it is yet to be officially confirmed.

TAI Hurjet (via Twitter)

The tender was issued shortly after the Chinese PLA Air Force's incursions into Malaysian airspace earlier this year.

India's HAL with the Tejas, Malaysia's Aerospace Technology Systems with the MiG-35, China's Catic with the L-15, Korea Aerospace Industries (KAI) with the FA-50, Italy's Leonardo with the M-346, and Turkey's TAI with the Hurjet are the six companies that are in the race for the Light Fighter Jet contract.

The JF-17 of China and Pakistan, the Russian Yak-130, and the American T7A which were earlier speculated to be in the fray are no longer in the competition.

The tender has been issued to replace the Hawk 108 and Hawk 208 fighter jets as described in the Royal Malaysian Air Force (RMAF) Capability Development 2055 or CAP55, said Senior Defense Minister Datuk Seri Hishammuddin Tun Hussein last month.

According to reports, the Malaysian government has mandated that prospective suppliers of the 18 Light Combat Aircraft (LCA) for the Royal Malaysian Air Force (RMAF), which are now being examined, have to source or acquire at least 30% of products/services from local Malaysian firms.

This could pose a significant problem for foreign manufacturers, who may be concerned by the sensitivity of sharing military-technical expertise in defense-related enterprises due to their collaboration with other partners.

However, the requirement prompted the Turkish and Indian firms to form relationships with Malaysia's aviation industry in the hopes of securing a favorable position with the government. Both Turkey and India have been working hard to strengthen ties with Malaysia to have their respective bids chosen for the LCA fighters over the other.

Tejas' Prospects

HAL put on an aerobatic display at the Dubai airshow that was specifically targeted towards the Malaysian audience. R. Madhavan, the company's managing director, claimed that HAL is ready to adapt the jet to satisfy Malaysia's standards, pointing out shortcomings in other rival aircraft.

India was also eager to reiterate its desire to establish a slew of logistics bases in the region, this time to support the Tejas deployment.

Malaysia, Argentina, and Egypt are the three countries that have expressed interest in the HAL Tejas so far. The Royal Malaysian Air Force (RMAF) could be the first foreign buyer of Tejas if HAL wins the bid, under which 18 planes have to be delivered with an option to sell another 18 later.

The Tejas Mark-1A fighter, which incorporates mid-air refueling, AESA radar, EW capability, and the ability to fire BVR missiles, has been pitched to the RMAF by HAL, as previously reported by the EurAsian Times.

Price is a crucial consideration for the RMAF, which expects to pay around $900 million for 18 fighters or $50 million for each fighter. Tejas, according to reports is being sold at that price.

India first demonstrated its Tejas LCA to potential overseas clients in 2016 at the Bahrain Air Show, and then again in 2018. HAL reportedly aims to establish logistical hubs in Malaysia, Vietnam, Indonesia, and Sri Lanka to promote the plane in Southeast Asia, West Asia, and North Africa.

LCA Tejas is a sophisticated Fly-by-Wire (FBW) fighter that can refuel in the air. It is also a fourth-generation fighter featuring a glass cockpit and a satellite-assisted inertial navigation system.

It can transport air-to-ground bombs and attack systems that can be deployed to hit targets on land or at sea. It's a supersonic fighter jet with a service ceiling of 50,000 feet. It has an 8.20-meter wingspan, a length of 13.20 meters, and a height of 4.40 meters.

However, the only potential impediment in its export could be the various foreign parts that make up the aircraft. India has to take prior consent from foreign partners to sell Tejas to any other country.

Turkey's Hurjet

On CNN Türk, Türk Aerospace Industries A.S. General Manager Prof. Dr. Temel Kotil discussed Jet Training and the Light Attack Aircraft HÜRJET in great detail. Exuding confidence in the fighter, Kotil stated that the HURJET is on the verge of being shipped to Malaysia since TAI has an excellent standing in Malaysia's tender.

"Hopefully, we'll be able to sell 18 HÜRJET to Malaysia," said the company in November this year.

Kotil had earlier announced that the HÜRJET would start ground tests in early 2022. HÜRJET will take a more mature flight on March 18, 2023. According to Kotil, the first jet trainer will be delivered to the Air Force Command in 2025, with work on the armed version (HÜRJET-C) expected to last until 2027.

The Hurjet is competing against 5 other contenders but primarily against Indian LCA. On November 24, 2021, TAI launched an office in Cyberjaya and a science park in Putrajaya, Malaysia, in order to enhance ties and establish a strong presence in the country.

TAI's CEO said at the opening ceremony that if the business wins the tender, it is prepared to manufacture 15 of the ordered Hurjets in Malaysia, in addition to the 13 Turkish manufacturing projects that are already underway in Malaysia.

According to reports, Turkish and Malaysian experts are also expected to conduct joint studies in a range of fields, including unmanned aerial vehicles, jet trainers, helicopter projects, and global aviation ecosystem modernization programs.

HÜRJET is a single-engine tandem-seat trainer aircraft with advanced avionics and high-performance features that plays an important role in current pilot training. A wide range of mission

capabilities and a large payload make the combat variant a battlefield force multiplier, according to Turkish Aerospace.

HÜRJET Project was launched to replace Turkey's outdated T-38s as Advanced Jet Trainers (AJT) and F-5s as Acrobatic Team Aircraft.

TAI has reportedly launched the HÜRJET Program in response to the multirole aircraft market's potential, leveraging its experience and skills in the design and production of cost-effective trainer/light aircraft/systems.

Even domestically, the work on the Turkish Hurjet is going on in full swing and major upgrades are underway on the basic design. "We've been working on modifying Hürjet's design to allow it to operate on naval assets.

We created a number of designs and simulations. It has been demonstrated that the current architecture can evolve in this direction. The research continues, to make Hürjet a shipborne aircraft that can be operated from TCG Anadolu", said Prof. Ismail Demir, Turkey's Head of Defence Industry Presidency, in April this year.

https://eurasiantimes.com/turkeys-hurjet-indias-tejas-lca-for-malaysian-fighter-jet-deal/

The EurAsian Times

Sun, 05 Dec 2021

Indian Air Forces' AMCA Stealth Fighter Jet, LCA Tejas variants to be powered by 'Make in India' Engines – Minister

By Sakshi Tiwari

India's federal government made a slew of announcements in Parliament that are likely to usher in a new era in indigenous defense manufacturing. A new locally developed engine with international assistance for its indigenous fighters is now on the cards, in addition to existing 'Make in India' programs.

LCA Tejas (via Wikipedia)

While the Tejas Light Combat Aircraft (LCA) is currently powered by an imported engine, the Government informed Parliament on November 29 that it plans to develop indigenous engines for LCA variants and the Advanced Medium Combat Aircraft (AMCA) in collaboration with a global manufacturer in the future, reported The Hindu.

"The Flight Operational Clearance (FOC) configuration of the LCA Tejas requires more thrust than the proposed domestic engine can provide. As a result, the Kaveri cannot be integrated into the current architecture. A modified engine version is necessary to induct with LCA Tejas," India's junior defense minister Ajay Bhatt said in a written reply to the Rajya Sabha, the upper house of Parliament.

Kaveri is the name of the indigenous engine project that was commissioned 30 years ago and is now in the trial stage.

On the projected engine development in the future, the Defense secretary emphasized that the technological capabilities gained through the Kaveri engine project will be of significant utility. However, this official statement means that the Kaveri project is not going to power India's ambitious advanced combat fighter development.

The Development of Kaveri

The indigenous Kaveri engine project was approved by the Cabinet Committee on Security (CCS) in 1989. The project, which cost Rs 2035.56 crore and lasted 30 years, resulted in the production of nine full prototype engines and four core engines.

The engine was tested for a total of 3217 hours, and it also passed altitude tests and trials on the Flying Test Bed (FTB), The Hindu report said.

Despite this, the Kaveri's thrust is only about 65 Kilo Newtons (KN), far less than the 95 KN produced by its main competitors, the Eurojet EJ200 and the General Electric GE-F414.

As of now, the GE-F404 engines power the LCA FOC version and the Mk-1A, while the other Tejas variant LCA-Mk2 and the AMCA will be powered by the more powerful GE-F414 engines in the future. Even though the former is a reliable engine that has been used on American F/A-18 Hornet fighters and the Mk-1A LCA variant, the more advanced versions to be manufactured domestically are believed to require a more powerful engine with more thrust capacity. This is where the GE-F414 comes into the picture.

Multiple Options to Choose From

Earlier this year, India's state-run aerospace company Hindustan Aeronautics Limited (HAL) sealed a $716 million deal with GE Aviation of the United States for 99 F404 aircraft engines and related services to power the indigenous Tejas LCA Mk-1A.

The Defense Ministry had signed a ₹48,000 crore deal with HAL to supply 83 LCA-Mk1A to the Indian Air Force in February this year.

HAL had then mentioned that the collaboration would be bolstered by the production of GE F414 engines in India for the forthcoming LCA Mk-2 program. According to the statement, the F404 family of engines has accumulated over 14 million engine flight hours and powered 15 different commercial and prototype aircraft.

The recent announcement made in Parliament hints that GE could be picked to help India produce engines for LCA and AMCA domestically. This will achieve the twin objective of securing a more advanced engine for the fighters while also giving a fillip to India's 'Make in India' and 'Atmanirbhar Bharat' (self-reliant India) initiatives.

British engine maker Rolls-Royce had also expressed keen interest in collaborating with India to co-develop and manufacture engines for the country's AMCA fifth-generation fighter aircraft program in September this year. This goes on to prove that India has more than just one option to choose from.

Going Indigenous Is The Mantra?

India's local defense manufacturing ecosystem has recently been making concerted efforts to indigenously produce engines for aircraft.

In May this year, using its unique 2000 MT isothermal forge press, the state-run "Defence Research and Development Organisation (DRDO) established near-isothermal forging technology to make all five stages of high-pressure compressor (HPC) discs out of difficult-to-deform titanium alloy", announced the Ministry of Defense.

The Hyderabad-based Defense Metallurgical Research Laboratory of DRDO accomplished this technological achievement by producing complicated titanium and nickel-based alloys that can endure temperatures of over 1,000 degrees Celsius (DMRL).

These were sent to HAL's Bengaluru Engine Division for installation in the Adour 804/811 and 871 engines that power the Indian Air Force's Jaguar/Hawk aircraft.

