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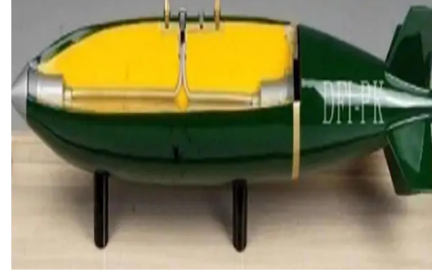
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MP में बना देश का सबसे बड़ा बम: पाकिस्तानी एयरपोर्ट या बंकर को पलभर में उड़ा देगा; सुखोई और जगुआर फाइटर्स में फिट हो सकेगा

देश की ताकत बढ़ाने जबलपुर की खमरिया ऑर्डिनेंस फैक्ट्री (OFK) ने 500 किलो के GP बम (General Purpose Bomb) बनाए हैं। ये बम इतने विध्वंसक हैं कि आसमान से गिरने के बाद बड़े से बड़े बंकर को तबाह कर सकते हैं। ऐसा एक बम पाकिस्तान के किसी भी एयरपोर्ट को पलभर में उड़ा सकता है। OFK पहुंची एयरफोर्स की टीम शुक्रवार को इन 48 बमों के साथ डिपो के लिए रवाना हो गईं। OFK के लिए यह इस मायने में भी खास है कि इस बम का पूरा डिजाइन और निर्माण फैक्ट्री में ही हुआ है। OFK के जनरल मैनेजर एसके सिन्हा के मुताबिक, 500 किलो GP बम से वायु सेना की ताकत और बढ़ेगी।



500kg का GP बम देश का सबसे बड़ा बम है।

देश का सबसे बड़ा बम

फैक्ट्री सूत्रों के मुताबिक, यह भारत का सबसे बड़ा बम है। इसकी लंबाई 1.9 मीटर और वजन 500 किलोग्राम है। इस बम को जगुआर और सुखोई SU-30 MKI से गिराया जा सकता है। इस बम का निर्माण जबलपुर की आयुध निर्माणी फैक्ट्री के एफ-6 सेक्शन में किया गया है।

क्या कहते हैं विशेषज्ञ

- इस GP बम के एक धमाके से पूरे एयरपोर्ट को उड़ाया जा सकता है।
- इसके इस्तेमाल से रेलवे ट्रैक और बड़े पुलों को भी तोड़ा जा सकता है।
- इस बम में ऐसी तकनीक है कि यह बंकरों में भी विस्फोट कर सकता है।

10,300 स्टील बुलेट का बम

- 500 किलो ग्राम वजनी बम की लंबाई 1.9 मीटर है।
- एक बम में 15 मिमी. के 10,300 गोले स्टील के रहेंगे।

- विस्फोट के बाद हर गोला 50 मीटर तक टारगेट करेगा।
- हर एक गोला 12 एमएम स्टील प्लेट को भेद सकेगा।
- जगुआर और सुखोई-30 पर अपलोड किया जा सकता है।

DRDO ने विकसित की तकनीक

रक्षा अनुसंधान एवं विकास संगठन (DRDO) इस बम को कई हिस्सों में विकसित किया है। हर बम में 15-15 मिमी के 10,300 स्टील के गोले लगे हैं। विस्फोट के बाद, प्रत्येक शेल 50 मीटर तक लक्ष्यभेदन करेगा। खास बात यह है कि स्टील के गोले 12 मिमी की स्टील प्लेट में भी घुस सकते हैं। इससे भारत के रणनीतिक ताकत में बेतहाशा वृद्धि होगी। GP बम रणनीतिक दृष्टि से भारत के लिए अत्यंत महत्वपूर्ण है। GP बम भारतीय सेना को ना सिर्फ युद्ध में विजय दिलाएगा बल्कि यह भारतीय सेना की सुरक्षा की क्षमता भी और बेहतर करेगा।

GP बम के बारे में जानिए

GP बम काे बमवर्षक विमान में अपलोड किया जाता है। इसका उपयोग जबर्दस्त विस्फोट से दुश्मन को ज्यादा से ज्यादा नुकसान पहुंचाने में होता है। ये बम दुश्मन के सैनिकों, वाहनों और इमारतों के खिलाफ प्रभावी होने के लिए डिजाइन किए गए हैं। ये बम आमतौर पर टीएनटी, कंपोजिशन बी या ट्राइटोनल के साथ एक मोटी दीवार वाली धातु के कवर से ढंके होते हैं, जो बम के कुल वजन का लगभग 30% से 40% होता है।

