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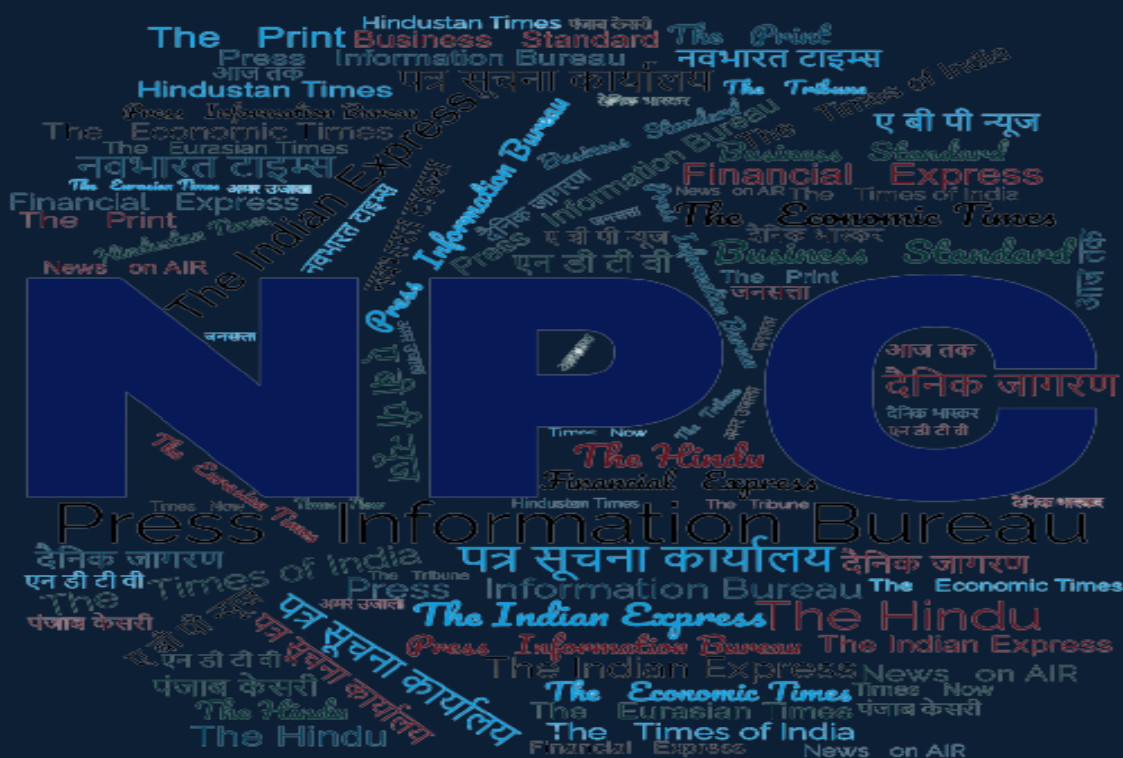
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# समाचार पत्रों से चयित अंश Newspapers Clippings

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

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## Defence News

### Defence Strategic : National/International



*Fri, 20 Jan 2023*

## **Navy to Get 'VAGIR' Sub Next Week; No Air-Independent Propulsion Deployed**

Early next week Indian Navy is all set to commission the fifth Kalvari class submarine Vagir – which will then become 'INS Vagir'. So far the Indian Navy has commissioned four Kalvari class submarines under Project 75. The commissioning of another submarine will help in enhancing the navy's capabilities to further the country's maritime security in the Indian Ocean Region and beyond.

This submarine as reported earlier is being built by the Mazagon Dock Shipbuilders (MDL) Mumbai and is under collaboration with M/s Naval Group, France. The commissioning will be on Jan 23, 2023, and the Chief of the Naval Staff Adm R Hari Kumar will be the chief guest. On November 1, 1973 the erstwhile Vagir was commissioned into the Indian Navy and she undertook numerous operational missions and these included deterrent patrols. According to the Indian Navy after serving for almost three decades this submarine was decommissioned on Jan 7, 2002.

### **New Avatar**

In 2020 on Nov 12 it was launched and among all indigenously manufactured submarines till date in its new avatar it has the distinction of having the lowest build time. The maiden sortie undertaken in February 2022 marked the commencement of sea trials. Prior to being commissioned this submarine has undergone a series of comprehensive acceptance checks and demanding sea trials. Financial Express Online reported last month that the submarine was delivered to the Navy by M/s MDL.

### **It is Ferocious Fifth : Importance**

This submarine will help to boost the capability of the navy and to further the country's maritime interests. It has the capability to undertake different missions including surveillance, anti-submarine warfare, intelligence gathering, mine laying and anti-surface warfare missions.

### **Sand Shark – what does it signify?**

According to the navy the Sand Shark represents 'Stealth and Fearlessness'. These are the two qualities that are synonymous with the ethos of a submariner.

## VAGIR without AIP

As per the original plan the last of the Kalvari class subs were to be fitted with the indigenous Air-independent Propulsion (AIP). However the AIP being developed by Defence Research and Development Organisation (DRDO) is still at the laboratory stage and is not ready for any sort of trials. According to reports the DRDO AIP is planned to be a retrofit onboard the first submarine which is expected to come up in 2024-25.

## Why the delay?

Sources told Financial Express Online that the AIP once it comes out of the lab it has to undergo stringent tests before it can be put on any of the Kalvari class subs. “No boat can be cut up to put in an AIP which is not tested. It’s not a ‘plug-in’ technology,” explained a former naval officer.

The AIP is an important instrument that helps conventionally powered submarines to operate without the need for outside air. And a submarine of the Kalvari class when fitted with an AIP system onboard will enable it to run its electric propulsion motor and electrical network.

## Why the need?

With the growing presence of the Chinese presence in the Indian Ocean region and its attempts to expand its presence from the Indian Ocean Region to the Atlantic Ocean, the Indian Navy has to have the AIP on its submarines. Incidentally next door neighbor Pakistan has acquired submarines from China with the AIP system.

<https://www.financialexpress.com/defence/navy-to-get-vagir-sub-next-week-no-air-independent-propulsiondeployed/2955167/>



Sat, 21 Jan 2023

## क्या हैं नेवी के फ्रीगेट्स, क्या होते हैं डिस्ट्रॉयर?

इंडियन नेवी का जोर स्वदेशी क्षमता बढ़ाने पर है और भारत में ही नेवी के लिए अलग-अलग फ्रीगेट और डिस्ट्रॉयर बन रहे हैं। नेवी से जुड़ी खबरें पढ़ने पर आपको फ्रीगेट, डिस्ट्रॉयर और कोरवेट का भी जिक्र दिखता होगा। ये तीनों ही वॉरशिप हैं यानी जंगी जहाज। लेकिन कोरवेट, फ्रीगेट और डिस्ट्रॉयर में फर्क होता है। नेवी के पास फ्रीगेट भी हैं और डिस्ट्रॉयर भी। साथ ही कोरवेट भी हैं।

फ्रीगेट और डिस्ट्रॉयर में साइज का तो फर्क है ही, इसके साथ ही क्षमता का भी फर्क है। फ्रीगेट साइज में कुछ छोटा होता है। फ्रीगेट के मुकाबले डिस्ट्रॉयर करीब डेढ़ गुना बड़ा होता है। फ्रीगेट किसी एक तरह के रोल के लिए सबसे ज्यादा उपयुक्त होता है और बाकी रोल में इसका इस्तेमाल रक्षात्मक भूमिका में किया जाता है।

डिस्ट्रॉयर में एकसाथ कई रोल निभाने की क्षमता है। इसे एंटी सबमरीन, एंटी शिप या फिर एंटी एयरक्राफ्ट के तौर पर भी इस्तेमाल कर सकते हैं। यह सभी में उतनी ही सटीकता से अपना रोल निभाता है। कोरवेट साइज में फ्रीगेट से भी छोटा होता है। इससे मल्टीपल टास्क नहीं कर सकते। जैसे एक कोरवेट अगर एंटी सबमरीन है तो उसमें एंटी एयर की कैपिसिटी नहीं होगी।

फ्रीगेट अगर एंटी सबमरीन है तो वह कुछ हद तक एंटी एयर का भी काम कर सकता है, लेकिन उस तरह नहीं, जिस तरह डिस्ट्रॉयर काम कर सकता है। डिस्ट्रॉयर एकसाथ सभी टास्क में पूरी तरह फिट होता है। इस तरह साइज के हिसाब से सबसे छोटे कोरवेट होते हैं, फिर फ्रीगेट और सबसे बड़े डिस्ट्रॉयर।

भारत में प्रोजेक्ट-15 बी के तहत नेवी के लिए चार गाइडेड साइल डिस्ट्रॉयर (विध्वंसक) बनने हैं। साल 2021 में इस प्रोजेक्ट का पहला डिस्ट्रॉयर 'विशाखापट्टनम नेवी' में शामिल हुआ।

विशाखापट्टनम' गाइडेड मिसाइल डिस्ट्रॉयर है और यह दुश्मन के रडार की नजर से बचकर ऑपरेट कर सकता है। इसमें सतह से सतह में मार करने वाली मिसाइल और सतह से हवा में मार करने वाली मिसाइल लगी हैं। इसमें आधुनिक सर्विलांस रडार फिट हैं, जो टारगेट का डेटा सीधे वॉरशिप के वेपन सिस्टम में देता है। यह सबमरीन से भी निपटने में सक्षम है।

यह डिस्ट्रॉयर न्यूक्लियर, बायोलॉजिकल और केमिकल वॉर की स्थिति में भी ऑपरेशन को अंजाम दे सकता है। विशाखापट्टनम क्लास का ही दूसरा डिस्ट्रॉयर करीब एक महीने पहले ही नेवी में शामिल हुआ है। इसका नाम है आईएनए मोरमुगाओ।