With this breakthrough, India joined a select group of worldwide engine developers who are capable of producing such crucial aircraft engines.

India has been trying to further indigenization through domestic innovation and collaboration with foreign giants. This is the flagship agenda of the present Indian dispensation and both, LCA Tejas and the AMCA program are at the center of it.

https://eurasiantimes.com/indian-hal-tejas-amca-stealth-fighter-jet-make-in-india-engine/

पत्रिका

Mon, 06 Dec 2021

जबलपुर इंजीनियरिंग कॉलेज में आया फाइटर प्लेन मिग-21

भारतीय वायु सेना ने किया प्रदान, कॉलेज परिसर में किया जा रहा स्थापित, रक्षा मंत्रालय के डीआरडीओ ने किया प्रदत्त

By मयंक साहू

जबलपुर: वायु सेना का फाइटर प्लेन मिग-21 जबलपुर इंजीनियरिंग कॉलेज पहुंच गया है। इस प्लेन को रक्षा मंत्रालय डीआरडीओ के माध्यम से जबलपुर भेजा गया। कॉलेज के परिसर के बाहर इस फाइटर प्लेन का स्थापित किया जा रहा है। ऐतिहासिकी कॉलेज के लिए यह ऐतिहासिक उपलब्धि है। संभवत: देश के पहले तकनीकी संस्थान में किसी फाइटर प्लेन का स्थापित किया गया हो। दिल्ली से विभिन्न टुकड़ों में विमान के स्पेयर पार्टस पहुंचे जहां इंजीनियरों की टीम द्वारा इक कर तैयार किया गया। यह भारतीय वायु सेना द्वारा इंजीनियरिंग कॉलेज को भेंट किया गया है। मिग-21 को प्रदान करने में डीआरडीओ के डॉयरेक्टर डॉ.सुधीर मिश्रा की महात्वपूर्ण भूमिका रही। उन्होंनें अपने प्रयासों से इसे जबलपुर में लाया।

Fighter plane MiG-21 arrived at Jabalpur Engineering College

2018 में वायु सेना से हुआ रिटायर

बताया जाता है मिग-21 फाइटर प्लेन 2018 में वायु सेना से रिटायर हो गया। इस प्लेन ने वायु सेना के कई मोर्चों पर बेहतरीन साथ दिया। जबलपुर में यहां लाने के पहले इसे डिस्मेंटल किया गया एवं कई टुकड़ों में के माध्यम से जबलपुर पहुंचाया गया। वायुसेना के टेक्नीशियनों की टीम ने इसे असेंबल किया और महाविद्यालय परिसर में एडमिनिस्ट्रेटिव ब्लॉक के सामने पहले से तैयार किए गए प्लेटफार्म पर स्थापित किया गया। मैकेनिकल के छात्रों को तकनीकी ज्ञान और कौशल के विकास के लिए इसे प्रदान किया गया है।

औपचारिक लोकार्पण अभी नहीं

इस एयरक्राफ्ट का औपचारिक लोकार्पण अभी होना बाकी है। अभी इसके ऊपर रंग रोगन, पेंटिंग एवं अन्य तमाम चीजों से इसको संवारा जाएगा। उसके बाद से विधिवत महाविद्यालय को सौंपा जाएगा फिर लोकार्पण किया जाएगा। विदित हो कि जबलपुर इंजीनियरिंग कॉलेज अपना प्लेटिनम जुबली मना रहा है। ऐसे में मिग 21 मिलने से कॉलेज के खाते में एक अन्य उपलब्धि बढ़ गई है।

https://www.patrika.com/jabalpur-news/fighter-plane-mig-21-arrived-at-jabalpur-engineering-college-7208574/

THE NEW INDIAN EXPRESS

Sun, 05 Dec 2021

3-day ISTAM conference launched at VIT-AP

Addressing the inaugural function virtually, he said that students should think creatively and make the country as proud in the defence sector as it is in the software industry

Hyderabad: While inaugurating the three-day 66th annual conference of the Indian Society of Theoretical and Applied Mechanics (ISTAM) at Vellore Institute of Technology, Andhra Pradesh (VIT-AP) University, Amaravati, Distinguished Scientist, Director-General, Naval Systems and Materials at DRDO, Dr. Samir V Kamat, urged the younger generation to work towards making the country self-sufficient and self-reliant on crucial technologies.

Dr Samir V Kamat, Director-General, Naval Systems and Materials at DRDO, inaugurates the 66th annual conference of ISTAM at VIT-AP on Saturday

Addressing the inaugural function virtually, he said that students should think creatively and make the country as proud in the defence sector as it is in the software industry. The conference hosted several parallel sessions diligently planned for the benefit of all the participants aimed to bridge the gap between the scholars working in academia and the working scientists.

Dr. G Viswanathan, Founder-Chancellor, VIT Group of Institutions, emphasised on the importance of research in the nation's growth, and said that VIT is one of the top institutes in terms of research publications. VIT-AP is committed to continue towards its goal of becoming a global hub for research and development, said Dr SV Kota Reddy, Vice-Chancellor, VIT-AP.

https://www.newindianexpress.com/states/telangana/2021/dec/05/3-day-istam-conference-launched-at-vit-ap-2392001.html

mint

Sat, 04 Dec 2021

S-400: Govt says it takes sovereign decisions based on threat perception

The S-400 missile is a potent system and India's air defence capability will be significantly enhanced following its induction

New Delhi : Amid a looming threat of US sanctions on India over its procurement of S-400 missile systems from Russia, the government on Friday said it takes sovereign decisions based on threat perception and to keep the armed forces in a state of readiness to meet the entire spectrum of security challenges.

India has already developed an indigenous Anti-Drone System. (Reuters)

Minister of State for Defence Ajay Bhatt, replying to a question in Lok Sabha, said the government is aware of all developments that may impact procurement of defence equipment.

To a separate question, he also said that India has already developed an indigenous anti-drone system that is "capable of detection, tracking, soft kill and hard kill of enemy drones".

Bhatt said available information indicated that only the US, Israel, France, the UK and Germany have anti-drone capabilities.

"Order for anti-drone systems has been placed by Indian armed forces (Navy, Army and Air Force) on Bharat Electronics Ltd based on technology developed by the DRDO," Bhatt said.

He said the Defence Research and Development Organisation (DRDO) has also transferred the technology for the production of the drones to four more private industries.

On the S-400 missiles, he said their deliveries are as per contractual timelines.

"The government takes sovereign decisions based on threat perception, operational and technological aspects to keep the armed forces in a state of readiness to meet the entire spectrum of security challenges. The deliveries are as per contractual timelines," he said.

He said the S-400 missile is a potent system and India's air defence capability will be significantly enhanced following its induction.

"The S-400 Missile is a potent system in terms of its operational capability to provide continuous and effective air defence system to a very large area. With the induction of this system, air defence capability of the nation will be significantly enhanced," the minister said.

India has already developed an indigenous Anti-Drone System. The system is capable of Detection, Tracking, Soft Kill and Hard Kill of enemy Drones.

Alexander Mikheyev, the head of Russia's state-run military firm Rosoboronexport, said last month that Moscow has started delivery of the components of the S-400 air defence missile systems to India.

In October 2018, India had signed a USD 5 billion deal with Russia to buy five units of the S-400 air defence missile systems, despite a warning from the Trump administration that going ahead with the contract may invite US sanctions.

The Biden administration has not yet clarified whether it will impose sanctions on India under the provisions of the Countering America's Adversaries Through Sanctions Act (CAATSA) for procuring the S-400 missile systems.

The CAATSA, which was brought in 2017, provides for punitive actions against any country engaged in transactions with Russian defence and intelligence sectors.

The US has already imposed sanctions on Turkey under the CAATSA for the purchase of a batch of S-400 missile defence systems from Russia.

Following the US sanctions on Turkey over the procurement of S-400 missile systems, there were apprehensions that Washington may impose similar punitive measures on India.

https://www.livemint.com/news/india/s400-govt-says-it-takes-sovereign-decisions-based-on-threat-perception-11638543609754.html

ThePrint

Mon, 06 Dec 2021

From buyer of military goods, India wants to become Russia's 'development & production' partner

India & Russia are looking at signing a defence logistics exchange pact when President Putin comes calling, with a ceremonial handing over of S-400 Triumf air defence systems likely too.

By Snehesh Alex Philip, Edited by Saikat Niyogi

New Delhi: India is looking at altering the buyer-seller bilateral defence relationship with Russia to that of joint production, but without the recurring issue of royalty, ThePrint has learnt.

India and Russia meet for their maiden 2+2 Dialogue Monday.

Sources in the defence and security establishment said that while India has diversified its sourcing of military hardware from predominantly Russia to other countries, including the US, France and Israel, in the last few years, Moscow will continue to be a partner.

File image of Russia's S-400 Triumf multi-layered air defence system | Photo: Snehesh Alex Philip | ThePrint

Russia witnessed a 53 per cent fall in arms exports to India even as Delhi's imports from Paris increased, data from the last five years have shown.

India and Russia are looking at signing a defence logistics exchange pact later in the day when Russian President Vladimir Putin comes calling, besides signing a deal for indigenous manufacture and supply of spare parts used in Russian equipment in service with India.

The sources said that another important development during Putin's visit will be the inking of an agreement to start production of AK 203 rifles in Uttar Pradesh's Amethi district, as reported by ThePrint earlier.

There could also be a ceremonial handing over of the S-400 Triumf air defence systems to India, sources said.

The initial deliveries of the first squadron of the S-400 missile defence system have already started and is set to be completed by the middle this month.

Focus of 2+2 Dialogue

Talking about the 2+2 dialogue, to be attended by both defence ministers and foreign ministers of the two countries, the sources said that Russia's increasing relationship with China and the Afghanistan situation would be on the agenda.

Asked about maintaining a fine balance between Russia and the US, the sources said that India's relations with one country cannot be at the cost of another.

They said that Russia remains an old friend whose contribution remains unmatched.

The sources also said that the strategic partnership between India and Russia will also be discussed, as India looks at leasing a fourth nuclear-powered attack submarine (SSN) besides the Chakra III, a deal for which was signed in 2019, as reported by ThePrint.

Joint development, joint production

Talking about the overall agenda, especially in the context of defence, the sources said that India is looking at moving beyond the buyer-seller relationship.