48 बमों की पहली खेप रवाना

OFK के GM ने हरी झंडी दिखाकर पहली खेप के 48 बमों को रवाना किया। उन्होंने कहा कि आयुध निर्माणी खमरिया के कर्मचारियों के लिए यह बहुत बड़ी उपलब्धि है। बम के उत्पादन में सहयोगी सभी कर्मचारियों सहित संबंधित अधिकारियों के लिए यह गौरव का पल है। इस मौके पर DGQA के कमांडिंग ऑफिसर आरआर पंत, अपर महाप्रबंधक अशोक कुमार, शैलेश वगरवाल, विकास पुरवार, संयुक्त महाप्रबंधक वाईके सिंह, उप महाप्रबंधक दिनेश कुमार सहित अन्य अधिकारी-कर्मचारी मौजूद रहे।

<https://www.bhaskar.com/local/mp/jabalpur/news/enemies-bunkers-airports-railway-tracks-will-be-destroyed-first-shipment-sent-from-jabalpur-to-airforce-129597668.html>

ThePrint

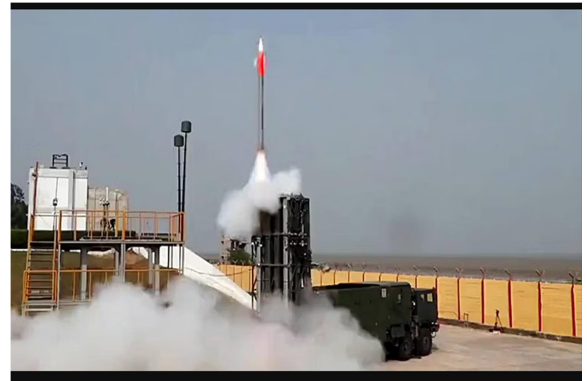
Fri, 01 Apr 2022

Built with Israeli know-how & an Indian touch, new MRSAM system is key addition to Army arsenal

The Defence Research and Development Organisation (DRDO) carried out two successful tests of the Army's version of the medium-range surface-to-air missile (MRSAM) at the Integrated Test Range in Chandipur, off the coast of Odisha, on 27 March, paving the way for its induction

into the force. The success of the tests will be a cause of major relief to the Army, which has been engaged in a standoff with China at the Line of Actual Control (LAC) for two years now.

In September 2021, the DRDO had, in the presence of Defence Minister Rajnath Singh, successfully handed over to the Indian Air Force (IAF) a version of the MRSAM that was customised to its need. The Army's version of the MRSAM has been jointly developed by the DRDO and the Israel Aerospace Industries, and is reflective of growing India-Israel defence collaboration. The Army's version of the MRSAM resembles the Israeli Barak-8 missile in many ways, but there are specific technological tweaks and adaptations to cater to India's specific needs, which reflect the successful indigenisation of this defence technology.



DRDO successfully tests the Indian Army version of the Medium-Range Surface-to-Air Missile

The Barak-8 enables a 360-degree defence against aerial threats. This includes the ability to hit jets, missiles and unmanned aerial vehicles. Its completely circular attack range makes it a powerful and unique tool for any military to possess.

What is the MRSAM?

The MRSAM is intended to replace the outdated air defence systems currently being used by the Army. It will allow the Army to get aerial protection against fighter aircraft, unmanned aerial vehicles, guided and unguided munitions, and cruise missiles. It's composed of a mobile launcher system — built to store, transport, and launch eight canisterised missiles or missiles that can be launched at short notice, either individually or simultaneously — and a multi-function radar, which enables seamless identification and monitoring of target. The combat management system then uses this information from the radar to calculate the distance from the target, which is relayed to the operator or launcher for suitable action.

The MRSAM is also loaded with an advanced active radar radio frequency (RF) seeker, placed at the head of a missile, which enables the detection of moving targets in extreme weather conditions. All these help the MRSAM to have an estimated range of 70 km, providing the Indian army with the ability to hit far-away targets accurately. It has a maximum speed of Mach 2, which is twice the speed of sound. Defence sources told ThePrint that the MRSAM is among the most advanced missiles in the world in its class. Its manoeuvrability and countering systems put it in a league beyond most others in its range, they said.