नेवी के किसी भी प्लैटफॉर्म के आगे आईएनएस लगाया जाता है। जिसका मतलब होता है इंडियन नेवल शिप। इस प्रोजेक्ट का तीसरा डिस्ट्रॉयर नेवी को साल 2024 में मिलेगा और चौथा डिस्ट्रॉयर साल 2015 में।

इंडियन नेवी के पास 11 डिस्ट्रॉयर हैं। दिल्ली क्लास के तीन डिस्ट्रॉयर हैं, राणा क्लास का एक, रणवीर क्लास के दो, कोलकाता क्लास के तीन और विशाखापट्टनम क्लास के दो डिस्ट्रॉयर। विशाखापट्टनम क्लास में विशाखापट्टनम और मोरमुगाओ डिस्ट्रॉयर शामिल हैं। ये मिसाइल डिस्ट्रॉयर हैं।

दिल्ली क्लास डिस्ट्रॉयर को गाइडेड मिसाइल डिस्ट्रॉयर कहते हैं। ये पूरी तरह से भारत में डिजाइन हुए और बने।

राणा क्लास का एक डिस्ट्रॉयर है -राणा, जो 1982 में कमिशन हुआ था। यह शिप पूर्व सोवियत संघ में बनाया गया था। सबसे पहले इंडियन नेवी में इसी शिप पर ब्रह्मोस सुपसोनिक क्रूज मिसाइल सिस्टम लगाया गया।

कोलकाता क्लास के तीन डिस्ट्रॉयर हैं- कोलकाता, कोच्चि, चेन्नई। यह दिल्ली क्लास का ही फॉलोऑन प्रोजेक्ट है। इन्हें नेवी ने ही डिजाइन किया है और बनाया है।

नेवी के लिए फ्रीगेट भी बन रहे हैं। इस प्रोजेक्ट का नाम है प्रोजेक्ट-17 ए। इस प्रोजेक्ट के तहत नीलगिरि क्लास फ्रीगेट बनाए जा रहे हैं। कुल सात फ्रीगेट बनने हैं। इनमें से 2 फ्रीगेट समंदर में लॉन्च किए गए हैं।

नेवी के पास अभी कुल 12 फ्रीगेट्स हैं। सबसे भारी और अत्याधुनिक 6200 टन वाले शिवालिक क्लास फ्रीगेट हैं। शिवालिक क्लास के तीन फ्रीगेट्स हैं। इनका नाम शिवालिक हिल्स के नाम पर शिवालिक, सतपुड़ा और सह्याद्रि रखा गया है।

तलवार क्लास में तीन फ्रीगेट हैं- तलवार, त्रिशूल, तबार। तलवार क्लास और तेग क्लास के फ्रीगेट्स रूस में भारत-रूस के जॉइंट प्रोडक्शन के तहत बनाए गए। तलवार क्लास फ्रीगेट का वजन 4000 टन है और स्पीड 30 नॉटिकल माइल्स।

तेग क्लास के भी तीन फ्रीगेट हैं। ब्रह्मपुत्र क्लास की तीन फ्रीगेट हैं। ब्रह्मपुत्र, व्यास, बेतवा। ये गाइडेड मिसाइल फ्रीगेट हैं और भारत में ही बनाए गए हैं। इनका वजन 3850 टन है।

नेवी के पास कमोर्ता क्लास, कोरा क्लास और खुखरी क्लास कोरवेट हैं। कमोर्ता क्लास कोरवेट पहले एंटी सबमरीन वॉरफेयर स्टेथल (जो दुश्मन की नजर से बच सकते हैं) कोरवेट हैं, जिसे इंडियन नेवी ने प्रोजेक्ट-

28 के तहत डिजाइन किया। इसमें 90 पर्सेंट स्वदेशी कंटेंट है। इनकी लंबाई 110 मीटर है और इनका वजन 3500 टन है। इसमें एंटी सबमरीन रॉकेट और टॉरपीडो, मिडियम और क्लोज-इन वेपन सिस्टम फिट है। यह शिप एक एंटी सबमरीन वॉरफेयर हेलिकॉप्टर का वजन उठाने में सक्षम है। इस क्लास के नेवी के पास चार कोरवेट हैं। इसी तरह नेवी के पास कोरा क्लास के चार और खुखरी क्लोस के भी 4 कोरवेट हैं।

<https://navbharattimes.indiatimes.com/navbharatgold/day-today/what-are-destroyers-and-frigates-in-indian-navy/story/97171687.cms>



Mon, 23 Jan 2023

## एयरफोर्स में कैसा है स्कॉड्रन और कमांड का स्ट्रक्चर?

एयरफोर्स से जुड़ी खबरों में अक्सर स्कॉड्रन का जिक्र आता है। एयरफोर्स की किसी भी स्कॉड्रन में आम तौर पर एक तरह के एयरक्राफ्ट होते हैं। जैसे कोई मिग फाइटर एयरक्राफ्ट की स्कॉड्रन है तो कोई रफाल की। एयरफोर्स में फाइटर स्कॉड्रन का सैंक्शंड नंबर 42 है। यानी एयरफोर्स के पास फाइटर एयरक्राफ्ट की 42 स्कॉड्रन हो सकती हैं। हालांकि एयरफोर्स के पास अभी स्कॉड्रन की संख्या इससे काफी कम है।

एक स्कॉड्रन में आम तौर पर 16 से लेकर 18 तक एयरक्राफ्ट होते हैं। पिछले साल 30 सितंबर को एयरफोर्स की 51 स्कॉड्रन की नंबर प्लेटिंग हुई। यह स्कॉड्रन श्रीनगर में बेस्ड थी और मिग-21 बाइसन फाइटर जेट इस स्कॉड्रन का हिस्सा थे। अब एयरफोर्स के पास मिग-21 बाइसन की 3 स्कॉड्रन रह गई हैं, जो अगले तीन साल में फेजआउट होंगी। 51 नंबर की स्कॉड्रन वही स्कॉड्रन है, जिसके ग्रुप कैप्टन अभिनंदन वर्द्धमान ने फरवरी 2019 में बालाकोट एयरस्ट्राइक के बाद पाकिस्तानी फाइटर जेट को मार गिराया था। यह स्कॉड्रन 1 फरवरी 1985 को चंडीगढ़ में बनी थी। फिर 1 मई 1986 में यह श्रीनगर शिफ्ट हो गई। पहले इस स्कॉड्रन में मिग-21 टाइप 75 एयरक्राफ्ट थे। जनवरी 2004 में ये अपग्रेड होकर मिग-21 बाइसन में तब्दील हो गए।

**अब आते हैं इस सवाल पर कि जब 51 स्कॉड्रन की नंबर प्लेटिंग हुई तो इसका क्या हुआ और नंबर प्लेटिंग क्या होती है?**

नंबर प्लेटिंग का मतलब होता है कि वह स्कॉड्रन सक्रिय नहीं हैं और वक्त आने पर उसे नए एयरक्राफ्ट के साथ फिर से एक्टिव किया जाएगा। अभी वह नंबर प्लेटेड है और उसके फिर से रेज होने यानी एक्टिव होने का इंतजार है।

इसे एक उदाहरण से समझते हैं। मान लीजिए किसी एयरक्राफ्ट की तीन स्कॉड्रन हैं जिनमें 15-15 एयरक्राफ्ट हैं। अलग-अलग वजहों से इनमें से दो स्कॉड्रन में 12-12 एयरक्राफ्ट ही रह गए हैं और तीसरी स्कॉड्रन में 4 एयरक्राफ्ट रह गए हैं। इसमें से भी कुछ पुराने हो गए हैं तो ऐसे में उस तीसरी स्कॉड्रन की नंबर प्लेटिंग का फैसला लिया जाता है।

नंबर प्लेटिंग वाली स्कॉड्रन के पास जो एसेट्स हैं, जैसे एयरक्राफ्ट, इक्विपमेंट और मैन पावर, उन्हें दूसरी स्कॉड्रंस में दे दिया जाता है। जैसे हमने जो उदाहरण लिया है, उसमें तीसरी स्कॉड्रन के चार एयरक्राफ्ट सहित पूरी एसेट्स को बाकी दो स्कॉड्रन में बांट दिया, जिससे उनमें भी एयरक्राफ्ट पूरे हो गए।

जो एयरक्राफ्ट काम के होते हैं उन्हें इस्तेमाल किया जाता है और जो उड़ाने लायक नहीं बचते, उनके सही पुर्जों को स्पेयर पार्ट्स के तौर पर इस्तेमाल कर लिया जाता है।



जिस स्क्वाड्रन की नंबर प्लेटिंग की जाती है, वह अपना इतिहास संजो कर रखती है। जब फिर नए एयरक्राफ्ट आएंगे तो उस स्क्वाड्रन को उसके इतिहास और ट्रेडिशन के साथ फिर उसी नाम से शुरू किया जाएगा। नंबर प्लेटिंग का मतलब रिटायर होना नहीं होता है।

इसका मतलब यह है कि 51 स्क्वाड्रन की नंबर प्लेटिंग की गई, लेकिन जब एयरफोर्स के पास जब नए लाइट कॉम्बैट एयरक्राफ्ट या कोई और नए फाइटर एयरक्राफ्ट आएंगे तो 51 स्क्वाड्रन फिर नए एयरक्राफ्ट के साथ खड़ी हो सकती है। अब यह जानते हैं कि एयरफोर्स के पास अभी किस तरह के विमान हैं और कितनी स्क्वाड्रन हैं?