“The road ahead is about joint development and joint production. We want Russian companies to come and set up shops here, not just for India but also for the world. This will be economically viable for Russia because this means that production capacity increases,” a source said.

Another source explained that while the focus is on joint production, it would be under Transfer of Technology (ToT) and not through royalty.

Sources said that India has always paid Moscow royalty for all India-Russia products manufactured domestically, including the BrahMos supersonic missiles.

This also meant that in future, when India sells BrahMos to a third country, a large share of the revenue will go as royalty to Russia.

The sources said that the AK 203 deal also had royalty incorporated in it, but both sides have now decided on a ToT fee, which has brought down the cost of each rifle.

https://theprint.in/diplomacy/from-buyer-of-military-goods-india-wants-to-become-russias-development-production-partner/776972/

daijiworld.com
A portal linking the West Coast of India and the World

Mon, 06 Dec 2021

After BrahMos, IIT-M alum and former TT champ eyes defence satellites

By Venkatachari Jagannathan

Chennai: It has been a three-decade grind for the former table tennis champion and Indian Institute of Technology-Madras (IITM) graduate Srinivasagopalan Rangarajan to lift his company Data Patterns (India) Ltd, whose prestige projects include the BrahMos missile programme, to the point of inflexion.

"With an order book position of about Rs 588 crore, the company is now at an inflexion point with the country's defence, aerospace and other strategic sectors having opened up," 63-year old Rangarajan, Chairman and Managing Director told IANS.

The about Rs 224 crore turnover Data Patterns is a defence and aerospace electronics company that designs and manufactures radars, underwater electronics/communications/ other systems, electronic warfare suite, small satellites and others.

"We have built small satellites and are looking at the defence satellite sector. There is a need for a lot of small defence satellites for India. There is latent demand for small satellites. The Indian space sector is being opened up which augurs well for companies like us," Rangarajan said.

Apart from small satellites, Indian space agency's deep space mission, ground stations, and other projects offer good business prospects for testing equipment makers.

It was Data Patterns that designed and developed the second launch pad countdown system for delivery to the Indian Space Research Organisation (ISRO).

Rangarajan is ably assisted by his wife and Whole Time Director Rekha Murthy Rangarajan - it won't be wrong to describe them as a missile firing couple - as Data Patterns is the supplier of the launch and fire control system for Brahmos missile programme.

"The business was started way back with his provident fund money of about Rs 11,000. Earlier he was employed in a private company," Rekha Murthy Rangarajan told IANS.

The company caters to the country's strategic sectors - defence (air force, navy and army), aerospace-Indian space sector-since early 1990s and now planning to go global with its products.

A former Tamil Nadu table tennis champion and representing the state in the nationals, Rangarajan holds a Master's Degree in Science from the IITM and a Bachelor's Degree of Technology in Chemical Engineering from the Faculty of Technology, University of Madras.

"Our major product groups consist of radars, underwater electronics/communications/ other systems, electronic warfare suite, BrahMos programme, avionics, small satellites, commercial off the shelf products and others," Rangarajan said.

"We are a vertically integrated defence and aerospace electronics solutions provider. We do end to end electronics products for strategic sectors, he added.

Rangarajan said the company will be bidding for tenders issued by the Ministry of Defence which will be relatively big one and compete with the industry biggies.

The other area of focus for the 700 plus headcount company will be the services business, he added.

According to him, there is a structural shift in the defence budget with increased allocation for modernisation funds, and approval of non-relapsable fund. The fund available to the defence industry participants during fiscal 2022 to fiscal 2031 is estimated at $339 billion.

He said the company is in the process of getting its next generation Radar Warning Receiver ('RWR') approved which could then become a part of India's light combat aircraft (LCA), and other upgrade programmes such as SU-30 MKI.

Similarly with India's decision to acquire about 110 Medium Multi-Role Combat Aircraft and trainer aircrafts offers big revenue opportunities for Indian companies like Data Patterns.

The initial public offer (IPO) bound company is also likely to deliver Next Gen completely wide open for LCA Mk IA and Sukhoi 30 platforms subject to flight testing. After flight testing, these can be fitted on the 83 LCA MK IA on order as well as the Sukhoi 30 upgrades (approximately 270 numbers), attack helicopters and others.

The flight tests are planned in the next two/three months on the LCA, and similar tests are planned on Sukhoi 30 later.

About IITM and its influence on him as an entrepreneur, Rangarajan said: "It gave me the business and management perspective. The engineer in me prodded me to make products."

"The lectures of Professor Anantharaman gave me confidence. He made us give lectures which in turn increased my confidence levels," he recalled.

Data Patterns will soon hit the market to raise Rs 300 crore from fresh issue of shares for business expansion. There will also be an offer for sale by the existing shareholders to the tune of 60,70,675 shares.

"The market has opened up. Offering new prospects and challenges. We would like to take the company to the next level and also look at export markets," Ragarajan said.

https://www.daijiworld.com/news/newsDisplay?newsID=901108

COVID 19: DRDO's Contribution

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 3:32PM

Medical Oxygen Production

As per records of Petroleum and Explosives Safety Organization (PESO), based on the daily report submitted by the manufacturers, the daily production capacity of Liquid Oxygen is 8778 MT/Day. The details of Medical oxygen capacity are as under:

Year	Total capacity of daily production liquid oxygen manufacturing plant
2019	No data available with PESO
As on 01/10/2020	6876 MT/day
As on 28/11/2021	8778 MT/Day

Apart from above to boost availability of Medical Oxygen in the country, as many as 1563 Pressure Swing Adsorption (PSA) plants are established by the Government of India. These include 1225 PSA plants which have been installed and commissioned under PMCARES Fund in every district of the country. Additionally, 281 PSA Plants are established by PSUs of Ministry of Petroleum & Natural Gas, Ministry of Power, Ministry of Coal, Ministry of Railways and 57 PSA plants received under Foreign grants.

The Empowered Group constituted by the Government on Emergency Management Plan and Strategy recommended that for calculation of oxygen demand, the required rates of oxygen flow in non-ICU and ICU setting is 10 and 24 litres per minute per day per case, respectively.

A dynamic and transparent framework for allocation of medical oxygen in consultation with States/UTs and all the stakeholders such as relevant Ministries, manufacturers/suppliers of liquid oxygen etc. was prepared. Also, online digital solutions viz. Oxygen Demand Aggregation system (ODAS) and Oxygen Digital Tracking System (ODTS) have been developed to ascertain the demand for medical oxygen from all medical facilities and to track their transportation.

The Union Minister of State for Health and Family Welfare, Dr Bharati Pravin Pawar stated this in a written reply in the Lok Sabha.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777645

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 3:31PM

Hospitals with new oxygen plants

The Government has sanctioned 1563 Pressure Swing Adsorption (PSA) oxygen generation plants with capacity of around 2000 MT has been set up in public health facilities across the country. These include 1225 PSA plants which have been installed and commissioned under PMCARES Fund in every district of the country. Additionally, 281 PSA Plants are being set up by PSUs of Ministry of Petroleum & Natural Gas, Ministry of Power, Ministry of Coal, Ministry of Railways and 57 PSA plants have been received under Foreign grants. The States have also been asked to install PSA plants in public health facilities and facilitate installation of PSA plants in private health facilities. The National Medical Commission has also amended the Minimum Requirements for Annual MBBS Admission Regulations, 2020 to make it mandatory for all medical colleges to install PSA plants.

The Union Minister of State for Health and Family Welfare, Dr Bharati Pravin Pawar stated this in a written reply in the Lok Sabha.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777643

DRDO on Twitter

Defence News

Defence Strategic: National/International

Press Information Bureau
Government of India

Ministry of Defence

Sat, 04 Dec 2021 7:32PM

Indian Navy – Innovating towards nation building

The Innovation Pavilion, set up at the Navy House on occasion of Navy Day 2021, was inaugurated by Hon'ble Raksha Mantri Shri Rajnath Singh, on 04 Dec 2021 in presence of the Chief of Naval Staff, Admiral R Hari Kumar. The pavilion showcased how Indian Navy has synergised innovation and Indigenisation efforts and collaborated with Academia and Industry, in keeping with the theme for this year's Navy Day "*Indian Navy* – Innovating towards Nation Building", towards larger emphasis on Nation Building whilst keeping its focus on own Self-Reliance. The innovations presented in the Innovation Pavilion were in-house efforts of Indian Navy, in accordance the vision of Mission Raksha Gyan Shakti and displayed stalls on four major aspects.

The Innovations for Healthcare stall displayed certain 'game changing' Medical innovations including those undertaken jointly with IIT, Mumbai like Aadyant ORS (O_2 Recycling System) for enhanced safety in ICUs, Sanitizer using Nano-technology effective on MRSA bacteria, AI based Nebulizer and a Low-cost digital stethoscope for tele-medicine especially for rural / remote areas. The Partnering with Academia for Technology Evolution stall displayed Dental Dome, Navrakshak gowns, Autonomous Boat and Quad-Copter which was a result of agreement between Indian Navy and Rashtriya Raksha University (RRU) for licensing of in-house developed technology, to MSMEs for mass manufacture.

