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# समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO  
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## CONTENTS

S. No.	TITLE	Page No.
	<b>DRDO News</b>	<b>1-3</b>
	<b>DRDO Technology News</b>	<b>1-3</b>
1.	DRDO को सफलता, पुणे में किया मानवरहित नावों का परीक्षण, निगरानी में मिलेगी मदद, हथियारों से होंगी लैस	<i>Jansatta</i> 1
2.	DRDO Tests 3 Unmanned Remote-Controlled Weaponised Boats in Pune, Ahead of Defexpo-2022	<i>The Economic Times</i> 2
3.	DRDO Tests Unmanned Weaponised Boats in Maharashtra	<i>The Hindu</i> 2
	<b>DRDO on Twitter</b>	<b>3</b>
	<b>Defence News</b>	<b>4-16</b>
	<b>Defence Strategic: National/International</b>	<b>4-16</b>
4.	समुद्र में गरजेगी Kanpur में बनी स्वदेशी Super Rapid Mount Gun, नौसेना के युद्धक जलपोतों पर होगा इस्तेमाल	<i>Jagran</i> 4
5.	Army's Northern Command Adds Kalyani M4 to its Fleet of Armoured Vehicles	<i>The Economic Times</i> 5
6.	Bharat Forge Dispatches First Consignment of Armoured Vehicles to Indian Army	<i>Indian Defence News</i> 6
7.	IAF to Arm More Sukhois with BrahMos Missiles, even as Plan Afoot to Upgrade Entire Fleet Indigenously	<i>The Times of India</i> 8
8.	Army to Ramp up Air Capabilities with Prachand in Assam's Missamari	<i>India Today</i> 9
9.	The Indian-Made LCH 'Prachand' and its Significance	<i>The Hindu</i> 10
10.	Pressed Russia on Zaporizhzhia Nuclear Plant's Safety, Willing to do Whatever We can to Facilitate Solution to Ukraine Crisis: EAM Jaishankar	<i>The Tribune</i> 11
11.	N. Korea Flies Warplanes near S. Korea After Missile Launches	<i>The New Indian Express</i> 13
12.	India, U.S., U.K., France Strongly Condemn North Korea's Ballistic Missile Launch	<i>The Hindu</i> 15
	<b>Science &amp; Technology News</b>	<b>17-18</b>
13.	India's Heaviest Rocket to Make Global Foray on October 22	<i>The New Indian Express</i> 17
14.	James Webb Telescope Teams Up with Hubble: They Made a Cheeky Discovery	<i>India Today</i> 18



Thu, 06 Oct 2022

### DRDO को सफलता, पुणे में किया मानवरहित नावों का परीक्षण, निगरानी में मिलेगी मदद, हथियारों से होंगी लैस

महाराष्ट्र के पुणे में समुद्र तट पर मानवरहित हथियारबंद नावों का परीक्षण किया गया। DRDO ने DefExpo-2022 के मद्देनजर पुणे में 3 मानव रहित हथियारबंद नावों का परीक्षण किया है। ग्रुप निदेशक पी.एम. नाइक ने कहा कि जहाज पर कोई मानव नहीं होने के कारण वीडियो फीड को ग्राउंड कंट्रोल स्टेशन पर स्थानांतरित किया जाएगा जो निगरानी करने में उपयोगी होगा। इस मानवरहित नाव को DRDO ने विकसित किया है। अभी इस नाव का नाम नहीं दिया गया है। डीआरडीओ के निदेशक पीएम नाइक ने बताया कि हथियारों से लैस नाव को रिमोट कंट्रोल के जरिए नियंत्रित किया गया। इसका इस्तेमाल समुद्री सीमा की निगरानी और दुश्मनों को निशाना बनाने के लिए आसानी से किया जा सकता है। यह नाव पूरी तरह से भारत में निर्मित है, जिसे सागर डिफेंस इंजीनियरिंग नाम की कंपनी ने DRDO के साथ मिलकर विकसित किया है।

#### नाव पर हथियार भी लगाया जा सकता:

डीआरडीओ के ग्रुप निदेशक ने कहा कि नाव के परीक्षण के दौरान उस पर कोई भी सवार नहीं था। नाव का इस्तेमाल दुश्मनों की निगरानी और उन पर हमला करने के लिए किया जा सकेगा। पीएम नाइक ने कहा कि यह नाव गश्त के लिए उपयोगी है। किसी भी आपातकालीन स्थिति में नाव पर हथियार भी लगाया जा सकता है। उन्होंने कहा कि हम वर्तमान में भामा आस्केड बांध में अपनी टीम का भरोसा बनाने के लिए इसका परीक्षण कर रहे। ट्रायल के दौरान हथियारों से लैस इस नाव को दूर से बैठकर रिमोट कंट्रोल के जरिए नियंत्रित किया गया। हालांकि, अभी यह नहीं बताया गया है कि इस नाव को इंडियन नेवी और कोस्ट गार्ड में कब तक शामिल किया जाएगा। कुछ नावों में जहां लिथियम बैटरी के साथ इलेक्ट्रिक प्रोपल्शन सिस्टम का इस्तेमाल किया जाता है, जबकि कुछ में ऑन बोर्ड इंजन होता है जो पेट्रोल का उपयोग करता है।

#### नाव को बनाने के लिए खास तकनीक का इस्तेमाल:

डीआरडीओ की यह मानवरहित नाव इलेक्ट्रिक और मोटर इंजन से चलती है और एक बार में लगातार 24 घंटे पानी में रहकर पेट्रोलिंग कर सकती है। दुश्मनों से इस नाव को बचाने के लिए इसमें खास तकनीक का इस्तेमाल किया गया है। अगर नाव दुश्मन के कब्जे में आ जाती है, तो इसके अंदर मौजूद कंट्रोल बोर्ड खुद ही डिस्टॉय हो जाएंगे। ताकि कोई गोपनीय सूचना या महत्वपूर्ण डाटा दुश्मन के हाथ न लगे। इसमें लगे सोनार और रडार सिस्टम की मदद से सरफेस सर्विलांस के अलावा यह नाव एंटी सबमरीन वॉरफेर और माइंस काउंटर मेसर में भी काम कर सकती है।