Booming India-Israel defence collaboration

India's collaboration with Israel on medium- to short-range missiles isn't limited to the MRSAM for the Army. On 31 March 2007, India and Israel signed an agreement to collaborate on MRSAM for the IAF. Eighteen squadrons were supposed to be delivered at the cost of Rs 10,000 crore. Delivery was scheduled for 2013. However, it only started to be delivered last year. In 2017, the Israel Aerospace Industries and India signed a \$2 billion deal to jointly develop the MRSAM systems for the Indian Army. The MRSAM has since been developed in conjunction between the Israeli manufacturer and the DRDO. All the three services — the Army, Navy, and IAF — have either inducted, or are in the process of inducting, the MRSAM.

Atmanirbhar push

Defence sources told ThePrint that best practices and knowledge from India and Israel were used to develop the MRSAM for the Army. Specifically, talking about India's 'atmanirbharta' push, sources said, the ground systems for the missile — including the launchers of the MRSAM — have been made completely indigenously. Another significant indigenous aspect of the missile is the thrust-vector mechanism placed at the missile's rear, which was the result of several years of research and development, the sources added.

<https://theprint.in/defence/built-with-israeli-know-how-an-indian-touch-new-mrsam-system-is-key-addition-to-army-arsenal/897766/>



Sat, 02 Apr 2022

Meet CornerShot, the lethal weapon that will give soldiers an edge

To enhance the operational capabilities in Fighting In Built-Up Area (FIBUA), urban or close-quarter scenarios, the security forces will soon be equipped with the DRDO-developed and designed CornerShot weapon system. The system is designed in such a way that security forces are not required to come in close contact with the adversary. It can easily hit the targets from an angle. Recently, the Indian Army and Jammu & Kashmir Police placed their orders for procurement of this system.

What is the CornerShot weapon system?

It is a weapon system that allows soldiers to hit the target around the corner without exposing themselves to the enemy's line of fire. Firing at the adversary can be done without risk of exposure to retaliatory action. It acts as a force multiplier in encounters with terrorists and insurgents in situations ranging from close combat in built-up areas to hostage situations.

<https://newsable.asianetnews.com/gallery/india-defence/meet-cornershot-lethal-weapon-with-an-eye-ordered-by-indian-army-j-k-police-r9pu7d#image1>

THE TIMES OF INDIA

Sat, 02 Apr 2022

Delhi police to get DRDO-designed carbines soon

Several central agencies and police forces, including Delhi Police, are likely to be with the DRDO-designed (JVPC) in the coming months, according to a source. While reports suggested

that the city police could procure 5,000 carbines, the department didn't comment on the development.

The carbines have been developed in collaboration with Small Arms Factory (SAF), Kanpur and ARDE, Pune. One JVPC has a range of 200 metres and a firing capacity of 800 rounds per minute. The CISF and UP police are also likely to get this weapon, the source said.

<https://timesofindia.indiatimes.com/city/delhi/delhi-police-to-get-drdo-designed-carbines-soon/articleshow/90599614.cms>

Defence News

Defence Strategic: National/International



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 02 Apr 2022 8:00 PM

भारतीय वायुसेना ने चेतक हेलीकॉप्टरों की शानदार सेवा के 60 साल पूरे होने का आयोजन मनाया

भारतीय वायु सेना में चेतक हेलीकॉप्टर द्वारा सेवा के 60 गौरवशाली वर्षों के उपलक्ष्य में, माननीय रक्षा मंत्री श्री राजनाथ सिंह ने 02 अप्रैल 2022 को वायु सेना स्टेशन, हकीमपेट में भारतीय वायु सेना द्वारा आयोजित एक कॉन्क्लेव का उद्घाटन किया। वायु सेना प्रमुख एयर चीफ मार्शल वीआर चौधरी और एओसी-इन-सी ट्रेनिंग कमांड एयर मार्शल मानवेंद्र सिंह सहित अन्य विशिष्ट गणमान्य व्यक्ति और सशस्त्र बलों के वरिष्ठ अधिकारी उपस्थित थे। पूर्व वायु सेना प्रमुख, एयर चीफ मार्शल एफ. एच. मेजर (सेवानिवृत्त), एयर चीफ मार्शल एन. ए. के. ब्राउन (सेवानिवृत्त) और पूर्व नौसेना प्रमुख, एडमिरल करमबीर सिंह (सेवानिवृत्त) भी उपस्थित थे।