The Engaging with Young India stall displayed products developed by Indian Navy in conjunction with National Forensic Science University (NFSU). These included Limpet Mine Detection System, Caged Drone for firefighting, Autonomous Beach Check Survey Device (ABCD) and Portable UW Diver Delivery System which is being handed over to NFSU for further refinement. The IN-STEP (Indian Navy Student's Technical Engagement Program), engaging students in premier education institutes through mentored online internship, displayed Smart Firefighting Suit (Amity University) and Underwater Detection Algorithms (IIT Jammu). Additionally, Corona Yoga game, made by 10 year son of a naval officer, awarded PM Rashtriya Bal Puraskar on 26 Jan 21, was also presented. The Innovation for Self-Reliance and Beyond stall displayed Indigenisation efforts by Indian Navy to reduce import dependency and provide export potential. These included Tactical Mobile Fiber Optic Cable with Jetty Enclosure, Upper Deck Paint, Autonomous Modular Inflatable Target (AMIT), Remote Embedded Systems Support (RESS) and 30 mm Pre-fragmented Shells.

https://pib.gov.in/PressReleasePage.aspx?PRID=1778088

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 04 Dec 2021 7:32PM

भारतीय नौसेना- राष्ट्र निर्माण की दिशा में नवाचार की ओर बढ़ते कदम

नौसेना दिवस 2021 के अवसर पर नौसेना हाउस में स्थापित इनोवेशन मंडप का उद्घाटन माननीय रक्षा मंत्री श्री राजनाथ सिंह ने 04 दिसंबर 2021 को नौसेना प्रमुख एडमिरल आर हरि कुमार की उपस्थिति में किया। पवेलियन ने दिखाया कि कैसे भारतीय नौसेना ने नवाचार और स्वदेशीकरण के प्रयासों में तालमेल बिठाया है और इस साल के नौसेना दिवस की थीम "भारतीय नौसेना- राष्ट्र निर्माण की दिशा में नवाचार" के विषय को ध्यान में रख आत्मनिर्भरता पर ध्यान देते हुए शिक्षा और उद्योग के साथ सहयोग किया है। इनोवेशन पवेलियन में प्रस्तुत किए गए इनोवेशन मिशन रक्षा ज्ञान शक्ति के विजन के अनुसार भारतीय नौसेना के अपने प्रयास थे और चार प्रमुख आयामों के विषय पर स्टॉल प्रदर्शित किए गए।

इनोवेशन फ़ॉर हेल्थकेयर स्टॉल ने कुछ 'गेम चेंजिंग' मेडिकल इनोवेशन प्रदर्शित किए जिनमें आईआईटी, मुंबई के साथ संयुक्त रूप से निर्मित आईसीयू में बढ़ी सुरक्षा के लिए आद्यंत ओआरएस (ओ2 रीसाइक्लिंग सिस्टम), एमआरएसए बैक्टीरिया पर प्रभावी नैनो-प्रौद्योगिकी का उपयोग करने वाला सैनिटाइज़र, एआई आधारित नेबुलाइज़र और ए टेली-मेडिसिन के लिए कम लागत में विशेष रूप से ग्रामीण/दूरदराज के क्षेत्रों के लिए डिजिटल स्टेथोस्कोप आदि शामिल हैं।

पार्टनरिंग विद एकेडेमिया ऑन टेक्नोलॉजी एवोल्यूशन स्टाल में डेंटल डोम, नवरक्षक गाउन, ऑटोनॉमस बोट और क्वाड-कॉप्टर प्रदर्शित किए गए, जो भारतीय नौसेना और राष्ट्रीय रक्षा विश्वविद्यालय (आरआरयू) के बीच बड़े पैमाने पर एमएसएमई को इन-हाउस विकसित प्रौद्योगिकी के लाइसेंस के लिए समझौते का परिणाम था।

एंगेजिंग विद यंग इंडिया स्टॉल ने राष्ट्रीय फोरेंसिक विज्ञान विश्वविद्यालय (एनएफएसयू) के संयोजन में भारतीय नौसेना द्वारा विकसित उत्पादों को प्रदर्शित किया। इनमें लिम्पेट माइन डिटेक्शन सिस्टम, फायर फाइटिंग के लिए केज्ड ड्रोन, ऑटोनॉमस बीच चेक सर्वे डिवाइस (एबीसीडी) और पोर्टेबल यूडब्ल्यू डाइवर डिलीवरी सिस्टम शामिल हैं, जिन्हें आगे बेहतरी के लिए एनएफएसयू को सौंपा जा रहा है। इन-स्टेप (इंडियन नेवी स्टूडेंट टेक्निकल एंगेजमेंट प्रोग्राम), मेंटर ऑनलाइन इंटर्नशिप के माध्यम से प्रमुख शिक्षा संस्थानों में छात्रों को शामिल करते हुए, स्मार्ट फायरफाइटिंग सूट (एमिटी यूनिवर्सिटी) और अंडरवाटर डिटेक्शन एल्गोरिदम (आईआईटी जम्मू) प्रदर्शित किया। साथ ही दिनांक 26 जनवरी को प्रधानमंत्री राष्ट्रीय बाल पुरस्कार से सम्मानित एक नौसैनिक अधिकारी के 10 साल के बेटे द्वारा बनाए गए कोरोना योग गेम को भी प्रस्तुत किया गया। इनोवेशन फॉर सेल्फ-रिलायंस एंड बियॉन्ड स्टॉल ने भारतीय नौसेना द्वारा आयात निर्भरता को कम करने और निर्यात क्षमता प्रदान करने के लिए स्वदेशीकरण के प्रयासों को प्रदर्शित किया। इनमें जेटी एनक्लोजर के साथ टैक्टिकल मोबाइल फाइबर ऑप्टिक केबल, अपर डेक पेंट, ऑटोनॉमस मॉड्यूलर इन्फ्लेटेबल टारगेट (एएमआईटी), रिमोट एंबेडेड सिस्टम सपोर्ट (आरईएसएस) और 30 मिमी प्री-फ्रैगमेंटेड शेल शामिल हैं।

https://pib.gov.in/PressReleasePage.aspx?PRID=1778259

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 2:36PM

Strengthening Security

Various steps have been taken by the Government from time to time to strengthen the security of the country. Towards this, the post of Chief of Defence Staff (CDS) was created in December, 2019. The CDS has been mandated to carry out integration and jointness in the Armed Forces including creation of Integrated Theatre Commands. The CDS has also been made permanent Chairman of Chiefs of Staff Committee. A separate Department of Military Affairs (DMA) has been created to look after the matters related to Army, Air Force and Navy and jointness amongst the three services.

Further, modernisation, upgradation and sustenance of military equipment and weapons is taken up from time to time, to equip the Armed Forces with modern weapon systems / equipment under various procurement provisions (DAP & DPM). Also in emergencies, special procurement powers to enhance the operational capability are given to Service Headquarters.

The Government has also taken several policy initiatives and reforms to promote indigenous design, development and manufacture of defence equipment in the country and enable development or transfer of technologies in the country.

In addition to the above, specialised agencies viz. the Armed Forces Special Operations Division, the Defence Cyber Agency and the Defence Space Agency have also been established to address the emerging threats in the relevant domain.

Several measures have also been taken by the Government to strengthen the internal security architecture, such as strengthening of legal framework by amending the Unlawful Activities (Prevention) Act, 1967; the National Investigation Agency Act, 2008; Arms Act, 1959; Modernisation of Police and Central Armed Police Forces (CAPFs); strengthening of border security grid and coastal security; strengthening of the Multi-Agency Centre (MAC) and exchange of information and intelligence in various forums.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Rattan Lal Kataria in Lok Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777613

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 2:34PM

Manufacturing of defence equipment

The Government has taken several policy initiatives and brought reforms to encourage indigenous design, development and manufacture of defence equipment within the country, with an aim to reduce dependency on imports. These initiatives, inter-alia, include according priority to procurement of capital items from domestic sources under Defence Acquisition Procedure (DAP)-2020; Notification of two 'Positive Indigenisation Lists' of total 209 items for which there would be an embargo on the import beyond the timeline indicated against them; Simplification of Industrial licensing process with longer validity period; Liberalization of FDI policy allowing 74% FDI under automatic route; Simplification of Make Procedure; Launch of Innovations for Defence Excellence (iDEX) scheme involving Startups& MSMEs; Implementation of 'Public Procurement (Preference to Make in India), Order 2017'; Launch of an Indigenization Portal namely 'SRIJAN' to facilitate indigenisation by Indian Industry including MSMEs; Reforms in Offset policy with thrust on attracting investment and Transfer of Technology for Defence manufacturing by assigning higher multipliers and establishment of two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu.

As per the data received from Controller General of Defence Accounts (CGDA), the details of procurement of defence equipment (both Capital and Revenue) by the three Services (Army, Navy and Air Force) in the last three years and the current year (Upto September, 2021) are as follows:

(Value in Rs Crore)

Year	Total expenditure on Procurement (both capital and revenue)	Expenditure on Procurement (both capital and revenue) from Domestic sources	Expenditure on Procurement (both capital and revenue) from Foreign sources
2018-2019	93474	50500	42974
2019-2020	108340	63722	44618
2020-2021	139341	88632	50709
2021-22 (Upto September, 2021)	62975	41724	21251

Capital Procurement of defence equipment are undertaken from various domestic as well as foreign vendors, based on threat perception, operational challenges and technological changes and to keep the Armed Forces in a state of readiness.

Prior to 2014, during 2012-13 & 2013-14, 115 contracts were signed, out of which 49 contracts were signed with foreign vendors for capital procurement of defence equipment for Armed Forces. The major defence equipments imported during the said period include aircrafts, helicopters, missiles etc.

Based on the export Authorisations/ Licenses issued by Department of Defence Production and actual exports done by Defence Public Sector Undertakings (DPSUs) and private industries, some

of major items exported in the past few years, are Fast Patrol Vessels, Coastal Surveillance System (CSS), Light Weight Torpedoes, Light Weight Torpedo Launcher and Parts, Do-228 Aircraft, Wheeled Infantry Carrier, Light Specialist Vehicle, Mine Protected Vehicle, Passive Night Sights, Battle Field Surveillance Radar Extended Range, Integrated Anti-Submarine Warfare, Advanced Weapons Simulator, Personal Protective items, 155mm Artillery Gun Ammunition, Small Arms and Ammunitions, Weapon locating Radars, Identification of Friend or Foe (IFF) –Interrogator etc. Further, the value of defence exports during the last four year and the current year (Upto November, 2021) is as under:

Year	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22 (Upto November, 2021)**
Value of Export Authorisation (Rs. in Crore)	4682	10746	9116	8435	4586

Considering the strategic sensitivity of the matter and in the interest of national security, the country-wise details of exports and imports cannot be divulged.