<https://www.jansatta.com/national/defexpo-2022-drdo-tested-3-remotely-controlled-unmanned-weaponized-boats-in-pune/2411177/>

## DRDO Tests 3 Unmanned Remote-Controlled Weaponised Boats in Pune, Ahead of Defexpo-2022

Ahead of premier defence exhibition DefExpo-2022, DRDO officials in Maharashtra tested three remotely unmanned, weaponised boats in Pune on Thursday. These three remote-controlled armed boats were tested with no man on the vessel. While talking to the media after testing three boats, DRDO Research and Development Establishment Group Director PM Naik said, "With no human on the vessel, the video feed will be transferred to the ground control station. It will be useful for surveillance." Group Director PM Naik further said, "This boat is useful for reconnaissance & patrolling. Weapon is also mounted on the boat in case of any insurgence. We are currently testing this at Bhama Ashked Dam to build the confidence level of our team."

PM Naik added that the boats are useful for surveillance purposes, patrols, and reconnaissance of overall maritime security. Moreover, the boats have an endurance of about four hours and currently they can sail at a maximum speed of 10 nautical miles/hour and this can be further increased to 25 nautical miles. Some variants of these boats use an electric propulsion system with lithium batteries, while others have a petrol engine on board. DefExpo-2022, which was postponed in March, will now be held in Gandhinagar, Gujarat between October 18 and 22.

<https://economictimes.indiatimes.com/news/defence/drdo-tests-3-unmanned-remote-controlled-weaponised-boats-in-pune-ahead-of-defexpo-2022/articleshow/94672324.cms>

## DRDO Tests Unmanned Weaponised Boats in Maharashtra



Defence Research and Development Organisation (DRDO) tested its three unmanned remotely controlled weaponized boats in Maharashtra on October 6. These boats can be used for surveillance purposes and patrolling. DRDO collaborated with private defence manufacturing start-up Sagar Defence Engineering to develop these unmanned weaponized boats. According to the

developers induction of these boats in future will also reduce the risk of loss of lives during operations. Some variants of these boats use an electric propulsion system with lithium batteries, while others have a petrol engine on board. This comes ahead of the Defence Expo 2022 which is to be held from October 18 in Gujarat

<https://www.thehindu.com/videos/watch-drdo-tests-unmanned-weaponised-boats-in-maharashtra/article65975659.ece>

## DRDO on Twitter







Thu, 06 Oct 2022

## समुद्र में गरजेगी Kanpur में बनी स्वदेशी Super Rapid Mount Gun, नौसेना के युद्धक जलपोतों पर होगा इस्तेमाल

एडवांस वेपन्स एंड इक्विपमेंट इंडिया लिमिटेड की इकाई फील्ड गन फैक्ट्री, कानपुर में बनी उन्नत सुपर रैपिड माउंट गन (एसआरजीएम) समुद्र में गरजने के लिए तैयार है। बंगाल की खाड़ी और अरब सागर की समुद्री सीमा लांघने वाले आतंकियों, दुश्मनों के लिए एसआरजीएम काल बनेगी। नौ सेना के अधिकारियों ने समुद्र में गन के परीक्षण के दौरान एक मिनट में 20 किमी के दायरे में 120 राउंड गोले दागकर क्षमता का आकलन किया। परीक्षण में पास हो चुकी एसआरजीएम नौ सेना को काफी पसंद आई है। फील्ड गन फैक्ट्री (एफजीके) को नौसेना ने 40 एसआरजीएम का आर्डर मिला है।



कानपुर में बनी स्वदेशी सुपर रैपिड माउंट गन समुद्र में भी गरजेगी। इस गन का नौसेना के युद्धक जलपोतों पर गन का इस्तेमाल होगा। इसमें प्रति मिनट 120 गोले दागने की क्षमता है। फील्ड गन फैक्ट्री के 12 इंजीनियरों की टीम को तीन साल अनुसंधान के बाद उपलब्धि मिली है।

### तीन साल से अनुसंधान में जुटी थी 12 इंजीनियरों की टीम

स्वदेशी सुपर रैपिड गन माउंट (एसआरजीएम) को विकसित करने के लिए आर्डनेंस डेवलपमेंट सेंटर के 12 इंजीनियरों की टीम तीन साल से अनुसंधान में जुटी थी। उन्होंने सवा चार मीटर लंबाई की तैयार बैरल

से 76 मिली के गोले दागे जा सकेंगे, जिनकी मारक क्षमता 20 किमी तक है। पहले सुपर रैपिड गन माउंट के उपकरण इटली से आयात कर भारत हैवी इलेक्ट्रिकल्स लिमिटेड (बीएचईएल) असेंबल कराकर नेवी को सप्लाई करता था। विदेश से आयात होने उपकरणों से तैयार एसआरजीएम की करीब आठ करोड़ रुपये तक कीमत होती थी। अब स्वदेशी होने की वजह से कम कीमत में ये गन उपलब्ध होगी।

### **उन्नत एसआरजीएम में उच्च रेंज फायरिंग की क्षमता**

यह उन्नत सुपर रैपिड गन माउंट (एसआरजीएम) भारतीय नौसेना के अधिकतर युद्धपोतों में लगाने वाली मुख्य गन है। उन्नत एसआरजीएम एक अत्याधुनिक हथियार प्रणाली है जिसमें रेडियो नियंत्रित लक्ष्यों को संलग्न करने के लिए विभिन्न प्रकार के गोला-बारूद का प्रबंधन करने और उच्च रेंज में फायरिंग की क्षमता है।

### **40 एसआरजीएम बनाने का है आर्डर**

फील्ड गन फैक्ट्री ने स्वदेशी उन्नत एसआरजीएम को बनाकर नौसेना को ताकत दी है। नौसेना ने आयुध निर्माणी को 40 एसआरजीएम बनाने का आर्डर दिया है। निर्माणी के इंजीनियर और कर्मचारी नौसेना को ताकत देने के लिए गन आर्डर पूरा करने में जुटे हैं। आर्डनेंस डेवलपमेंट सेंटर में इंजीनियरों की टीम लगातार नए-नए अनुसंधान पर काम कर रही है।- एहतेशाम अख्तर, निदेशक, आर्डनेंस डेवलपमेंट सेंटर, एफजीके।