इस अवसर पर माननीय रक्षा मंत्री ने चेतक हेलीकॉप्टरों पर एक विशेष आवरण, एक कॉफी टेबल बुक और एक स्मारक फिल्म का विमोचन किया। अपने मुख्य भाषण के दौरान माननीय रक्षा मंत्री ने पिछले छह दशकों में शांति और संघर्ष, दोनों के दौरान चेतक हेलीकॉप्टर के शानदार प्रदर्शन के साथ-साथ सेना के अंगों में एकरूपता और संयुक्त कौशल की भावना को बढ़ावा देने में इसके योगदान पर प्रकाश डाला।

उन्होंने हेलीकॉप्टर की सफल उड़ान बनाए रखने में शामिल सभी लोगों के अपार योगदान को भी स्वीकार किया, विशेष रूप से एचएएल, जो 1965 से लाइसेंस के तहत इस मशीन का निर्माण करके 'आत्मनिर्भर भारत' का अगुवा रहा है। उन्होंने बताया कि कैसे इस अनुभव के आधार पर एचएएल ने अत्याधुनिक हेलीकॉप्टरों डिजाइन, विकास और उत्पादन से जुड़ी क्षमताओं का निर्माण किया। वायु सेना प्रमुख ने अपने उद्घाटन भाषण के दौरान, 1962 में शामिल होने के बाद से सभी सैन्य संघर्षों में चेतक के अपार योगदान के साथ-साथ सियाचिन ग्लेशियर सहित पूरे देश में इसके शांतिकालीन प्रयासों को स्वीकार किया। माननीय रक्षा मंत्री ने चेतक हेलीकॉप्टर की साठ साल की शानदार सेवा को प्रदर्शित करने वाली फोटो प्रदर्शनी देखी और कॉन्क्लेव में उपस्थित सशस्त्र बलों के पूर्व सैनिकों तथा अन्य गणमान्य लोगों के साथ बातचीत की।

इस आयोजन पर जश्न मनाते हुए चेतक, पिलैटस, किरण, हॉक्स, उन्नत हल्के हेलीकॉप्टर और हल्के लड़ाकू हेलीकॉप्टरों समेत 26 विमानों द्वारा एक उल्लेखनीय फ्लाइंग-पास्ट ने सभी का ध्यान आकर्षित किया। समारोह का समापन आठ चेतक हेलीकॉप्टरों- एक ऐसी मशीन जिसने देश भर में लगातार अपनी सेवाएं प्रदान की हैं- द्वारा बनाया गया डायमंड फॉर्मेशन फ्लाइंग पास्ट था। यह शानदार हेलीकॉप्टर अभी भी सभी इलाकों में काम करता है और सेना के तीनों अंगों के पायलटों के लिए बुनियादी प्रशिक्षण हेलीकॉप्टर है।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1813005>



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IAF commemorates 60 years of glorious service by chetak helicopters

Commemorating 60 Glorious years of service by Chetak Helicopter in IAF, Hon'ble Raksha Mantri Shri Rajnath Singh inaugurated a Conclave hosted by Indian Air Force at Air Force Station, Hakimpet on 02 April 2022. Chief of the Air Staff Air Chief Marshal VR Chaudhari and AOC-in-C Training Command Air Marshal Manavendra Singh were present along with other distinguished dignitaries and senior officers of the Armed Forces. Former Chiefs of Air Staff, Air Chief Marshal FH Major (Retd), Air Chief Marshal NAK Browne (Retd) and Former Chief of the Naval Staff, Admiral Karambir Singh (Retd) were among the key attendees. On the occasion, Hon'ble Raksha Mantri released a Special Cover, a Coffee Table Book and a Commemorative Movie on Chetak Helicopters.

During his keynote address, the Hon'ble RM highlighted the stellar performance of the Chetak helicopter, both during peace and in conflict, in the past six decades, as also its contributions to foster the spirit of integration and jointmanship. He also acknowledged the immense contribution of all those involved in keeping the machine flying successfully, especially HAL, which has been the flag-bearer for 'Aatmanirbharta' by manufacturing this machine under licence since 1965. He brought out how HAL built up cutting edge helicopters design, development and production capabilities based on this experience. The Chief of the Air Staff, during his inaugural address, acknowledged the immense contributions by the Chetak in all conflicts since its induction in 1962, as well as its peacetime effort all across the country, including the Siachen glacier.