Further, year-wise annual Turnover as obtained from Defence Public Sector Undertakings (PSUs), other PSUs and private companies operating in defence for the last four years and the current year (Upto September, 2021) is as below:

Year	**Private Companies**	**DPSUs & Other Public Sector Undertakings**	**Total Production (in Rs Cr)**
2017-18	15347	63473	78820
2018-19	17350	63770	81120
2019-20	15894	62676	78570
2020-21	17292	67375	84667
2021-22 (Till September, 2021)	8483	25860	34343

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Balak Nath and others in Lok Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777611

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 2:33PM

Defence Industrial Corridors

In the General Budget 2018-19, Central Government announced setting up of 02(two) Defence Industrial Corridors (DICs) in the country. In pursuance of the said announcement, it was further decided to set up one of these Corridors in Uttar Pradesh (UP) and another in TamilNadu (TN). Subsequently, six nodes, namely Aligarh, Agra, Chitrakoot, Jhansi, Kanpur and Lucknow were identified for Uttar Pradesh Defence Industrial Corridor (UPDIC) and five nodes, namely Chennai, Coimbatore, Hosur, Salem and Tiruchirappalli for Tamil Nadu Defence Industrial Corridor (TNDIC).Defence Industrial Corridors (DICs) are aimed at providing fillip to the defence manufacturing ecosystem in both States and attract investment worth Rs. 10,000 Crore in each of the DICs by the year 2024-25. The respective State Governments provide necessary lands, connectivity and basic infrastructure for the DIC.

Subsequently, Government of India has received proposals from 08(eight) State Governments, including Telangana for setting up of Defence Industrial Corridors (DICs) in their States. No proposal has been received from the State of Andhra Pradesh. The two defence corridors are intended to provide a fillip to strengthening the defence manufacturing ecosystem in India including all States.

The Government has taken following steps to promote 'Atmanirbhar Bharat' in the defence sector:

i. Defence Procurement Procedure (DPP)-2016 was revised as Defence Acquisition Procedure (DAP) - 2020, which is driven by the tenets of Defence Reforms announced as part of 'Aatmanirbhar Bharat Abhiyan'. In order to promote indigenous design and development of defence equipment 'Buy {Indian-IDDM (Indigenously Designed, Developed and Manufactured)}' category has been accorded top most priority for procurement of capital equipment. The 'Make' Procedure of capital procurement has been simplified. There is a provision for funding up to 70% of development cost by the Government to Indian industry under Make-I category, whereas Make-II procedure provides assurance to the industry for procurement. In addition, there are specific preferences for MSMEs under the 'Make' procedure.

ii. Ministry of Defence has notified two 'Positive Indigenisation Lists (PILs)' with total 209 items for which there would be an embargo on the import beyond the timeline indicated against each of them, offering a great opportunity to the Indian defence industry to manufacture these items using their own design and development capabilities to meet the requirements of the Armed Forces in the coming years.

iii. Ministry of Defence has earmarked about 64 per cent of its modernisation funds amounting to almost Rs 71,000 crore under the capital acquisition budget for 2021-22 for procurement from the domestic industries.

iv. The Government of India has enhanced FDI limit in Defence Sector up to 74% through the Automatic Route for companies seeking new defence industrial license and up to 100% by Government Route wherever it is likely to result in access to modern technology.

v. An innovation ecosystem for Defence, namely "Innovations for Defence Excellence (iDEX)"was launched in April, 2018. iDEX aims at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia and provide them grants/funding and other support to carry out R&D which has potential for future adoption for Indian defence and aerospace needs.

vi. An indigenization portal, namely SRIJAN, has been launched in August 2020 for DPSUs/Services with an industry interface to provide development support to MSMEs/Start-ups/Industry for import substitution. As of today, 16583 items have been uploaded for indigenisation. Out of them, 2709 items have been indigenised.

vii. Defence products list requiring Industrial Licences has been rationalised and manufacture of several parts or components are delicensed. The initial validity of the Industrial Licence granted under the IDR Act has been increased from 03 years to 15 years with a provision to further extend it by 03 years on a case-to-case basis. A new online portal has been developed for facilitating filing of online applications for Industrial License under Industries (Development & Regulation) Act - IDR Act 1951/Arms Act 1959.

viii. Government has established two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu. It has been envisaged to attract total investments of Rs 20,000 Crore in the two Defence Industrial Corridors of Uttar Pradesh and Tamil Nadu by the year 2024-25. The respective State Governments have also published their Aerospace & Defence Policies to attract and facilitate private players as well as foreign companies including Original Equipment Manufacturers (OEMs) for investments in these two corridors.

ix. "Offset portal" has been launched in May, 2019 to ensure greater transparency, efficiency and accountability in the process. Reforms in Offset policy have been included in DAP -2020, with thrust on attracting investment and Transfer of Technology for Defence manufacturing, by assigning higher multipliers to them.

x. Defence Investor Cell (DIC) has been created in February, 2018 in Ministry of Defence to provide all necessary information including addressing queries related to investment opportunities, procedures and regulatory requirements for investment in the sector.

xi. Government has notified the 'Strategic Partnership (SP)' Model in May, 2017, which envisages establishment of long-term strategic partnerships with Indian entities through a transparent and competitive process, wherein they would tie up with global Original Equipment Manufacturers (OEMs) to seek technology transfers to set up domestic manufacturing infrastructure and supply chains.

xii. Inter-Governmental Agreement (IGA) on "Mutual Cooperation in Joint Manufacturing of Spares, Components, Aggregates and other material related to Russian/Soviet Origin Arms and Defence Equipment" was signed in September, 2019. The objective of the IGA is to enhance the After Sales Support and operational availability of Russian origin equipment currently in service in Indian Armed Forces by organizing production of spares and components in the territory of India by Indian Industry by way of creation of Joint Ventures/Partnership with Russian Original Equipment Manufacturers (OEMs) under the framework of the "Make in India" initiative.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Rebati Tripura and others in Lok Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777610

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 2:32PM

Cyber Warfare

A framework for enhancing the Cyber posture of Defence Forces was approved by the GoI/MoD in 2018. Defence Cyber Agency and Army, Navy and Air Force Cyber Groups have been established with specific charter to protect and defend the Defence Forces Information and Communication Technology assets, and deter adversary's attempts at cyber warfare.

These Organisations have contributed significantly to enhance the 'Cyber Security posture' of the Defence Forces including:

(i) Increased synergy between cyber groups and National cyber agencies.

(ii) Improved defensive measures in place to protect data using hardened technology, effective monitoring, safe practices, improved user awareness, standardized processes and audit measures.

(iii) Better preparedness to respond to cyber warfare, with cohesive response for incidents using centralized threat databases, libraries and incident records.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shrimati Vanga Geetha Viswanath and Shri Kotha Prabhakar Reddyin Lok Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777609

Press Information Bureau
Government of India

Ministry of Defence

Fri, 03 Dec 2021 2:35PM

S-400 Triumf Missile System

A contract has been signed on 05 October 2018 for delivery of S-400 system from Russia.

Government is aware of all developments that may impact procurement of Defence Equipment. Government takes sovereign decisions based on threat perception, operational and technological aspects to keep the Armed Forces in a state of readiness to meet the entire spectrum of security challenges. The deliveries are as per contractual timelines.

The S-400 Missile is a potent system in terms of its operational capability to provide continuous and effective air defence system to a very large area. With the induction of this system, air defence capability of the nation will be significantly enhanced.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Asaduddin Owaisi in Lok Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1777612

Press Information Bureau
Government of India

Ministry of Defence

Sun, 05 Dec 2021 9:14AM

Indian Army contingent leaves for 11th edition of joint Indo-Maldives training excercise 'Ex Ekuverin'

11th Edition of Exercise EKUVERIN between India & Maldives will be conducted at Kadhdhoo Island, Maldives from 06 to 19 December 2021.

The exercise will enhance synergy & inter-operability between Armed Forces of both the Nations in terms of understanding transnational terrorism both on land & at sea, conducting Counter Terrorism & Counter Insurgency Operations and sharing best military practices and experiences.

Besides rigorous training, the joint military excercise will also include cultural and sports activities to enhance defence cooperation and bilateral relations. The exercise will go a long way in strengthening India's relations with Maldives amidst emerging security dynamics in the Indian Ocean Region.

https://pib.gov.in/PressReleasePage.aspx?PRID=1778142

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sun, 05 Dec 2021 9:14AM

भारतीय सेना की टुकड़ी भारत-मालदीव संयुक्त सैन्य प्रशिक्षण अभ्यास 'एक्स एकुवेरिन' के 11वें संस्करण में भाग लेने के लिए रवाना

भारत और मालदीव के बीच एकुवेरिन सैन्य अभ्यास का 11वां संस्करण 6 से 19 दिसंबर 2021 तक मालदीव के कढधू द्वीप में आयोजित किया जाएगा।

इस संयुक्त सैन्य अभ्यास से दोनों देशों की सशस्त्र सेनाओं को भूमि और समुद्र दोनों स्थानों पर अंतरराष्ट्रीय आतंकवाद के खतरे को समझने, आतंकवाद और विद्रोहियों से निपटने की कार्रवाई आयोजित करने तथा सर्वोत्तम सैन्य कार्यप्रणालियों और अनुभवों को साझा करने के मामले में तालमेल एवं अंतर-संचालन में वृद्धि होगी।

संयुक्त सैन्य अभ्यास के दौरान कड़े प्रशिक्षण के अलावा, रक्षा सहयोग तथा द्विपक्षीय संबंधों को बढ़ावा देने के लिए सांस्कृतिक एवं खेल गतिविधियां भी आयोजित होंगी। हिंद महासागर क्षेत्र में उभरती हुई सुरक्षा चुनौतियों के बीच मालदीव के साथ भारत के संबंधों को और मजबूत बनाने की दिशा में यह अभ्यास एक महत्वपूर्ण भूमिका निभाएगा।

https://pib.gov.in/PressReleasePage.aspx?PRID=1778204

FINANCIAL EXPRESS
Read to Lead

Sat, 04 Dec 2021

Maritime Theatre Command by next year: Navy Chief

According to officials, this Command will integrate and unify the assets of all the three services --- Army, Navy and Air Force and also the Coast Guard.

By Huma Siddiqui

The new Chief of the Indian Navy Admiral Hari Kumar, who is an advocate for Integrated Theatre Command, ahead of the Navy Day told the media persons that Maritime Theatre Command could be finalised by next year.

For all sea-going submarines, planes, surveillance assets like drones, and sea-going warships, the new Maritime Theatre Command is likely to be a one-point command structure.

Responding to media queries, the Navy chief said "Work is in progress. It could be six months or longer as the details are being worked out." The new chief has played a very important role in the concept of as the Chief of the Integrated Defence Command.

What does this mean for the Indian Navy?

For all sea-going submarines, planes, surveillance assets like drones, and sea-going warships, the new Maritime Theatre Command is likely to be a one-point command structure.

According to officials, this Command will integrate and unify the assets of all the three services — Army, Navy and Air Force and also the Coast Guard.

