

Oct
2021

समाचार पत्रों से चयित अंश Newspapers Clippings

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

खंड : 46 अंक : 206 16-18 अक्टूबर 2021

Vol.: 46 Issue : 206 16-18 October 2021



रक्षा विज्ञान पुस्तकालय
Defence Science Library
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र
Defence Scientific Information & Documentation Centre
मेटकॉफ हाउस, दिल्ली - 110 054
Metcalf House, Delhi - 110 054

CONTENTS

S. No.	TITLE	Page No.
DRDO News		1-21
DRDO Technology News		1-17
1.	'Dr APJ Abdul Kalam Prerana Sthal' inaugurated at Naval Science & Technological Laboratory of DRDO	1
2.	डीआरडीओ की नौसेना विज्ञान एवं तकनीकी प्रयोगशाला में डॉ. एपीजे अब्दुल कलाम प्रेरणा स्थल का उद्घाटन	2
3.	డిअर्डीओ कु चेंदिन नावल प्रेरणा & त्नुकुल्लाजिकल लैबोरेटरी प्रुंगणुंलु डैकुडु एपिजे अब्दुल कलाम प्रेरणा स्थल	3
4.	Dussehra 2021: राजनाथ सिंह ने कार्यक्रम को संबोधित करते हुए कहा कि परिवर्तन के क्रम में 7 नई DPSUs (MIL, AVANI, AWE, TCL, YIL, IOL, GIL) को राष्ट्र को समर्पित किया जा रहा है।	4
5.	विजयदशमी पर रक्षा मंत्री राजनाथ सिंह ने DRDO में की शस्त्र पूजा, एनएसए अजीत डोभाल भी हुए शामिल	5
6.	Argentina reveals talks with India on Tejas. Will ejection seat shoot down a deal?	6
7.	Indian Air Force flies 14 Tejas aircraft in formation for first time	7
8.	'J&K IAF bases guarded against drones': NSG DG	8
9.	After delays, Army Air Defence looks at leap in modernisation	9
10.	स्वदेशीकरण की राह पर चल रहा है दुनिया की तीसरी सबसे ताकतवर सैन्य शक्ति वाला देश भारत, जानिए क्या है खास	11
11.	अंतरिक्ष से कहीं भी परमाणु मिसाइल गिरा सकता है ड्रैगन, जानिए चीनी 'ब्रह्मास्त्र' से भारत पर कितना है खतरा?	12
12.	Explained: China's hypersonic glide vehicle test	15
13.	College student from Sathyamangalam wins DRDO's innovation contest	17
COVID 19: DRDO's Contribution		18-18
14.	मंडी में 1000 लीटर प्रति मिनट ऑक्सीजन होगी तैयार	18
DRDO on Twitter		19-21
Defence News		22-40
Defence Strategic: National/International		22-40
15.	Seven new defence companies, carved out of OFB, dedicated to the Nation on the occasion of Vijayadashami	22
16.	विजयदशमी के अवसर पर आयुध निर्माणी बोर्ड की सात नई रक्षा कंपनियां राष्ट्र को समर्पित	25
17.	PM delivers video address at the dedication ceremony of the 7 new Defence Companies on the auspicious occasion of Vijay Dashmi	28
18.	प्रधानमंत्री ने विजयादशमी के पावन अवसर पर सात नई रक्षा कंपनियों को राष्ट्र को समर्पित करने के लिए आयोजित समारोह को वर्चुअल माध्यम से संबोधित किया	30
19.	Naval Commanders' conference 21/2	32
20.	Visit of Admiral Michael Gilday, Chief of Naval Operations, US Navy, to HQWNC on 15 Oct 21	33
21.	Indo-Sri Lanka joint military exercise 'Mitra Shakti' culminates in Ampara (Sri Lanka)	34
22.	Indian Army team wins gold medal in exercise Cambrian Patrol organised at Brecon, Wales (UK)	35
23.	Indo-US joint training exercise "Ex Yudh Abhyas" commences at joint base Elmendorf Richardson, Alaska (USA)	36

24.	IAF Chief VR Chaudhari reviews operational preparedness of Force in Ladakh	37
25.	Exclusive 'Money spent on indigenous Aircraft Carrier no waste; need airpower now': Navy Chief	38
26.	How Army is tracking Chinese activities along Arunachal border amid row	39
27.	China tested 'nuclear capable hypersonic missile' in August, says report	40

Science & Technology News		41-45
--------------------------------------	--	--------------

28.	Cooling radio waves to their quantum ground state	41
29.	Machine-learning system accelerates discovery of new materials for 3D printing	42
30.	New nanowire architectures boost computers' processing power	44

COVID-19 Research News		45-45
-------------------------------	--	--------------

31.	CT scan won't raise cancer risk in Covid patients: Experts	45
-----	--	----



Press Information Bureau
Government of India

Ministry of Defence

Fri, 15 Oct 2021 2:15PM

‘Dr APJ Abdul Kalam Prerana Sthal’ inaugurated at Naval Science & Technological Laboratory of DRDO

‘Dr APJ Abdul Kalam Prerana Sthal’ was inaugurated at Naval Science & Technological Laboratory (NSTL), Visakhapatnam on October 15, 2021 on the occasion of 90th birth anniversary of Bharat Ratna Dr APJ Abdul Kalam, former President of India and to commemorate ‘Azadi Ka Amrit Mahotsav’. The NSTL is the premier naval research laboratory of Defence Research & Development Organisation (DRDO). A statue of Dr Kalam was also unveiled by Dr Samir V Kamat, Director General (Naval Systems & Materials), DRDO.



On the occasion, NSTL products Varunastra, Torpedo Advanced Light (TAL) and Maareech decoy are being displayed at the venue.

As part of ‘Azadi Ka Amrit Mahotsav’, the DRDO is taking various initiatives towards highlighting the importance of R&D and increasing awareness among general public and igniting young minds in particular. Dr Kalam’s Prerana Sthal will motivate the people particularly young minds from Dr Kalam’s life and his impeccable achievements.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764149>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Fri, 15 Oct 2021 2:15PM

डीआरडीओ की नौसेना विज्ञान एवं तकनीकी प्रयोगशाला में डॉ. एपीजे अब्दुल कलाम प्रेरणा स्थल का उद्घाटन

भारत रत्न डॉ. एपीजे अब्दुल कलाम की 90 वीं जयंती के अवसर पर और आज़ादी का अमृत महोत्सव मनाने के लिए 15 अक्टूबर, 2021 को नौसेना विज्ञान और प्रौद्योगिकी प्रयोगशाला (एनएसटीएल), विशाखापत्तनम में 'डॉ. एपीजे अब्दुल कलाम प्रेरणा स्थल' का उद्घाटन किया गया। एनएसटीएल रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) की प्रमुख नौसैनिक अनुसंधान प्रयोगशाला है। डॉ. समीर वी कामत, महानिदेशक (नौसेना प्रणाली और सामग्री), डीआरडीओ ने डॉ. कलाम की प्रतिमा का अनावरण किया।



इस अवसर पर एनएसटीएल उत्पादों वरुणास्त्र, टॉरपीडो एडवांस्ड लाइट (टीएएल) एवं मारीच डिकॉय को कार्यक्रम स्थल पर प्रदर्शित किया जा रहा है।

'आजादी का अमृत महोत्सव' के अंतर्गत डीआरडीओ अनुसंधान एवं विकास के महत्व को उजागर करने और आम जनता के बीच जागरूकता बढ़ाने तथा विशेष रूप से युवा दिमाग को प्रेरित करने की दिशा में विभिन्न पहल कर रहा है। डॉ. कलाम का प्रेरणा स्थल डॉ. कलाम के जीवन और उनकी ईमानदार उपलब्धियों से लोगों को विशेष रूप से युवा मन को प्रेरित करेगा।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764216>



డిఆర్డిఓకు చెందిన నావల్ సైన్స్ & టెక్నలాజికల్ లాబోరేటరీ

ప్రాంగణంలో డాక్టర్ ఎపిజి అబ్దుల్ కలాం ప్రేరణా స్థల్ ఆవిష్కరణ

ఆజాదీ కా అమృత్ మహోత్సవ ఉత్సవాలలో భాగంగా భారత మాజీ రాష్ట్రపతి, భారత రత్న డాక్టర్ ఎపిజి అబ్దుల్ కలాం 90వ జయంతి సందర్భంగా అక్టోబర్ 15, 2021న విశాఖపట్నంలోని నావల్ సైన్స్ & టెక్నలాజికల్ లాబోరేటరీ (ఎన్ఎస్టిఎల్) ఆవరణలో డాక్టర్ ఎపిజి అబ్దుల్ కలాం ప్రేరణా స్థల్ను ప్రారంభించారు. డిఫెన్స్ రీసెర్చ్ & డెవలప్మెంట్ ఆర్గనైజేషన్ (డిఆర్డిఓ)కి చెందిన అత్యుత్తమ నావికాదళ పరిశోధనా ప్రయోగశాల ఎన్ఎస్టిఎల్. డాక్టర్ కలాం విగ్రహాన్ని డిఆర్డిఓ డైరెక్టర్ జనరల్ (నావల్ సిస్టమ్స్ & మెటీరియల్స్) డాక్టర్ సమీర్ వి కామత్ ఆవిష్కరించారు.

ఈ సందర్భంగా ఎన్ఎస్టిఎల్ ఉత్పత్తులైన వరుణాస్త్ర, టార్పెడో అడ్వాన్స్డ్ లైట్ (టిఎఎల్), మరీచ్ డెకాయ్ను కూడా ఆ ప్రదేశంలో ప్రదర్శిస్తున్నారు.

ఆజాదీ కా అమృత్ మహోత్సవలో భాగంగా పరిశోధన, అభివృద్ధి (ఆర్&డి) ప్రాముఖ్యతను పట్టి చూపేందుకు డిఆర్డిఓ వివిధ చొరవలను చేపట్టి సాధారణ ప్రజలలో చైతన్యాన్ని పెంచి, యువ మనస్సులకు ప్రేరణను ఇచ్చేందుకు ప్రయత్నం చేస్తోంది. కలాం ప్రేరణా స్థల్ ప్రజలను, ముఖ్యంగా యువ మనసులను డాక్టర్ కలాం జీవితం, ఆయన తిరుగులేని విజయాలను ప్రభావితం చేసి, ప్రేరేపించనుంది.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764198>

Dussehra 2021: राजनाथ सिंह ने कार्यक्रम को संबोधित करते हुए कहा कि परिवर्तन के क्रम में 7 नई DPSUs (MIL, AVANI, AWE, TCL, YIL, IOL, GIL) को राष्ट्र को समर्पित किया जा रहा है।

रक्षा मंत्री राजनाथ सिंह ने आज विजयदशमी के पावन पर्व के मौके पर आज नई दिल्ली में डीआरडीओ परिसर में 'शस्त्र पूजा' की। इस दौरान राजनाथ सिंह ने कहा कि कोई भी सुधार, एक सतत प्रक्रिया है जो समय के साथ लगातार चलता रहता है। सुधार कोई गंतव्य न होकर एक सफ़र है, जिसे हम अपने, अपने समाज और राष्ट्र के हित में तय करते हैं। इस पर्व के हर वर्ष मनाए जाने के पीछे यही उद्देश्य रहता है। आज, उसी सुधारात्मक परिवर्तन के क्रम में 7 नई DPSUs (MIL, AVANI, AWE, TCL, YIL, IOL, GIL) को राष्ट्र को समर्पित किया जा रहा है। अपने नए उद्देश्यों को पाने के लिए ऐसे सुधार का इससे अच्छा अवसर शायद ही कोई और हो सकता था।



रक्षा मंत्री राजनाथ सिंह

भारत को दुनिया के शीर्ष देशों में लाना है- राजनाथ सिंह

राजनाथ सिंह ने कहा, "देश की आत्मनिर्भरता के लक्ष्य को पूरा करने में, रक्षा निर्माण एक प्रमुख क्षेत्र है। हमारी रक्षा उद्योग ने हाल के कुछ वर्षों में, न केवल self-reliance की ओर, बल्कि उससे कहीं आगे बढ़ते हुए रक्षा निर्यात में भी ऐसी ऊंचाइयां छुई हैं, जो अब तक कभी संभव नहीं हो सकी थीं हमारा उद्देश्य पब्लिक और प्राइवेट सेक्टर की सक्रिय साझेदारी के साथ, रक्षा क्षेत्र में डिजाइन से लेकर प्रोडक्शन, और निर्यात के क्षेत्र में भारत को दुनिया के शीर्ष देशों में लाना है।"

देश अपनी पूरी क्षमता के साथ रक्षा निर्माण केंद्र के रूप में सामने आने को तैयार- राजनाथ सिंह

राजनाथ सिंह ने आगे कहा, "आज हमारा देश अपनी पूरी क्षमता के साथ दुनिया भर के लिए रक्षा निर्माण केंद्र के रूप में सामने आने के लिए पूरी तरह से तैयार है। सन 2014 में, देश की सेवा का अवसर मिलने के साथ ही, हमने अपनी पुरानी चली आ रही बिजनेस, प्रथाओं, और वैश्विक बाजार में अपनी जगह बनाने के लिए आवश्यक आधुनिक अभ्यास के अंतर को देखा, भली-भांति समझा और उसे भरने करने का प्रयास किया।"

राजनाथ सिंह ने आगे कहा, "साल 2014 के बाद से भारत सरकार ने निर्यात और FDI के लिए एक अनुकूल इकोसिस्टम बनाने और स्वदेशी उत्पाद की मांग को प्रोत्साहन प्रदान करने के लिए रक्षा क्षेत्र में कई सुधार लाए हैं। नई कंपनियों के कार्यभार और भविष्य के संबंध में मैं आश्वस्त करना चाहूंगा कि इनमें से अधिकांश नई कंपनियों पर पर्याप्त कार्य भार होगा। सरकार ने OFB के लंबित मांगपत्र को समझा अनुबंध में परिवर्तित करने की व्यवस्था पहले ही लागू की गई है, जिनकी कीमत 65 हजार करोड़ रुपए से अधिक है।"

<https://www.abplive.com/news/india/defence-minister-rajnath-singh-performs-shashtra-pujan-at-drdo-campus-delhi-1982643>

विजयदशमी पर रक्षा मंत्री राजनाथ सिंह ने DRDO में की शस्त्र पूजा, एनएसए अजीत डोभाल भी हुए शामिल

राजनाथ सिंह ने पश्चिम बंगाल के दार्जिलिंग में सुकना युद्ध स्मारक में शस्त्र पूजा की थी। इससे पहले उन्होंने अपनी फ्रांस यात्रा के दौरान राफेल की शस्त्र पूजा की थी। विजयदशमी हिंदू कैलेंडर के अनुसार अश्विन महीने में नवरात्रि उत्सव के नौ दिनों के बाद 10वें दिन मनाया जाता है।

By Neel Rajput

नई दिल्ली: रक्षा मंत्री (Union Defence Minister) राजनाथ सिंह (Rajnath Singh) ने शुक्रवार को राष्ट्रीय राजधानी में रक्षा अनुसंधान और विकास संगठन (Defence Research and Development Organisation, DRDO) परिसर में विजयदशमी (Dussehra) के अवसर पर 'शस्त्र पूजा' (Shashtra Pujan) की। इस मौके पर राष्ट्रीय सुरक्षा सलाहकार अजीत डोभाल (Ajit Doval) भी मौजूद थे। पिछले साल सिंह ने पश्चिम बंगाल के दार्जिलिंग में सुकना युद्ध स्मारक में 'शस्त्र पूजा' की थी। इससे पहले उन्होंने अपनी फ्रांस यात्रा के दौरान राफेल की 'शस्त्र पूजा' की थी। दशहरा या विजयदशमी, हिंदू कैलेंडर के अनुसार अश्विन महीने में नवरात्रि उत्सव के नौ दिनों के बाद 10वें दिन मनाया जाता है।



सात नई रक्षा कंपनियों के लान्च इवेंट को संबोधित करते हुए, राजनाथ सिंह ने कहा, देश की रक्षा तैयारियों के लिए प्राइवेट और पब्लिक सेक्टर साथ मिलकर काम कर रहे हैं। उन्होंने कहा, 'उदारीकरण और बाजार सुधारों के बाद, निजी और सार्वजनिक क्षेत्र देश की रक्षा तैयारियों के लिए साथ मिलकर काम कर रहे हैं।' रक्षा मंत्री ने आगे कहा, 'पिछले दो दशकों में विभिन्न उच्च स्तरीय समितियों द्वारा आयुध निर्माणी बोर्ड (ओएफबी) के कामकाज का अध्ययन किया गया था। इसका उद्देश्य सशस्त्र बलों की कार्यप्रणाली और रक्षा तैयारियों में सुधार के लिए आत्मनिर्भरता को बढ़ावा देना था।' राजनाथ सिंह ने आगे कहा कि हाल के वर्षों में रक्षा उद्योग न केवल आत्मनिर्भरता की ओर बढ़ा है, बल्कि निर्यात के साथ उस ऊंचाई तक पहुंच गया है जो अब तक संभव नहीं था।

<https://www.jagran.com/news/national-defence-minister-rajnath-singh-performs-shastra-pooja-at-drdo-22115057.html>

Argentina reveals talks with India on Tejas. Will ejection seat shoot down a deal?