<https://www.jagran.com/uttar-pradesh/kanpur-city-indigenous-super-rapid-mount-gun-made-in-kanpur-will-be-used-on-naval-worships-23122896.html>

## **THE ECONOMIC TIMES**

*Thu, 06 Oct 2022*

### **Army's Northern Command Adds Kalyani M4 to its Fleet of Armoured Vehicles**

Army's northern command on Thursday inducted Kalyani M4, an indigenous all-terrain high mobility combat troop carrier with armour and mine protection, in Jammu and Kashmir. The Northern Command shared the information on official Twitter handle with several pictures of its General Officer Commanding-in-chief (GOC-in-C) Lt Gen Upendra Dwivedi along with the vehicle. "#NorthernComd inducts 4x4 Quick Reaction Force Vehicles, an indigenous initiative by @BharatForgeLtd; an all terrain high mobility combat troop carrier with Armour & Mine Protection," the tweet read.

Kalyani M4, produced by Kalyani Group's Bharat Forge, underwent extensive trials in Ladakh, which also falls under the Northern Command, before the Army placed the order for these vehicles under an emergency procurement amid the China-India border standoff. The vehicle can withstand three 10 kg TNT charges under the wheels and one 50 kg IED blast at its one side, officials said. "The best just got better! The induction of Kalyani M4, @BharatForgeLtd group's

flagship armoured vehicle in @NorthernComd\_IA theatre is a matter of pride for the #makeinindia initiative & the entire nation," tweeted PRO Udhampur, Ministry of Defence.

<https://economictimes.indiatimes.com/news/defence/armys-northern-command-adds-kalyani-m4-to-its-fleet-of-armoured-vehicles/articleshow/94688792.cms?from=mdr>



*Fri, 07 Oct 2022*

## **Bharat Forge Dispatches First Consignment of Armoured Vehicles to Indian Army**

Bharat Forge Limited, has dispatched the first lot of Armoured Vehicles to Indian Army, manufactured at their Pune & Satara Plant. In 2021, the company received an order worth Rs 177.95 crore from the Ministry of Defence for supply of Kalyani M4 vehicles. The company received the order from the Indian Army for protected vehicles under emergency procurement, Bharat Forge said in a regulatory filing. The Pune-based firm had inked a pact with global aerospace and technology firm Paramount Group to manufacture armoured vehicles in the country. The Kalyani M4 is a multi-role platform, designed to meet the specific requirements of armed forces for quick mobility in rough terrain and in areas affected by mine and improvised explosive devices (IED) threats.

Kalyani M4, produced by Kalyani Group's Bharat Forge, underwent extensive trials in Ladakh, which also falls under the Northern Command, before the Army placed the order for these vehicles under an emergency procurement amid the China-India border standoff. The vehicle can withstand three 10 kg TNT charges under the wheels and one 50 kg IED blast at its one side, officials said. "The best just got better! The induction of Kalyani M4, @BharatForgeLtd group's flagship armoured vehicle in @NorthernComd\_IA theatre is a matter of pride for the #makeinindia initiative & the entire nation," tweeted PRO Udhampur, Ministry of Defence.

<http://www.indiandefensenews.in/2022/10/bharat-forge-dispatches-first.html>

## **THE TIMES OF INDIA**

*Thu, 06 Oct 2022*

## **IAF to Arm More Sukhois with BrahMos Missiles, even as Plan Afoot to Upgrade Entire Fleet Indigenously**

The IAF is going to arm more Sukhoi-30MKI jets with the precision-strike BrahMos supersonic cruise missiles, whose range has been extended from 290 to 450-km, even as a blueprint is also being drawn to indigenously upgrade all the 260 such Russian-origin fighters in the combat fleet.



Impressed with the first test of 450-km BrahMos from a Sukhoi-30MKI jet in the Bay of Bengal in May, IAF plans to send another 20-25 jets for the structural, electrical, mechanical and software modifications required to carry the 2.5-tonne missile to defence PSU Hindustan Aeronautics (HAL).

"These Sukhois will be in addition to the original 40 jets earmarked for BrahMos missiles. Thirty-five of the first 40 Sukhois with the 290-km BrahMos have been delivered back to IAF by HAL," a source said.

IAF considers the combination of Sukhois, which have a combat radius of almost 1,500-km without mid-air refueling, and the 450-km range conventional (non-nuclear) BrahMos missiles to be a deadly weapons package with strategic reach.

These air-to-ground BrahMos missiles can carry out pinpoint strikes on high-value military targets, underground nuclear bunkers, command-and-control centres on land or aircraft carriers and other warships on the high seas.

With the Army, Navy and IAF inking contracts worth around Rs 38,000 crore over the years for BrahMos missiles, which fly almost three times the speed of sound at Mach 2.8, a 800-km missile variant is also in the works, as was first reported by TOI. The 272 twin-seat Sukhois (10 have crashed), with the bulk of them being licensed produced by HAL at an overall cost upwards of \$12 billion from Russia, constitute the backbone of the existing IAF combat fleet. Technical parameters for the major Sukhoi upgrade are now being refined. "We have decided this upgrade will be done indigenously with a plethora of indigenously-designed weapons, electronic warfare systems and the like. We are looking at upgrading 84 Sukhois in the first tranche," IAF chief Air Chief Marshal V R Chaudhari said.

The design and development phase will take four to five years, following which the actual major upgrade will kick off. The "spiral upgrade" of Sukhois with new weapons and sensors, in any case, has been underway for the last 10 years. "BrahMos and Astra air-to-air missiles, for instance, have been added to Sukhois indigenously," IAF vice chief Air Marshal Sandeep Singh said. The Sukhois will also be armed with the 'Rudram' new generation anti-radiation missiles (NGARMs), which are designed to destroy a variety of enemy surveillance, communication and radar targets on the ground from stand-off distances. After Rudram-1 with a strike range of 150-km, the DRDO is also developing Rudram-2 (350-km range) and Rudram-3 (550-km) air-to-ground missiles. The Sukhoi fleet upgrade becomes crucial since the IAF is currently grappling with just 31 fighter squadrons (16-18 jets in each) when the sanctioned strength is 42 to deter China and Pakistan.