एयरफोर्स के पास इस वक्त फाइटर एयरक्राफ्ट में मिग-21 बाइनस, मिग- 29, जगुआर, मिराज-2000, सुखोई-30 MKI, रफाल और लाइट कॉम्बैट एयरक्राफ्ट यानी तेजस हैं। कुल फाइटर स्क्वाड्रन की संख्या 42 होनी चाहिए, लेकिन एयरफोर्स के पास अभी 31 स्क्वाड्रन हैं।

एयरफोर्स के पास ट्रांसपोर्ट एयरक्राफ्ट में IL-76 (आईएल- 76), AN-32 (एएन- 32), एवरो, C-130 और C-17 हैं। एंब्रेयर और बोइंग भी हैं, जिनका इस्तेमाल वीआईपी मूवमेंट के लिए किया जाता है।

एयरफोर्स के पास चीता, चेतक, चीतल और अडवांस लाइट हेलिकॉप्टर हैं। इसके अलावा Mi-17, Mi -17iv, Mi-17V5 हेलिकॉप्टर हैं। अटैक हेलिकॉप्टर में एयरफोर्स के पास लाइट कॉम्बैट हेलिकॉप्टर प्रचंड, Mi-35, एएलएच- मार्क 4 और अपाचे भी हैं। हेरोन और दूसरे यूएवी यानी अनमैड एरियल वीइकल भी एयरफोर्स के पास हैं।

### **अब जानते हैं कि एयरफोर्स के पास कितनी कमांड हैं?**

एयरफोर्स की कुल सात कमांड हैं। इनमें से पांच ऑपरेशनल कमांड हैं। एक ट्रेनिंग और एक मेटेनेंस कमांड है। ऑपरेशनल कमांड हैं- वेस्टर्न एयर कमांड, साउथ वेस्टर्न एयर कमांड, सदर्न एयर कमांड, सेंट्रल एयर कमांड और ईस्टर्न एयर कमांड।

वेस्टर्न एयर कमांड का हेडक्वार्टर दिल्ली में, साउथ वेस्टर्न एयर कमांड का गांधीनगर, सदर्न एयर कमांड का तिरुवनंतपुरम, सेंट्रल एयर कमांड का प्रयागराज और ईस्टर्न एयर कमांड का हेडक्वार्टर शिलॉन्ग में है। एयरफोर्स की मेटेनेंस कमांड नागपुर में है और ट्रेनिंग कमांड बैंगलोर में।

हर कमांड के तहत फ्लाईंग स्टेशन और ग्राउंड स्टेशन होते हैं। किस कमांड के तहत कितने स्टेशन हैं, यह जरूरत के हिसाब से तय होता है। जैसे, वेस्टर्न कमांड के तहत सबसे ज्यादा स्टेशन हैं। फ्लाईंग स्टेशन के तहत फ्लाईंग स्क्वाड्रन होती हैं। स्क्वाड्रन फाइटर एयरक्राफ्ट, ट्रांसपोर्ट एयरक्राफ्ट, मिसाइल, यूएवी किसी की भी हो सकती है। हेलिकॉप्टर की आमतौर पर यूनिट होती हैं। ये स्क्वाड्रन और यूनिट ही ऑपरेशंस करती हैं और स्टेशन का काम उन्हें सपोर्ट देना होता है। स्क्वाड्रन का हेड सीओ यानी कमांडिंग ऑफिसर होता है।

<https://navbharattimes.indiatimes.com/navbharatgold/day-today/how-is-the-squadron-and-command-structure-in-the-air-force/story/97222430.cms>

## राजस्थान के रेतीले धोरों में भारत और मिस्र की सेना कर रही युद्धाभ्यास, जानिए क्या है 'एक्सरसाइज साइक्लोन- I'

राजस्थान की स्वर्ण नगरी जैसलमेर के लिए जनवरी का यह सप्ताह बेहद खास रहा है। यहां भारतीय और मिस्र की सेना ने 'एक्सरसाइज साइक्लोन- I' नाम से पहला संयुक्त अभ्यास किया। एक अधिकारी ने बयान में बताया कि 14 जनवरी को शुरू हुए इस अभ्यास का उद्देश्य दोनों देशों के बीच रक्षा सहयोग को मजबूत करना है। साथ ही आतंकवाद जैसे ऑपरेशंस से लड़ने के लिए प्रोफेशनल्स स्किल्स बढ़ाना है। इस युद्धाभ्यास में रेगिस्तानी इलाके में प्रोफेशनल स्किल्स और विशेष बलों की अंतर-क्षमता को साझा करने पर ध्यान केंद्रित करना है। दोनों देशों के विशेष बलों को एक साझा मंच पर लाने का यह अपनी तरह का पहला अभ्यास है।

अधिकारियों ने बताया कि 14 दिनों तक चलने वाला यह अभ्यास राजस्थान के रेगिस्तान में किया जा रहा है। यह अभ्यास का मकसद दोनों सेनाओं के विशेष बलों के कौशल जैसे स्निपिंग, कॉम्बैट फ्री फॉल, टोही और निगरानी को डवलप करना था। दोनों देशों की स्पेशल सेनाओं को इस दौरान हथियारों, उपकरणों में हो रहे इनोवेशन की जानकारी भी दी गई। साथ ही दोनों टीमों ने रणनीति, तकनीक और प्रक्रियाएं साझा करने का मौका प्रदान करता है। अधिकारी ने बताया कि इस संयुक्त अभ्यास में हिस्सा ले रहे सैनिकों को मशीनीकृत युद्ध की परिस्थितियों में संबंध में भी जानकारी दी गई। उन्होंने बताया कि संयुक्त योजना और अभ्यास के साथ-साथ आतंकवादी शिविरों/ठिकानों पर सर्जिकल स्ट्राइक का अभ्यास करेंगे। इनमें उच्च लक्ष्यों को भेदना शामिल है।

उन्होंने बताया कि संयुक्त अभ्यास दोनों सेनाओं की संस्कृति और लोकाचार में एक अंतर्दृष्टि प्रदान करेगा। इससे भारत और मिस्र के बीच राजनयिक संबंधों को और मजबूत करने के लिए सैन्य सहयोग और पारस्परिकता को बढ़ावा मिलेगा।

<https://navbharattimes.indiatimes.com/state/rajasthan/jaisalmer/indian-and-egyptian-army-exercises-is-rajasthan-named-exercise-cyclone-i/articleshow/97184516.cms>

**R. REPUBLICWORLD.COM**

Sun, 22 Jan 2023

## Defence Minister Eyes Equipping Forces to Match 'Fast-Evolving Global Security Scenario'

Defense Minister Rajnath Singh iterated on Saturday that the government, in its efforts to equip the Indian Armed Forces, is leaving no stone unturned. Defense Minister Singh stated the government's bid is a necessity in order to equip the nation to face any future challenges which may arise considering the "fast-evolving global security scenario".

Addressing NCC cadets attending a camp undergoing rehearsal for the 74th Republic Day, Defense Minister Rajnath Singh cited India's foolproof security infrastructure as one of the best examples of teamwork and asserted that, "if there is ever a need to fight a war, the whole country



will be behind our armed forces". The role played by the country's scientists, engineers and civil officers in providing support to the Indian Armed Forces was also highlighted by the defence minister. Meanwhile, he emphasized the need to undergo a transformation in accordance with changing times.

"No stone is being left unturned by the government to equip the nation to deal with challenges that may arise due to the fast-evolving global security scenario," Def Min Rajnath Singh said during his address.

### **Significant additions to the Indian Armed Forces**

The Indian Armed Forces are actively undergoing a transition to a theatre command structure in addition to modernization and indigenization of the tri-services. Special focus is being laid by the government on enhancing India's defence manufacturing sector to make the nation self-reliant and tone down its dependence on foreign entities for defence material. The development comes under the government's 'Atmanirbhar Bharat Campaign' and aims to strengthen India's national security by maximizing the indigenous development of defence material.

Notably, India has made strides in the field of indigenous production of defence material in recent times. The Indian Navy was the latest of the tri-services to receive the indigenously developed Kalvari-Class submarine called INS Vagir.

The ship is set to be commissioned on January 23. Meanwhile, the Indian Navy also commissioned INS Vikrant, India's first indigenously developed aircraft carrier, in September 2022. Notably, the aircraft carrier has been built with state-of-the-art automation features and is the largest ship ever built in India's maritime history, the ministry of defence stated.

As for the Indian Air Force, the aerial fleet's armada has been graced with indigenously developed Light Combat Aircraft (LCA) Tejas. Developed by Hindustan Aeronautics Limited (HAL), the fighter holds the distinction of being the smallest and lightest in its class of contemporary supersonic combat aircraft. Furthermore, the induction of the Light Combat Helicopter (LCH) Prachand further enhanced the IAF's operational capabilities. The multi-role rotorcraft was inducted into service by the IAF in October 2022.

The Indian Army's indigenization bid was on full display at the 12th edition of DefExpo held in October 2022. A wide variety of defence equipment such as Kevlar, night-vision goggles, helmets and weapons including assault rifles and sniper rifles were exhibited. Furthermore, the government recently approved three capital acquisition proposals made by Defense Acquisition Council (DAC). An Acceptance of Necessity (AoN) was signed on January 10 under the chairmanship of Defense Minister Rajnath Singh, approving the acquisition bid for HELINA and VSHORD worth Rs 4,276 Crore.

Moreover, the government's decision to corporatise the Indian Ordnance Factory Board (OFB) signifies its approach to fine-tuning the defence manufacturing and production industry to enhance India's security.