Argentine Air Force chief said a new supersonic fighter was an "absolute" priority

Last month, Pakistani media outlets were abuzz with reports that Argentina had decided to purchase the JF-17 fighter jet. The JF-17 fighter was originally developed by China, with Pakistan contributing funds and becoming its primary customer and production partner.

While China has not purchased the aircraft, it is the Pakistan Air Force's main fighter, with over 100 aircraft having entered service over the past decade. The Pakistan Air Force claims the JF-17 was used in the skirmish against India over Kashmir in February 2019. The aircraft has also been exported to Myanmar and Nigeria.



Two Tejas jets of the Indian Air Force | [Twitter handle of IAF](#)

However, days after the reports, the Argentine ministry of defense announced it had only sought \$664 million for acquiring a new fighter, but had not selected a preferred aircraft yet.

Last week, *Infodefensa*, a Spanish language website focussing on South American military news, interviewed Brigadier Xavier Julian Isaac, the chief of the Argentine Air Force. Isaac told *Infodefensa* that the Argentine Air Force had received offers for new fighters from Russia and China, but was also awaiting proposals from the US and India.

Isaac told *Infodefensa* that Argentina had an engagement with India, "which is wanting to offer us the Tejas, but we are just in the first talks". Isaac said Argentina had received offers for supply of the JF-17 from China and the MiG-29 and MiG-35 from Russia.

Isaac revealed the Argentine Air Force wants to receive all offers for a new aircraft by the end of this year and by the "first quarter of next year" decide on a platform and financing for it.

Supersonic woes

Argentina retired its last supersonic fighter aircraft, French-designed Mirage III and V jets, in 2015. These aircraft were first inducted before the Falklands War of 1982 against the UK.

Isaac told *Infodefensa* that the search for a fourth-generation supersonic fighter was an "absolute" priority for the Argentine Air Force. Isaac also emphasised that any deal with a foreign company would have to include industrial cooperation with Fábrica Argentina de Aviones "Brigadier San Martín" (FAdeA), the country's state-owned aircraft maker. Isaac said this would involve offset agreements, which would mandate the chosen foreign supplier invest a portion of the contract value in the customer country. Such offset deals aim at creating employment and spurring technology growth. The Argentine Air Force had been seeking to induct new supersonic fighters for decades, but has been thwarted by a combination of the country's precarious financial condition and British pressure on arms companies.

Ejection seat veto?

Over the past decade, Argentina's attempts to buy aircraft such as the Saab Gripen from Sweden and later the FA-50 trainer/light fighter from South Korea were, reportedly, scuttled by British pressure. Both aircraft use British equipment, including ejection seats built by UK-based Martin Baker. Interestingly, JF-17 jets in Pakistan Air Force service use Martin Baker ejection seats.

The Tejas also uses a Martin Baker ejection seat called the MK16 IN16 GS Tejas. Other notable British-supplied equipment on the Tejas include its air-to-air refuelling probe and quartz radome, supplied by UK-based Cobham.

In 2014, Argentina's then defence minister Agustin Rossi said the country intended to buy 24 Gripen fighters from Sweden. About 30 per cent of the components of the Gripen, including its radar and ejection seat, were of British origin. In 2015, Saab ruled out facilitating a Gripen sale to Argentina, noting it was not involved in any discussions to remove British-origin content from the aircraft.

In October last year, South Korean aircraft maker Korea Aerospace Industries (KAI) informed the Argentine embassy it would not be able to offer its F/A-50 trainer/light fighter on account of the UK's arms embargo. Argentina had evaluated the F/A-50 in 2016 and expressed interest in buying it. KAI noted the F/A-50 had six major components sourced from the UK. The components included the ejection seat and landing gear parts.

While aircraft makers can, in theory, select and install new ejection seats on an aircraft, the process to test and validate the aircraft and equipment at various altitudes and flight conditions is time-consuming and would add to costs.

Andrei Serbin Pont, the director of Argentinean think tank CRIES, told *Defense News* last month the JF-17 could be an attractive choice for Argentina as it was "out of reach of possible U.K. vetoing of parts, and at the same time it is the only new aircraft within the budgetary restraints of the Argentine Air Force".

<https://www.theweek.in/news/world/2021/10/17/argentina-reveals-talks-with-india-on-tejas-will-ejection-seat-shoot-down-a-deal.html>



Sat, 16 Oct 2021

Indian Air Force flies 14 Tejas aircraft in formation for first time

The Indian Air Force (IAF) flew 14 Tejas aircraft in formation for the first time on Friday. The fighter jets took off from the Indian Air Force Station in Sullur near Coimbatore in Tamil Nadu

New Delhi: The Indian Air Force (IAF) flew 14 Tejas aircraft in formation for the first time on Friday. The fighter jets took off from the Indian Air Force Station in Sullur near Coimbatore in Tamil Nadu.

The Tejas is an Indian fighter jet developed by Hindustan Aeronautics Limited (HAL) for the Indian Air Force and Indian Navy in collaboration with the Aeronautical Development Agency (ADA).

Tejas was the result of the Light Combat Aircraft (LCA) programme that began in the 1980s to replace IAF's ageing MiG-21 fighters. The LCA was officially renamed Tejas in 2003.

After HF-24 Marut, the Tejas is the second supersonic fighter developed by HAL. Earlier in January, India approved a deal worth Rs 48,000 crore to procure 83 indigenously-developed LCA Tejas.

The procurement of 73 LCA Tejas Mk-1A fighter aircraft and 10 LCA Tejas Mk-1 Trainer aircraft at the cost of Rs. 45,696 crore along with Design and Development of Infrastructure sanctions worth.

<https://www.indiatoday.in/india/story/indian-air-force-flies-14-tejas-aircraft-in-formation-for-first-time-1865429-2021-10-16>



The Tejas is an Indian fighter jet developed by Hindustan Aeronautics Limited (HAL). (Photo: India Today/@IAF_MCC)

‘J&K IAF bases guarded against drones’: NSG DG

The NSG has an array of anti-drone equipment, radars, jammers and drone killer guns that maintain perimeter security

New Delhi: The National Security Guard (NSG) has deployed anti-drone systems at Srinagar and Jammu air force stations to counter drone attacks, M A Ganapathy, director general of specialised commando force, said on Saturday.

The systems have detected a few drones in the past few months and have alerted the relevant agencies on time, according to people aware of the development.

The development comes in the backdrop of the twin-drone attack at Jammu Air Force Station on June 27, in which two unmanned aerial vehicles from across the border dropped two improvised bombs on the base, damaging a portion of the building. The Resistance Front, an offshoot of the Lashkar-e-Taiba terror outfit, is said to be behind the attack.

Since then, the government has held a series of meetings with various agencies, private firms and the Defence Research and Development Organisation (DRDO) to install robust anti-drone systems along the western border. Both Srinagar and Jammu Indian Air Force (IAF) stations are categorised as ‘sensitive’ installations.

The federal commando force is enhancing its counterterrorism profile and preparing itself to meet emerging security challenges, Ganapathy said on the 37th raising day of the NSG on Saturday. “The NSG has been deployed at the Srinagar and Jammu IAF stations to provide security cover to the facilities against drone attacks, and this system is working successfully.”

The deployment will continue till full-fledged counter-drone weapons and gadgets are available at these two bases, the people told HT, requesting anonymity.

The NSG has an array of anti-drone equipment, radars, jammers and drone killer guns that maintain perimeter security, Ganapathy said. Soon after the drone attack on the Jammu base, a technical surveillance team of the NSG was sent to the station, which deployed its equipment there, he said.

The NSG’s bomb disposal team has also successfully intercepted so-called tiffin bombs sent by drones from across the border, Ganapathy said.

Indian agencies have noticed that a large number of drones are being used by Pakistan army and terrorist groups to drop these tiffin bombs in Indian territory, which are then picked up by the sleeper cells or overground workers of the banned outfits. The NIA is probing several tiffin bomb drops in Punjab.

Junior home minister Nityanand Rai, present at the raising day as chief guest, lauded the commando force, also known as Black Cats, for its operations. Prime Minister Narendra Modi has brought an independent security policy for the country, the minister said.

The NSG was raised as a federal counter-terrorist force in 1984 to undertake commando operations to neutralise terrorist and hijack threats. It also provides armed security cover to at least 13 high-risk VIPs.

<https://www.hindustantimes.com/india-news/jk-iaf-bases-guarded-against-drones-nsg-dg-101634411979382.html>



NSG commandos re-enact counterterrorism operations at the 37th Raising Day, in Gurugram on Saturday. (Parveen Kumar/HT)

After delays, Army Air Defence looks at leap in modernisation

Army has contracted Igla-S systems from Russia under emergency procurement

By Dinakar Peri

New Delhi: After several delays in its modernisation process, the Army Air Defence (AD) is looking at major progress in the next few months in terms of deals and trials. These include additional indigenous Akash Surface to Air Missile (SAM) systems, the under development Medium Range Surface to Air Missile (MRSAM) and Igla-S Very Short Range Air Defence (VSHORAD) Systems from Russia, according to defence officials.

The Army had contracted a small number of Igla-S systems from Russia under emergency procurement through the Vice Chiefs emergency financial powers and deliveries were expected soon, two officials confirmed.

“The Army has two Akash regiments in service and negotiations are on for two more. Contract is expected to be concluded by January,” an official said.

Akash is the indigenously designed and developed medium range SAM system with a range of 25 km.

In addition, the Army variant of the MRSAM, being jointly developed by the Defence Research and Development Organisation (DRDO) and Israel Aerospace Industries (IAI), is nearing induction with the final stage of trials scheduled to be held in the next few months. “It’s in the penultimate state of induction,” the official said.

AD functions at three levels – gun/missile system, medium range and high range. Within this, the AD guns are of two types- AD Gun Missile system and the AD self-propelled guns. The Army is looking for guns in both the categories. In the medium segment, it has the indigenous Akash SAM, while MRSAM fits in the high range. The maiden launch of MRSAM Army Version was conducted in December last.

Last month, the first deliverable Firing Unit of the MRSAM System was handed over to the Indian Air Force (IAF), which can engage targets up to a range of 70 km. It comprises missiles, combat management system, mobile launcher systems, advanced long range radar and support vehicles.

Igla-S deal

The repeatedly delayed Igla-S VSHORAD deal, which has seen several controversies over the last few years, was on track and close to conclusion, the two officials stated. The contract should be concluded by January, one of them said.

The Igla-S bid from Rosoboronexport of Russia was declared the L1 in the tender in 2018 from among three contenders. Following the other contenders, the others being MBDA of France and SAAB of Sweden, lodged a protest after Igla-S was declared the winner. Further, SAAB lodged an official complaint, its fourth letter, detailing procedural violations in the evaluation process.

The Request for Proposal (RFP) was first issued in October 2010 for over 5,000 missiles, 258 single-launchers and 258 multi-launchers with an estimated cost of ₹6,400 crore and trials began in 2012.



Indigenously built short-range surface-to-air missile Akash on display at the Manekshaw Centre in New Delhi. File | Photo Credit: Prashant Nakwe

Air Defence guns

On October 14, the Army issued the Request For Proposal (RFP) for 220 Air Defence guns and 1,41,576 rounds of ammunition to be procured under the Buy and Make category of the acquisition procedure.

Within this, 25 guns and 44,440 rounds of ammunition would be procured under the Buy portion and the remaining under the Make portion of the contract, as per the RFP. The last date for submitting bids is January 6, 2022.

The Self-Propelled Air Defence Gun Missile System (SPAD-GMS) deal, in which K-30 Biho (Flying Tiger) of South Korean company Hanwha Defense was shortlisted two years back, had been stuck since following objections from Russia over the selection of Hanwha Defense. There was no progress on the deal, the officials noted.

QRSAM project

In another category, while a global tender to procure Quick Reaction SAMs (QRSAMs) has been delayed, an indigenous project by the DRDO is moving ahead. “The DRDO has presented the proof of concept, and so far, three trials have been conducted,” one of the officials cited above said.

While the Army and the IAF have similar AD systems, the later has static ground-based systems. On the contrary, the Army needs mobile systems for its formations and also because its locations are located much closer to the border that bring in additional challenges and requirements.

<https://www.thehindu.com/news/national/after-delays-army-air-defence-looks-at-leap-in-modernisation/article37025689.ece>

स्वदेशीकरण की राह पर चल रहा है दुनिया की तीसरी सबसे ताकतवर सैन्य शक्ति वाला देश भारत, जानिए क्या है खास

स्वदेशीकरण के क्रम में भारत ने 41 आयुध कारखानों को समायोजित कर सात नई रक्षा कंपनियों को बनाया गया है।

By Geeta

भारत दुनिया में तीसरा सबसे ताकतवर देश है यह किसी से छुपा नहीं है। भारत का मुकाबला शायद ही कोई देश कर पाए। ऐसा इसलिए भी क्योंकि भारत स्वदेशीकरण की राह पर चल रहा है। आपका बता दें कि भारत दुनिया में तीसरा सबसे अधिक सैन्य खर्च वाला देश है। वहीं स्वदेशीकरण के क्रम में भारत ने 41 आयुध कारखानों को समायोजित कर सात नई रक्षा कंपनियों को बनाया गया है।

बता दें कि यह कंपनी गोला बारूद और विस्फोटक की जरूरतों को पूरा करेगी, तो दूसरी कंपनियां सेना के लिए वाहनों की कमी पूरा करेगी। इसी प्रकार हर कंपनी की एक जिम्मेदारी होगी। गौरतलब है कि 'आत्मनिर्भर भारत' और 'मेक इन इंडिया' योजना के तहत भारत अब अपनी सैन्य शक्ति को बढ़ाने के लिए खुद पर निर्भर हो रहा है।

चलिए आपका बताते हैं कि रक्षा क्षेत्र में स्वदेशीकरण को लेकर अब तक क्या कुछ हुआ-क्या उठाया कदम

- 7.3 अरब डॉलर की डीआरडीओ परियोजनाएं चल रही है सैन्य शक्ति को बढ़ाने के लिए
- सृजन पोर्टल का उपयोग स्वदेशीकरण को बढ़ावा देने के लिए किया जा रहा है
- अभी तक 1,776 घटकों और पुर्जों का स्वदेशीकरण किया गया है
- सरकार ने 2025 तक एयरोस्पेस, रक्षा उपकरण में 5 बिलियन यूएस डॉलर के निर्यात करने का फैसला किया है

क्या-क्या बन रहा भारत में

- डीआरडीओ एयरबस जेट्स का उपयोग करके एक नया एयरबोर्न अर्ली वार्निंग एंड कंट्रोल एयरक्राफ्ट विकसित कर रहा है
- एचएएल से 83 तेजस हल्के लड़ाकू विमान खरीदने के लिए 48,000 करोड़ रुपये के सौदे पर सरकार लगा चुकी है मुहर
- डीआरडीओ ने 2027 तक 10-12 टन का अटैक हेलिकॉप्टर विकसित करने का लक्ष्य रखा है, जो अमेरिका के अपाचे हेलिकॉप्टर का जवाब होगा.