<https://timesofindia.indiatimes.com/india/iaf-to-arm-more-sukhois-with-brahmos-missiles-even-as-plan-afoot-to-upgrade-entire-fleet-indigenously/articleshow/94670805.cms>

## **Army to Ramp up Air Capabilities with Prachand in Assam's Missamari**

The Indian Army is all set to deploy the indigenous Light Combat Helicopter (LCH) Prachand in Assam's Missamari that caters to the forward areas along the Line of Actual Control in Arunachal Pradesh. By the end of this month, the Army will deploy four LCHs in Missamari, sources said. While the Army has already got three of the five LCH that were given a clearance from the Centre along with 10 for the Indian Air Force, they are still in Bengaluru. These will be forward deployed and will start operations with four by the end of this month. The fifth one will also be delivered by November, sources said. One of the three Army Aviation brigades is headquartered in Missamari, the other two being in Leh and Jodhpur.

The Missamari Aviation Brigade was raised in March 2021 to ramp up the Army's air capabilities to support ground forces in the eastern sector in the wake of growing Chinese military infrastructure. With the raising of the brigade and induction of long-distance surveillance drones, radars and night vision capabilities, satellite imagery gives an accurate picture of Chinese activities across the LAC. The deployment of LCH will be in addition to the weaponised Advanced Light Helicopters (ALH) Dhruva, Rudra the weaponised version of ALH and upgraded Israeli Heron UAVs. The helicopter is potent for anti-tank and other offensive operations to target ground positions and air to air combat. It would be a potent platform to meet the operational requirements of the Indian Air Force and the Indian Army. As per plans, the Army needs another 95 of these helicopters while the IAF's demand is for 65 more.

The Army has been enhancing its air power to support ground forces recently, since the beginning of the tussle with China in Ladakh in 2020, and also to keep an eye on Chinese activities. The Army Aviation Corps comprises helicopters that fly in conflict and peace zones. The aviation corps is critical for the Indian Army as it's pressed into action for evacuation of injured troops during operations or health emergencies in high altitude areas.

The Army Aviation Corps was raised on November 1 in 1986. Not only has the aviation corps played an important role in the past in operations like Kargil, but it has also been at the forefront of carrying out varied tasks during the ongoing India-China standoff in Ladakh. Army Aviation Corps' choppers are being used for reconnaissance, observation, casualty evacuation, essential load drops, combat search and rescue. The agility and manoeuvrability make the LCH an appropriate choice for mountain warfare as it can take off and land with a payload even at 16,000 feet.

The IAF inducted the helicopter in Jodhpur in a ceremony attended by Defence Minister Rajnath Singh. The helicopter manufactured by Hindustan Aeronautics Limited (HAL) is suited to perform roles of Combat Search and Rescue (CSAR), Destruction of Enemy Air Defence (DEAD), Counter Insurgency (CI) operations, take on slow moving aircraft and Remotely Piloted Aircraft (RPAs), high altitude bunker busting operations. The Cabinet Committee on Security (CCS) headed by Prime Minister Narendra Modi had approved procurement of 15 Light

Combat Helicopters (LCH) at a cost of Rs 3,887 crore along with infrastructure sanctions worth Rs 377 crore in March this year.

<https://www.indiatoday.in/amp/india/story/indian-army-ramp-up-air-capability-deploy-prachand-assam-line-of-actual-control-chinese-threat-2008707-2022-10-05>



*Fri, 07 Oct 2022*

## **The Indian-Made LCH ‘Prachand’ and its Significance**

The indigenously developed Light Combat Helicopter (LCH) ‘Prachand’, meaning fierce was formally inducted into the Indian Air Force at the Jodhpur airbase on Monday. Designed, developed and extensively test-flown for over a decade by Hindustan Aeronautics Ltd (HAL), the multi-role attack helicopter has been customised as per the requirements of the Indian armed forces to operate both in desert terrains and high-altitude sectors. The LCH is the only attack helicopter in the world that can land and take off at an altitude of 5,000 metres (16,400 ft), which makes it ideal to operate in the high altitude areas of the Siachen glacier. It is also capable of firing a range of air-to-ground and air-to-air missiles and can destroy air defence operations of the enemy.

Defence Minister Rajnath Singh, who presided over the formal event, termed the induction of the LCH into the Air Force as an “important milestone” reflecting India’s capability in defence production. “The LCH meets the requirements of modern warfare and necessary quality parameters under varied conditions of operations. This versatile helicopter perfectly meets the needs of our armed forces in various terrains and as such LCH is an ideal platform for both our Army and Air Force,” the Minister said. IAF chief Air Chief Marshal V.R. Chaudhary said the induction of LCH adds unique capabilities to the IAF’s combat potential.

### **The LCH project and its development**

The LCH project can be traced to the 1999 Kargil war when the armed forces felt the need for a dedicated platform capable of operating at high altitudes and delivering precision strikes as the existing attack choppers couldn’t effectively hit targets. This laid the foundation for the research and development of an India-made attack helicopter. In October 2006, the government sanctioned the design and development of the LCH. The Indian Army joined the programme in December 2013. The HAL built four LCH prototypes — technology demonstrators or TDs — and flight-tested them with over 1,600 total flights logging 1,239 flight hours. The helicopter prototypes were tested for around a decade under difficult conditions including sea trials in Chennai, extreme cold weather in Leh, desert conditions in Jodhpur and high altitudes in Siachen.