To a question, the new chief said that the Navy supports reforms and enhanced tri-service synergy. According to him, "The third stage of war gaming and a study has been done. The whole process is complicated. The structure will be lean and the charter of the Command will be operational."

On China

The Navy is looking at a rule based, open and free approach to regional security. In response to another question, the naval chief said that the situation on northern borders has added to security challenges. "During the crisis we were forward deployed along Line of Actual Control. And we were ready in case an escalation happened."

Indo-Pacific

Almost USD 200 billion worth of trade passes through the waters in the Indo-Pacific. "Our planning is for our own maritime capability, it is not against any country."

Indian Navy assets

Two rounds of sea trials of the aircraft carrier Vikrant have been completed. The new carrier is being constructed by the Cochin shipyard and has almost 76 percent indigenous content. He also highlighted that in the last seven years, 28 ships have been commissioned which have been built in India. And of 39 ships and submarines under construction, 37 were being built in India.

Is there a requirement for another IAC?

He said that the carrier brings different capabilities.

Bilateral & Multilateral Exercises

In his opening statement the chief mentioned that the Navy had participated in 22 bilateral and multilateral exercises in 2021. And the scale and complexity of the exercises has gone up.

And, with proactive deployment, the Navy helped in preventing any misadventure within the maritime domain.

He also talked about International Liaison Officers from 14 countries being invited at the Information Fusion Centre for Indian Ocean Region (IFC-IOR). Out of these so far nine have joined and more will join soon.

The focus of the service on the infra development in Island territories. These will act as springboards for operational turnaround.

https://www.financialexpress.com/defence/maritime-theatre-command-by-next-year-navy-chief/2381480/

Sat, 04 Dec 2021

Indian Navy Day 2021: INS Vikramaditya to INS Vikrant, a look at Indian Navy Ships

Indian Navy Day 2021: The day is observed to recognise and cherish the valiant efforts and role of the Indian Navy in safeguarding the country's marine borders.

The Indian Navy Day is celebrated annually on December 4 to commemorate the Indian Navy's Operation Trident during the Indo-Pakistan war in 1971. The day is observed to recognise and cherish the valiant efforts and role of the Indian Navy in safeguarding the country's marine borders. As the day is dedicated to the Indian Naval Force, here's the list of some of the major ships of the Indian Navy:

INS Vikramaditya is an Indian Carrier ship that has the ability to carry over 30 aircraft. (Image: News18)

INS Vikramaditya

INS Vikramaditya is an Indian Carrier ship that has the ability to carry over 30 aircraft comprising an assortment of MiG 29K/Sea Harrier, Kamov 31, Kamov 28, Sea King, ALH-Dhruv and Chetak helicopters. It was Commission in 2013.

INS Vikrant

INS Vikrant is also known as Indigenous Aircraft Carrier 1. It is the first aircraft carrier to be built in India. The name Vikrant was derived from the Sanskrit word Vikrānta that means "stepping beyond", "courageous" or "bold." The basin trials of this aircraft carrier were completed in December 2020, and it is expected to start sea trials by the end of 2021.

INS Chakra

It is Nuclear Power Ballistic Missile Submarines that was taken on lease from Russia. It was the second nuclear-powered attack submarine that India had taken on lease from Russia.

INS Arihant

INS Arihant (SSBN 80) is the lead ship of India's Arihant class of nuclear-powered ballistic missile submarines. It was launched at the Indian Navy's dockyard in Visakhapatnam in 2009.

INS Delhi

INS Delhi is the lead ship of her class of guided-missile destroyers of the Indian Navy which is designed and built-in India. It is one of the largest warships which was commissioned in 1997.

INS Mysore

INS Mysore is a Fiji-class cruiser that was commissioned in the Indian Navy in 1957. It is known for its outstanding contributions during the Western Fleet Operations. The word Mysore means 'Always fearless.'

INS Rana

The INS Rana is one of Rajput class guided-missile destroyers. It is also known as Kashin-II class. These are the first ships in the Indian Navy to deploy the BrahMos supersonic cruise missile systems. The Word 'Rana' means 'Ready for the fight'. It was commissioned in 1982.

https://www.news18.com/news/lifestyle/indian-navy-day-2021-list-of-some-of-the-active-ships-in-indian-naval-force-4515173.html

The Indian EXPRESS

Mon, 06 Dec 2021

Indian Navy's 'Killers' squadron, that sunk Pak warships, to get President's Standard

This year also marks 50 years of inception of the Missile Vessel Squadron, also known as the 'Killers', which over the past five decades has maintained the capability of delivering a credible offensive punch from the sea, a Navy official said on Sunday.

Mumbai: The Indian Navy's 22nd Missile Vessel Squadron, that bombed the Karachi Port and sunk Pakistan Navy's vessels in the 1971 war, will receive the President's Standard, a rare honour for its distinguished service, from President Ram Nath Kovind on Wednesday, the Navy said.

This year also marks 50 years of inception of the Missile Vessel Squadron, also known as the 'Killers', which over the past five decades has maintained the capability of delivering a credible offensive punch from the sea, a Navy official said on Sunday.

One of the Vidyut-class missile boats which took part in Operation Trident in 1971. (Express File Photo)

Based in Mumbai, the Missile Vessel Squadron has participated in the Operation Vijay, Operation Parakram and most recently, during the heightened security state following the Pulwama attack, it was deployed within striking distance off the Pakistan coast.

"The ships in this squadron have the ability to move swiftly and are missile-ready. Their deployment also acts as a deterrent," said an official posted in the squadron.

The Indian Navy was awarded the President's Colours on May 27, 1951 by the then President of India, Dr Rajendra Prasad. The President's Standard is the same honour as the President's Colours, awarded to a relatively smaller military formation or unit, the Navy said in a statement.

The 22nd Missile Vessel Squadron was formally established in Mumbai in October 1991 with 10 Veer Class and three Prabal Class missile boats.

But, the genesis of the 'Killers' dates back to 1969, with the induction of OSA I Class missile boats from the erstwhile USSR to bolster the Indian Navy's strength, the official said.

These missile boats were transported to India on heavy lift merchant ships and commissioned in early 1971 in Kolkata. They were deployed on a crucial mission in the very first year, during the Indo-Pak war in 1971 and they played a decisive role in its outcome, he said.

On the intervening night of December 4-5, 1971, the youngest warriors of a young Indian Navy drew first blood when they launched a devastating offensive on the Pakistan Navy.

Indian Navy ships Nirghat, Nipat and Veer fired their Styx missiles and sank Pakistan Navy ships Khyber and Muhafiz, the official said.

Codenamed Op Trident, this operation is considered to be one of the most successful operations in modern naval history, with no casualties being sustained by the Indian forces, he said.

The Indian Navy carried out another daring attack on the intervening night of December 8-9, when INS Vinash, along with two frigates, launched four Styx missiles, sinking the Pakistan naval fleet tanker Dacca and inflicting substantial damage to Keamari oil storage facility in Karachi.

"There were no damages reported to the Indian forces. It is because of these heroic deeds of the ships and men of the squadron that they earned the title of 'Killers' and the Indian Navy celebrates December 4 as the Navy Day," the official said.

The squadron personnel have been awarded battle honours, including one Maha Vir Chakra, seven Vir Chakras and eight Nausena Medals (Gallantry), which are testimony to the gallant spirit of the 'Killers', the Navy said.

The year 2021 marks the 50th anniversary of India's victory in the 1971 war and is being celebrated across the country as 'Swarnim Vijay Varsh'.

https://indianexpress.com/article/india/indian-navy-killers-squadron-president-standard-7657321/

Business Standard

Sat, 04 Dec 2021

Decision to procure S-400 missile systems based on threat perception: Govt

The procurement of Russian S-400 missile defence systems was a "sovereign decision" based on existing threat perceptions, Union Minister of State (MoS) for Defence Ajay Bhatt said

The procurement of Russian S-400 missile defence systems was a "sovereign decision" based on existing threat perceptions and to meet the entire spectrum of security challenges, Union Minister of State (MoS) for Defence Ajay Bhatt said on Friday.

In a written reply in Lok Sabha today, Bhatt said that government is aware of all developments that may impact the procurement of Defence Equipment.

"Government takes sovereign decisions based on threat perception, operational and technological aspects to keep the Armed Forces in a state of readiness to meet the entire spectrum of security challenges. The deliveries are as per contractual timelines," he said.

"The S-400 Missile is a potent system in terms of its operational capability to provide continuous and effective air defence system to a very large area. With the induction of this system, air defence capability of the nation will be significantly enhanced," Bhatt added.

This remark comes as the first regiment of Russia's anti-aircraft missile system air defence (PRO) S-400 will be delivered to India by the end of 2021.

"All the property of the first regimental set of S-400s will be delivered to India at the end of 2021," Alexander Mikheev, the director-general of Russian state arms exporter Rosoboronexport said last month, as quoted by Sputnik.

He added that the deliveries started ahead of schedule.

The head of Rosoboronexport also said that Indian experts have already completed training in Russia and returned home. "Immediately after the New Year, our specialists will arrive in India to hand over the equipment at its locations," Mikheev added.

In September, the Director of the Russian government's main defence export control organisation had said that Russia has started supplying the S-400 defence missile system to India.

https://www.business-standard.com/article/current-affairs/decision-to-procure-s-400-missile-systems-based-on-threat-perception-govt-121120301642_1.html

THE TIMES OF INDIA

Sat, 04 Dec 2021

Govt approves plan to manufacture 5 lakh AK-203 rifles in UP's Amethi

New Delhi: The Centre has approved the production of over five lakh AK-203 assault rifles at Korwa in Uttar Pradesh's Amethi in order to boost self-reliance in defence manufacturing in the country, government sources said on Saturday.

According to sources, this endeavour will be done in partnership with Russia. "It reflects the ever increasing paradigm shift in defence acquisition from buy (global) to Make in India. This endeavour will be done in partnership with Russia and reflects the deepening partnership between the two countries in the defence sector," they said.

The 7.62 X 39mm caliber AK-203 rifles will replace in-service INSAS Rifle, which were inducted over three decades back.

The 7.62 X 39mm caliber AK-203 rifles will replace in-service INSAS rifle, which was inducted over three decades ago, government sources informed.