<https://www.republicworld.com/india-news/general-news/defence-minister-eyes-equipping-forces-to-match-fast-evolving-global-security-scenario-articleshow.html>

## **Defence Research Needs Stiff Dose of Reform; Should Focus on DRDO Issues**

The Defence Research and Development Organisation (DRDO) has been in the news recently, perhaps for the wrong reasons. One media report says that the Comptroller and Auditor General (CAG) has pulled it up for its lacklustre performance, while another was speculation on the posting of a bureaucrat as the secretary of the defence R&D department. These give us reason to feel apprehensive about the defence R&D in this country at a time when India seems to have gained some success in revving up domestic defence manufacturing. Lack of professionalism and unreliability of the DRDO and the choice of desperate remedies for its shortcomings are equally worrying.

It has been reported that CAG has assailed the DRDO on two counts. Firstly, its failure to complete mission mode projects on time resulted in heavy time and cost overruns. Two-thirds of the 175 projects examined by CAG failed to deliver as scheduled and required time extensions ranging from 16% to 500%. Such extensions were due to frequent changes in design specifications, and delays in completing user trials and placing supply orders. Extensions were often given after the expiry of the scheduled time of completion. Project management was sloppy, and delays led to the obsolescence of the product and recourse to imports to meet urgent requirements.

Such slipshod project implementation led to inordinate delays in a critical project like the Medium Altitude Long Endurance (MALE), which, after five years of extension, remained incomplete. The HELINA, helicopter launched anti-tank missiles, with December 2010 as the deadline was finally tested successfully in 2022. Much worse is the reported finding that many projects that were closed as successful were subsequently started as fresh projects. Stories of this kind unravelled by the government's top watchdog are bound to shake public confidence in the DRDO when the MoD is holding its 'Aatmanirbharta' banner high, having boldly imposed an embargo on the import of many products which, it believed, could be domestically manufactured. The engine of self-reliance will sputter, and national security will be compromised if domestic defence manufacturing is not fully supported by homegrown technology. DRDO's monopoly in defence research is also responsible for this sorry state. The involvement of the private sector in R&D is still work in progress and its success will depend on what the DRDO is willing to relinquish in favour of the private sector. Even when the private sector is roped in, the 'productisation' of the developed technologies could be hobbled by poor project management and procedural bottlenecks.

Therefore, the next round of defence reform should focus on fixing the DRDO's problems. Defence research can be productive with private sector-like efficiency only in an environment of innovation, freedom and flexibility devoid of bureaucratic hurdles and rigid procedures. Scientists should be freed from administrative responsibilities. The departmental system within which DRDO functions has to make way for a highly autonomous structure. One problem of the DRDO is its lack of synergy with the armed forces as pointed out by CAG. The armed forces,

being the main stakeholders in defence research, need to play a leading role with full ownership. A Defence R&D Council comprising top military leaders and scientists should be the apex decision-making body with a sharp focus on the capability development plans which are spelt out in the long-term integrated perspective plans (LTIPPS) of the services. A senior serving or retired member of the armed forces should head the council.

The council should have its own simplified procedures shorn of the rigidity of the general financial rules with delegated powers to the project leaders. The research projects of the DRDO should be led by a CEO who should be accountable to the council. The DRDO, now a leviathan, should wind up a number of projects and focus attention on critical ones. The council should have many degrees of freedom one of which should be to induct world-class project leaders on contract by tapping the Indian diaspora and the products of IITs. It has to support them with an ideal ecosystem, ample research funds and compensation at market rates without being constrained by the prevailing recruitment system. It should be the responsibility of the Council to fund defence research in the private sector and other research institutions keeping the key requirements of the defence forces in view. By winding up redundant DRDO labs and projects, sizeable landed assets could be released and monetised to create a corpus fund for innovation. Agencies like the iDEX (innovation for defence excellence) could be brought under the council to nurture innovations required for the armed forces.

If the reforms are carried out, the debate on whether an MoD bureaucrat should head the defence R&D department becomes irrelevant. The only function of MoD will be to place funds at the disposal of the council and periodically evaluate the progress of projects. This can be done more appropriately by the Department of Military Affairs (DMA) which is closely associated with the capability development plans and for that reason is the main stakeholder in defence research. A new tri-service division could be created within the DMA to look after defence research under a senior officer from one of the services. This will lead to the real integration of capability development and defence R&D.

<https://economictimes.indiatimes.com/news/defence/defence-research-needs-stiff-dose-of-reform-should-focus-on-drdo-issues/articleshow/97183046.cms?from=mdr>



*Sat, 21 Jan 2023*

## **Adani Subsidiary Joins Hands with Bulgaria-Based Firm for Defence Business**

Adani Enterprises, the holding entity of the port-to-power conglomerate Adani group, on January 21 said its two-step subsidiary Agneya Systems Ltd (ASL) has formed a joint venture with the Bulgaria-based Armaco JSC for defence business.

Armada Defence Systems Limited was incorporated on "January 20, 2023" in the "ratio of 56:44", with ASL holding 56 percent of the stake and Armaco JSC the remaining 44 percent, it said. The company was registered in Gujarat, with Ahmedabad listed as the place of incorporation, as per an exchange filing.

Armada Defence Systems has been "incorporated with the object of manufacturing various types of product and part for Indian Armed Forces need as part of Atmanirbhar Bharat vision", the regulatory filing added.

The cost of acquisition for Adani Enterprises in the venture is Rs 56,000, with 5,600 equity shares being acquired for Rs 10 each, it stated. The acquisition was in the form of cash consideration.

The company has an authorised share capital of Rs 1 lakh, along with a paid-up share capital of Rs 1 lakh, the filing said, adding that the JV was yet to begin business operations.

<https://www.moneycontrol.com/news/business/adani-subsiary-joins-hands-with-bulgaria-based-firm-for-defence-business-9910571.html>

## Business Standard

*Sun, 22 Jan 2023*

### **We Want to Partner in Building Base for Defence Industries in India: France**

French Ambassador Emmanuel Lenain has said his country wants to be a partner in the process of building a national industrial base for defence industries in India.

Talking to reporters on Saturday on board French aircraft carrier Charles De Gaulle which took part in the Indo-French naval exercise 'Varuna' off the Goa coast, Lenain said the two countries can co-produce lot of equipment for the defence and space sectors.

France is committed to making available the best technologies to Indian forces without restrictions, he said.

Lenain said France has really understood the vision of 'Aatmanirbhar Bharat' (self-reliant India).

We understand that also because we are a highly independent country and we have been through that process also. We want to be a partner in the process to build a national industrial base for defence industries in India, he said.

When India is looking to diversify its suppliers, France is a great option, the envoy said.

Lenain said his country is committed to making available the best technologies to Indian forces without restrictions.

France will not only support for make in India, but also come forward to co-develop and co-produce equipment, he said.

Asked about relations between the two countries, Lenain said The bilateral ties between India and France are exceptionally good and trustworthy.

We are of the same values. The best way to assert our strategic autonomy is by cooperating together. The two countries can co-produce lot of equipment for the defence and space sectors," Lenain said.

The Indo-French naval exercise that began here on January 16 culminated on Friday.

A French Navy official earlier said this joint preparation for air-sea warfare exemplifies the outstanding Indo-French naval cooperation in the Indo-Pacific, with ships, frigates and helicopters as well as a French command and replenishment ship carrying out numerous training sessions of increasing intensity, the official informed.

The aim of the joint exercise was to prepare the crews of the two countries to face a variety of challenges together, mobilising their anti-surface, anti-submarine and anti-aircraft assets, as well as shared control of the air-sea environment and ship control, the official said.

[https://www.business-standard.com/article/current-affairs/we-want-to-partner-in-building-base-for-defence-industries-in-india-france-123012200108\\_1.html](https://www.business-standard.com/article/current-affairs/we-want-to-partner-in-building-base-for-defence-industries-in-india-france-123012200108_1.html)



*Sat, 21 Jan 2023*

## **India, Egypt to Hold Dialogue on Defence Ties during President Abdel Fattah El-Sisi's Visit**

India and Egypt are likely to seal around half a dozen agreements during the visit of Egyptian President Abdel Fattah El Sisi who is slated to arrive in New Delhi on January 24 ahead of the Republic Day celebrations where he will be the chief guest. Apart from dialogues on defence, security and new energy initiatives, the two sides have been brought closer by Egypt's pragmatic diplomacy in arenas such as the Organization of Islamic Cooperation where Cairo has increasingly maintained a cautious position while responding to Pakistan's aggressive campaign on Kashmir.

As a symbol of closer military ties, the Republic Day parade is on track to have a contingent of 180 personnel from the Egyptian armed forces this year, The Hindu was told. During the state visit of Mr. El Sisi, a postage stamp will be released, portraying the multifaceted partnership between the two countries over the last 75 years.

Collaboration on security, counter terrorism and defence-related matters are expected to feature prominently in the bilateral talks during Mr. El Sisi's visit, sources have said. Challenges from unmanned aerial vehicles and cyber threats may also feature in the India-Egypt Joint Working Group on terrorism that will meet after the visit.

Both sides have exchanged several ministerial visits in the last year, including by Defence Minister Rajnath Singh (September 2022) and External Affairs Minister S. Jaishankar (October 2022). Earlier this month, Egypt's Information Technology Minister Amr Talaat visited Bengaluru and New Delhi and held discussions with private companies like Wipro and government outfits regarding digital campaigns in Egypt. Environment Minister Bhupendra Yadav led the Indian delegation to COP27 in Sharm El Sheikh last November.