The ground run was first carried out in February 2010 and the first prototype ‘TD-1’ took its maiden flight on March 29, 2010, as the crew carried out low-speed, low-altitude checks on the systems. The second prototype, TD-2, was fitted with weapons. It was unveiled in 2011 and took its first flight in the same year on June 28. The TD-3 made its maiden flight in November 2014 and the fourth prototype was tested a year later. During its testing, the LCH landed at a forward

base in the region, 4,700 metres above sea level and 500-kg load. After extensive flight testing in diverse terrains and weather conditions, the LCH received initial operation clearance on August 26, 2017. It was declared ready for production in February 2020. A new LCH production hangar at the Helicopter Division of HAL with a production capacity of 30 choppers was inaugurated by Defence Minister Rajnath Singh. Over a year later, Prime Minister Narendra Modi handed over the LCH to the Indian Air Force.

Earlier this year, the Cabinet Committee on Security, headed by PM Modi approved the procurement of 15 limited series production (LSP) variants at a cost of ₹3,887 crore — 10 for the IAF and five for the Indian Army. The LSP LCH have been built with 45% indigenous content which will progressively increase to more than 55%. The Indian Army formally inducted its first Light Combat Helicopter on September 29.

### **What are the main features of LCH?**

Powered by twin Shakti engines, a collaborative effort of the HAL and France's Safran company, the LCH is a 5.8-tonne class combat helicopter with potent ground attack and aerial combat capability. "The helicopter possesses modern stealth characteristics, robust armour protection and formidable night attack capability. Onboard advanced navigation system, guns tailored for close combat and potent air to air missiles make the LCH especially suited for the modern battlefield," the Defence Ministry's description. The helicopter can fly at a maximum speed of 288 kmph and has a combat radius of 500 km, which can go up to a service ceiling of 21,000 feet, making it ideal to operate in Siachen. It incorporates several stealth features like reduced radar and infra-red signatures, crashworthy features for improved survivability, armoured-protection systems and night attack capability. The pilot and co-pilot, known as the Weapon Systems Operator (WSO), sit in tandem in a glass cockpit and are protected by armoured panels. Other features include:

- 20 mm nose gun in the front, which is capable of firing 800 rounds per minute with a firing range up to 2 km.
- 70 mm rocket pod mounted on the stub wing, with a direct firing range of up to 4 km and indirect up to 8 km.
- Above the gun is an electro-optical pod for long-range day and night surveillance and tracking of the target.
- Anti-tank guided missile 'Dhruvastra' and air-to-air missile 'Mistral-2' which has a maximum interception range of 6.5 km

### **How will the LCH give an edge to the armed forces?**

The induction of the LCH into the Air Force has been termed as a "big boost" to the combat prowess of the armed forces and a "potent platform to meet the operational requirements of the IAF and the Army". The LCH helicopters can be deployed to assume air defence, anti-tank roles in high-altitude, counter-insurgency, and search and rescue operations, and are equipped with advanced technology which can be used to destroy the enemy's air defence, as per HAL. The LCH is equipped with requisite agility, manoeuvrability, extended range, high altitude performance and around-the-clock, all-weather combat capability. It can be deployed to perform Combat Search and Rescue (CSAR), bunker busting operations, counter-insurgency operations in the jungle and urban areas and support the ground forces, Defence Ministry officials added. As per HAL, the Indian armed forces have an overall requirement of 160 LCH — 95 for Army and 65 for Air Force. While the fleet of first four helicopters was inducted into the 143 Helicopter Unit 'Dhanush', the Indian Air Force plans to procure more in the near future. The helicopters are likely to be deployed along the Line of Actual Control along with Apache choppers.

As for the Army, HAL is likely to hand over four more helicopters by the end of this month. The Army raised its first unit in Bengaluru in June but plans to move it to the Eastern Command along the LAC. The Army plans to acquire 95 LCH of which seven units, with each having 10 helicopters, are planned to be deployed for a combat role in the mountains, *The Hindu* reported earlier. Currently, the Army Aviation does not have dedicated attack helicopters in its fleet. It does operate the weaponised version of the Advanced Light Helicopter. The Indian Air Force, meanwhile, operates the Mi-25 and Mi-35 Russian attack helicopters, which are in the process of being phased out, along with Mi-17s, Mi-17V5s, Advanced Light Helicopter, Apache attack helicopters and Chinook heavy lift helicopters.

<https://www.thehindu.com/news/national/explained-the-indian-made-lch-prachand-and-its-significance/article65966403.ece>

## The Tribune

*Fri, 07 Oct 2022*

### **Pressed Russia on Zaporizhzhia Nuclear Plant's Safety, Willing to do Whatever We can to Facilitate Solution to Ukraine Crisis: EAM Jaishankar**

India is willing to do whatever it can to facilitate a solution to the Ukraine crisis, External Affairs Minister S Jaishankar said on Thursday, as he highlighted how India pressed Moscow on the safety of the Zaporizhzhia nuclear power plant in Ukraine when the two countries stepped up fighting near the highly sensitive facility. Jaishankar, who is here on his first visit to New Zealand as the External Affairs Minister, during a lengthy interaction with Simon Bridges, the CEO of Auckland Business Chamber, said when it comes to Ukraine, it is natural that different countries and different regions would react a little differently. The people will view it from their viewpoint, their immediate interest, historical experiences, their insecurities, he said. “To me, the diversities of the world which are quite evident will also naturally lead to a differential response and I would not disrespect the position of other countries as I can see that many of them are coming from their threat perception, their anxiety, their equities in Ukraine,” he said.

In this situation, Jaishankar said he would see what India can do, “which obviously would be in the Indian interest, but also in the best interest of the world.” “When I was in the United Nations, the big concern at that time was the safety of the Zaporizhzhia nuclear power plant because there was some fighting going on in the very proximity to it.” “There was a request to us to press the Russians on that issue which we did. There have been other concerns at various points of time, either different countries have raised with us or the UN has raised with us. I think at this time whatever we can do, we will be willing to do,” Jaishankar said. The Zaporizhzhia Nuclear Power Station in southeastern Ukraine is the largest nuclear power plant in Europe. “If we take up a position and voice our views, I don’t think countries would disregard that. and that we were visible in a meeting between my Prime Minister (Narendra Modi) and President (Vladimir) Putin,” he said, referring to the meeting between the two top leaders in Asthana on the side lines of the Shanghai Cooperation Organisation (SCO) on September 16.