With an effective range of 300 metres, AK-203 rifles are lightweight, robust and easy to use modern assault rifles. The technology of these assault rifles will enhance the combat potential of soldiers to adequately meet, present and envisage operational challenges. The AK-203 assault rifles will enhance the operational effectiveness of the Indian Army in counter-insurgency/counter-terrorism operations.

According to government sources, the project will be implemented by a special purpose Joint Venture called Indo-Russian Rifles Private Ltd (IRRPL). It has been created with erstwhile OFB [now Advanced Weapons and Equipment India Limited (AWEIL) and Munitions India Limited (MIL)] of India and Rosoboronexport (RoE) and concern Kalashnikov of Russia.

The project will provide business opportunities to various MSMEs and other defence industries for the supply of raw materials and components, which will lead to the generation of new employment opportunities. "The project marks a significant stride towards making Uttar Pradesh a key contributor to the ascendant defence manufacturing prowess of India," sources said.

https://timesofindia.indiatimes.com/india/govt-approves-plan-to-manufacture-5-lakh-ak-203-rifles-in-ups-amethi/articleshow/88085932.cms

NEWS 18

Sun, 05 Dec 2021

Army to buy GPS-Guided Munitions to hit target instead of target area, cut collateral damage in precision strikes

The Indian Army has floated an Expression of Interest to buy 1,966 rounds of 155mm Terminally Guided Munitions, capable of carrying out precision strikes, from Indian vendors. However, currently no Indian vendor manufactures them.

By Amrita Nayak Dutta

The Indian Army has sought to buy 1,966 rounds of 155mm Terminally Guided Munitions, capable of carrying out precision strikes on identified targets, from Indian vendors. At present, the Army's Regiment of Artillery does not have any such munition.

Indian army soldiers stand on a 155mm Howitzer artillery gun. In 2019, the Army had inducted Excalibur artillery ammunition from the US for its 155mm howitzers. (Reuters/File)

The regular ammunition for artillery guns in the Army's inventory has a lesser accuracy than the Terminally Guided Munitions, which can hit a target with higher precision, thus reducing chances of collateral damage in the target area.

However, in 2019, the Army had inducted Excalibur artillery ammunition from the United States for its 155mm Howitzers. The artillery shell uses GPS guidance for accuracy. The Army also has precision-guided kits in its inventory, which is used with the regular ammunition of conventional artillery guns to strike a target with higher precision.

In September, the Defence Acquisition Council (DAC) headed by Defence Minister Rajnath Singh had cleared procurement of TGMs and HEPF/RHE rocket ammunition at a cost of Rs 4,962 crore from domestic sources in a boost to indigenous design and development of ammunitions.

An Expression of Interest (EoI) floated by the Army on Friday stated that the 1,966 rounds of 155mm Terminally Guided Munitions (TGM), along with the support equipment which it seeks to buy, will enhance the capabilities of the artillery guns in its inventory, adding that they will be bought under the Make II category of the Defence Acquisition Procedure 2020.

Stating that the indigenous ammunition will be a low-cost option, the Army has also said that its requirement will increase manifold in the future, with the majority of artillery regiments switching to 155mm guns as part of the ongoing artillery modernisation plan.

It further said that Indian vendors meeting the technical, commercial and project requirements will be issued a project sanction order to develop 25 rounds of a prototype of the TGMs first.

Following that, the commercial Request for Proposal will be issued to procure 1,966 rounds of 155mm TGMs, with a minimum 50% Indian component, under the Defence Acquisition Procedure, along with support equipment such as fire control systems, projectile simulator and sectionised projectile.

What will the TGMs do?

As per the EoI, the ammunition should be capable of being guided to the target by GPS or other satellite-based navigation systems when fired and should be able to make requisite corrections to its ballistic flight path as it moves towards the target.

It states that when a target is designated, the designator should be capable of being operated from a static or mobile platform, whether it's a ground or an aerial platform, such as a helicopter or

a UAV. The ammunition, it adds, should be passive and be able to only receive signals, and thus should be resistant to jamming. The EoI adds that they should be able to function in all-weather and have a shelf life of 20 years.

A senior Army officer had said that a TGM, with its precision strike capability, will be able to inflict much damage with fewer rounds as against the regular ammunition which would require more rounds. "In the long term, this will help reduce the maintenance costs of the guns," the officer said.

'Needs to be seen what tech is used'

Former D-G Artillery Lt Gen PR Shankar (Retd) told *News18* that it needs to be seen what technology would be employed to make these ammunitions, especially because no Indian vendor at present makes these or even the basic ammunition for the 155mm guns.

"TGMs are different from the precision-guided kits, the 'fire and forget' Excalibur ammunition bought by the Army. No Indian vendor currently makes them," he said. He added that the technology employed to make these would be critical as precision ammunition is a costly affair. "It deteriorates faster and requires high maintenance."

Another senior Army officer said that the TGM that is finally procured should not end up being the Russian laser-guided artillery shell Krasnopol — meant for use by the 155mm Bofors guns — 3,000 of which were bought between 1999 and 2002. The performance of the Krasnopol was sub-optimal, particularly in high altitude areas. This was also admitted by former defence minister AK Antony in Parliament.

https://www.news18.com/news/india/army-to-buy-gps-guided-munitions-to-hit-target-instead-of-target-area-cut-collateral-damage-in-precision-strikes-4513451.html

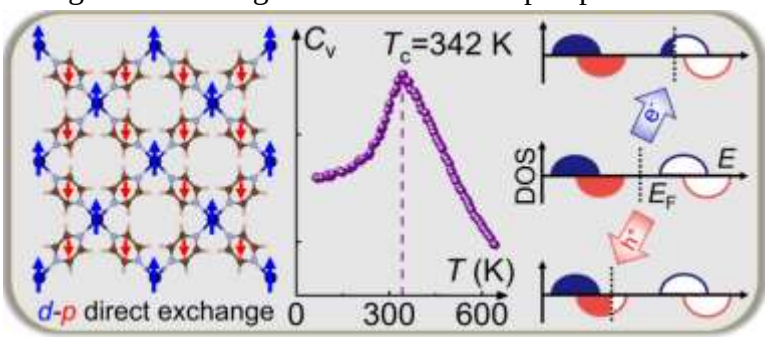
PHYS.ORG

Sat, 04 Dec 2021

Two-dimensional bipolar magnetic semiconductors with electrically controllable spin polarization realized

Two dimensional (2D) magnetic semiconductors, integrating semiconductivity, ferromagnetism and low dimensionality, serve as the cornerstone for high-speed nanospintronic devices. However, the practical applications of nowadays 2D magnetic semiconductors face two key problems: the rather low magnetic Curie temperature compared to room temperature, and the lack of a simple and efficient method to control the carrier's spin polarization direction. Thus, exploring 2D magnetic semiconductors with room temperature magnetic ordering and controllable spin polarization is highly desirable.

On the one hand, in order to raise the magnetic Curie temperature to room temperature, Prof. Jinlong Yang's research group has previously proposed to introduce a type of strong d-p direct ferrimagnetic exchange interaction between transition metal cations and magnetic organic linker radical anions (see below, left image) in rectangular 2D organometallic lattices such as $Cr(pentalene)_2$ and $Cr(DPP)_2$. However, up to now, their experimental realization still keeps as an open question. Also, the control of spin polarization has not been achieved therein.



On the left, a strong d-p direct exchange magnetic interaction exists between Cr cations and pyrazine radicals. In the center, the Curie temperature Tc is displayed. On the righ shows that the $Cr(pyrazine)_2$ monolayer is an intrinsic bipolar magnetic semiconductor where electrical doping can induce half-metallic conduction with controllable spin-polarization direction. Credit: Xiangyang Li and Xingxing Li.

On the other hand, in order to realize direct control of carrier's spin polarization simply by electrical gating, Prof. Jinlong Yang's research group has previously proposed a novel class of spintronic materials named bipolar magnetic semiconductors (BMS), which can provide completely spin polarized currents with the spin polarization direction reversible by altering the polarity of applied voltage gate. It is worth mentioning that the most promising 2D material with BMS function is our designed 2D $MnPSe_3$ nanosheets, where spin-polarization directions are opposite for electron and hole doping, and can be controlled by applying an external voltage gate. However, the ground magnetic state of 2D $MnPSe_3$ is antiferromagnetic and should be doped to become a ferromagnetic BMS. Moreover, the magnetic Curie temperature under doping is low (up to 206 K), far from practical application.

Here, by marriage of our recently proposed d-p direct ferrimagnetic exchange scheme and the concept of bipolar magnetic semiconductors (BMS), Prof. Jinlong Yang's research group has made a significant step forward and realized a 2D intrinsic BMS material with room temperature ferrimagnetic ordering and electrically controllable spin polarization by exfoliating the recently synthesized organometallic layered crystal $Li_{0.7}[Cr(pyz)_2]Cl_{0.7}\cdot 0.25(THF)$ (pyz = pyrazine, THF = tetrahydrofuran). The feasibility of exfoliation is confirmed by the rather low exfoliation energy of

0.27 J/m^2, even smaller than that of graphite. In exfoliated $Cr(pyz)_2$ monolayer, each pyrazine ring grabs one electron from the Cr atom to become a radical anion, then a strong d-p direct exchange magnetic interaction emerges between Cr cations and pyrazine radicals, resulting in room temperature ferrimagnetism with a Curie temperature of 342 K (see below, center image). Moreover, $Cr(pyz)_2$ monolayer is revealed to be an intrinsic bipolar magnetic semiconductor where electrical doping can induce half-metallic conduction with controllable spin-polarization direction (see below, right image).

The significance of the designed bipolar magnetic semiconductor (BMS), i.e. $Cr(pyz)_2$ monolayer sheet, is summarized as follows:

1. Raising the magnetic Curie temperature of bipolar magnetic semiconductor (BMS) to room temperature.
2. Achieving direct control of carrier's spin polarization simply by electrical gating.
3. Easy preparation by mechanical exfoliation.

Such kind of organometallic ferrimagnetic semiconductors not only provide a new opportunity to achieve high-T_c 2D magnetic semiconductors, but also has great potential in the design of electrically controlled nanospintronic devices.