The Hon'ble RM witnessed the photo exhibition showcasing sixty years of glorious service of Chetak helicopter and interacted with Armed Forces veterans and other dignitaries who were present at the Conclave. Celebrating the event, a remarkable fly-past by 26 aircraft including Chetaks, Pilatus, Kirans, Hawks, Advanced Light Helicopters and a Light Combat Helicopters was an eye catcher for everyone. The finale was a diamond formation fly past by eight Chetak helicopters, the machine which continues to render yeomen service across the length and breadth of the country. This magnificent machine still operates across all the terrains and is the basic training helicopter for pilots of the three Services.

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पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 02 Apr 2022 8:00 PM

हैदराबाद में चेतक हेलीकॉप्टर के हीरक जयंती समारोह में रक्षा मंत्री ने

कहा- देश की सुरक्षा सरकार की सर्वोच्च प्राथमिकता है

'चेतक' सिर्फ एक मशीन नहीं है, बल्कि एक जीवंत साधन है जिसने शांति और युद्ध में राष्ट्र

की सेवा की है: रक्षा मंत्री

श्री राजनाथ सिंह ने कई भूमिकाओं में काम आने वाले 10 टन के भारतीय हेलीकॉप्टर के

डिजाइन और विकास में तेजी लाने का आह्वान किया

हेलीकॉप्टर प्रौद्योगिकी में प्रगति हमारे रक्षा क्षेत्र के लिए प्रभावी होगा और भारत को

अंतरराष्ट्रीय बाजार में एक प्रमुख शक्ति बनाएगा: रक्षा मंत्री

“देश की सुरक्षा सरकार की सर्वोच्च प्राथमिकता है और इसकी एकता और अखंडता की रक्षा के लिए सभी प्रयास किए जा रहे हैं।” यह बात रक्षा मंत्री श्री राजनाथ ने राष्ट्र के लिए चेतक हेलीकॉप्टर की सेवा

के 60 साल पूरे होने के उपलक्ष्य में आयोजित एक सम्मेलन को संबोधित करते हुए कहा। भारतीय वायु सेना द्वारा 02 अप्रैल, 2022 को हैदराबाद के हाकिमपेट स्थित वायु सेना स्टेशन में 'चेतक- आत्म-निर्भरता, बहुविज्ञता और विश्वस्तता के 6 गौरवशाली शतक' विषय पर 'यशस्वत् षट् शतकम्' सम्मेलन का आयोजन किया गया। इस अवसर पर वायु सेना प्रमुख एयर चीफ मार्शल वीआर चौधरी, तीनों सेनाओं के हेलीकॉप्टर स्ट्रीम के वरिष्ठ सेवानिवृत्त और सेवारत अधिकारी और रक्षा मंत्रालय, भारतीय तटरक्षक और हिंदुस्तान एयरोनॉटिक्स लिमिटेड (एचएएल) के अधिकारी उपस्थित थे।

रक्षा मंत्री श्री राजनाथ सिंह ने सम्मेलन को उन लोगों के लिए एक उचित श्रद्धांजलि के रूप में बताया जिन्होंने कड़ी मेहनत और समर्पण के साथ राष्ट्र की सेवा की है। इस अमूल्य योगदान के लिए अपना सम्मान व्यक्त करते हुए उन्होंने कहा कि, "जब भी कोई देश सुरक्षा के लिए युद्ध लड़ता है, तो इसमें केवल सशस्त्र बल ही हिस्सा नहीं लेते हैं बल्कि पूरा देश उस युद्ध में शामिल होता है। एचएएल जैसे संगठनों के वैज्ञानिक, इंजीनियर और तकनीशियन, जो 'चेतक' और अन्य प्लेटफॉर्म जैसे हेलीकॉप्टर विकसित करते हैं, हमारे सैनिकों के समान ही महत्वपूर्ण भूमिका निभाते हैं। एमएसएमई से जुड़े लाखों कर्मचारी भी इन परियोजनाओं के लिए पुर्जों की आपूर्ति करके योगदान करते हैं। यह सम्मेलन उन सभी की कड़ी मेहनत और समर्पण का जश्न मनाता है।"

इतिहास में राजपूत राजा राणा प्रताप के 'चेतक' नाम के घोड़े की तुलना करते हुए श्री राजनाथ सिंह ने 'चेतक' हेलीकॉप्टर को न केवल एक मशीन, बल्कि एक जीवंत और समर्पित इकाई बताया, जो पिछले छह दशकों से लगातार राष्ट्र की सेवा में लगी हुई है और दूसरों के लिए एक मिसाल कायम की। उन्होंने कहा कि अब तक निर्मित लगभग 700 चेतकों ने पूरे समर्पण के साथ युद्ध और शांति के समय में राष्ट्र की सेवा की है। उन्होंने इसके कई तरह के उपयोग को संयुक्तता का एक ज्वलंत उदाहरण बताया है।