इन फैसलों से रक्षा क्षेत्र को मिलेगी मजबूती

- 2.1% रक्षा पर खर्च किया जाएगा कुल जीडीपी (2021-22) का
- 18.75% की वृद्धि की गई है रक्षा पूंजी परिव्यय में बजट 2021-22 में
- 71.84 अरब डॉलर का रक्षा बजट पेश किया गया बजट 2021-22 में

<https://www.sudarshannews.in/India-is-going-on-the-path-of-indigenization-the-country-with-the-third-most-powerful-military-power-in-the-world-45547-newsdetails.aspx>

अंतरिक्ष से कहीं भी परमाणु मिसाइल गिरा सकता है ड्रैगन, जानिए चीनी 'ब्रह्मास्त्र' से भारत पर कितना है खतरा?

By Abhijat Shekhar

नई दिल्ली: चीन को लेकर आज पूरी दुनिया में कोहराम मचाने वाली खबर आई है और आज खुलासा हुआ है कि चीन ने महाविनाशक हथियार हाइपरसोनिक मिसाइल का टेस्ट अंतरिक्ष में किया है, जिसका मतलब ये हुआ कि, चीन उस विध्वंसक हथियार को बनाने में कामयाबी हासिल करने की तरफ बढ़ निकला है, जिससे विश्व का संपूर्ण विनाश हो सकता है। चीन अपने इस नये हथियार से जब चाहेगा, उस वक्त अंतरिक्ष से उस देश को निशाना बना सकता है। ऐसे में सवाल ये उठता है कि, आखिर चीन के इस नये हथियार से भारत को कितना खतरा है और भारत को क्या सतर्क हो जाना चाहिए?



अंतरिक्ष में विध्वंसक टेक्नोलॉजी

खुलासा हुआ है कि, इस साल अगस्त महीने में चीन ने लॉग मार्च रॉकेट की मदद से हाइपरसोनिक मिसाइल का परीक्षण धरती की निचली कक्षा में किया है। चीन का ये हाइपरसोनिक मिसाइल धरती की निचली कक्षा में पहुंचने के बाद पहले धरती का कामयाबी से चक्कर लगाया और फिर उसे लक्ष्य पर निशाना लगाने के लिए भेजा गया। पता चला है कि, चीनी हाइपरसोनिक मिसाइल ने अपने लक्ष्य को भेदने में कामयाबी हासिल कर ली है। हालांकि, कुछ अमेरिकी विशेषज्ञों ने बताया है कि, चीन पूरी तरह से अपने परीक्षण में कामयाब नहीं हो पाया है, लेकिन अमेरिकी विशेषज्ञ इस बात को मानने के लिए बाध्य हो रहे हैं, कि चीन ने अंतरिक्ष टेक्नोलॉजी में बड़ी महारत हासिल कर ली है।

धरती पर कहीं भी हमला करने में सक्षम

चीन का ये हाइपरसोनिक मिसाइल को आप आम भाषा में परमाणु बम ही समझिए, जिसका मतलब ये हुआ कि, चीन अब अंतरिक्ष से कभी भी, किसी भी देश पर, अपनी मर्जी से परमाणु बम से हमला कर सकता है। इस हथियार की सबसे खतरनाक बात ये है, कि इसकी रफ्तार आवाज की स्पीड से पांच गुना ज्यादा होगी, जिसका मतलब ये हुआ, कि एक बार अगर इस हथियार को दाग दिया गया, तो फिर उस निशाने पर विध्वंस फैलने से कोई नहीं रोक सकता है। इसकी स्पीड का अंदाजा आप इससे लगा सकते हैं, कि अंतरिक्ष से ये हाइपरसोनिक मिसाइल अमेरिका के ऊपर सिर्फ 1 मिनट और कुछ सैकंड्स में हमला कर सकता है और वहां बर्बादी फैला सकता है।

विश्व में नये स्तर की लड़ाई का आगाज

रक्षा मामलों की प्रतिष्ठित वेबसाइट द ड्राइव ने चीन के हाइपरसोनिक हथियार परीक्षण को दुनिया की शांति के लिए अत्यधिक खतरनाक दिया है और कहा है कि, इस परीक्षण के साथ ही दुनिया पूरी तरह से बदल चुकी है। वेबसाइट ने लिखा है कि, जब अमेरिकी खुफिया अधिकारियों को चीन द्वारा अंतरिक्ष में किए गये हाइपरसोनिक हथियार के परीक्षण की खबर मिली, तो तमाम अधिकारियों के हाथ-पैर फूल गये

हैं। चीन ने अब तक अंतरिक्ष में किए गये इस परीक्षण को दुनिया से छिपा रखा था। फाइनेंशियल टाइम्स ने अपनी रिपोर्ट में कहा है कि, चीन का हाइपरसोनिक मिसाइल अपने लक्ष्य को भेदने से 32 किलोमीटर पहले गिर गया, लेकिन रिपोर्ट में कहा गया है कि, निशाना भले नहीं लगा हो, लेकिन चीन के हाथ कामयाबी लग चुकी है और अब वो पीछे नहीं हटने वाला है।

एयर डिफेंस सिस्टम हो जाएंगे बर्बाद

'द ड्राइव' ने अपनी रिपोर्ट में ज़िंता जाहिर करते हुए लिखा है कि, चीन का हाइपरसोनिक मिसाइल हर देश के एयर डिफेंस सिस्टम को ध्वस्त कर सकता है। यानि, एस-400 मिसाइल सिस्टम, जो अभी भारत रूस से खरीद रहा है, वो चीन के इस बैलिस्टिक मिसाइल के सामने पूरी तरह से अप्रभावी साबित होगा। सिर्फ रूस का ही नहीं, बल्कि दुनिया में अभी जितने भी एयर डिफेंस सिस्टम बने हैं, वो सभी चीन के इस नये हथियार के सामने निष्प्रभावी हैं। आपको बता दें कि, अभी तक दुनिया में जो भी परंपरगत मिसाइलें मौजूद हैं, उन्हें एयर डिफेंस मिसाइल सिस्टम के जरिए रोका जा सकता है, लेकिन चीन ने जिस हाइपरसोनिक हथियार को अंतरिक्ष में तैयान करने की कोशिश की है, वो तमाम एयर डिफेंस सिस्टम की ताकत से बड़ी चीज होगी।

क्यों ब्रह्मास्त्र है हाइपरसोनिक मिसाइल?

दुनिया में किसी भी देश के पास ऐसी क्षमता नहीं है, कि वो हाइपरसोनिक मिसाइल को बीच रास्ते में ही ध्वस्त कर दे, या फिर अपने देश को हाइपरसोनिक मिसाइल से बचा ले, लिहाजा इस हाइपरसोनिक मिसाइल को आप चीन का ब्रह्मास्त्र कह सकते हैं। हालांकि, रूस ने दावा किया है कि, उसका नया बनाया गया एस-500 मिसाइल सिस्टम के पास हाइपरसोनिक हथियारों को मार गिराने की क्षमता है, लेकिन रूस के दावे में कितना दम है, इसकी पुष्टि अभी तक नहीं हो पाई है। मेरिका, रूस और चीन सभी हाइपरसोनिक हथियार विकसित कर रहे हैं, जिसमें ग्लाइड वाहन भी शामिल हैं जो रॉकेट पर अंतरिक्ष में लॉन्च किए जाते हैं, लेकिन अपनी गति के तहत पृथ्वी की परिक्रमा करते हैं। वे ध्वनि की गति से पांच गुना तेज गति से उड़ते हैं, बैलिस्टिक मिसाइल की तुलना में थोड़ी कम रफ्तार उनकी होती है। लेकिन वे बैलिस्टिक मिसाइल के रास्ते को फॉलो नहीं करती हैं, लिहाजा उन्हें ट्रैक करना काफी ज्यादा मुश्किल हो जाता है।

हाइपरसोनिक हथियारों की रेस

चीन द्वारा अंतरिक्ष में हाइपरसोनिक मिसाइलके परीक्षण करने बाद अब इस बात की पूरी संभावना है कि, कई देश अब हाइपरसोनिक हथियारों की इस रेस में शामिल हो सकते हैं। पिछले महीने अमेरिका, रूस और उत्तर कोरिया भी हाइपरसोनिक हथियार का परीक्षण कर चुके हैं, लेकिन ये हथियार अंतरिक्ष के नहीं थे। लेकिन, अब माना जा रहा है कि, कई देश काफी तेजी के साथ हाइपरसोनिक हथियारों का विकास करने की तैयारी में तेजी ला सकते हैं। यानि, चीन ने इस दुनिया में शक्ति संतुलन में भूचाल ला दिया है। इसके साथ ही चीन के इस हाइपरसोनिक मिसाइल टेस्ट पर अगर अमेरिका के बाद किसी देश की नजर होगी, तो वो भारत होगा और इस बात से इनकार करना मुश्किल है, कि आगे जाकर भारत हाइपरसोनिक हथियार बनाने की रेस में शामिल नहीं होगा।

रेस में शामिल होगा भारत?

अब भारत पाकिस्तान को नहीं, बल्कि चीन को अपने लिए सबसे बड़ा खतरा मानता है और लद्दाख में जिस तरह से चीन के सैनिक लगातार भारत को आंख दिखाने की कोशिश करते हैं, उसे भारत चिंता के नजरिए से देख रह है। वहीं, अब जब पता चल गया है कि, चीन के हाथ में विनाशकारी ब्रह्मास्त्र लग चुका है, तो फिर इस बात की पूरी संभावना है कि, भारत तेजी से अपना मिसाइल कार्यक्रम आगे बढ़ाएगा और

ऐसा नहीं है कि, भारत हाइपरसोनिक हथियारों की रेस में बहुत पीछे है। आपको बता दें कि, हाइपरसोनिक हथियार बनाने के लिए भारत में काफी लंबे वक्त से काम कर रहा है। भारत पहले ही सुपरसोनिक हथियारों का निर्माण कर चुका है और चीन, रूस, अमेरिका के बाद भारत ही एकमात्र ऐसा देश है, जो हाइपरसोनिक हथियारों का विकास कर रहा है। भारत पहले ही हाइपरसोनिक टेक्नोलॉजी का सफल परीक्षण कर चुका है।

डीआरडीओ बना रहा है हथियार

भारत में हथियारों के क्षेत्र में काम करने वाली संस्था डीआरडीओ ने भारत में हाइपरसोनिक टेक्नोलॉजी का सफल परीक्षण किया था। ओडिशा के बालासोर में डीआरडीओ ने एचएसटीडीवी यानि हाइपरसोनिक टेक्नोलॉजी डिमॉन्स्ट्रेट वीडकल टेस्ट को कामयाबी के साथ अंजाम दिया था। भारत के वैज्ञानिकों ने हाइपरसोनिक हथियारों की स्पीड को लेकर चीन और अमेरिका के वैज्ञानिकों को भी पीछे छोड़ दिया है। अमेरिका और चीन के हाइपरसोनिक हथियार जहां हवा की रफ्तार से पांच गुना तेज रफ्तार से वार करने में सक्षम हैं, वहीं भारतीय वैज्ञानिकों ने जो टेस्ट किया था, उसमें हथियार की रफ्तार हवा की रफ्तार से 6 गुना ज्यादा तेज था। यानि, चीन के हाइपरसोनिक हथियार से भी ज्यादा तेज भारत में जिस हाइपरसोनिक टेक्नोलॉजी का विकास किया जा रहा है, उसकी रफ्तार होगी।

बगैर मदद विकसित हो रहा हथियार

बात अगर भारत की करें, तो भारत ने बिना किसी दूसरे देश की मदद के सुपरसोनिक मिसाइलों का निर्माण किया था और भारत बिना किसी दूसरे देश की सहायता से, अपने देश के अंदर ही हाइपरसोनिक परमाणु बम का निर्माण कर रहा है। भारत के मिसाइल मैन डॉ. एपीजे अब्दुल कलाम का कर्जदार भारत के एक एक नागरिक जिंदगी भर रहेंगे, क्योंकि उनकी वजह से ही भारत भी हाइपरसोनिक हथियार का निर्माण कुछ सालों में कर लेगा। रिपोर्ट्स के मुताबिक, डीआरडीओ अगले पांच सालों में स्क्रेमजेट इंजन के साथ हाइपरसोनिक मिसाइल का निर्माण कर सकता है और भारत में जिस हथियार का निर्माण किया जाएगा, उसकी रफ्तार अमेरिकी और चायनीज हाइपरसोनिक हथियार से 2 किलोमीटर प्रति सेकंड ज्यादा होगी।

भारत की अविश्वसनीय टेक्नोलॉजी

भारत ने अपनी टेक्नोलॉजी और महान वैज्ञानिकों की बदौलत काफी कम पैसों में मंगलयान मिशन को अंजाम दिया था और अभी हाइपरसोनिक हथियार के लिए भारत जिस रॉकेट का निर्माण कर रहा है, उस रॉकेट से काफी कम लागत में सैटेलाइट भी लॉच किया जा सकता है। रिपोर्ट्स के मुताबिक, भारत की एचएसटीडीवी टेक्नोलॉजी के सफल परीक्षण के बाद भारत के पास अपना, अपने देश में बनाया हुआ हाइपरसोनिक मिसाइल ब्रह्मोस-2 होगा। आपको बता दें कि, ब्रह्मोस-1 एक सुपरसोनिक हथियार है, जो आवाज की रफ्तार से वार करने में सक्षम है और इस हथियार ने चीन के नाक में दम कर रखा है। लिहाजा भारत इस वक्त भले ही चीन के इस नये हथियार से थोड़ी टेंशन में हो सकता है, लेकिन भारत का ये टेंशन कुछ ही सालों के लिए ही है।

<https://hindi.oneindia.com/news/international/china-has-tested-hypersonic-missile-in-space-what-will-be-its-effect-on-world-india-where-stand-644222.html>

Explained: China's hypersonic glide vehicle test

The Chinese military launched a rocket that carried a hypersonic glide vehicle, which flew through low-orbit space before cruising down towards its target

By Sushant Kulkarni

Pune: A report in the London-based Financial Times on Saturday, citing various sources, says China in August tested a nuclear-capable hypersonic glide vehicle that circled the globe before speeding towards its target. Hypersonic speeds are 5 or more times the speed of sound.

The test, as reported

The FT report mentions five people familiar with the test as saying the Chinese military launched a rocket that carried a hypersonic glide vehicle, which flew through low-orbit space before cruising down towards its target. The test has caught US intelligence by surprise, the report says.

“The missile missed its target by about two-dozen miles, according to three people briefed on the intelligence. But two said the test showed that China had made astounding progress on hypersonic weapons and was far more advanced than US officials realised. The test has raised new questions about why the US often underestimated China's military modernisation,” the report reads.