He also talked about India's aspiration to become a permanent member of the UN Security Council, saying big problems of the day cannot be solved by one, two or even five countries. "And when we look at the reforms, we have an interest in becoming a permanent member of the Security Council. It is also because we think in different ways and we voice the interests and aspirations of a broad set of countries," he said. He spoke about climate change and the Covid pandemic to highlight the discriminatory policies.

"If you travel today, especially to South Africa, there is a very strong sense of anger about how they have been treated during the pandemic. And today that sense of frustration that the world is not listening to, I see in respect of issues like food and fuel," he said. He said there is a feeling that their inability to deal with the daily necessities of life is disregarded by more established or powerful nations around the world. "We have tended to look naturally at Ukraine to some degree as a kind of an East-West issue. I think there is a north-south aspect to the consequences of the Ukraine conflict," he added. "For us when you look at reformed global architecture, we say very clearly that India should be in the reformed Security Council. But we say equally strongly, that the entire continent of Africa has been excluded, and Latin America has been excluded," he added.

Somewhere the system has also to cater not necessarily to the big guns if there has to be a larger legitimacy, Jaishankar added. There is a larger issue here, there is an aspect of fairness and justice. On ties with New Zealand, he said: "Opportunities to work together are far more realistic and practical." "We need to look at each other very objectively, creatively and positively and what are the strengths we should play and try to build a stronger relationship," he said. He said one area of focus in bilateral ties with New Zealand would be business.

Jaishankar said stronger business ties do not require to have an FTA (Free Trade Agreement) and gave the example of the European Union, the US and China with which India does not have an FTA. How can we grow our business collaboration is the number one challenge, Jaishankar said. He said other areas of collaboration with New Zealand would be education and digital collaboration, climate, security and well-being of the region.

He said the world has seen multiple stress tests since 2019 like COVID, the Afghanistan crisis and now the Ukraine conflict. Together each one of them, one on top of each other, has put the world under difficult circumstances, he said. "It is very important today to recognise that and understand that there are a lot of countries who are looking at the future and deeply worried about their ability to get fuel, food, fertiliser or finances for the people," the minister said. "It is a difficult moment and when times are difficult it is equally important that those who have some capabilities to be part of the solution should step forward and do what they can. Each one of us may not be able to change the world by ourselves but by working together we kind of multiply the abilities," he said.

A good example was raised during the Covid-19 pandemic, he said. "We were one of the biggest manufacturers of vaccines and even when we were vaccinating our own people we took a very conscious decision that we would help others and we prioritised countries that we helped that would not have fair access to vaccines," he said. "In this region, we gave vaccines to Fiji and the Solomon islands," he said. "We need a kind of collaborative neighbourhood watch approach to the region (Indo-Pacific) where those who are comfortable with each other are prepared to work for the betterment of the region," he said. Responding to a question about the existence of a binary view in the world and India's position in that, Jaishankar believed that the binary view is

“outdated”. “And quite honestly in the defence of the US, they don’t hold the binary view anymore. In fact, one of the changes we have seen in the last few years is the US is much more open towards working with countries outside the traditional alliance or treaty relationships,” he said. “So, you have mechanisms like the QUAD, which involves some traditional allies of the US but also countries like India, which has historically stayed away from alliances and treaties,” he added.

“My sense why we should put the binary framework to rest is if you look today at the distribution of power, if you look at the major economies of the world... I would argue that there has been a much flatter distribution of power in the last 30-40 years,” he said.

<https://www.tribuneindia.com/news/nation/pressed-russia-on-zaporizhzhia-nuclear-plants-safety-willing-to-do-whatever-we-can-to-facilitate-solution-to-ukraine-crisis-eam-jaishankar-438748>



*Thu, 06 Oct 2022*

## **N. Korea Flies Warplanes Near S. Korea After Missile Launches**

North Korea flew 12 warplanes near its border with South Korea on Thursday, prompting the South to scramble 30 military aircraft in response, Seoul officials said. The highly unusual incident came hours after North Korea fired two ballistic missiles into the sea in its sixth round of missile tests in less than two weeks. Eight North Korean fighter jets and four bombers flew in formation and were believed to have conducted air-to-surface firing drills, South Korea’s military said. The military said South Korea responded by scrambling 30 fighter jets and other warplanes, though they didn’t engage in any clash with the North Korean aircraft. The North Korean planes were probably dozens of kilometers away from the border, South Korean media said.

North Korea has previously sent military aircraft near the border, but Yonhap news agency said this is likely the first time it has mobilized so many warplanes for such a provocative flight and firing exercises. Tensions have risen sharply on the Korean Peninsula as North Korea’s recent barrage of missile tests prompted South Korea, the United States and Japan to conduct joint drills in response. Earlier Thursday, North Korea launched two short-range ballistic missiles toward its eastern waters. The launches came after the United States redeployed an aircraft carrier near the Korean Peninsula in response to North Korea’s launch of a nuclear-capable missile over Japan earlier this week. North Korea has conducted a record number of missile tests this year. South Korean officials said the North may further raise tensions by testing an intercontinental ballistic missile or conducting its first nuclear test explosion since 2017, following an old pattern of heightening animosities before trying to wrest outside concessions.

Some experts say North Korean leader Kim Jong Un is determined to expand his nuclear arsenal in defiance of international sanctions. They say North Korea’s goal is to eventually win recognition as a legitimate nuclear state from the United States and the lifting of sanctions, though Washington and its allies have shown no sign of doing so. The latest missiles were

launched 22 minutes apart from North Korea's capital region and landed between the Korean Peninsula and Japan, South Korea's Joint Chiefs of Staff said in a statement. The first missile flew 350 kilometers (217 miles) and reached a maximum altitude of 80 kilometers (50 miles) and the second flew 800 kilometers (497 miles) with an apogee of 60 kilometers (37 miles).