### **Pragmatic diplomacy**

Egypt has reportedly shown interest in several military hardware items that India can offer, including the Akash missile systems. The growing proximity between the two nations was reportedly helped by Egypt's display of quiet pragmatism on issues that are sensitive to India.

This element was on display in 2022 when public protests broke out in the Gulf Arab countries after former BJP spokesperson Nupur Sharma made comments on the Prophet of Islam that were interpreted as offensive. While countries like Kuwait made their displeasure known to the Indian authorities, President El Sisi's government did not raise the issue in any significant manner. Egypt's studied silence in this matter understandably helped India, as Cairo's voice on Islamic issues carries great weight as it hosts the Al Azhar University, the oldest university in the world and the biggest centre of Sunni religious scholarship.

South Block, it was learnt, also took a positive view of Egypt's attempts to play a balanced role at the Organisation of Islamic Cooperation where Pakistan has floated several resolutions on Kashmir and other internal Indian issues in the last few years but failed to receive robust support from Mr. El Sisi's government.

Apart from a growing accommodation of each other's political concerns, there's also deepening agricultural cooperation between the two sides that has been in focus over the last year when Egypt's supply of agricultural products was disrupted by the Ukraine crisis.

Invitation to President El Sisi for India's Republic Day celebrations 'truly historic', says Ambassador of Egypt

### **Deepening economic ties**

Egypt placed an order for a large consignment of wheat last year, but the supply from the Indian side was disrupted because of the embargo that the government imposed to stabilise the domestic agricultural scenario. Cairo, however, received an exemption from the embargo. As a result, a consignment of 61,000 tonnes of wheat was sent subsequently. Sources said that more wheat supplies are expected to take place from the Indian side on a "case by case" basis as India has not yet lifted the restrictions on the export of wheat.

The visit by President El Sisi will provide India an opportunity to showcase its growing strength in the field of green hydrogen. At least three Indian companies have invested several billion dollars in Egypt's clean hydrogen projects. Egypt's infrastructure and health segments are also of interest to Indian entities as Cairo is in the midst of rolling out several mega infrastructure projects. Indian private and public sector majors are reportedly eyeing Egypt's infrastructure projects like the Suez Canal Economic Zone and the metro line in Alexandria.

India's ReNew Power is in the process of setting up a \$8 billion dollar green hydrogen plant in the Suez Canal Economic Zone. It was also learnt that Apollo Hospital and Medanta have "expressed interest" in building health facilities in major cities of Egypt.

This economic component of bilateral ties is expected to deepen as Egypt is poised to provide Indian companies access to markets in Africa and the Mediterranean where it is a preferred trading partner.

<https://www.thehindu.com/news/national/egypts-pragmatic-position-on-kashmir-at-oic-helped-revive-diplomatic-relations-with-india/article66414793.ece>



## Sisi Visits Next Week; Defence on Agenda

With Egypt's President Abdel Fattah al-Sisi visiting India next week as the chief guest at the Republic Day celebrations, security, defence, cybersecurity and agriculture is expected to dominate the agenda between the two countries.

The two sides are looking at signing about half-a-dozen pacts on some of these sectors, including IT and culture, and Egypt wants to partner with India on defence and agriculture in a major way. Egypt is interested in procuring defence equipment from India, which includes LCA Tejas, missiles like Akash, DRDO's Smart Anti-Airfield Weapon, radars. This is being developed as part of defence industry cooperation, and one of the markers was that Defence Minister Rajnath Singh had visited Cairo last year when a defence pact was signed.

Sisi, a military chief-turned-President, is acutely aware of the strategic challenges in the region, and wants to equip the Egyptian military.

In fact, to showcase the defence ties, an Egyptian military contingent will be participating in the Republic Day parade as well.

As a follow-up to their interest in acquiring Indian indigenous technology, Egypt has also been invited to participate in the Aero-India 2023 at Yelahanka Air Force Station, Bengaluru, next month.

Egypt, too, is reciprocating, as India has been invited for Exercise Bright Star — joint training exercises led by US and Egyptian forces held every two years — in Egypt in September this year.

With Egypt's President Abdel Fattah al-Sisi coming to India, defence and security is a priority. Seen as a moderate voice in the region, Egypt and India will be looking at closer cooperation in view of regional security challenges. The Republic Day invitation is expected to cement those ties.

Security cooperation is one more area of strong cooperation, since Egypt and India share greater convergence on the issue. With Egypt fighting the challenge of terrorism, India wants to partner with the country where Sisi is seen as having tackled terrorism with an iron hand. A possible pact on cybersecurity is on the table, and the details are being worked out.

Egypt, which is facing shortage of food grains since their major source used to be Ukraine and Russia, also wants to buy wheat from India. In May last year, India — which had put a ban on sale of wheat — had allowed export of 61,000 tonnes of wheat to Egypt. But the country wants more grains, in view of the shortages.

Egypt's President is also coming at a time when the country is facing a massive economic crisis due to depleted forex reserves. While there has been no request for budgetary support, India is looking at increasing Indian investments in the country, especially in major infrastructure projects.

Sisi has come to India twice in the past nine years. But this is the first time Egypt is going to be the chief guest at the Republic Day. Both countries are celebrating the 75th anniversary of the establishment of diplomatic relations this year.

Sisi, who comes to India on January 24, will be holding talks with Prime Minister Narendra Modi on January 25 and participate in the Republic Day celebrations. The invite to be the R-Day chief guest is highly symbolic from India's perspective. New Delhi has been weaving a strategy with hospitality to decide its chief guest for the event.

<https://indianexpress.com/article/india/sisi-visits-next-week-defence-on-agenda-8394882/>



*Sat, 21 Jan 2023*

## **Defence Chiefs Fail to Resolve Dispute on Tanks for Ukraine**

Ukraine will have to wait longer to find out if it will get advanced German-made battle tanks.

A dispute over sending the tanks from Western allies to help Ukraine against Russia's invasion played out both in public and private on Friday, as more than 50 defence leaders meeting in Germany failed to hammer out an agreement — stalled by Berlin's hesitation.

Failure to reach an agreement on what has become an urgent request from Ukrainian leaders largely overshadowed commitments from a number of nations — including the US — to send billions of dollars in equipment and weapons to the war effort.

While US and NATO leaders denied any dissension in the ranks and praised Germany for its widespread weapons and training contributions to Ukraine, a smaller group of leaders met privately with the Germans to try to find common ground. They were unable to forge a consensus on sending the German-made Leopard tanks.

Polish Defence Minister Mariusz Blaszczak said Friday that 15 countries that have the Leopards discussed the issue but no decisions were made. He called the meeting a "good discussion among allies" and said the matter would be discussed again at future talks.

Germany would need to agree for the tanks to be given to Ukraine, which is not a member of NATO. Despite pleas from Ukrainian officials, Germany has so far resisted mounting pressure to quickly supply Leopard 2 tanks to Kyiv, or at least clear the way for other countries, such as Poland, to deliver them from their own stocks.

Asked at the close of the Friday meeting whether Germany was "doing enough", US Defence Secretary Lloyd Austin responded, "Yes, but we can all do more."

"They are a reliable ally and they've been that way for a very, very long time," he said. "And I truly believe that they'll continue to be a reliable ally going forward."

Austin also downplayed the immediate importance of tanks, noting that the US Stryker combat vehicles and Bradley armoured vehicles that are being sent would give Ukraine new capabilities in the war. "This isn't really about one single platform," he said.

The defence leaders heard an impassioned plea for more military aid from Ukrainian President Volodymyr Zelenskyy. Speaking via video link, he told the gathering that "terror does not allow for discussion". He said "the war started by Russia does not allow delays".

Germany acknowledged there had been no resolution. But, speaking to reporters outside the conference hall, Defence Minister Boris Pistorius said, "We will make our decisions as soon as possible." He said he had ordered the ministry to look into Germany's tank stocks so he can be prepared for a possible green light and be able to "act immediately". Pistorius added that Germany will "balance all the pros and contras before we decide things like that. ... I am very sure that there will be a decision in the short term but ... I don't know how the decision will look". The issue, however, has grown increasingly complicated. The US has resisted providing its own M1 Abrams tanks to Ukraine, citing extensive and complex maintenance and logistical challenges with the high-tech vehicles. Washington believes it would be more productive to send German Leopards since many allies have them and Ukrainian troops would need less training than on the more difficult Abrams.

US and German officials have given mixed signals about whether the US and German decisions are linked.

A US official familiar with White House thinking said Germany has expressed hesitance to providing its tanks unless the US sends Abrams. The official, who spoke on the condition of anonymity to discuss private Biden administration deliberations, added that there was some bewilderment in the administration over the German position, since Britain, another NATO ally, has already agreed to provide Challenger 2 tanks.

Steffen Hebestreit, a spokesman for the German government, denied that Berlin has demanded that the US supply Abrams tanks alongside any shipment of Leopards.

Meanwhile, a Kremlin spokesman said deployment of Western tanks would trigger "unambiguously negative" consequences.

"All these tanks will require both maintenance and repairs, and so on, so (sending them) will add to Ukraine's problems, but will not change anything with regard to the Russian side achieving its goals," spokesman Dmitry Peskov said at a media briefing.

Austin and US Army Gen. Mark Milley, chairman of the Joint Chiefs of Staff, laid out the latest massive package of aid the US is sending, which totals USD 2.5 billion and includes Stryker armoured vehicles for the first time. It also will provide eight air defence systems, 350 Humvees, 53 Mine Resistant Ambush Protected (MRAP) vehicles, more than 1,00,000 rounds of artillery ammunition and rockets, and missiles for the High Mobility Artillery Rocket System.