The report cites a security official, and another Chinese security expert close to the People's Liberation Army, as saying the weapon was being developed by the China Academy of Aerospace Aerodynamics (CAAA), under the state-owned China Aerospace Science and Technology Corporation that makes missile systems and rockets for China's space programme. Both sources reportedly said the vehicle was launched on a Long March rocket, which is used for the space programme.

The significance

According to the report, two people familiar with the test said the weapon could, in theory, fly over the South Pole. That would pose a big challenge for the US military because its missile defence systems are focused on the northern polar route.

The report quotes the China Academy of Launch Vehicle Technology as saying on an official social media account on July 19 that it had launched a Long March 2C rocket, its 77th launch. On August 24, it announced a 79th flight. But there was no announcement of a 78th launch, which sparked speculation about a secret launch, the report notes.

“The US, Russia and China are all developing hypersonic weapons, including glide vehicles that are launched into space on a rocket but orbit the earth under their own momentum,” the report says.

India's DRDO tested a hypersonic vehicle in September last year. Asked about China's test, a senior DRDO scientist said, “The exact details on technology used by China in this particular test are not known through media sources. But most of the hypersonic vehicles primarily use the scramjet technology. This extremely complex technology, which also needs to be able to handle high temperatures, makes the hypersonic systems extremely costly. It is all about how long can you sustain the systems at those extreme conditions. Most military powers in the world are in the process of developing hypersonic systems.”

Scramjets are a category of engines designed to handle airflows of speeds in multiples of the speed of sound.



File photo of a missile being fired during a military drill. (AP)

Implications for India

“This test by China certainly needs to be watched closely by the world, especially India considering relations with China in the recent past,” said Air Marshal Bhushan Gokhale (Retd), former Vice Chief of Air Staff. “Such capabilities also highlight the threat for our space assets along with the surface assets. The offence system operating at these speeds would mean requirement to develop defence systems at these speeds.”

He added, “India too is working on hypersonic technologies. As far as space assets are concerned, India has already proved its capabilities through the test of ASAT.”

Hypersonic technology has been developed and tested by both DRDO and ISRO. Last September, DRDO successfully flight-tested the Hypersonic Technology Demonstrator Vehicle (HSTDV), with a capability to travel at 6 times the speed of sound. A solid rocket motor of Agni missile took it to an altitude of 30 km where the cruise vehicle separated as planned. The hypersonic combustion sustained and the cruise vehicle continued on its desired flight path at a velocity of six times the speed of sound for more than 20 seconds.

“The scramjet engine performed in a text book manner. With this successful demonstration, many critical technologies such as aerodynamic configuration for hypersonic manoeuvres, use of scramjet propulsion for ignition and sustained combustion at hypersonic flow, thermo-structural characterisation of high temperature materials, separation mechanism at hypersonic velocities etc. were proven.” DRDO had said in a statement.

Last December, an advanced Hypersonic Wind Tunnel (HWT) test facility of the DRDO was inaugurated in Hyderabad. It is a pressure vacuum-driven, enclosed free jet facility that simulates Mach 5 to 12.

<https://indianexpress.com/article/explained/chinas-hypersonic-glide-vehicle-test-7577005/>

College student from Sathyamangalam wins DRDO's innovation contest

Erode: A student of Bannari Amman Institute of Technology in Sathyamangalam has bagged the Defence Research and Development Organisation's (DRDO's) innovation contest 'Dare to Dream 2.0' at the national level.

DRDO had launched the contest during the fifth death anniversary of former President A.P.J. Abdul Kalam to promote individuals and start-ups for innovation in defence and aerospace technologies in the country after the call of *Atmanirbhar Bharat* given by Prime Minister Narendra Modi.

Pravin of Bioprocess and Bioproducts Special Laboratory of the college submitted the project "Flame retardant Biobased epoxy resin composite under the problem domain of "Materials and Technologies for Fire Suppression/ Protection" in October 2020. Out of 65,000 individual participants, he has cleared three rounds and received a third prize of ₹ 3 lakh in individual category from Minister for Defence Rajnath Singh at a function held recently.

The idea was also approved by jury members of the DRDO contest for proposal submission under Technology Development Funding (TDF) scheme for a funding of upto ₹10 crore. The student was guided by R. Ravi Kumar, M. Kirupa Sankar and A. Vimalarasan, faculty in-charges at the lab.

Explaining about the project, Mr. Pravin said that over 1.13 lakh deaths happen due to fire accidents in the country every year of which 284 deaths happened due to aircraft crashes in the country. After analysing the reasons for various fire and aircraft accidents, it was found that enhancing the fire retardant of composite can reduce the severity of accidents. Commercially available composite contains petroleum based products that have the capability to catch fire when exposed to high temperature and it is not eco-friendly. So we are in need of flame retardant composite by using natural and renewable resources.

For the flame retardant property, he has used nanoparticles obtained from natural resources and incorporated those flame retardant nanoparticles onto our natural fibre composite thus making our whole product as biocompatible and biodegradable. "This idea is novel and it is eligible for patent too", he added.

<https://www.thehindu.com/news/cities/Coimbatore/college-student-from-sathyamangalam-wins-drdo-innovation-contest/article37045580.ece>



Defence Minister Rajnath Singh presenting the award to Pravin of Bannari Amman Institute of Technology at a function held in New Delhi recently. | Photo Credit: HANDOUT E MAIL

अमरउजाला

Sun, 17 Oct 2021

मंडी में 1000 लीटर प्रति मिनट ऑक्सीजन होगी तैयार

मंडी: क्षेत्रीय अस्पताल मंडी में पीएसए (पेशर स्विंग एडसोरप्शन) आक्सीजन प्लांट ने काम करना शुरू कर दिया है। एक करोड़ का यह पीएसए प्लांट रक्षा अनुसंधान विकास संगठन (डीआरडीओ) की ओर से लगाया गया है।

इस आक्सीजन प्लांट से अस्पताल के अलावा नए जच्चा बच्चा अस्पताल को भी सप्लाई दी जाएगी। अस्पताल प्रशासन ने क्षेत्रीय अस्पताल के वार्डों में भी आक्सीजन प्वाइंट 112 से बढ़ाकर 184 कर दिए हैं। इससे आपात समय में रोगियों को किसी तरह की परेशानी नहीं होगी।

इसमें बिजली की सप्लाई को मजबूत करने के लिए एक डीजी सेंटर अलग से अस्पताल प्रशासन ने लगाया है ताकि बिजली की समस्या से आक्सीजन उत्पादन प्रभावित न हो। इस प्लांट की कमीशनिंग के लिए बेंगलूरु से कंपनी के इंजीनियर मंडी बुलाए गए और कमियों को दूर करके इसे शुरू कर दिया गया है। साथ ही मैनीफोल्ड आक्सीजन प्लांट में भी 30 अतिरिक्त सिलिंडर लगाने की व्यवस्था की गई है।

सीएमओ डॉ. देवेन्द्र शर्मा ने कहा कि कुछ तकनीकी दिक्कतों की वजह से आक्सीजन प्लांट शुरू नहीं हुआ था, लेकिन अब इसे सुचारु कर दिया गया है। भविष्य में एमसीएच (मातृ-शिशु अस्पताल) भी इसी प्लांट से जोड़ा जाएगा।

मंडी जिले के नेरचौक स्थित मेडिकल कॉलेज में 500 लीटर प्रति मिनट की दर से ऑक्सीजन का उत्पादन करने वाला प्लांट पीएम केयर्स की तरफ से हाल ही में स्थापित किया गया है। जोनल अस्पताल में एक हजार लीटर प्रति मिनट वाला प्लांट लगा है। यह सरकारी क्षेत्र का जिले का सबसे बड़ा प्लांट है।

200 बिस्तरों की होगी सुविधा

अभी तक 90 बिस्तरों वाले जोनल अस्पताल मंडी में सिलिंडरों के माध्यम से आक्सीजन की सप्लाई की जाती है। 100 बिस्तरों वाला एमसीएच भी बहुत जल्द सुचारु होने वाला है, जिसके बाद अस्पताल में बिस्तरों की संख्या बढ़कर 200 तक पहुंचने वाली है। कोरोना के मौजूदा समय और भविष्य में यह प्लांट काफी ज्यादा मददगार साबित होने वाला है।

<https://www.amarujala.com/himachal-pradesh/mandi/1000-liters-per-minute-of-oxygen-will-be-ready-in-the-mandi-mandi-news-sml3873736113>



जोनल अस्पताल के नजदीक निर्माणाधीन मद्र चाइल्ड केयर सेंटर।

- फोटो : Mandi

DRDO on Twitter

 ANI 
@ANI

Defence Minister Rajnath Singh performs 'Shashtra Pujan at DRDO campus, Delhi, to mark [#vijaydashmi](#)



12:00 PM · Oct 15, 2021 · Twitter Web App

 ANI 
@ANI · Oct 15

Replying to @ANI

National Security Advisor Ajit Doval is also present at the DRDO campus, Delhi.

Defence Minister Rajnath Singh performed 'Shashtra Pujan' to mark [#Vijayadasami](#)





Hindustan Times
@htTweets

Watch | Defence Minister [@rajnathsingh](#) performs Shastra Puja at DRDO campus on Vijayadashami; NSA Ajit Doval present

Later at the same event, PM Modi launched 7 PSUs in the government's bid to modernise India's defence sector. [#Dussehra](#)

PM LAUNCHES SEVEN NEW DEFENCE PSUS



1.8K views

1:52 / 2:24

8:10 PM · Oct 15, 2021 · Twitter Media Studio



Indian Air Force @IAF_MCC · Oct 15, 2021



Marking a first, [#IndianAirForce](#) flew 14 Tejas aircraft in formation from AF Stn Sullur, today.

The effort was made possible due to support from [@HALHQBLR](#) and [@DRDO_India](#)

[#LCA](#)
[#VocalForLocal](#)





Defence PRO Visakhapatnam
@PRO_Vizag

...

As part of [#AzadiKaAmritMahotsav](#) & on the occasion of the 90th birth anniversary of [#BharatRatna](#) Dr [#APJAbdulKalam](#) “Dr. APJ Abdul Kalam Prerana Sthal” was inaugurated at [#NSTL](#), the naval research laboratory of [@DRDO_India](#) at [#Visakhapatnam](#).
[@DefenceMinIndia](#)
[@AjaybhattBJP4UK](#)



2:48 PM - Oct 15, 2021 - Twitter Web App

Defence Strategic: National/International



Press Information Bureau
Government of India

Ministry of Defence

Fri, 15 Oct 2021 2:10PM

Seven new defence companies, carved out of OFB, dedicated to the Nation on the occasion of Vijayadashami

Creation of seven companies will give strength to Dr Kalam's dream of strong India, says Prime Minister Shri Narendra Modi in his video address

These seven new companies would form a strong base for the military strength of the country in the times to come: PM

Raksha Mantri Shri Rajnath Singh says, the new companies to be engines of growth for the economy and play important role in defence manufacturing ecosystem

New structure to transform Ordnance Factories into productive & profitable assets and ensure self-reliance in defence preparedness: RM

Seven new defence companies, carved out of Ordnance Factory Board (OFB), were dedicated to the Nation at a function organised by Ministry of Defence on the occasion of 'Vijayadashami' in New Delhi on October 15, 2021. Prime Minister Shri Narendra Modi delivered a video address during the event. Raksha Mantri Shri Rajnath Singh presided over the ceremony at Kothari Auditorium, DRDO Bhawan.

To enhance functional autonomy, efficiency and unleash new growth potential & innovation, Government had decided to convert OFB from a Government Department into seven 100 per cent Government-owned corporate entities as a measure to improve self-reliance in the defence preparedness of the country. The seven new Defence companies are: Munitions India Limited (MIL); Armoured Vehicles Nigam Limited (AVANI); Advanced Weapons and Equipment India Limited (AWE India); Troop Comforts Limited (TCL) (Troop Comfort Items); Yantra India Limited (YIL); India Optel Limited (IOL) and Gliders India Limited (GIL). These companies have commenced business from October 01, 2021.

In his video address, Prime Minister Shri Narendra Modi noted the auspicious occasion of Vijayadashami today and the tradition of worshipping arms and ammunition on the day. He said, In India, we see power as a medium of creation. He remarked that with the same spirit, the nation is moving towards strength.

Shri Narendra Modi also paid tributes to Dr APJ Abdul Kalam and said that Dr Kalam dedicated his life to the cause of a strong nation and said that Restructuring of Ordnance Factories and creation of seven companies will give strength to his dream of strong India. New Defence

companies are a part of the various resolutions which the nation is pursuing to build a new future for the country during this Amrit Kaal of India's independence, he added.

The Prime Minister said that the decision of creating these companies was stuck for a long time and expressed the belief these 7 new companies would form a strong base for the military strength of the country in the times to come. Noting the glorious past of Indian ordnance factories, the Prime Minister commented that upgradation of these companies was ignored in the post-independence period, leading to the country's dependence on foreign suppliers for its needs. "These 7 defence companies will play a major role in changing this situation", he said.

Shri Narendra Modi also mentioned that these new companies would play an important role in import substitution, in line with the vision of 'Atmanirbhar Bharat'. An order book of more than Rs 65,000 crore reflect the increasing confidence of the country in these companies, he added.

The Prime Minister recalled the various initiatives and reforms undertaken in the recent past that have created Trust, Transparency and Technology driven approach in the defence sector like never before. Today, private and public sector are working hand in hand in the mission of national security, he added. He cited Uttar Pradesh and Tamil Nadu Defence Corridors as examples of the new approach. He noted as new opportunities are emerging for the youth and MSME the country is seeing the result of policy changes in the recent years. "Our defence export has increased by 325 per cent in last five years", he added.

Shri Narendra Modi mentioned that it is our target that our companies not only establish expertise in their products but also become a global brand. He urged that while competitive cost is our strength, quality and reliability should be our identity. He further mentioned that in the 21st century, growth and brand value of any nation or any company is determined by its R&D and innovation. He appealed to the new companies that Research and innovation should be a part of their work culture, so that they just don't catch up but take lead in future technologies. This restructuring would provide more autonomy to the new companies to nurture innovation and expertise and the new companies should encourage such talent, he added. He urged the start-ups to become a part of this new journey through these companies to leverage the research and expertise of each other.

The Prime Minister mentioned that the Government has given these new companies not only a better production environment but also complete functional autonomy. He reiterated that the Government has also ensured that the interests of the employees are fully protected.

Describing the decision to convert OFB into seven defence companies as historic, Raksha Mantri Shri Rajnath Singh, in his address, said the move reflects the Government's resolve of achieving 'Aatmanirbhar Bharat'. He said, this decision will provide autonomy to these companies and improve accountability & efficiency in the functioning of 41 factories under them. He exuded confidence that the new structure will help in overcoming various shortcomings in the existing system of OFB and provide these companies incentive to become competitive and exploring new opportunities in the market including exports, while safeguarding the interests of the employees.

"The objective of this restructuring is to transform Ordnance Factories into productive, and profitable assets; improve expertise in product range; increase competitiveness; improve quality; enhance cost-efficiency and ensure self-reliance in defence preparedness," he said.

Shri Rajnath Singh hoped that in the times of come, these new companies would not only play an important role in the defence manufacturing ecosystem but would also be engines of growth for the Indian economy. He added that restructuring is a continuing process, not an end in itself.

Saying that the new companies have full potential for growth, Shri Rajnath Singh said, if required, the government will provide support initially through financial and non-financial interventions.

Reiterating the Government's commitment towards protecting the interests of OFB employees, Shri Rajnath Singh stated that all employees of OFB (Group A, B & C) belonging to production units will be transferred to corporate entities on deemed deputation for a period of two years without any change in their service conditions as Central Government employees.