More information: Xiangyang Li et al, Two-dimensional bipolar magnetic semiconductors with high Curie-temperature and electrically controllable spin polarization realized in exfoliated $Cr(pyrazine)_2$ monolayers, *Science China Chemistry* (2021). DOI: 10.1007/s11426-021-1160-7

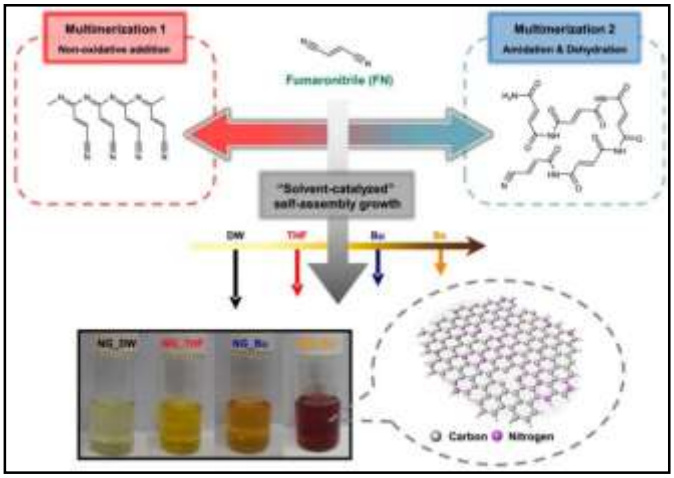
https://phys.org/news/2021-12-two-dimensional-bipolar-magnetic-semiconductors-electrically.html

PHYS.ORG

Sat, 04 Dec 2021

Development of a single-process platform for the manufacture of graphene quantum dots

Graphene consists of a planar structure, with carbon atoms connected in a hexagonal shape that resembles a beehive. When graphene is reduced to several nanometers (nm) in size, it becomes a graphene quantum dot that exhibits fluorescent and semiconductor properties. Graphene quantum dots can be used in various applications as a novel material, including display screens, solar cells, secondary batteries, bioimaging, lighting, photocatalysis, and sensors. Interest in graphene quantum dots is growing, because recent research has demonstrated that controlling the proportion of heteroatoms (such as nitrogen, sulfur, and phosphorous) within the carbon structures of certain materials enhances their optical, electrical, and catalytic properties.



Schematic diagram of the possible formation mechanisms of NGs through the thermolytic self-assembly reaction of FN, and photographs of their ethanol solution preparation under four different solvent systems. Credit: Korea Institute of Science and Technology(KIST)

The Korea Institute of Science and Technology (KIST, President Seok-Jin Yoon) reported that the research team led by Dr. Byung-Joon Moon and Dr. Sukang Bae of the Functional Composite Materials Research Center have developed a technique to precisely control the bonding structure of single heteroatoms

in the graphene quantum dot, which is a zero-dimensional carbon nanomaterial, through simple chemical reaction control; and that they identified the relevant reaction mechanisms.

With the aim of controlling heteroatom incorporation within the graphene quantum dot, researchers have previously investigated using additives that introduce the heteroatom into the dot after the dot itself has already been synthesized. The dot then had to be purified further, so this method added several steps to the overall fabrication process. Another method that was studied involved the simultaneous use of multiple organic precursors (which are the main ingredients for dot synthesis), along with the additives that contain the heteroatom. However, these methods had significant disadvantages, including reduced crystallinity in the final product and lower overall reaction yield, since several additional purification steps had to be implemented. Furthermore, in order to obtain quantum dots with the chemical compositions desired by manufacturers, various reaction conditions, such as the proportion of additives, would have to be optimized. This would inevitably lead to increases in the overall duration of the process and the manufacturing cost per unit.

The conventional fabrication method uses acidic precursors or solutions, and thus requires neutralization and purification steps. Conversely, the newly developed process uses weakly alkaline precursors that are neutralized during synthesis, meaning this process has the advantage that the produced graphene quantum dots require no additional processing before they are ready to use.

The research team also used computer modeling based on computational chemistry to discover that the solvent used in the synthesis process of graphene quantum dots affects the oxidation of the organic precursor, fumaronitrile, which also contains the heteroatoms (nitrogen). This implied that the solvent type ultimately determines the chemical composition of the final graphene quantum dot product. Furthermore, the theoretical oxidation energy value of the organic precursor, which was calculated based on the particular solvent used, was experimentally proven to have the ability to predict the approximate chemical composition of the final graphene quantum dot.

Dr. Sukang Bae of KIST said, "We have developed a new platform technology that allows us to synthesize graphene quantum dots by selectively adjusting the chemical composition of heteroatoms with a single synthetic process, without the use of other additives other than organic precursors such as fumaronitrile," and added, "Because we discovered a way to achieve the mass synthesis of graphene quantum dots without additional post-processing or purification processes, we were able to reduce the overall processing time and increase the economic feasibility of the synthetic procedure."

Furthermore, this achievement is expected to drive the development of nanocarbon materials, as well as increase economic opportunities for small and medium-sized enterprises, and further the growth of human resources in connection with the expansion of the carbon-materials industry, which is the regional strategic industry of the Jeollabuk-do Province.

This study was conducted as a institutional research program and the Materials Part Technology Development Program of the Ministry of Trade, Industry and Energy (Minister Seung-Wook Moon). The results of the study were published in the journal *Nature Communications.*

More information: Byung Joon Moon et al, Structure-controllable growth of nitrogenated graphene quantum dots via solvent catalysis for selective C-N bond activation, *Nature Communications* (2021). DOI: 10.1038/s41467-021-26122-0

Journal information: *Nature Communications*

https://phys.org/news/2021-12-single-process-platform-graphene-quantum-dots.html

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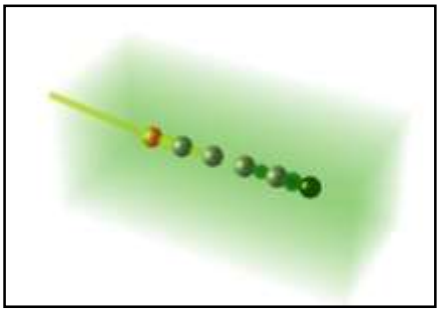
Sat, 04 Dec 2021

Physicists exploit space and time symmetries to control quantum materials

Physicists from Exeter and Trondheim have developed a theory describing how space reflection and time reversal symmetries can be exploited, allowing for greater control of transport and correlations within quantum materials.



Quantum transport in a chain of resonators obeying space reflection and time reversal symmetries. Credit: Vasil Saroka

Two theoretical physicists, from the University of Exeter (United Kingdom) and the Norwegian University of Science and Technology (in Trondheim, Norway), have built a quantum theory describing a chain of quantum resonators satisfying space reflection and time reversal symmetries. They have shown how the different quantum phases of such chains are associated with remarkable phenomena, which may be useful in the design of future quantum devices relying on strong correlations.

A common distinction in physics is between open and closed systems. Closed systems are isolated from any external environment, such that energy is conserved because there is nowhere for it to escape to. Open systems are connected to the outer world, and via exchanges with the environment they are subject to energy gains and energy losses. There is an important third case. When the energy flowing in and flowing out of the system is finely balanced, an intermediate situation between being open and closed arises. This equilibrium can occur when the system obeys a combined symmetry of space and time, that is when (1) switching left and right and (2) flipping the arrow of time leave the system essentially unchanged.

In their latest research, Downing and Saroka discuss the phases of a quantum chain of resonators satisfying space reflection and time reversal symmetries. There are principally two phases of interest, a trivial phase (accompanied by intuitive physics) and a nontrivial phase (marked with surprising physics). The border between these two phases is marked by an exceptional point. The researchers have found the locations of these exceptional points for a chain with an arbitrary number of resonators, providing insight into the scaling up of quantum systems obeying these symmetries. Importantly, the nontrivial phase allows for unconventional transport effects and strong quantum correlations, which may be used to control the behavior and propagation of light at nanoscopic length scales.

This theoretical study may be useful for the generation, manipulation and control of light in low-dimensional quantum materials, with a view to building light-based devices exploiting photons, the particles of light, as workhorses down at sizes around one billionth of a meter.

Charles Downing, from the University of Exeter, commented: "Our work on parity-time symmetry in open quantum systems further emphasizes how symmetry underpins our understanding of the physical world, and how we may benefit from it".

Vasil Saroka, from the Norwegian University of Science and Technology, added: "We hope that our theoretical work on parity-time symmetry can inspire further experimental research in this exciting area of physics".

"Exceptional points in oligomer chains" is published in *Communications Physics*.

More information: Charles Andrew Downing et al, Exceptional points in oligomer chains, *Communications Physics* (2021). DOI: 10.1038/s42005-021-00757-3

Journal information: *Communications Physics*

https://phys.org/news/2021-12-physicists-exploit-space-symmetries-quantum.html

INDIA TODAY

Mon, 06 Dec 2021

Mild third wave of Covid likely to peak in January, February next year: IIT Kanpur prof

A mild third wave of Covid-19 is likely to peak in India between January and February next year, IIT Kanpur professor Manindra Agrawal claimed

By Kumar Abhishek

Kanpur: A mild third wave of Covid-19 is likely to peak in India between January and February next year, IIT Kanpur professor Manindra Agrawal has claimed. He is a co-founder of the government-backed Sutra model which was used to mathematically project the trajectory of the pandemic in India.

A mild third wave of Covid-19 is likely to peak in India between January and February next year, IIT Kanpur professor Manindra Agrawal said. (Photo: PTI file)

Manindra Agrawal said that cases of the new variant Omicron will be at their peak early next year, around the same time that the Assembly elections in Punjab, Uttar Pradesh, Uttarakhand, Goa and Manipur have been scheduled.

'Mild infection'

The researcher stated that there is no need to panic about the new variant but citizens must remain careful. In contrast to a South African research study, Manindra Agrawal said that Omicron does not seem to be bypassing natural immunity from Covid in any significant way.

He also noted that, across the globe, the Omicron variant is not leading to critical cases but only mild infection. The data gathered so far suggests that the variant has only mild symptoms, even as its transmissibility appears to be high.

Lockdown needed?

Manindra Agrawal said that a third wave in the country is nearly certain; however, how bad it will get will depend on how the government tackles it. He recommended mild lockdowns (night curfew, restrictions on crowding) to control the spread of the virus and reduce the peak value.

https://www.indiatoday.in/coronavirus-outbreak/story/mild-third-wave-covid-likely-peak-january-february-next-year-scientist-1884305-2021-12-05