रक्षा मंत्री ने इस हेलीकॉप्टर की क्षमताओं के बारे में बताते हुए कहा कि, 'चेतक' ने सटीकता के साथ दुश्मनों को निशाना बनाकर और सैनिकों को सफलतापूर्वक उतारकर युद्ध के मैदान में अपनी क्षमता साबित की है। इसने युद्ध के मैदान में आवश्यक सामान पहुंचाने में भी मदद की है। इसने आपात स्थिति में अपने फंसे लोगों को बचाकर निकाल ले जाने के प्रयासों के माध्यम से कई बहुमूल्य जीवन बचाए हैं। इसने जब भी आवश्यक हुआ महत्वपूर्ण जानकारी प्रदान की है, जिससे निर्णय लेने और युद्धों में जीत का मार्ग प्रशस्त करने में मदद मिली है। प्राकृतिक आपदाओं के दौरान मानवीय सहायता और आपदा राहत पहुंचाने में 'चेतक' हमेशा सबसे आगे रहा है। यह पहली बार है जब कोई हेलीकॉप्टर इस मुकाम पर पहुंचा है।" उन्होंने इस तथ्य की सराहना की कि अनुकूलन, संशोधन और उन्नयन के माध्यम से 'चेतक' अपने निर्माण के 60 वर्षों के बाद भी एक अग्रणी हेलीकॉप्टर बना हुआ है।

रक्षा मंत्री श्री राजनाथ सिंह ने 1971 के युद्ध के दौरान चेतक हेलीकॉप्टर के असाधारण योगदान को याद किया। उन्होंने बताया कि, "जमीन पर अपने सैनिकों को हवाई सहायता प्रदान करने से लेकर हेली-ब्रिजिंग

ऑपरेशन और दुश्मन के ठिकानों को नष्ट करने तक, 'चेतक'पर सवार हमारे वायु योद्धाओं ने युद्ध के दौरान अनुकरणीय साहस और दक्षता दिखाई। चेतक हेलीकॉप्टर का इस्तेमाल 'मुक्ति वाहिनी' के पायलटों को प्रशिक्षित करने के लिए भी किया जाता था। चेतक की भूमिका को एकीकरण और संयुक्तता को बढ़ावा देने के एक शानदार उदाहरण के रूप में भी देखा जा सकता है। युद्ध में हमारी जीत को इतिहास की किताबों में सुनहरे अक्षरों में लिखा गया है। न हमें कोई सत्ता चाहिए थी, न जमीन, न संसाधन और न ही कोई आधिपत्य। हमने वह युद्ध मानवता और लोकतंत्र की रक्षा के लिए लड़ा था।"

रक्षा मंत्री का कहना था कि भारत ने स्वदेश में डिजाइन और विकसित उन्नत हल्के हेलीकॉप्टर ध्रुव और इसके वेरिएंट को भारत के कौशल का उदाहरण बताते हुए पांच टन की श्रेणी में हेलीकॉप्टरों के डिजाइन, विकास और संचालन में अपनी ताकत दिखाई है। उन्होंने हल्के लड़ाकू हेलीकॉप्टर को युद्ध अभियानों के लिए हल्के हेलीकॉप्टरों में देश की क्षमता का एक और उदाहरण बताया। उन्होंने कहा कि सशस्त्र बलों द्वारा संचालित हल्के उपयोगिता वाले हेलीकॉप्टर भी हेलीकॉप्टर क्षेत्र में क्षमता के बेहतरीन उदाहरण हैं।