Japanese Defense Minister Yasukazu Hamada said the second missile was possibly launched on an "irregular" trajectory. It is a term that has been used to describe the flight characteristics of a North Korean weapon modeled after Russia's Iskander missile, which travels at low altitudes and is designed to be maneuverable in flight to improve its chances of evading missile defenses. U.S., South Korean and Japanese destroyers launched joint drills later Thursday off the Korean Peninsula's east coast to hone their abilities to search, track and intercept North Korean ballistic missiles, South Korea's Joint Chiefs of Staff said.

The U.S. destroyer is part of the strike group led by the nuclear-powered aircraft carrier USS Ronald Reagan, which returned to the waters in what South Korea's military called an attempt to demonstrate the allies' "firm will" to counter North's continued provocations and threats. The strike group was in the area last week as part of previous drills between South Korea and the United States, and the allies' other training involving Japan. North Korea considers such U.S.-led drills near the peninsula as an invasion rehearsal and views training involving a U.S. carrier more provocative. South Korean President Yoon Suk Yeol and Japanese Prime Minister Fumio Kishida spoke by phone Thursday and agreed that North Korea's recent missile tests are "a serious, grave provocation" that threatens international peace, according to Yoon's office. Kishida said the two reaffirmed the importance of the deterrence capability of the Japan-U.S. and South Korean-U.S. alliances, as well as security cooperation among the three countries. Moon Hong Sik, a South Korean Defense Ministry spokesperson, said North Korea's accelerating tests also reflect an urgency to meet Kim Jong Un's arms development goals.

Kim last year described an extensive wish list of advanced nuclear weapons systems, including more powerful ICBMs, multiwarhead missiles, underwater-launched nuclear missiles and tactical nuclear arms. On Tuesday, North Korea staged its most provocative weapons demonstration since 2017, firing an intermediate-range missile over Japan, forcing the Japanese government to issue evacuation alerts and halt trains. Experts said the weapon was likely a Hwasong-12 missile capable of reaching the U.S. Pacific territory of Guam and beyond. Other weapons tested in recent days included Iskander-like missiles and other ballistic weapons designed to strike key targets in South Korea, including U.S. military bases there.

North Korea's Foreign Ministry said in a statement Thursday that the redeployment of the Reagan strike group poses "a serious threat to the stability of the situation on the Korean peninsula and in its vicinity." The ministry said it strongly condemns U.S.-led efforts at the U.N. Security Council to tighten sanctions on the North over its recent missile testing, which it described as a "just counteraction" to joint U.S.-South Korean drills. After the North's intermediate-range missile launch, the United States and South Korea also carried out their own live-fire drills that have so far involved land-to-land ballistic missiles and precision-guided bombs dropped from fighter jets.

The United States, Britain, France, Albania, Norway and Ireland called for an emergency meeting of the U.N. Security Council. But the session Wednesday ended with no consensus, underscoring a divide among the council's permanent members that has deepened over Russia's war on Ukraine. Russia and China insisted during the meeting that U.S.-led military exercises in

the region had provoked North Korea into acting. The United States and its allies expressed concern that the council's inability to reach a consensus on North Korea's record number of missile launches this year was emboldening North Korea and undermining the authority of the United Nations' most powerful body. North Korea has fired more than 40 ballistic and cruise missiles over more than 20 launch events this year, using the stalled diplomacy with the United States and Russia's war on Ukraine as a window to speed up arms development.

<https://www.newindianexpress.com/world/2022/oct/06/nkorea-flies-warplanes-near-skorea-after-missile-launches-2505370.html>



*Thu, 06 Oct 2022*

## **India, U.S., U.K., France Strongly Condemn North Korea's Ballistic Missile Launch**

India, joining the U.S., the U.K. and France, has strongly condemned North Korea's ballistic missile launch which overflew Japan, with New Delhi underlining that these launches affect the peace and security of the region and beyond. The missile fired on October 4 was the first from North Korea to fly over Japan in five years. The launch mark the 24th time this year that North Korea has conducted missile tests. "We have noted with concern the reports of ballistic missile launches" by the DPRK (Democratic People's Republic of Korea), India's Permanent Representative to the UN Ambassador Ruchira Kamboj said at a UN Security Council meeting on DPRK on Wednesday.

"These follow the launch of the intercontinental ballistic missile by the DPRK in March this year, which was discussed in this Council, as well as other successive launches," she said. Later, U.S. Ambassador to the UN Linda Thomas-Greenfield delivered a joint statement on behalf of Albania, Brazil, France, India, Ireland, Japan, Norway, South Korea, the United Arab Emirates, the United Kingdom, and the United States at the UN Security Council stakeout on North Korea's ballistic missile launches.

"The United States, Albania, Brazil, France, India, Ireland, Japan, Norway, the Republic of Korea, the United Arab Emirates and the United Kingdom, strongly condemn the DPRK's long-range ballistic missile launch which overflew Japan" on October 4 and its seven other ballistic missile launches conducted since September 25, the joint statement said adding that North Korea has now launched more than 35 ballistic missiles this year alone.

"These launches violate multiple Security Council resolutions and pose a threat to not only the region, but to the entire international community," the joint statement said. North Korea on Tuesday conducted its longest-ever weapons test, a nuclear-capable ballistic missile that flew over Japan and could reach the U.S. Pacific territory of Guam. Ms. Kamboj, in her remarks to the Council, stressed that these launches constitute a violation of the resolutions of the Security Council relating to the DPRK and "they affect the peace and security of the region and beyond." India called for full implementation of the relevant UN Security Council resolutions relating to DPRK and "reiterated the importance of addressing the proliferation of nuclear and missile

technologies related to DPRK in our region. These linkages have an adverse impact on peace and security in the region, including on India.”

Ms. Kamboj said the Global South has already been disproportionately affected by the prevailing geopolitical situation and related challenges. “It is therefore important to continue to make all efforts to maintain peace and stability.” “Ensuring peace and security in the Korean Peninsula is in our collective interest. Going forward, we will continue to support dialogue and diplomacy as the means to resolve the issues in the Korean Peninsula,” she said. Ms. Kamboj reiterated New Delhi’s continued support for denuclearisation towards peace and security in the Korean peninsula. In the joint statement, the 11 countries said North Korea had made its intentions clear in April and September when its leader signalled an effort to accelerate the DPRK’s nuclear and ballistic missile programmes and even alluded to pre-emptive use of nuclear forces. “We are witnessing the DPRK’s pursuit of this objective,” it said.