Other pledges announced ahead of the Ramstein meeting included S-60 anti-aircraft guns from Poland with 70,000 rounds of ammunition, additional Stinger air-defence systems, and two M-17 helicopters from Latvia, and two Russian-made Mi-8 helicopters and dozens of L-70 anti-aircraft guns with ammunition from Lithuania.

The influx of new weapons, tanks, and armoured carriers comes as Ukraine faces intense combat in the country's east around the city of Bakhmut and the nearby salt mining town of Soledar. The battles are expected to intensify in the spring.

<https://www.thehindu.com/news/international/defence-chiefs-fail-to-resolve-dispute-on-tanks-for-ukraine/article66415292.ece>

*Fri, 20 Jan 2023*

## **Ukraine Thanks US for 'Powerful' \$2.5 Billion Defence Package**

Ukraine's President Volodymyr Zelenskyy on Friday thanked Washington for a massive new package of arms and munitions for Kyiv with Western allies set to discuss further military aid to the war-torn country. "Thank you" US President for providing Ukraine "with another powerful defense support package worth \$2.5 billion," Zelenskyy wrote in English on Twitter. The Ukrainian leader hailed the Stryker armoured personnel carriers, Bradley Infantry Fighting Vehicles and Avenger air defence systems included in the package as an "important help in our fight against the aggressor".

<https://timesofindia.indiatimes.com/world/europe/ukraine-thanks-us-for-powerful-2-5-billion-defence-package/articleshow/97169638.cms>

## ThePrint

*Sat, 21 Jan 2023*

## **For This Year, It Would be Very Difficult to Militarily Eject Russian Forces from Ukrainian Territory: US General**

For this year, it would be "very, very difficult" to militarily eject the Russian forces from every inch of territory that they have occupied in Ukraine, a top American general said.

That does not mean it cannot and will not happen, General Mark Milley, chairman of the US Joint Chiefs of Staff, said on Friday.

"From a military standpoint, I still maintain that for this year it would be very, very difficult to militarily eject the Russian forces from every inch of Ukraine and occupied or Russian-occupied Ukraine," General Milley told reporters at a news conference in Germany.

"That doesn't mean it can't happen, doesn't mean it won't happen, but it would be very, very difficult. I think what can happen is a continued defence stabilised in the front," he said.

Depending on the delivery of US equipment and training of the Ukrainian military, it is very possible for the Ukrainians to run a significant tactical or even operational-level offensive operation to liberate as much Ukrainian territory as possible, General Milley said.

"Then we'll see where it goes," he added.

The United States on Thursday announced another military assistance package of USD 2.5 billion for Ukraine to fight against Russian aggression, taking the total US military assistance to USD 27.5 billion.

This assistance package will provide Ukraine with hundreds of additional armoured vehicles, including Stryker armoured personnel carriers, Bradley infantry fighting vehicles, Mine-

Resistant Ambush Protected vehicles, and High Mobility Multipurpose Wheeled vehicles, according to an official statement.

The package also includes critical additional air defence support for Ukraine, including more Avenger air defence systems, and surface-to-air missiles, as well as additional munitions for NASAMS that the US has previously provided.

General Milley said the Ukraine-Russia war, like many wars in the past, “will end at some sort of a negotiating table”.

Russian President Vladimir Putin could end this war today, he said.

“He started it... he could end it today because it’s turning into an absolute catastrophe for Russia — massive number of casualties and lots of other damage to the Russian military,” he said. General Milley and US Defence Secretary Lloyd Austin addressed a joint news conference in Germany following the conclusion of the eighth Ukraine Defence Contact Group meeting that comprises defence leaders from more than 50 countries.

“As Russia’s cruelty deepens, the resolve of this contact group grows, and that’s clear from the announcements that we’ve heard today,” Austin said.

“Several countries have come forward with key donations that will help protect Ukraine’s skies and cities and citizens, and France and Germany and the UK have all donated air defence systems to Ukraine, and that includes a Patriot battery from Germany,” he said.

Austin said the members of the Ukraine Defence Contact Group are standing up for a world where rules and rights matter, sovereignty is respected and people can choose their own path, free from tyranny and aggression.

“We will continue to build momentum, we’ll support Ukraine against the Russian aggression for the long haul and we’ll continue to work towards a free and secure Ukraine and a stable and decent world,” he told reporters.

At the White House, NSC Coordinator for Strategic Communications John Kirby alleged that a Russian private military company, Wagner, is committing atrocities and human rights abuses in Ukraine and elsewhere around the world.

“Now, as his military continues to struggle in Ukraine, President Putin is increasingly turning to Wagner, which is owned by Yevgeniy Prigozhin, for military support. We are seeing indications, including in intelligence, that tensions between Wagner and the Russian Ministry of Defence are increasing,” Kirby said.

“Wagner is becoming a rival power centre to the Russian military and other Russian ministries. Publicly, Prigozhin and his fighters have criticised Russian generals and defence officials for their performance on the battlefield,” he said.

According to US assessment, Wagner currently has approximately 50,000 personnel deployed in Ukraine, including 10,000 contractors and 40,000 convicts, Kirby said as the White House announced a series of sanctions against it, including designating the company as a significant Transnational Criminal Organisation.

<https://theprint.in/world/for-this-year-it-would-be-very-difficult-to-militarily-eject-russian-forces-from-ukrainian-territory-us-general/1326994/>



*Sat, 21 Jan 2023*

## **France's Macron Proposes Big Rise in Defence Budget**

French President Emmanuel Macron has detailed plans for a major boost to the armed forces, to meet modern threats including Russia's war in Ukraine. The next seven-year budget would increase to €413bn (£360bn) from 2024-30, up from €295bn, he said. First France had to repair and restock its armed forces, then transform them, he told soldiers at Mont-de-Marsan airbase in south-west France. "We must not do the same with more, we have to do better and differently." Russia's invasion of Ukraine has prompted Western countries to review military spending - and in many cases, increase it significantly.

Meanwhile, the Kremlin has outlined plans to increase the number of combat soldiers from 1.15 million to 1.5 million. President Vladimir Putin said this week that Russia's powerful defence industry left him in no doubt that victory in Ukraine was assured. President Macron acknowledged on Friday there were no more post-Cold War "peace dividends" now that Russia had invaded Ukraine, so the aim was to renew a military that protected France's freedom, security, prosperity and place in the world.

Key to his reforms are a 60% hike in the military intelligence budget, adapting to "high-intensity" conflict with investment in drones, cyber-defence and improved air defences. "We need to be one war ahead," he warned. France's failure to foresee the Russian invasion last February cost the head of military intelligence, Gen Eric Vignaud, his job. The armed forces chief admitted at the time that US and UK intelligence had read the situation correctly. France has stepped up its military aid for Ukraine in recent weeks, with plans to send AMX-10 RC "light combat tanks", but its supply of weapons to Kyiv is seen as lagging behind other European allies.

Last year, France ended an eight-year anti-jihadist operation in the Sahel region of Africa in what was widely seen as a failure. President Macron said France would have to rethink its alliances while remaining a leader in Europe and a reliable Nato ally, and deepening its relationships with Germany, the UK, Italy and Spain. The Russian war has changed defence priorities across Europe, with Sweden and Finland announcing steep increases in their military budgets as part of their bid to join Nato. Members of the Western military alliance have agreed to spend at least 2% of economic output on defence from 2024.

Days after the invasion in February 2022, Germany pledged an extra €100bn of the budget to the armed forces. In June, the UK promised under previous Prime Minister Boris Johnson to increase spending to 2.5% of GDP. Last month, Japan announced a dramatic rise in its defence budget, because of what Prime Minister Kishida Fumio warned was the "most severe and complex security environment since World War Two". It cited threats from China and North Korea.

<https://www.bbc.com/news/world-europe-64346218>



## Is Russia Fortifying Moscow? Pantsir-S Air Defence Seen at 2 Spots Amid Ukraine Airstrike Fears

With the protracted war in Ukraine showing no signs of ending, Russia has reportedly moved to fortify the capital city of Moscow. Recently, a Pantsir-S air defence system was placed on the roof of Russia's Ministry of Defence at Frunzenskaya Embankment. This has led to speculation that Russia could be fearing an imminent Ukrainian air attack on its capital as the war nears the one-year mark.

*Oryx*, an open-source intelligence analyst, even referenced parallels to 1941 and Operation Barbarossa — when the Nazis invaded Russia. This included the Battle of Moscow. *The Washington Post* reported that Moscow also placed the Pantsir-S on top of a district education ministry building in Moscow's Teterinsky Lane. The Kremlin has declined to comment on these developments till now. It remains unclear whether this is part of a plan to bolster air defences through the capital city or just to protect a few buildings and areas.

Essentially, the Pantsir-S is a category of missile systems that are designed to intercept and deter any incoming enemy aircraft and missiles. They are ground-based, short-to-medium-range weapons systems that can be used against aircraft, helicopters, precision munitions, and cruise missiles. The Pantsir-S falls in the category of self-propelled missile systems. It has been codenamed Greyhound by NATO. Further, they were developed by the Soviet Union to replace the 2K22 Tunguska air defence system.

According to the Centre for Strategic and International Studies (CSIS), "Using its solid-state search radar, the Pantsir can track up to 20 tactical aircraft-sized targets at a range of 32-36 km." Further, CSIS explains that after detection, "the system can select targets with its high-frequency engagement radar or optional thermal imaging sensor." Usually, the Pantsir operates in batteries of six launcher vehicles, though they can operate individually too. Sometimes, they are also accompanied by a command-and-control vehicle.