श्री राजनाथ सिंह ने कई भूमिकाओं में काम आने वाले 10 टन के भारतीय हेलीकॉप्टर के डिजाइन और विकास में आगे बढ़नेकी आवश्यकता पर जोर दिया। उन्होंने इसे सशस्त्र बलों के लिए एक महत्वपूर्ण जरूरत बताया और यह भी कहा कि इसमें बाजार की अपार संभावनाएं हैं। उन्होंने देश में हेलीकॉप्टर प्रौद्योगिकी के डिजाइन और विकास को तेजी से ट्रैक करने का आह्वान करते हुए कहा कि यह दोहरे उपयोग वाली प्रौद्योगिकियों में से एक है जो न केवल रक्षा क्षेत्र में प्रभावी साबित होगी, बल्कि भारत को हेलीकॉप्टर मंडी में एक प्रमुख शक्ति बनाएगी। उन्होंने कहा कि "एक अनुमान के अनुसार, देश में 1,000 से अधिक नागरिक हेलीकॉप्टरों और रक्षा क्षेत्र में भी 1000 से अधिक हेलीकॉप्टरों की मांग है। हमें हेलीकॉप्टर बाजार में इस विशाल क्षमता का दोहन करने की जरूरत है। इसके अलावा, हमें रोटरी विंग डोमेन में भारत के दावे को मजबूत करने के लिए प्रयास करने की आवश्यकता है। जमाना बदल रहा है। मुझे यकीन है कि आने वाले समय में हम और अधिक उज्ज्वल, मजबूत और पूरी तरह से आत्म-निर्भर होंगे।"

रक्षा मंत्री ने लगातार बदलते वैश्विक सुरक्षा परिदृश्य को देखते हुए रक्षा उत्पादन और तैयारियों में 'आत्म-निर्भरता' हासिल करने के सरकार के संकल्प को दोहराया। उन्होंने कहा कि, "इनदिनों, आपूर्ति लाइनों को सुनिश्चित करने में चुनौतियां हैं। बाहरी स्थिति ने महत्वपूर्ण हथियारों और उपकरणों की सेवाक्षमता को प्रभावित किया है। इसलिए हम आत्म-निर्भरता हासिल करने में कोई कसर नहीं छोड़ रहे हैं। इससे पहले, देश रक्षा क्षेत्र को मजबूत करने के लिए अन्य देशों से आयात पर निर्भर था। यह सरकार अपनी रक्षा के लिए अपने कंधों को मजबूत करने में विश्वास रखती है। हम यह सुनिश्चित कर रहे हैं कि भारत किसी पर निर्भर न रहे।"

हालांकि, श्री राजनाथ सिंह ने भारत के उस मूल मंत्र को बनाए रखते हुए कहा कि मजबूत होने से भारत का मतलब दुनिया में प्रभुत्व स्थापित करना नहीं है। उन्होंने कहा कि भारत ने हमेशा सत्य,अहिंसा और शांति के मार्ग का अनुसरण किया है और यह किसी भी तरह की आक्रामकता का समर्थन नहीं करता है। उन्होंने जोर देकर कहा कि पिछले कुछ वर्षों में देश में शांति,सुरक्षा और सैन्य शक्ति के बीच संबंध गहरे हुए हैं। विश्व में शांति बनाए रखने के लिए राष्ट्रों के लिए एक मजबूत सुरक्षा तंत्र के महत्व को रेखांकित करते हुए उन्होंने कहा कि पिछले कुछ वर्षों में सरकार ने एक ऐसा वातावरण बनाया है जिसने भारत को मजबूत और आत्मनिर्भर बनाने की राह पर सशस्त्र बलों,वैज्ञानिकों और रक्षा निर्माताओं को सक्रिय रूप से सोचने और आगे बढ़ने में सक्षम बनाया है।

रक्षा मंत्री श्री राजनाथ सिंह ने प्रधानमंत्री श्री नरेन्द्र मोदी द्वारा परिकल्पित 'आत्मनिर्भर भारत' को प्राप्त करने में घरेलू उद्योग की प्रमुख भूमिका पर बात की। उन्होंने निजी क्षेत्र की भागीदारी को प्रोत्साहित करने के लिए सरकार द्वारा किए जा रहे उपायों की सूची जारी करते हुए कहा कि, “डी आर डी ओ निजी कंपनियों को मुफ्त तकनीक हस्तांतरित कर रहा है। एफडीआई की सीमा भी बढ़ा दी गई है। रक्षा वस्तुओं की दो सकारात्मक स्वदेशीकरण सूची जारी की गई हैं, जबकि तीसरी सूची जल्द ही जारी की जाएगी।” उन्होंने तीन सेवाओं, अनुसंधान एवं विकास संगठनों और सार्वजनिक एवं निजी क्षेत्र के उद्योगों से जबर्दस्त सकारात्मक प्रतिक्रिया की ओर इशारा किया। उन्होंने सरकार द्वारा उठाए गए अभूतपूर्व कदमों के लिए अभूतपूर्व प्रतिक्रिया का विश्वास जताते हुए कहा कि एम एस एम ई, स्टार्ट-अप, इनोवेटर्स और शिक्षाविद एक साथ मिलकर रक्षा उत्पादन के नए रास्ते तलाश रहे हैं।