“We call on all UN member states, especially Council members, to join us in condemning this reckless behaviour and in urging the DPRK to abandon in a complete, verifiable, and irreversible manner its unlawful weapons programmes and engage in diplomacy toward denuclearisation,” the joint statement said, recalling the Council’s decision referring to “further significant measures.” The U.S. Ambassador said Washington and those who have joined her at the podium for the joint statement remain committed to diplomacy and continue to call on the DPRK to return to dialogue. “But we will not stay silent as the DPRK works to undermine the global nonproliferation regime and threaten the international community,” she said. The joint statement called on the member states to fully implement the relevant Security Council resolutions.

Noting that following North Korea’s provocations and escalatory behaviour in 2017, the Council came together and unanimously took action to hold the DPRK accountable for its unlawful actions, the joint statement said that “now again the DPRK is testing the Council’s resolve and we must act accordingly. The Council will continue to engage over the course of the next week to find a unified voice and way forward.” UN Secretary-General Antonio Guterres had “strongly” condemned the launch of the ballistic missile, calling it a “reckless act and a violation of Security Council resolutions.” Mr. Guterres said it is also of “serious concern” that North Korea has again disregarded any consideration for international flight or maritime safety. The Secretary-General urged North Korea to resume dialogue with the key parties concerned with a view to achieving sustainable peace and the complete and verifiable denuclearization of the Korean Peninsula.

<https://www.thehindu.com/news/international/india-us-uk-france-strongly-condemn-north-koreas-ballistic-missile-launch/article65975258.ece>



### India's Heaviest Rocket to Make Global Foray on October 22

India's heaviest rocket is getting ready to make its entry into the global commercial launch service market with the milestone expected on October 22. In its first dedicated commercial mission, GSLV-Mk III would launch British startup OneWeb's 36 broadband satellites from Sriharikota spaceport, as per a contract signed by Indian Space Research Organisation's commercial arm, NewSpace India Limited (NSIL). The newest rocket is capable of launching a four tonne class of satellite to Geosynchronous Transfer orbit (GTO). "The launch is slated shortly after October 21 midnight. We are looking at 00:12 hours on October 22," a senior official of the national space agency told PTI on condition of anonymity on Thursday.

"Undertaking the launch of 36 OneWeb satellites on-board GSLV-Mk III from India is a historic moment for NSIL and ISRO," NSIL Chairman-cum-Managing Director Radhakrishnan D was quoted as saying earlier. GSLV-Mk III, also referred to as Launch Vehicle Mark 3 (LVM3), is a three-stage vehicle with two solid motor strap-on, a liquid propellant core stage and a cryogenic stage. India's Bharti Enterprises is a major investor and shareholder in OneWeb. NSIL, a Central public sector enterprise under the Department of Space, said the contract with OneWeb is a historic milestone for NSIL and ISRO, as LVM3, is making its entry into the global commercial launch service market.

In an October 4 update on the mission, NSIL said two solid strap-on boosters and liquid core stage of LVM3 have been fully integrated at the second launch pad at Satish Dhawan Space Centre, SHAR, in Sriharikota. "Integration of 36 OneWeb (Low Earth Orbit broadband communication) satellites after successful completion of health checks have been assembled with the dispenser unit," NSIL said. "In the coming days integration of (the) cryogenic upper stage of the launch vehicle and integration of payload fairing with 36 satellites will take place," NSIL had added.

<https://www.newindianexpress.com/nation/2022/oct/06/indias-heaviest-rocket-to-make-global-foray-on-october-22-2505380.html>

*Thu, 06 Oct 2022*

## **James Webb Telescope Teams Up with Hubble: They Made a Cheeky Discovery**

The James Webb Telescope, which began science operations earlier this year has finally teamed up with its cosmic brother, the Hubble telescope, in what is one of the most awaited pairings in the scientific community. Data from the two observatories, located outside Earth, have been combined to study interstellar dust. Nasa released the image that captured two galaxies from data by James Webb and Hubble telescopes and a third, which went unnoticed in the past. While the JWST looked at the galaxy in infrared light, Hubble peered into the galaxy in visible and ultraviolet light. The data allowed astronomers to trace light that was emitted by the bright white elliptical galaxy through the winding spiral galaxy. The two telescopes helped identify the effects of interstellar dust in the spiral galaxy in the galactic pair VV 191. "We got more than we bargained for by combining data from Nasa's James Webb Space Telescope and NASA's Hubble Space Telescope," Rogier Windhorst, Webb's interdisciplinary scientist, said in a statement.

Webb's near-infrared visuals show the galaxy's longer, extremely dusty spiral arms in far more detail, giving the arms an appearance of overlapping with the central bulge of the bright white elliptical galaxy on the left. VV 191 is a superimposed galaxy pair, which is one of 2000 such pairs identified by Galaxy Zoo citizen science volunteers. "Understanding where dust is present in galaxies is important because dust changes the brightness and colors that appear in images of the galaxies. Dust grains are partially responsible for the formation of new stars and planets, so we are always seeking to identify their presence for further studies," Windhorst added. Apart from seeing the galactic pair, the two telescopes also picked up a very distant galaxy whose light is bent by the gravity of the elliptical foreground galaxy.

The galaxy appears as a faint red arc just above the pair. Astronomers said that the images of the lensed galaxy are so faint and so red that they went unrecognized in Hubble data, but were easily picked up in Webb's near-infrared image. "Like many Webb images, this image of VV 191 shows additional galaxies deeper and deeper in the background. Two patchy spirals to the upper left of the elliptical galaxy have similar apparent sizes, but show up in very different colors. One is likely very dusty and the other very far away, but we or other astronomers need to obtain data known as spectra to determine which is which," Windhorst said.

<https://www.indiatoday.in/science/story/james-webb-telescope-teams-up-with-hubble-they-made-a-cheeky-discovery-2008973-2022-10-06>