Terming production of defence items as key for achieving 'Aatmanirbhar Bharat', the Raksha Mantri voiced the Government's resolve of making India a defence manufacturing hub and net exporter through active participation of the private sector, joint ventures and setting up of defence manufacturing units. He said, since 2014, all efforts have been made to bridge the gap between age-old business methods and modern-day practices that are needed to make way into the global market, expressing satisfaction that the country is making giant strides towards achieving 'Make in India, Make for the World' vision of the Prime Minister.

"The country's defence sector has scaled greater heights due to the reforms taken by the Government in the past few years. We have created a conducive ecosystem for exports and FDI with focus on manufacturing products indigenously," said Shri Rajnath Singh. He added that Ministry of Defence has set a target of achieving a turnover of Rs 1.75 lakh crore in aerospace and defence goods and services by 2024, including exports of Rs 35,000 crore.

The Raksha Mantri defined the present defence manufacturing scenario in the country as a synergy of the private and public sectors. "Public and private sectors are working hand-in-hand to enhance the preparedness of our Armed Forces," he said.

Shri Rajnath Singh urged the new management to not just depend on orders for the Services, but explore new opportunities in India and abroad. He also wished the Nation on 'Vijayadashami' and remembered former President APJ Abdul Kalam on his birth anniversary

Raksha Rajya Mantri Shri Ajay Bhatt mentioned that the transformation of OFB could become a reality only because of the vision and leadership of Prime Minister Shri Narendra Modi. He expressed gratitude to the EGoM, led by the Raksha Mantri, which made it feasible to carry out such a huge reform, involving more than 75,000 employees, 41 production units and a number of non-production units spread over 10 States/UT in the country, having assets worth more than Rs. 79,000 crore and above all, legacy of more than 220 years.

National Security Advisor Shri Ajit Doval, Chief of Air Staff Air Chief Marshal V R Chaudhari, Defence Secretary Dr Ajay Kumar, Secretary (Defence Production) Shri Raj Kumar, Secretary (Ex-Servicemen Welfare) Shri B Anand, Financial Advisor (Defence Services) Shri Sanjiv Mittal and other senior officers of Ministry of Defence and representatives from the Defence Industry Associations were also present.

In addition to the central programme, the ceremony was held in a federated manner with programmes and events held in all the seven new companies and their units located in various states. Several independent events were also organised at local level by these companies to commemorate the historic day. These programmes were connected to the central programme through video conferencing.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764148>



Fri, 15 Oct 2021 2:10PM

विजयदशमी के अवसर पर आयुध निर्माणी बोर्ड की सात नई रक्षा कंपनियां राष्ट्र को समर्पित

प्रधानमंत्री श्री नरेन्द्र मोदी ने अपने वीडियो संबोधन में कहा, सात कंपनियों के निर्माण से डॉ. कलाम के शक्तिशाली भारत के सपने को बल मिलेगा

ये सात नई कंपनियां आने वाले समय में देश की सैन्य ताकत का मजबूत आधार बनेंगी: प्रधानमंत्री

नई कंपनियां अर्थव्यवस्था के विकास का इंजन होंगी और रक्षा विनिर्माण तंत्र में महत्वपूर्ण भूमिका निभाएंगी: रक्षा मंत्री श्री राजनाथ सिंह

ये नई कंपनियां आयुध कारखानों को उत्पादक और लाभदायक संस्थाओं में तब्दील करने और रक्षा तैयारियों में आत्मनिर्भरता सुनिश्चित करेगी : रक्षा मंत्री

15 अक्टूबर 2021 को नई दिल्ली में 'विजयादशमी' के अवसर पर रक्षा मंत्रालय द्वारा आयोजित एक कार्यक्रम में आयुध निर्माणी बोर्ड (ओएफबी) की सात नई रक्षा कंपनियों को राष्ट्र को समर्पित किया गया। प्रधानमंत्री श्री नरेन्द्र मोदी ने कार्यक्रम के दौरान वीडियो संबोधन दिया। रक्षा मंत्री श्री राजनाथ सिंह ने डीआरडीओ भवन के कोठारी सभागार में आयोजित समारोह की अध्यक्षता की।

संचालन स्वायत्तता, दक्षता बढ़ाने और नई विकास क्षमता और नवाचार लाने के लिए, सरकार ने देश की रक्षा तैयारियों में आत्मनिर्भरता में सुधार के उपाय के रूप में ओएफबी को सरकारी विभाग से सात शत प्रतिशत सरकारी स्वामित्व वाली कॉर्पोरेट कंपनियों में बदलने का निर्णय लिया था। सात नई रक्षा कंपनियां हैं: मुनीशन्स इंडिया लिमिटेड (एमआईएल); आर्मर्ड व्हीकल्स निगम लिमिटेड (अवनी); एडवांस्ड वेपन्स एंड इक्विपमेंट इंडिया लिमिटेड (एडब्ल्यूई इंडिया); डूप कम्फर्ट्स लिमिटेड (टीसीएल) (डूप कम्फर्ट आइटम); यंत्र इंडिया लिमिटेड (वाईआईएल); इंडिया ऑप्टेल लिमिटेड (आईओएल) और ग्लाइडर्स इंडिया लिमिटेड (जीआईएल)। इन कंपनियों ने 01 अक्टूबर, 2021 से कारोबार शुरू कर दिया है।

अपने वीडियो संबोधन में, प्रधानमंत्री श्री नरेन्द्र मोदी ने आज विजयादशमी के शुभ अवसर और इस दिन अस्त्र-शस्त्र की पूजा करने की परंपरा का उल्लेख किया। उन्होंने कहा, भारत में हम शक्ति को सृजन के माध्यम के रूप में देखते हैं। उन्होंने कहा कि इसी भावना से देश सामर्थ्य की ओर बढ़ रहा है।

श्री नरेन्द्र मोदी ने डॉ. एपीजे अब्दुल कलाम को श्रद्धांजलि अर्पित की और कहा कि डॉ. कलाम ने एक शक्तिशाली राष्ट्र बनाने के लिए अपना जीवन समर्पित कर दिया और कहा कि आयुध कारखानों के पुनर्गठन और सात कंपनियों के निर्माण से उनके मजबूत भारत के सपने को बल मिलेगा। उन्होंने कहा कि नई रक्षा कंपनियां भारत की आजादी के इस अमृत काल के दौरान देश के लिए एक नया भविष्य बनाने के लिए विभिन्न संकल्पों का हिस्सा है।

प्रधानमंत्री ने कहा कि इन कंपनियों को बनाने का निर्णय लंबे समय से अटका हुआ था। उन्होंने विश्वास व्यक्त किया कि ये सात नई कंपनियां आने वाले समय में देश की सैन्य ताकत के लिए एक मजबूत

आधार बनेंगी। भारतीय आयुध कारखानों के गौरवशाली अतीत का उल्लेख करते हुए, प्रधानमंत्री ने कहा कि स्वतंत्रता के बाद की अवधि में इन कंपनियों के उन्नयन की अनदेखी की गई, जिससे देश अपनी जरूरतों के लिए विदेशी आपूर्तिकर्ताओं पर निर्भर हो गया। उन्होंने कहा, "ये 7 रक्षा कंपनियां इस स्थिति को बदलने में प्रमुख भूमिका निभाएंगी।"

प्रधानमंत्री श्री नरेन्द्र मोदी ने यह भी उल्लेख किया कि ये नई कंपनियां 'आत्मनिर्भर भारत' के दृष्टिकोण के अनुरूप आयात को कम करने में महत्वपूर्ण भूमिका निभाएंगी। उन्होंने कहा कि 65,000 करोड़ रुपये से अधिक की ऑर्डर बुकिंग इन कंपनियों में देश के बढ़ते भरोसे को दर्शाती है।

प्रधानमंत्री ने हाल के दिनों में की गई विभिन्न पहलों और सुधारों को रेखांकित किया, जिन्होंने रक्षा क्षेत्र में विश्वास, पारदर्शिता और प्रौद्योगिकी संचालित दृष्टिकोण पैदा किया है जैसा पहले कभी नहीं देखा गया। उन्होंने कहा कि आज निजी और सार्वजनिक क्षेत्र राष्ट्रीय सुरक्षा के मिशन में साथ मिलकर काम कर रहे हैं। उन्होंने नए दृष्टिकोण के उदाहरण के रूप में उत्तर प्रदेश और तमिलनाडु रक्षा गलियारों का हवाला दिया। उन्होंने कहा कि युवाओं और एमएसएमई के लिए नए अवसर उभर रहे हैं, देश हाल के वर्षों में हुए नीतिगत बदलावों का परिणाम देख रहा है। उन्होंने कहा, "पिछले पांच वर्षों में हमारा रक्षा निर्यात 325 प्रतिशत बढ़ा है।"

श्री नरेन्द्र मोदी ने उल्लेख किया कि हमारा लक्ष्य है कि हमारी कंपनियां न केवल अपने उत्पादों में विशेषज्ञता स्थापित करें बल्कि एक वैश्विक ब्रांड भी बनें। उन्होंने कहा कि जहां प्रतिस्पर्धी लागत हमारी ताकत है, वहीं गुणवत्ता और विश्वसनीयता हमारी पहचान होनी चाहिए। उन्होंने आगे उल्लेख किया कि 21वीं सदी में, किसी भी राष्ट्र या किसी कंपनी का विकास और ब्रांड मूल्य उसके अनुसंधान एवं विकास और नवाचार से निर्धारित होता है। उन्होंने नई कंपनियों से अपील की कि अनुसंधान और नवाचार उनकी कार्य संस्कृति का हिस्सा होना चाहिए, जिससे वह न केवल दुनिया की बड़ी कंपनियों की बराबरी करें बल्कि भविष्य की प्रौद्योगिकियों में अग्रणी भी बनें। उन्होंने कहा कि यह पुनर्गठन नई कंपनियों के नवाचार को बढ़ाने और विशेषज्ञता को हासिल करने के लिए अधिक स्वायत्तता प्रदान करेगा साथ ही नई कंपनियों को ऐसी प्रतिभाओं को प्रोत्साहित करेगा। उन्होंने स्टार्ट-अप कंपनियों से इन कंपनियों के माध्यम से एक दूसरे के अनुसंधान और विशेषज्ञता का लाभ उठाकर इस नई यात्रा का हिस्सा बनने का आग्रह किया।

प्रधानमंत्री ने उल्लेख किया कि सरकार ने इन नई कंपनियों को न केवल बेहतर उत्पादन वातावरण दिया है बल्कि कार्य-संबंधी पूर्ण स्वायत्तता भी दी है। उन्होंने दोहराया कि सरकार ने यह भी सुनिश्चित किया है कि कर्मचारियों के हितों की पूरी तरह से रक्षा की जाए।

रक्षा मंत्री श्री राजनाथ सिंह ने ओएफबी को सात रक्षा कंपनियों में बदलने के निर्णय को ऐतिहासिक बताते हुए कहा कि यह कदम सरकार के 'आत्मनिर्भर भारत' के लक्ष्य को प्राप्त करने के संकल्प को दर्शाता है। उन्होंने कहा, यह निर्णय इन कंपनियों को स्वायत्तता प्रदान करेगा और उनके अधीन 41 कारखानों के कामकाज में जवाबदेही और दक्षता में सुधार करेगा। उन्होंने विश्वास व्यक्त किया कि नई संरचना ओएफबी की मौजूदा प्रणाली में विभिन्न कमियों को दूर करने में मदद करेगी और कर्मचारियों के हितों की रक्षा करते हुए इन कंपनियों को प्रतिस्पर्धी बनने और निर्यात सहित बाजार में नए अवसरों की तलाश करने के लिए प्रोत्साहन प्रदान करेगी।

उन्होंने कहा, "इस पुनर्गठन का उद्देश्य आयुध कारखानों को उत्पादक और लाभदायक संपत्तियों में बदलना; उत्पाद श्रृंखला की दक्षता में सुधार करना; प्रतिस्पर्धा में वृद्धि करना; गुणवत्ता में सुधार करना; उत्पाद को किफायती बनाना और रक्षा तैयारियों में आत्मनिर्भरता सुनिश्चित करना है।"

श्री राजनाथ सिंह ने आशा व्यक्त की कि आने वाले समय में, ये नई कंपनियां न केवल रक्षा विनिर्माण तंत्र में एक महत्वपूर्ण भूमिका निभाएंगी बल्कि भारतीय अर्थव्यवस्था के विकास का इंजन भी होंगी। उन्होंने कहा कि पुनर्गठन एक सतत प्रक्रिया है, न कि किसी चीज का अंत।

श्री राजनाथ सिंह ने कहा कि नई कंपनियों में विकास की पूरी संभावना है। उन्होंने कहा कि यदि आवश्यक हुआ, तो सरकार शुरू में वित्तीय और गैर-वित्तीय उपायों के माध्यम से सहायता प्रदान करेगी।

ओएफबी कर्मचारियों के हितों की रक्षा के लिए सरकार की प्रतिबद्धता को दोहराते हुए, श्री राजनाथ सिंह ने कहा कि उत्पादन इकाइयों से संबंधित ओएफबी (गुप ए, बी और सी) के सभी कर्मचारियों को केंद्र सरकार के कर्मचारियों के रूप में उनकी सेवा शर्तों में कोई बदलाव किए बिना दो साल की अवधि के लिए डीमंड प्रतिनियुक्ति पर इन कॉर्पोरेट संस्थाओं में स्थानांतरित किया जाएगा।

रक्षा उपकरणों के उत्पादन को 'आत्मनिर्भर भारत' बनाने के लक्ष्य को प्राप्त करने की कुंजी बताते हुए, रक्षा मंत्री ने निजी क्षेत्र, संयुक्त उद्यमों की सक्रिय भागीदारी और रक्षा निर्माण इकाइयों की स्थापना के माध्यम से भारत को एक रक्षा विनिर्माण केंद्र और विशुद्ध निर्यातक बनाने के सरकार के संकल्प को दोहराया। उन्होंने कहा, 2014 के बाद से, वैश्विक बाजार में जगह बनाने के लिए आवश्यक पुरानी व्यावसायिक विधियों और आधुनिक प्रणालियों के बीच की खाई को पाटने के लिए सभी प्रयास किए गए हैं। उन्होंने इस बात पर संतोष व्यक्त किया कि देश प्रधानमंत्री के 'मेक इन इंडिया, मेक फॉर द वर्ल्ड' विजन को हासिल करने की दिशा में बड़ा कदम उठा रहा है।

श्री राजनाथ सिंह ने कहा, "पिछले कुछ वर्षों में सरकार द्वारा किए गए सुधारों के कारण देश के रक्षा क्षेत्र ने अधिक उंचाइयों को छुआ है। हमने स्वदेशी उत्पादों के निर्माण पर ध्यान देने के साथ निर्यात और एफडीआई के लिए एक अनुकूल कार्य तंत्र बनाया है।" उन्होंने कहा कि रक्षा मंत्रालय ने 2024 तक एयरोस्पेस और रक्षा उपकरणों और सेवाओं में 1.75 लाख करोड़ रुपये का कारोबार हासिल करने का लक्ष्य रखा है, जिसमें 35,000 करोड़ रुपये का निर्यात भी शामिल है।

रक्षा मंत्री ने देश में वर्तमान रक्षा निर्माण परिदृश्य को निजी और सार्वजनिक क्षेत्रों के आपसी तालमेल के रूप में परिभाषित किया। उन्होंने कहा, "सार्वजनिक और निजी क्षेत्र हमारे सशस्त्र बलों की तैयारियों को बढ़ाने के लिए एकसाथ मिलकर काम कर रहे हैं।"