CSIS further finds that the missile system can engage aircraft up to a maximum range of 20km and an altitude of 10km, and target subsonic cruise missiles at a range of 12km and an altitude of 6km. High-speed air-to-ground missiles it can target must be at a maximum of 7km away and an altitude of 6km. The Pantsir-S has been produced by the KBP Instrument Design Bureau. Its parent company is High-Precision Systems, which is a holding company of the state-owned Rostec Group. Its design was completed by 1995. However, they have been in service only since 2012. They were reportedly been used in the Syrian Civil War, Libyan Civil War, and the invasion of Crimea, apart from the current Ukraine conflict.

<https://theprint.in/world/is-russia-fortifying-moscow-pantsir-s-air-defence-seen-at-2-spots-amid-ukraine-airstrike-fears/1327292/>

Sat, 21 Jan 2023

## **Ukraine War: Russia Claims Developing ‘Revolutionary’ Electro-Magnetic Pulse UAV that can Down Drone Swarms**

*By Parth Satam*

Russia has leveled up its Electronic Warfare game by developing a new drone with an onboard electromagnetic pulse (EMP) generator capable of disabling even UAV swarms, a report in a Russian technology publication claims.

The novel system can be considered a part of the country’s lead in EW that was displayed in the early months of the war and an officially declared thrust to keep advancing in the field.

While there have been no other reports in other Russian publications and its official publicity mechanism, the sudden push to revitalize the country’s scientific and industrial sector over the last few months for developing drone, computer, cyber, and EW technology leave little room to doubt this latest claim.

President Vladimir Putin has pushed self-reliance in the above areas after Western sanctions attempted to choke Russia’s access to basic electronics and aviation components.

While the sanctions had a limited impact, and Russia could still access electronics owing to trade and commercial loopholes, having an independent technology sector has still been deemed necessary.

### **Electromagnetic Pulse Drone**

The report on Techcult credited the Moscow Border Institute with having developed and patented the drone, which has an “electromagnetic generator on board, which allows it to hit other drones, as well as enemy electronic systems.”

In addition, it is argued that the novelty can deal with a detachment of drones, the report added. “Detachment” could mean unmanned aerial vehicles (UAV) swarm.

An electronic and telecommunications engineer with the Defense Research Development Organization (DRDO) EurAsian Times spoke to said EMPs can undoubtedly knock out electronic and electrical appliances in a certain radius, including swarm drones.

“The Russian system, if it exists and can carry EMP payload while being airborne, and therefore, easily bring down a large swarm of UAVs,” he said.

The device is an assisted recovery and rocket booster launched UAV released from a cylindrical tube. The configuration must have been deliberately chosen to have more space for the EMP device and its power source. It can be assumed that having landing gear, advanced flight control, and telemetry systems would have taken up massive space.

“The device, placed in the transport-launch containers, is made in a cylindrical body, where the rudders and folding wings are removed. At the same time, it consists directly of the drone

itself and a special projectile, including an EM pulse generator with an integrated remote detonation system,” the report said, describing how the system works.

“The drone is additionally equipped with conventional and infrared (IR) cameras above and below. Solar panels are located on the folding wings, and a communication and control system, a GLONASS navigation module, a battery, a parachute, and an electric motor with a propeller from folding blades are inside. In the rear part, an accelerating block for solid fuel is provided,” it added.

The solar panels help recharge the battery to power critical systems, but also possibly indicate that it might have low overall endurance. The mission profile might include just being launched, discovering adversary drones, communication systems, and radars, emitting EMP waves, and returning.

It is likely to have very little intelligence-surveillance-reconnaissance (ISR) capabilities that require a prolonged loiter time.

The “accelerating block for solid fuel,” which indicates a rocket booster – an uncommon assisted launch system for drones – hints towards the possibility that it might be a large and heavy UAV.

Pilotless target drones like India’s Lakshya, the British Banshee, and Iran’s Shahed-136, too, are launched with strap-on rocket boosters that fall off when the drone takes off.

“The UAV will be delivered to the place of application in a folded position in a transport and launch container. After launch, having reached a predetermined height, the acceleration unit is separated, the drone unfolds its wings and continues to move due to the use of energy received from the battery, as well as generated by solar panels,” the report adds.

Whether the main propeller is in the front or a push-propeller configuration in the back and the impact radius of its EMP is unclear. The EMP generator that causes powerful electromagnetic “radiation” and “disables electronic equipment” has been described as “wearable.”

Whether this means the EMP device is a removable payload, and the complete drone is a modular aircraft with an open systems architecture that can swap out various modules based on mission requirements is unknown.

A leading US-based expert on Russian military technology, who wished to stay anonymous, believes such a system can potentially exist, at least as a “concept.” “The question is whether this can be scaled up for the battlefield,” he told EurAsian Times.

He also replied in the affirmative when asked if installing an EMP generator that requires a massive amount of power on a drone is technically feasible.

The EurAsian Times had previously reported the existence of a small-sized catapult-launched EW drone called the ‘Moskit.’ It had been responsible for jamming the Ukrainian army’s radio communications.

An article in Forbes described Russia as having been “too successful” in the EW arena. They “massacred” Ukrainian drones like the Turkish TB-2 Bayraktar that dropped like “flies” as they lost their radio frequency control links or GPS signals. This made Ukrainian artillery batteries less accurate.

A study in the Royal United Services Institute (RUSI) observed Ukrainian air force pilots harrowed by their “communications, navigation equipment, and radars knocked out.” The impending Ukrainian peril at the hands of superior Russian EW and artillery forces had been predicted just before the war.

Earlier this month, Rostec, the holding company of all Russian state-owned defense manufacturers, announced “mass production of a fundamentally new generation of aviation and ground electronic warfare and combat UAVs” after finishing testing within 1-2 months.

<https://eurasianimes.com/russia-develops-a-revolutionary-electro-magnetic-pulse-uav/>

## ThePrint

*Sat, 21 Jan 2023*

### **31 Chinese Military Aircraft, Four Naval Ships Detected Around Taiwan**

31 Chinese military aircraft and four vessels were detected near Taiwan, the latest incursion amid ongoing tensions between the two nations, the Taiwanese Ministry of National Defence said in a tweet on Friday. It further said that 12 of the detected aircraft had crossed the median line of the Taiwan Strait and entered Taiwan’s southwest air defence identification zone (ADIZ).

Taiwan’s Ministry of National Defence tweeted, “31 PLA aircraft and 4 PLAN vessels around Taiwan were detected by 6 a.m.(UTC+8) today. R.O.C. Armed Forces have monitored the situation and tasked CAP aircraft, Navy vessels, and land-based missile systems to respond these activities.”

In another tweet, the Taiwanese Ministry of National Defence further said, “12 of the detected aircraft (J-11\*6, J-16\*3, J-10\*2 and BZK-007 UAV RECCE) had crossed the median line of the Taiwan Strait and entered Taiwan’s southwest ADIZ, flight paths as illustrated.”

On January 19, the Taiwanese Ministry of National Defence in a tweet stated, “16 PLA aircraft and 3 PLAN vessels around Taiwan were detected by 6 a.m.(UTC+8) today. R.O.C. Armed Forces have monitored the situation and tasked CAP aircraft, Navy vessels, and land-based missile systems to respond these activities.”

The Taiwanese Ministry of National Defence further said, “4 of the detected aircraft (JH-7, BZK-007 UAV RECCE and J-16\*2) had crossed the median line of the Taiwan Strait and entered Taiwan’s southwest ADIZ, flight paths as illustrated.”

On Monday, Chinese military planes and vessels were detected around Taiwan in what was the seventh such incident in the past week, New York Post reported. Last week, China warned that leaders from foreign nations who interact with the self-governing island are “playing with fire,” as per the news report.

A spokesperson for China’s Taiwan Affairs Office said Beijing was committed in the new year to “safeguarding sovereignty and territorial integrity” and “smashing plots for Taiwan independence” on the self-governing democracy, as per the New York Post report.

Addressing a news conference, Ma Xiaoguang called the support for Taiwan's independence in a few foreign countries a "deliberate provocation," as per the news report.

"The malicious support for Taiwan independence among anti-China elements in a few foreign countries are a deliberate provocation," New York Post reported Ma Xiaoguang as saying at a biweekly news conference.

<https://theprint.in/world/31-chinese-military-aircraft-four-naval-ships-detected-around-taiwan/1326839/>

## Science & Technology News



**Press Information Bureau**  
**Government of India**

**Ministry of Science & Technology**

*Sat, 21 Jan 2023*

### **The Chief Minister of Madhya Pradesh Shivraj Singh Chauhan and Union Minister for Science & Technology, Dr.Jitendra Singh Today Jointly Inaugurated "India International Science Festival, Iisf-2022" in Bhopal**

**Dr.Jitendra Singh says, India is preparing for a Quantum jump in Quantum Technology, which will define the future Science with practical solutions for world 's pressing problems.**

**IISF Bhopal, India's G20 Presidency, International Year of Millets-2023 and Chairing of SCO Meet demonstrate, India rising stature in International Forum: Dr.Jitendra Singh**

**We have to make efforts for making Circular Economy part of the everyday life and take efforts for increasing activities on Waste to Wealth program: Prof. Sood**

**DBT is taking a concerted efforts to promote the Biotech start-ups in India with global ramifications: Dr. Rajesh Gokhale**

The Chief Minister of Madhya Pradesh ShriShivraj Singh Chauhan and Union Minister for Science & Technology, DrJitendra Singh today jointly inaugurated India International Science Festival, IISF-2022 in Bhopal with the theme, "Marching towards AmritKaal with Science Technology and Innovation. Shri Om PrakashSakhlecha, Minister for Science & Technology, Government of Madhya Pradesh, Prof. Ajay Sood, Principal Scientific Advisor, Government of India, Dr. Rajesh Gokhale, Secretary Department of Bio Technology, Government of India, Dr. N. Kalaiselvi, Secretary, DSIR, Dr.Sudhir Bhaduria, Secretary General, VigyanBharati, Dr. Sanjay Mishra, Senior Scientist, DBT, ShriNikunjShrivastava, Principal Secretary, Department of Science and Technology, MP and other senior officials of Government of India and Government of Madhya Pradesh joined the inaugural Event.