श्री राजनाथ सिंह ने नए प्रबंधन से कहा कि वे केवल सेवाओं के लिए ऑर्डर पर ही निर्भर न रहें, बल्कि भारत और विदेशों में नए अवसरों का पता लगाएं। उन्होंने 'विजयादशमी' पर देशवासियों को शुभकामनाएं दीं और पूर्व राष्ट्रपति एपीजे अब्दुल कलाम को उनकी जयंती पर याद किया।

रक्षा राज्य मंत्री श्री अजय भट्ट ने इस अवसर पर कहा कि ओएफबी का रूपांतरण केवल प्रधानमंत्री श्री नरेन्द्र मोदी की दूरदर्शिता और नेतृत्व के कारण ही संभव हो सका है। उन्होंने रक्षा मंत्री के नेतृत्व वाले ईजीओएम के प्रति आभार व्यक्त किया, जिसने 75,000 से अधिक कर्मचारियों, देश के 10 राज्यों/केंद्र शासित प्रदेशों में फैली 41 उत्पादन इकाइयों और कई गैर-उत्पादन इकाइयों वाली संस्था में इतने बड़े सुधार को संभव बना दिया, जिसके पास 79,000 करोड़ रुपये से अधिक की संपत्ति है और सबसे बढ़कर, जिसकी विरासत 220 वर्षों से अधिक की है।

राष्ट्रीय सुरक्षा सलाहकार श्री अजीत डोभाल, वायु सेना प्रमुख एयर चीफ मार्शल वी आर चौधरी, रक्षा सचिव डॉ. अजय कुमार, सचिव (रक्षा उत्पादन) श्री राज कुमार, सचिव (पूर्व सैनिक कल्याण) श्री बी आनंद, वित्तीय सलाहकार (रक्षा सेवाएं) श्री संजीव मित्तल और रक्षा मंत्रालय के अन्य वरिष्ठ अधिकारी और रक्षा उद्योग संघों के कई प्रतिनिधि भी कार्यक्रम में उपस्थित हुए।

मुख्य कार्यक्रम के अलावा, समारोह सभी सात नई कंपनियों और विभिन्न राज्यों में स्थित उनकी इकाइयों में आयोजित कार्यक्रमों के साथ संयुक्त रूप से आयोजित किया गया था। इस ऐतिहासिक दिन के उपलक्ष्य में इन कंपनियों द्वारा स्थानीय स्तर पर कई अन्य कार्यक्रम भी आयोजित किए गए। इन कार्यक्रमों को वीडियो कांफ्रेंसिंग के जरिए मुख्य कार्यक्रम से जोड़ा गया।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764213>



Press Information Bureau
Government of India
Prime Minister's Office

Fri, 15 Oct 2021 12:57PM

PM delivers video address at the dedication ceremony of the 7 new Defence Companies on the auspicious occasion of Vijay Dashmi

“Creation of the 7 companies will give strength to Dr Kalam’s dream of strong India”

“These 7 new companies would form a strong base for the military strength of the country in the times to come”

“An order book of more than Rs. 65,000 Cr. reflect the increasing confidence of the country in these companies”

“Today, Defence Sector is witnessing unprecedented transparency, trust and technology-driven approach”

“Our defence export has increased by 325 per cent in last five years”

“While competitive cost is our strength, quality and reliability should be our identity”

The Prime Minister, Shri Narendra Modi delivered video address in an event organized by the Defence Ministry to dedicate the seven new Defence Companies to the Nation. Raksha Mantri Shri Raj Nath Singh and Raksha Rajya Mantri Shri Ajay Bhatt, among others, were present on the occasion.

In his address, the Prime Minister noted the auspicious occasion of Vijay Dashmi today and the tradition of worshiping arms and ammunition on the day. He said, In India, we see power as a medium of creation. He remarked that with the same spirit, the nation is moving towards strength.

He also paid tributes to Dr APJ Abdul Kalam and said that Dr Kalam dedicated his life to the cause of a strong nation and said that Restructuring of Ordnance Factories and creation of 7 companies will give strength to his dream of strong India. New Defence companies are a part of the various resolutions which the nation is pursuing to build a new future for the country during this Amrit Kaal of India’s independence, he added.

The Prime Minister said that the decision of creating these companies was stuck for a long time, and expressed the belief these 7 new companies would form a strong base for the military strength of the country in the times to come. Noting the glorious past of Indian ordnance factories, the Prime Minister commented that upgradation of these companies was ignored in the post-

independence period, leading to the country's dependence on foreign suppliers for its needs. "These 7 defence companies will play a major role in changing this situation", he said.

He also mentioned that these new companies would play an important role in import substitution, in line with the vision of Atma Nirbhar Bharat. An order book of more than Rs. 65,000 Cr. reflect the increasing confidence of the country in these companies, he added.

He recalled the various initiatives and reforms undertaken in the recent past that have created Trust, Transparency and Technology driven approach in the defence sector like never before. Today private and public sector are working hand in hand in the mission of national security, he added. He cited Uttar Pradesh and Tamil Nadu Defence Corridors as examples of the new approach. He noted as new opportunities are emerging for the youth and MSME the country is seeing the result of policy changes in the recent years. "Our defence export has increased by 325 per cent in last five years", he added.

He mentioned that it is our target that our companies not only establish expertise in their products but also become a global brand. He urged that while competitive cost is our strength, quality and reliability should be our identity. He further mentioned that in the 21st century, growth and brand value of any nation or any company is determined by its R&D and innovation. He appealed to the new companies that Research and innovation should be a part of their work culture, so that they just don't catch up but take lead in future technologies. This restructuring would provide more autonomy to the new companies to nurture innovation and expertise and the new companies should encourage such talent, he added. He urged the start-ups to become a part of this new journey through these companies to leverage the research and expertise of each other.

He mentioned that the Government has given these new companies not only a better production environment but also complete functional autonomy. He reiterated that the Government has also ensured that the interests of the employees are fully protected.

To enhance functional autonomy, efficiency and unleash new growth potential and innovation, the Government has decided to convert Ordnance Factory Board from a Government Department into 7 100% Government owned corporate entities, as a measure to improve self-reliance in the defence preparedness of the country. Accordingly, 7 new Defence companies were incorporated, namely Munitions India Limited (MIL); Armoured Vehicles Nigam Limited (AVANI); Advanced Weapons and Equipment India Limited (AWE India); Troop Comforts Limited (TCL) (Troop Comfort Items); Yantra India Limited (YIL); India Optel Limited (IOL); and Gliders India Limited (GIL).

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764133>



पत्र सूचना कार्यालय
भारत सरकार

प्रधानमंत्री कार्यालय

Fri, 15 Oct 2021 12:57PM

प्रधानमंत्री ने विजयादशमी के पावन अवसर पर सात नई रक्षा कंपनियों को राष्ट्र को समर्पित करने के लिए आयोजित समारोह को वर्चुअल माध्यम से संबोधित किया

"इन सात कंपनियों के निर्माण से डॉ. कलाम के मजबूत भारत के सपने को ताकत मिलेगी"

"ये सात नई कंपनियां आने वाले समय में देश की सैन्य ताकत के लिए एक मजबूत आधार का निर्माण करेंगी"

"इन नई कंपनियों के लिए देश ने अभी से ही 65 हजार करोड़ रुपये के ऑर्डर्स प्लेस किए हैं जो इन कंपनियों में देश के विश्वास को दिखाता है"

"आज देश के डिफेंस सेक्टर में जितनी पारदर्शिता है, विश्वास है, और प्रौद्योगिकी प्रेरित दृष्टिकोण है, उतना पहले कभी नहीं रहा"

"पिछले पांच वर्षों में हमारा रक्षा निर्यात 325 प्रतिशत बढ़ा है"

"जहां प्रतिस्पर्धी लागत हमारी ताकत है, गुणवत्ता और विश्वसनीयता हमारी पहचान होनी चाहिए"

प्रधानमंत्री श्री नरेन्द्र मोदी ने आज सात नई रक्षा कंपनियों को राष्ट्र को समर्पित करने के लिए रक्षा मंत्रालय द्वारा आयोजित एक कार्यक्रम में वीडियो संबोधन दिया। इस अवसर पर रक्षा मंत्री श्री राजनाथ सिंह और रक्षा राज्य मंत्री श्री अजय भट्ट सहित अन्य लोग उपस्थित थे।

अपने संबोधन में, प्रधानमंत्री ने आज विजयादशमी के शुभ अवसर और इस दिन हथियार एवं गोला-बारूद की पूजा करने की परंपरा का उल्लेख किया। उन्होंने कहा कि भारत में हम शक्ति को सृजन के माध्यम के रूप में देखते हैं। श्री मोदी ने कहा कि इसी भावना से देश ताकत हासिल करने की ओर बढ़ रहा है।

उन्होंने पूर्व राष्ट्रपति डॉ. ए पी जे अब्दुल कलाम को श्रद्धांजलि देते हुए कहा कि आज ही पूर्व राष्ट्रपति, भारतरत्न, डॉक्टर ए पी जे अब्दुल कलाम जी की जयंती भी है। उन्होंने कहा, "कलाम साहब ने जिस तरह अपने जीवन को शक्तिशाली भारत के निर्माण के लिए समर्पित किया, यह हम सभी के लिए प्रेरणा है।" श्री मोदी ने कहा कि आयुध कारखानों के पुनर्गठन और सात नई कंपनियों के निर्माण से डॉ. कलाम के मजबूत भारत के सपने को ताकत मिलेगी। उन्होंने कहा कि नई रक्षा कंपनियां भारत की आजादी के इस अमृत काल के दौरान देश के लिए एक नए भविष्य के सृजन से जुड़े विभिन्न संकल्पों का हिस्सा हैं।

प्रधानमंत्री ने कहा कि इन कंपनियों को बनाने का निर्णय लंबे समय से अटका हुआ था। उन्होंने विश्वास व्यक्त किया कि ये 7 नई कंपनियां आने वाले समय में देश की सैन्य ताकत के लिए एक मजबूत आधार

का निर्माण करेंगी। भारतीय आयुध कारखानों के गौरवशाली अतीत की चर्चा करते हुए, प्रधानमंत्री ने कहा कि स्वतंत्रता के बाद की अवधि में इन कंपनियों के उन्नयन की अनदेखी की गई, जिससे देश अपनी जरूरतों के लिए विदेशी आपूर्तिकर्ताओं पर निर्भर हो गया। उन्होंने कहा, "ये 7 रक्षा कंपनियां इस स्थिति को बदलने में प्रमुख भूमिका निभाएंगी।"

उन्होंने यह भी उल्लेख किया कि ये नई कंपनियां आत्मनिर्भर भारत के दृष्टिकोण के अनुरूप आयात प्रतिस्थापन में महत्वपूर्ण भूमिका निभाएंगी। उन्होंने कहा कि इन कंपनियों को 65,000 करोड़ रुपये से अधिक के ऑर्डर प्लेस किए हैं जो इन कंपनियों में देश के विश्वास को दिखाता है।

उन्होंने हाल के दिनों में की गई विभिन्न पहलों और सुधारों को याद किया, जिससे रक्षा क्षेत्र में विश्वास, पारदर्शिता और प्रौद्योगिकी प्रेरित दृष्टिकोण पैदा हुआ जो इससे पहले कभी नहीं देखा गया। उन्होंने कहा कि आज निजी और सार्वजनिक क्षेत्र राष्ट्रीय सुरक्षा के मिशन में साथ-साथ काम कर रहे हैं। उन्होंने नए दृष्टिकोण के उदाहरण के रूप में उत्तर प्रदेश और तमिलनाडु रक्षा गलियारों का हवाला दिया। उन्होंने कहा कि युवाओं और एमएसएमई के लिए नए अवसर उभर रहे हैं, और इस तरह देश हाल के वर्षों में नीतिगत बदलावों का परिणाम देख रहा है। उन्होंने कहा कि पिछले पांच वर्षों में हमारा रक्षा निर्यात 325 प्रतिशत बढ़ा है।

उन्होंने बताया कि यह हमारा लक्ष्य है कि हमारी कंपनियां न केवल अपने उत्पादों में विशेषज्ञता स्थापित करें बल्कि एक वैश्विक ब्रांड भी बनें। उन्होंने आग्रह किया कि जहां प्रतिस्पर्धी लागत हमारी ताकत है, वहीं गुणवत्ता और विश्वसनीयता हमारी पहचान होनी चाहिए। उन्होंने आगे कहा कि 21वीं सदी में, किसी भी राष्ट्र या किसी कंपनी का विकास और ब्रांड मूल्य उसके अनुसंधान एवं विकास और नवाचार से निर्धारित होता है। उन्होंने नई कंपनियों से अपील की कि अनुसंधान और नवाचार उनकी कार्य संस्कृति का हिस्सा होना चाहिए, ताकि वे भविष्य की प्रौद्योगिकियों में अगुवाई करें। उन्होंने कहा कि यह पुनर्गठन नई कंपनियों को नवाचार और विशेषज्ञता का विकसित करने के लिए अधिक स्वायत्तता प्रदान करेगा और नई कंपनियों को ऐसी प्रतिभा को प्रोत्साहित करना चाहिए। उन्होंने स्टार्ट-अप्स से इन कंपनियों के माध्यम से एक दूसरे के अनुसंधान और विशेषज्ञता का लाभ उठाने के लिए इस नई यात्रा का हिस्सा बनने का आग्रह किया।

प्रधानमंत्री श्री नरेन्द्र मोदी ने बताया कि सरकार ने इन नई कंपनियों को न केवल बेहतर उत्पादन वातावरण दिया है बल्कि पूर्ण कार्यात्मक स्वायत्तता भी दी है। उन्होंने दोहराया कि सरकार ने यह भी सुनिश्चित किया है कि कर्मचारियों के हितों की पूरी तरह से रक्षा की जाए।

कार्यात्मक स्वायत्तता, दक्षता एवं नई विकास क्षमता और नवाचार को बढ़ावा देने के लिए, सरकार ने आयुध निर्माणी बोर्ड को सरकारी विभाग से सौ फीसदी सरकारी स्वामित्व वाली 7 कॉर्पोरेट संस्थाओं में बदलने का फैसला किया है, जो देश की रक्षा तैयारियों में आत्मनिर्भरता में सुधार के उपाय के रूप में है। तदनुसार, 7 नई रक्षा कंपनियों को शामिल किया गया, जिनके नाम म्यूनिशन्स इंडिया लिमिटेड (एमआईएल); आर्मर्ड व्हीकल्स निगम लिमिटेड (अवनी); एडवांस्ड वेपन्स एंड इक्विपमेंट इंडिया लिमिटेड (एडब्ल्यूई इंडिया); ड्रूप कम्फर्ट्स लिमिटेड (टीसीएल) (ड्रूप कम्फर्ट आइटम्स); यंत्र इंडिया लिमिटेड (वाईआईएल); इंडिया ऑप्टेल लिमिटेड (आईओएल); और ग्लाइडर्स इंडिया लिमिटेड (जीआईएल) हैं।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764167>



Naval Commanders' conference 21/2

The second edition of Naval Commanders' Conference of 2021 is scheduled at New Delhi from 18 to 22 October 2021. The conference serves as a platform for Naval Commanders to discuss important maritime matters at the military-strategic level as well as interact with Senior Government Officials through an institutionalised forum. Due to the rapidly changing geostrategic situation of the region, the significance and importance of the Conference is manifold. It is an institutionalised platform to deliberate, direct, devise and decide issues of utmost importance, which will shape future course of Indian Navy (*IN*).

During the Conference, the Hon'ble Raksha Mantri Shri Rajnath Singh will address and interact with the Naval Commanders on matters pertaining to national security.

Amongst many issues being discussed, the Chief of the Naval Staff, along with other Naval Commanders will review major operational, materiel, logistics, Human Resource Development, training and administrative activities undertaken by the Indian Navy in the last few months and deliberate upon future plans for important activities and initiatives.

The Navy has focused on being Combat Ready, Credible and Cohesive force and despite the COVID- 19 pandemic, continues to assiduously execute its mandate. The Indian Navy has witnessed a significant growth in its operational tasking over the years in consonance with India's rising maritime interests. Indian Naval ships on Mission Based Deployments across the Indian Ocean Region (IOR) have remained poised for quick response to any developing situation. *IN* ships deployed in the Gulf of Aden and the Persian Gulf continue to provide security for trade flowing through these areas. In 2020-21, *IN* ships have undertaken multiple COVID related outreach missions to provide food and medical aid to IOR littoral nations and beyond as part of Hon'ble PM's vision of SAGAR (Security and Growth for All in the Region). The Indian Navy remains committed towards providing all support to the nation's fight against the ongoing COVID pandemic.

The Chief of Defence Staff, and the Chiefs of Indian Army and Indian Air Force would also interact with the Naval Commanders to address convergence of the three Services vis-à-vis the operational environment, and on avenues for augmenting Tri-Service synergy.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764369>



Sat, 16 Oct 2021 1:55PM

Visit of Admiral Michael Gilday, Chief of Naval Operations, US Navy, to HQWNC on 15 Oct 21

Admiral Michael Gilday, Chief of Naval Operations, US Navy, accompanied by Mrs. Linda Gilday and a high-level US delegation, visited Headquarters, Western Naval Command (HQWNC) at Mumbai on 15 Oct 21 and interacted with Vice Admiral R Hari Kumar, PVSM, AVSM, VSM, ADC, Flag Officer Commanding-in-Chief, Western Naval Command, and his staff. Among issues discussed during the interaction were avenues to strengthen the growing cooperation between the two nations and navies, deal with challenges emerging on the maritime front and enhance collaboration and interoperability to ensure maritime security in the Indian Ocean Region (IOR).

The CNO was provided a broad overview of regional security dynamics and the operational responses of the Western Naval Command in recent times, particularly those related to delivering Humanitarian Assistance and Disaster Relief (HADR) to friendly foreign countries, conducting counter piracy operations, enhancing maritime safety and security in the region, and strengthening foreign cooperation, with special emphasis on Indo-US co-operation. The crucial role played by IN ships through Operation Samudra Setu II in bringing home containerised medical oxygen to mitigate shortfalls in the country and strengthen its battle against COVID-19 was also highlighted.

The CNO addressed officers of the Western Naval Command, Southern Naval Command and various training establishments of the Indian Navy through video conference on the 'Future of Warfare'. He also visited the Mazagon Dock Limited.

Mrs Linda Gilday visited HQWNC and interacted with women officers of the Indian Navy.

The CNO's visit was an important event in the continued and regular dialogue between India and the US to cement and strengthen their comprehensive global strategic partnership further.



<https://pib.gov.in/PressReleasePage.aspx?PRID=1764337>



**Press Information Bureau
Government of India**

Ministry of Defence

Sat, 16 Oct 2021 2:38PM

Indo-Sri Lanka joint military exercise 'Mitra Shakti' culminates in Ampara (Sri Lanka)

The 8th Edition of joint military exercise between the Indian Army and the Sri Lankan Army, Exercise MITRA SHAKTI which was conducted from 04 - 16 October 2021, culminated at Combat Training School, Ampara today.

Exercise Mitra Shakti, based on counter insurgency and counter terrorism operations in semi urban terrain is the largest bilateral exercise being undertaken by the Sri Lankan Army and it forms a major part of India and Sri Lanka's growing defence partnership. During the past 14 days, both the contingents displayed great enthusiasm and professionalism while practising joint drills, executed as part of the exercise.

The culmination phase of the exercise was jointly witnessed by the visiting Chief of the Indian Army, General M M Naravane and General Shavendra Silva, Chief of Defence Staff & Commander of the Sri Lankan Army on 15 October 2021.

Besides promoting synergy and inter-operability amongst the Armed Forces, Exercise Mitra Shakti further helped in cementing ties between both the Nations. The participating contingents expressed immense satisfaction at the termination of the exercise in terms of standards achieved during the conduct of the said exercise.



<https://pib.gov.in/PressReleasePage.aspx?PRID=1764345>



Sat, 16 Oct 2021 2:05PM

Indian Army team wins gold medal in exercise Cambrian Patrol organised at Brecon, Wales (UK)

A team from 4/5 Gorkha Rifles (Frontier Force) which represented the Indian Army at the prestigious Cambrian Patrol Exercise at Brecon, Wales, UK from 13th to 15th October 2021 has been awarded Gold medal.

Ex Cambrian Patrol organised by the UK Army is considered the ultimate test of human endurance, team spirit and is sometimes referred as the Olympics of Military Patrolling among militaries in the world.

The Indian Army team participated in the event and competed against a total of 96 teams which included 17 international teams representing Special Forces and prestigious Regiments from around the world.

During the exercise, teams were assessed for their performance under harsh terrain and inclement cold weather conditions which presented various challenges in addition to the complex real world situations painted to them so as to assess their reactions in combat settings.

The Indian Army team received rich accolades from all the judges particularly for their excellent navigation skills, delivery of patrol orders and overall physical endurance.

General Sir Mark Carleton-Smith, the Chief of General Staff of British Army presented the Gold Medal to the team members in a formal ceremony on 15 October 2021.

This year, out of 96 participating teams, only three international patrols have been awarded a gold medal till phase 6th of this Exercise.



<https://pib.gov.in/PressReleasePage.aspx?PRID=1764339>



**Press Information Bureau
Government of India**

Ministry of Defence

Sat, 16 Oct 2021 2:02PM

Indo-US joint training exercise “Ex Yudh Abhyas” commences at joint base Elmendorf Richardson, Alaska (USA)

The 17th Edition of Indo – US joint training exercise “EX YUDH ABHYAS 21” commenced at Joint Base Elmendorf Richardson, Alaska (USA) on 15 October 2021 with an opening ceremony that saw the unfurling of the National Flags of both countries amidst playing of the National anthems, “Jana Gana Mana” and “The Star Spangled Banner”.

300 US Army soldiers belonging to First Squadron (Airborne) of the 40th Cavalry Regiment and 350 soldiers of 7 MADRAS Infantry Battalion Group of Indian Army are participating in the exercise. The 14 days training schedule includes activities on joint training in a Counter Insurgency / Counter Terrorism environment under United Nations mandate.

During the opening ceremony Major General Brian Eifler, Commander US Army, Alaska, formally welcomed the Indian contingent. He urged both contingents to focus on improving cohesion and inter-operability to achieve training objectives of the exercise. He stressed upon the importance of free exchange of ideas, concepts and best practices between the troops and the necessity to learn from each others’ experiences.

The joint exercise will facilitate both Armies to know each other better, share their wide experiences and enhance their situational awareness through information exchange. This will help them in undertaking joint operations at Battalion level in mountainous terrain with cold climatic conditions under the ambit of United Nations.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1764338>

IAF Chief VR Chaudhari reviews operational preparedness of Force in Ladakh

Chaudhari visited the Air Force Station at Leh and IAF deployments at forward areas in Northern Sector on Saturday, the force said

Leh: Chief of the Indian Air Force, Air Chief Marshal VR Chaudhari, reviewed the deployment of aircrafts at the forward locations in Ladakh amid China rejecting the border dispute resolution proposal. This was Air Chief Marshal Chaudhari's maiden visit after taking over as the IAF chief earlier this month.

Chaudhari visited the Air Force Station at Leh and Indian Air Force deployments at forward areas in the Northern Sector on Saturday, the force said.

He took stock of the operational readiness of units and interacted with the personnel stationed at the airbase and units on deployment.

Ahead of 89th Air Force Day on October 8, Air Chief Marshal Chaudhari had said there was an increase in the presence of Chinese People's Liberation Army Air Force across Eastern Ladakh. He, however, mentioned that it was not going to make much difference to the Air Force.

He, especially, pointed out that the Chinese PLAF has increased presence at three Air fields across the Line of Actual Control.

He had said, "China is developing Air field with aircraft but flying from high altitude is a weak area."

Two days after Indian Air Force Day, India and China military held talks to end the border dispute, but it did not result in resolution of the remaining areas with the Chinese not agreeing to "constructive suggestions" provided by the Indian delegation.

Furthermore, the Chinese could not provide any forward-looking proposals. "The meeting thus did not result in resolution of the remaining areas," the Indian Army had said in a statement.

The 13th round of India-China Corps Commander Level Meeting was held at Chushul-Moldo border meeting point on October 10, 2021.

During the meeting the discussions between the two sides focussed on resolution of the remaining issues along the Line of Actual Control in Eastern Ladakh.

India had decided to resolve other remaining friction areas like Hot Springs and 900 square km Depsang plains during 13th round of military talks.

The Indian side pointed out that the "situation along the Line of Actual Control had been caused by unilateral attempts of Chinese side to alter the status quo and in violation of the bilateral agreements." It was, therefore, necessary that the Chinese side take appropriate steps in the remaining areas so as to restore peace and tranquillity along the Line of Actual Control in the Western Sector. During the meeting, the Indian side therefore made constructive suggestions for resolving the remaining areas, but the Chinese side was not agreeable and also could not provide any forward-looking proposals. The two sides have agreed to maintain communications and also to maintain stability on the ground. India and China have been engaged in border dispute for the last 17 months in Eastern Ladakh.

<https://www.indiatvnews.com/news/india/indian-air-force-chief-vr-chaudhari-reviews-operational-preparedness-air-force-ladakh-latest-national-news-updates-740802>



IAF Chief VR Chaudhari reviews operational preparedness of Force in Ladakh. Image Source : INDIAN AIR FORCE. @IAF_MCC

Exclusive | 'Money spent on indigenous Aircraft Carrier no waste; need airpower now': Navy Chief

The Indian Navy operates one aircraft carrier that is currently under maintenance, while the second will be commissioned by mid-2022

By Shreya Dhoundial

Admiral Karambir Singh, India's Navy Chief, has responded to those who have opposed the building of a second indigenous aircraft carrier (IAC) on the grounds that it is too expensive. In an exclusive interview with CNN-News18, he said that the "money spent on the IAC does not go down the drain". IAC Vikrant, which is currently undergoing sea trials, is 76 per cent indigenous, made of Indian steel, and has created an ecosystem of 550 Indian firms that includes 100 MSMEs, the Navy Chief pointed out. "Projects like the indigenous aircraft carrier plough back money into the local economy and create jobs. This is not money going down the drain," he said.



India's Navy Chief Admiral Karambir Singh (L) with his US counterpart Admiral Michael M Gilday onboard USS Carl Vinson.

The Indian Navy currently operates one aircraft carrier, INS Vikramaditya, which currently is under maintenance. It is 40 years old. The second, IAC Vikrant, which cost around Rs 19,500 crore, will be commissioned by mid-2022. The Navy has been pitching for a third aircraft carrier (IAC-2) so that it has at least one each for the eastern and western seaboard even if one is off duty for repairs. When it comes to estimated cost, IAC-2, affectionately called Vishal, lives up to its name, with a price tag of about Rs 80,000-90,000 crore.

Chief of Defence Staff (CDS) General Bipin Rawat, the man who holds the purse strings for defence acquisition, has taken the wind out of the sails on the Navy's plans for a third aircraft carrier. Throwing a budget boulder, he has argued that "unsinkable assets" like the Andaman & Nicobar islands should be developed instead to strengthen India's maritime capabilities.

The Navy Chief begs to differ.

"Airpower is extremely crucial at sea. You need airpower here and now. We cannot have a Navy tethered to the shore waiting for some shore-based aircraft to support us. Aircraft carriers are crucial to the maritime concept of operations," Admiral Karambir Singh said.

To elaborate on what the Navy Chief is saying, given the vastness of the Indian Ocean Region (IOR), even if one were to activate a group of fighters from Port Blair as soon as a threat is detected, it would take at least 90 minutes to get to the 'spot'. And a lot can happen over 90 minutes. An aircraft carrier provides speed and flexibility, argues the Navy.

A total of 41 aircraft carriers are operated by 13 navies across the world. The United States has 11. China currently has 2 but its expansion plan is ambitious. It is aiming for 4 by 2028 and 10 by 2050, adding more airpower to what is already the largest navy in the world.

About 85 per cent of China's energy requirement flows through the IOR. The Chinese have been regularly deploying 3-4 warships and submarines in the region in the garb of anti-piracy missions to protect their trade. Maritime security experts say it is only a matter of time before the People's Liberation Army Navy (PLAN) replaces this 'task force' with a carrier battle group in the IOR.

When asked if the Indian Navy's expansion plans are based on the Chinese threat, Admiral Singh said, "In the Navy, you have to think long term. Our expansion is completely built around

the 'Maritime Capabilities Perspective Plan'. We plan for capabilities that are needed to protect our maritime interests. Challenges that come in have a bearing but since you have to think long term, and challenges keep changing, so you have to plan based on capability rather than focusing too much on the threats."

<https://www.news18.com/news/india/exclusive-money-spent-on-indigenous-aircraft-carrier-not-a-waste-need-airpower-here-and-now-navy-chief-4325459.html>



Mon, 18 Oct 2021

How Army is tracking Chinese activities along Arunachal border amid row

The Army base is also equipped with other important assets to enhance the capabilities of the forces on the ground at a time when India and China have been engaged in a military standoff since last year

Tezpur, Assam: Indian Army's aviation base with its Heron drones is helping troops keep a hawk-eye on the Chinese activities along the Line of Actual Control (LAC) in the highly-sensitive Arunachal Pradesh sector.

The Army base is also equipped with other important assets, including the ALH Dhruv and its weaponised version Rudra, to enhance the capabilities of the forces on the ground at a time when India and China have been engaged in a military standoff since last year.

Explaining the capabilities of the Israel-origin Heron drones in detail, Major Karthik Garg said, "This is the most beautiful aircraft as far as surveillance resources are concerned. Since its inception, it has been the backbone of surveillance. It can climb up to 30,000 feet and continue to relay feed to commanders on the ground. So that, we can manoeuvre forces on the ground. It has an endurance of 24- 30 hours at a stretch."



Heron drones are helping Army keep a hawk-eye on Chinese activities along Arunachal Border (File)

Talking about surveillance during bad weather, Major Garg added, "We have day and night cameras and for bad weather, we have synthetic aperture radar which can give track of entire terrain."

Describing the capability of Missamari Army Aviation Base, Lieutenant Colonel Amit Dadhwal said, "These rotary-wing platforms provide a plethora of capabilities so that you know they can achieve success in all kinds of operations. This aircraft is fully capable of carrying troops and full battle load to any kind of treacherous terrain, or in any kind of weather conditions. This lean and mean machine is made in India is made by Hindustan Aeronautics Limited (HAL). This equipment and this aircraft are fully capable to carry out operations in."

Speaking further about Dhruv, Lieutenant Colonel Dhadwal described the night evacuation capability and mentioned that the aircraft has been instrumental in saving over 50 lives in the sector through night casualty operations.

"Over a period of time, when we give you a general time of operation, we are fully capable of carrying out night casualty evacuations. The same aircraft has been further modified and weaponised into a more lethal version called ALH WSI - Advanced Light helicopter weapon system integrated - which is known as the Rudra helicopter. It is fully equipped with various mission systems as well as weapon systems onboard."

Lieutenant Colonel Dadhwal spoke about the Cheetah and said that the helicopter has proved itself "for the past 50 years in the Indian Army". "It has been one of the stable and more reliable aircraft of Indian army," he said.