In his address ShriShivraj Singh Chouhan said that 2600 Start-ups came up in Madhya Pradesh alone in one year and it is not only confined to city of Indore but even tier-2 and tier-3 cities are

dotted with successful start-ups. He called upon the students and entrepreneurs from Madhya Pradesh to develop a zeal for innovations.

In his keynote address Dr.Jitendra Singh said that the India is preparing for a Quantum jump in Quantum Technology, which will define the future Science with practical solutions for world 's pressing problems.

Dr.Jitendra Singh said that IISF Bhopal is happening, when India has assumed the G20 Presidency in 2023, where it will be showcasing not only the multi pronged developmental dimensions but also India's universally recognize Soft Power. He said that at the behest of Prime Minister NarendraModi the United Nations has declared 2023 as International Year of Millets. The Minister also informed the India will also be chairing Shanghai Cooperation Organization (SCO) meet in 2023, thus demonstrating India's rising stature in International Forum.

Dr.Jitendra Singh said the pathbreaking decisions of Prime Minister NarendraModi like unlocking of Space Sector in June 2020, liberalization of Drone technologies, cabinet approval for geospatial guidelines and the recent green hydrogen mission worth Rs 20000 crore have open new vistas for India's rapid developmental march in the Amritkaal.

The Minister said that "Technology and Innovations" are going to be the Torchbearers of 2047 Economy of India whet it will celebrate 100 years of its independence.

Dr.Jitendra Singh said that after the space sector was throne open for private participation in June 2020, about 120 Deep Tech space start-ups have come up India in two years. He said that the Space Start-ups are not only sending rockets into space but also involved in areas like satellite buildings , debris management and many more daily life utilities.

Dr.Jitendra Singh said that the todays Science has entered every household as not only relates to the economy of India or the Youth but is deeply intertwined with future of India. He also underline Inclusive Engagement and noted with pride that women scientist are taking a lead in major Science and Technology missions including the Gaganyaan project.

Science and Technology Minister of Madhya Pradesh Shri Om PrakashSakhlecha informed that there would be 15 important event in four-days science festival in Bhopal, like the Student Science Village where 2500 students will be participating and getting expose to new technologies and innovations. He said apart from Mega Start-ups Expo, 1500 young scientist will brainstorm on emerging technology in all areas including Biotechnology.

ShriSakhlecha said that innovations will define the New India in the AmritKaal and both the Government of India and Madhya Pradesh Government are giving full support to the Start-ups and the industries to grow further.

Prof. Ajay Sood, Principal Scientific Advisor, Government of India told the gathering that the Science is not a static subject but growing each day with new breakthrough. He said that in every progress there is an input of Science, Technology and Innovations.

Prof. Sood said that India has graduated to 41<sup>st</sup> rank from 86 in the Innovation Index within a very short span of time. He said with the launch of semi conductor mission, India's economy is going to get a booster dose. He underlined that we have to make efforts for making Circular Economy part of the everyday life and take efforts for increasing activities on Waste to Wealth program.



Dr. Rajesh Gokhale, Secretary Department of Bio Technology in his address said that all future challenges can only be dealt with universal scientific interventions as the Covid crisis has amply demonstrated. He said that DBT is taking a concerted efforts to promote the Biotech start-ups in India with global ramifications.

Dr.SudhirBhaduria, Secretary General, VigyanBharati said that whether it is Yoga, Ayurveda or Architecture or Astronomy India's might is recognised by the world. He said that the VigyanBharati is working with the Science Ministries and Science Department of universities and collages in India to promote the modern scientific outlook and thinking for the benefit of the country and the entire humanity.

Dr Bhaduria said the world is watching with amazement that how India is sending 104 satellites in one go or launching the cheapest Mars Mission. He said that India's time has come to occupy the Global High Table with a leading position.

Some of the important Prime Speakers and Experts who are taking part in IISF, Bhopal are Dr. Krishna Ella, CMD, Bharat Biotech, Dr.Archana Sharma, CERN,Geneva, ShriS.Somanath, Chairman, ISRO, Sh. AnandDeshpande, Founder & CMD Persistent Systems, Prof. A. P. Dimri, Director, DST-IIG, Dr. Anil Bhardwaj, Director, PRL, Prof. AmitavaPatra, Director, INST Mohali, Prof. Tapas Chakraborty, Director IACS.

Face-to-Face with New Frontiers in Science will be a platform for cordial interaction and short discussion-based sessions of students/ researchers with people par excellence in various disciplines of S&T. This will certainly inspire students to pursue science and research in his/ her career.

Dr. Krishna Ella, CMD, Bharat Biotech, will lead the session titled "Powering AtmaNirbhar Bharat through Science and Entrepreneurship", while Sh. AnandDeshpande, Founder &CMD Persistent Systems will Chair the Session on "Technological Advancements in Data Science and India's leadership in Digital Transformation".

Dr.Archana Sharma, CERN,Geneva will be the Key Speaker on"Journey of a scientist in Unlocking secrets of the universe", while ISRO Chairman will Chair the Session on "Marching towards AmritKaal with Technological Strides in Frontiers of Space".

The themes selected for the Young Scientist Conference are Frontier areas of Science Research, Pandemic Challenges, impacts and research in vaccine development, Water resources, conservation, recycling and purification, Biodiversity, Environment & Climate Change, Food and Energy Security for Self-Reliant India.

New Age technologies show (22-24 January) aims to promote innovation in cutting-edge technologies such as Artificial Intelligence Machine Learning, Cyber Security, Block Chain, Digital Currency Industry, 4.0, 5G/6G, Quantum Computing, Semiconductor Chip Design, Drone Technologies, Green Energies, Space Technologies, Sensor Technologies, Systems and Synthetic Biology.

There will be NATS Exhibition/ Innovation Showcase [100], where Students will showcase the engineered prototypes and products in various cutting-edge areas.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1892699>

## **India to be Model of Global Science, Tech and Innovation by 2047: CSIR Chief**

India will become the model of global science, technology and innovation in 2047 and will be among top three countries in the field in 2030, Council of Scientific and Industrial Research (CSIR) Director General Dr Nallathamby Kalaiselvi has said. Talking to PTI, she also denied that young scientist awards have been discontinued and said people will see definitely see a multi-dimensional growth in the science sector in the coming days.

Kalaiselvi, the first woman director general of CSIR, established by the government in 1942, was in Bhopal to participate in the 8th India International Science Festival (IISF)-2022 which began on Saturday. The theme of the four-day event is 'Marching towards AmritKaal with Science Technology and Innovation'. "In 2030, India will be one among the top three nations, in 2047, the country will become the model of global STI (science, technology and innovation). In 2070, the entire globe will accept that India is a ruling power (in science). Because this will become a reality in 2070, this is my strongest belief as a scientific researcher," Kalaiselvi said.

Asked about media reports claiming that CSIR has stopped giving young scientists awards and prizes, Kalaiselvi said, "Nothing has been stopped, young scientist-related programmes are happening everywhere, at every level, even the students are called young scientist students, so everywhere science, researches and researchers are getting celebrated." "If you feel that something looks like getting stopped, I think you will definitely see multi-dimensional growth in the coming days," she added.

On women's role in science, Kalaiselvi noted this is a critically, historically and scientifically important era wherein Prime Minister Narendra Modi has also said that in the 'AmritKaal' "we have escalated ourselves in science, technology and innovation."

The government of India has already identified that women in science can really do wonders and women have also started reaching various heights, Kalaiselvi said, adding that is why she got identified as a woman scientist. "Therefore, I am not here as Kalaiselvi, but as the recognition given to women in science," she said. Kalaiselvi, who is also secretary of the Department of Scientific and Industrial Research, said when the country starts celebrating not only science and researches but also women in science, when it is trying to give women an additional support through a number of projects, "I think days are not far when India should be among the top three nations (in the field of science)."

She said the CSIR was coming up with dedicated programmes for women. On women's participation in the IISF, Kalaiselvi said the participation of women is very unique everywhere and here as well. The CSIR DG said she is thrilled to see the next generation, both males and females, coming forward in the field of science and it is no wonder that males are taking up the job farther. "...but nowadays, girls are also coming forward and they have started sharing the responsibility not only in terms of family but also in science and technology, in the nation's development, in maintaining and making sustainable growth, and development of India's tradition and culture through science and technology," she said.

Asked about the new innovations being showcased at the IISF, she said the participants are exhibiting what they have done and they have been told to make the CSIR community understand the critical challenges they are facing. "I just told them (participants) if they are coming up with some kind of critical challenges that could really be addressed by scientific researchers, they can make the CSIR community understand."

Kalaiselvi said they have 37 labs across the nation and they will be able to find solutions through them. "If we are getting five to ten issues faced by these people and if we are able to solve one out of it, that will be a success of this kind of an event," she said. On the future CSIR programmes, she said, "The country is getting ready for 2047 (AmritKaal period). We in the CSIR are already geared up for 2030. So from 2030 we will move to 2042, which is our 100th year, then we will move to 2047."

<https://economictimes.indiatimes.com/tech/technology/india-to-be-model-of-global-science-tech-and-innovation-by-2047-csir-chief/articleshow/97229431.cms?from=mdr>