<https://www.ndtv.com/india-news/heron-drones-how-army-is-tracking-chinese-activities-along-arunachal-border-amid-row-2578679>



Sun, 17 Oct 2021

China tested ‘nuclear capable hypersonic missile’ in August, says report

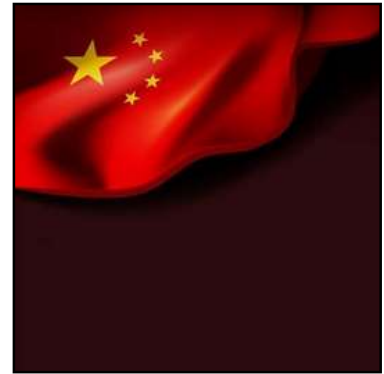
It ‘circled the globe before speeding towards its target, demonstrating an advanced space capability that caught U.S. intelligence by surprise,’ the Financial Times reported

By Ananth Krishnan

China’s military has carried out its first-ever test of a “nuclear capable hypersonic missile”, according to a report on October 17.

The missile in August “circled the globe before speeding towards its target, demonstrating an advanced space capability that caught U.S. intelligence by surprise,” the *Financial Times* reported.

The newspaper quoted five people familiar with the test as saying the Chinese military launched a rocket that carried a hypersonic glide vehicle “which flew through low-orbit space before cruising down towards its target.” The missile “missed its target by about two-dozen miles”, three people told the newspaper, but two others added that it “showed that China had made astounding progress on hypersonic weapons and was far more advanced than U.S. officials realised.”



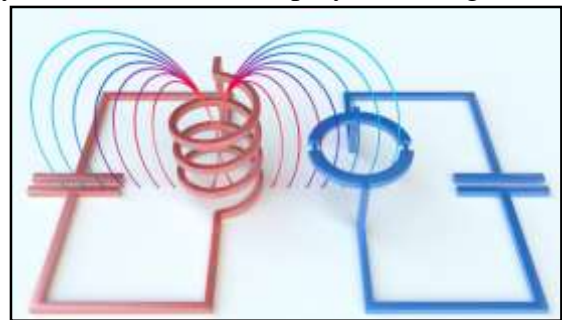
The *Financial Times* noted that only the U.S., Russia and China were developing hypersonic glide vehicles, that are launched on rockets and then orbit the earth on their own speed. They are difficult to track because unlike ballistic missiles, they “do not follow the fixed parabolic trajectory”. The newspaper said the test would post a big challenge to U.S. missile defence systems because “the weapon could, in theory, fly over the South Pole.” “That would pose a big challenge for the U.S. military because its missile defence systems are focused on the northern polar route,” the report said.

The newspaper quoted security experts as saying the test was conducted in August. It noted that the China Academy of Launch Vehicle Technology, which carries out launches, had in July announced its 77th launch of a Long March rocket, and in end-August said it had carried out a 79th flight, sparking speculation about a secretive 78th launch that had not been reported.

<https://www.thehindu.com/news/international/china-tested-nuclear-capable-hypersonic-missile-in-august-says-report/article37034773.ece>

Cooling radio waves to their quantum ground state

Researchers at Delft University of Technology have found a new way to cool radio waves all the way down to their quantum ground state. To do so, they used circuits that employ an analog of the so-called laser cooling technique that is frequently used to cool atomic samples. The device used a recently developed technique the researchers call photon pressure coupling, which is predicted to be of use in detecting ultra-weak magnetic resonance (MRI) signals or for quantum-sensing applications that can help the search for dark matter. The results have been published in *Science Advances*.



Credit: Delft University of Technology

The radio waves we usually encounter in our daily lives, such as those that we listen to in our car or those that send signals to our baby monitors in our house, are hot: they contain noise that comes from the random motion of the atoms in the things they are emitted from and even in the antenna you are using to listen to them. This is one of the reasons why you hear static when you tune the radio in your car to a frequency that has no radio station.

Cooling waves

One way to reduce this noise is to cool down the radio waves, for example by cooling the antenna that receives them to near absolute zero temperature. The atoms in the antenna will no longer be jiggling around as much, and the noise will be reduced. This is actually what is done in a superconducting quantum computer, which is cooled to 10 mK to prevent these jiggling atoms from creating noise in the GHz signals that they work with.

"However," says Ines Rodrigues, a researcher at TU Delft, "some applications, such as NMR, dark matter detection or radio astronomy, are interested in ultra-weak signals at MHz frequencies." For these signals, cooling to 10 mK is not enough. Even at these extremely low temperatures, the random motion of atoms in a device or antenna is enough to add noise to a radio wave signal. In order to get rid of the left-over noise, it is essential to cool down the radio waves even further. But how?

Coupling photons

In this work, the Delft researchers have found a new way to counteract the noise of the jiggling atoms. Using circuits that employ an analog of the laser cooling technique that is often used to cool atom clouds, the authors cooled the radio wave signals in their device all the way down to the quantum ground state. "The dominant noise left over in the circuit is only due to quantum fluctuations, the noise that comes from the strange quantum jumps predicted by quantum mechanics," says group leader Gary Steele of TU Delft. Steele's group specializes in quantum sensing using superconducting quantum circuits.

The device made use of a recently developed technique the authors call photon pressure coupling. This method is predicted to have exciting applications in detecting ultra-weak magnetic resonance (MRI) signals; it could be utilized for many quantum information processing applications involving the rapidly evolving field of quantum computation. Furthermore, it could be

used in so-called quantum sensing applications and could aid the search for dark matter, a strange type of as-yet undetected particles that could explain open questions in gravity and cosmology.

More information: I. C. Rodrigues et al, Cooling photon-pressure circuits into the quantum regime, *Science Advances* (2021). DOI: [10.1126/sciadv.abg6653](https://doi.org/10.1126/sciadv.abg6653). www.science.org/doi/10.1126/sciadv.abg6653

Journal information: [Science Advances](https://phys.org/news/2021-10-cooling-radio-quantum-ground-state.html)
<https://phys.org/news/2021-10-cooling-radio-quantum-ground-state.html>



Sat, 16 Oct 2021

Machine-learning system accelerates discovery of new materials for 3D printing

By Adam Zewe

The growing popularity of 3D printing for manufacturing all sorts of items, from customized medical devices to affordable homes, has created more demand for new 3D printing materials designed for very specific uses.

To cut down on the time it takes to discover these new materials, researchers at MIT have developed a data-driven process that uses machine learning to optimize new 3D printing materials with multiple characteristics, like toughness and compression strength.

By streamlining materials development, the system lowers costs and lessens the environmental impact by reducing the amount of chemical waste. The machine learning algorithm could also spur innovation by suggesting unique chemical formulations that human intuition might miss.



Credit: Pixabay/CC0 Public Domain

"Materials development is still very much a manual process. A chemist goes into a lab, mixes ingredients by hand, makes samples, tests them, and comes to a final formulation. But rather than having a chemist who can only do a couple of iterations over a span of days, our system can do hundreds of iterations over the same time span," says Mike Foshey, a mechanical engineer and project manager in the Computational Design and Fabrication Group (CDFG) of the Computer Science and Artificial Intelligence Laboratory (CSAIL), and co-lead author of the paper.

Additional authors include co-lead author Timothy Erps, a technical associate in CDFG; Mina Konaković Luković, a CSAIL postdoc; Wan Shou, a former MIT postdoc who is now an assistant professor at the University of Arkansas; senior author Wojciech Matusik, professor of electrical engineering and computer science at MIT; and Hanns Hagen Geotzke, Herve Dietsch, and Klaus Stoll of BASF. The research was published today in *Science Advances*.

Optimizing discovery

In the system the researchers developed, an optimization algorithm performs much of the trial-and-error discovery process.

A material developer selects a few ingredients, inputs details on their chemical compositions into the algorithm, and defines the mechanical properties the new material should have. Then the algorithm increases and decreases the amounts of those components (like turning knobs on an amplifier) and checks how each formula affects the material's properties, before arriving at the ideal combination.

Then the developer mixes, processes, and tests that sample to find out how the material actually performs. The developer reports the results to the algorithm, which automatically learns from the experiment and uses the new information to decide on another formulation to test.

"We think, for a number of applications, this would outperform the conventional method because you can rely more heavily on the optimization algorithm to find the optimal solution. You wouldn't need an expert chemist on hand to preselect the material formulations," Foshey says.

The researchers have created a free, open-source materials optimization platform called AutoOED that incorporates the same optimization algorithm. AutoOED is a full software package that also allows researchers to conduct their own optimization.

Making materials

The researchers tested the system by using it to optimize formulations for a new 3D printing ink that hardens when it is exposed to ultraviolet light.

They identified six chemicals to use in the formulations and set the algorithm's objective to uncover the best-performing material with respect to toughness, compression modulus (stiffness), and strength.

Maximizing these three properties manually would be especially challenging because they can be conflicting; for instance, the strongest material may not be the stiffest. Using a manual process, a chemist would typically try to maximize one property at a time, resulting in many experiments and a lot of waste.

The algorithm came up with 12 top performing materials that had optimal tradeoffs of the three different properties after testing only 120 samples.

Foshey and his collaborators were surprised by the wide variety of materials the algorithm was able to generate, and say the results were far more varied than they expected based on the six ingredients. The system encourages exploration, which could be especially useful in situations when specific material properties can't be easily discovered intuitively.

Faster in the future

The process could be accelerated even more through the use of additional automation. Researchers mixed and tested each sample by hand, but robots could operate the dispensing and mixing systems in future versions of the system, Foshey says.

Farther down the road, the researchers would also like to test this data-driven discovery process for uses beyond developing new 3D printing inks.

"This has broad applications across materials science in general. For instance, if you wanted to design new types of batteries that were higher efficiency and lower cost, you could use a system like this to do it. Or if you wanted to optimize paint for a car that performed well and was environmentally friendly, this system could do that, too," he says.

More information: Timothy Erps, Accelerated Discovery of 3D Printing Materials Using Data-Driven Multi-Objective Optimization, *Science Advances* (2021). DOI: [10.1126/sciadv.abf7435](https://doi.org/10.1126/sciadv.abf7435). www.science.org/doi/10.1126/sciadv.abf7435

Journal information: [Science Advances](https://www.science.org/doi/10.1126/sciadv.abf7435)

<https://phys.org/news/2021-10-machine-learning-discovery-materials-3d.html>

New nanowire architectures boost computers' processing power

By *Sandy Evangelista*

Valerio Piazza is creating new 3D architectures built from an inventive form of nanowire. His research aims to push the boundaries of miniaturization and pave the way to more powerful electronic devices. He has just won the 2020 Piaget Scientific Award, whose prize money will fund his work at EPFL for a year.

Piazza, a scientist at EPFL's Laboratory of Semiconductor Materials, studies semiconductors on a nano scale. His focus is nanowires, or nanostructures made of semiconducting materials, and his goal is to move transistors beyond their saturation point. That's because transistors are everywhere—in cars, traffic lights, and even coffee makers—but their miniaturization capacity is reaching a limit because existing designs are nearly saturated. "The main challenges we now face in processing power relate to overcoming the transistor saturation point, which we can do with nanowires and other kinds of nanostructures," says Piazza.



Nanowires are made up of groups 3 and 5 of the atoms in the periodic table. Credit: EPFL Alain Herzog

Much of the recent improvement in processing power stems from advancements in microfabrication methods. These methods are what have allowed engineers to develop compact, yet sophisticated electronic devices like smartphones and smartwatches. By reducing the size of transistors, engineers can fit more on a circuit, resulting in greater processing power for a given surface area. But that also means there's a limit to just how small processors can go, based on the size of their transistors. At least that's true for the current generation of processing technology. Piazza's work aims to overcome that obstacle by developing new kinds of transistors based on nanowires for use in next-generation quantum computers.

Today's computers are made up of electronic components and integrated circuits like processing chips. Each bit corresponds to an electrical charge that indicates whether current is running through a wire or not (i.e., "on" or "off"). On the other hand, quantum computers are not limited to just two states but can accommodate an infinite number of states. The fundamental element of quantum computing is the qubit, which is the smallest unit of memory. And it's precisely at this sub-micron level that Piazza is conducting his research.

Piazza's horizontal nanowires—they can be vertical, too—are made up of atoms from groups III and V of the periodic table: gallium, aluminum, indium, nitrogen, phosphorus and arsenic. "Each step of our development work comes with its own set of challenges. First we have to nanostructure the substrate and create the material—here the challenge is to improve the quality of our crystals. Then we'll need to characterize our nanowires, with the goal of improving their electrical properties," he says.

Processor transistors currently measure around 10 nm. Piazza's (horizontal) nanowires are the same size but should offer better electrical performance, depending on crystal quality. His method involves etching nanoconductors on substrate surfaces in order to create different patterns, which will let him test various structures for enhancing performance. "Take a city's highways as an example. If there's just one road, you can get only from Point A to Point B. But if there are lots of exits and side streets, you can travel to different neighborhoods and go even farther," says Piazza. In other words, he's creating a network. Over the next few months he'll focus on identifying factors that could improve the process.

<https://phys.org/news/2021-10-nanowire-architectures-boost-power.html>

CT scan won't raise cancer risk in Covid patients: Experts

Experts from PGIMER, Chandigarh, and AIIMS, New Delhi, say CT scans are not increasing the risk of cancer in Covid patients, but not performing the scans can delay the treatment and cause more harm

By Mandeep Kaur Narula

Chandigarh: Medical experts from the Post Graduate Institute of Medical Education and Research (PGIMER) and the All-India Institute of Medical Sciences (AIIMS), New Delhi, have said CT scans are not increasing the risk of cancer in Covid-19 patients, but not performing the scans could delay the treatment and cause more harm.

The CT scan is a frequently used medical tool for diagnosing various diseases. The findings of the study have been recently published in the Indian Journal of Medical Research (IJMR), the official journal of the Indian Council of Medical Research (ICMR).

“During the second wave of the pandemic, there was a big controversy in India that CT scans are increasing the risk of cancer in Covid-19 patients. It was being said the CT scan could produce genetic mutations and cause cancer, as it involved the use of ionizing X-rays which are categorised as hazardous radiation. However, we reviewed the current scientific literature and concluded that this theory is completely false,” said Dr Mandeep Garg, chest radiologist, PGIMER, who is the lead author of the study.

Despite using X-rays for more than 125 years and CT scans for nearly 50 years now, there was no definite scientific evidence to date, which could prove that CT scans increased cancer risk, the doctors concluded. The co-authors of the study are Dr Nidhi Prabhakar from PGIMER and Dr Ashu Seith Bhalla from AIIMS, New Delhi.

Dr Garg said, “Also, not doing a CT scan fearing the hypothetical risk of radiation-induced cancer in a clinically relevant indication can delay treatment and cause more harm. The exposure to radiation from diagnostic medical imaging tests like CT scan results in limited radiation exposure and that too only to a portion of the body being scanned.”

“Even if any damage occurs to the cells due to low-dose exposures to the CT scan, the body has the inherent ability to overcome this cell damage and repair DNA without leaving any signs of injury,” he said.

The doctors also said there had been rapid technological advances in both CT scan hardware and software and the radiation delivered to patients in each CT scan examination has considerably reduced. Though there were no signs of causing cancer, the doctors advised that the CT scan should be used judiciously and only when clinically indicated or when its results are expected to impact the treatment decision.

<https://www.hindustantimes.com/cities/chandigarh-news/ct-scan-won-t-raise-cancer-risk-in-covid-patients-experts-101634420409544.html>



A medical expert from the PGIMER, Chandigarh, said during the second wave of the pandemic, there was a controversy that CT scans are increasing the risk of cancer in Covid patients, but this theory is completely false. (Reuters File Photo)