इस सम्मेलन के आयोजन का उद्देश्य 'चेतक' हेलीकॉप्टर के संचालन पर प्रकाश डालते हुए देश में छह दशकों के हेलीकॉप्टर संचालन को प्रदर्शित करने के लिए एक मंच प्रदान करना था। इस कार्यक्रम में अनुभवी समुदाय और सेवाओं के प्रमुख वक्ताओं द्वारा प्रतिबिंब,कथन और चर्चाएं शामिल थीं।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1812782>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sun, 03 Apr 2022 3:48PM

सेना चिकित्सा कोर ने अपना 258वां स्थापना दिवस मनाया

भारतीय सेना ने 3 अप्रैल 2022 को सेना चिकित्सा कोर का 258वां स्थापना दिवस मनाया। कोर का आदर्श वाक्य "सर्व सन्तु निरामया" है, जिसका अर्थ है "सभी को रोग और दिव्यांगता से मुक्त होने दें"। सेना

चिकित्सा कोर ने युद्ध और शांति समय में रक्षा बलों एवं विदेशी मिशनों में संयुक्त राष्ट्र शांति सेना को स्वास्थ्य देखभाल तथा असैन्य अधिकारियों को आपदा प्रबंधन के दौरान चिकित्सा सेवाएं प्रदान करने में उत्कृष्ट प्रदर्शन किया है। यह कोर पिछले दो वर्षों से कोविड के खिलाफ लड़ाई में सबसे आगे रही है और इसने राष्ट्र की निस्वार्थ तथा उत्कृष्ट सेवा की है।

इस अवसर को मनाने के लिए सशस्त्र बल चिकित्सा सेवा के महानिदेशक वाइस एडमिरल रजत दत्ता और चिकित्सा सेवा महानिदेशक (सेना) लेफ्टिनेंट जनरल दलजीत सिंह के साथ-साथ नौसेना तथा वायु सेना के चिकित्सा सेवा महानिदेशक ने राष्ट्रीय समर स्मारक पर पुष्पांजलि अर्पित की और कर्तव्य पालन के दौरान सर्वोच्च बलिदान देने वाले चिकित्सा कर्मियों को श्रद्धांजलि दी।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1812985>



Press Information Bureau
Government of India

Ministry of Defence

Sun, 03 Apr 2022 3:48PM

Army medical corps celebrates its 258th raising day

The Indian Army celebrated 258th Raising Day of Army Medical Corps on 3 April 2022. The Corps has the motto of “Sarve Santu Niramaya” meaning “Let all be free from disease and disability”. It has excelled in providing both peace time and combat health care to the defence forces, medical services to UN peace keeping forces in foreign missions and during disaster management to civil authorities. It has been at the forefront of the fight against COVID for the past two years and has done selfless & outstanding service to the Nation.

To commemorate the occasion, Vice Admiral Rajat Datta, Director General of Armed Forces Medical Services and Lieutenant General Daljit Singh, Director General of Medical Services (Army) along with Directors General of Medical Services of (Navy) & (Air) laid wreaths at the National War Memorial and paid tributes to medical personnel who have made the supreme sacrifice in the line of duty.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1812958>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sun, 03 Apr 2022 1:26PM

भारतीय नौसेना का वर्ष 2022 के लिए वार्षिक मरम्मत और वार्षिक बुनियादी ढांचा एवं स्वदेशीकरण सम्मेलन

भारतीय नौसेना के वर्ष 2022 के लिए वार्षिक मरम्मत और वार्षिक बुनियादी ढांचा एवं स्वदेशीकरण सम्मेलन का शुभारम्भ 31 मार्च 2022 को कोच्चि में दक्षिणी नौसेना कमान मुख्यालय में दक्षिणी नौसेना कमान के फ्लैग ऑफिसर कमांडिंग-इन-चीफ वाइस एडमिरल एम ए हम्पीहोली, एवीएसएम, एनएम द्वारा किया गया। सम्मेलन में वाइस एडमिरल संदीप नैथानी, एवीएसएम, वीएसएम, चीफ ऑफ मैटेरियल की अध्यक्षता में नौसेना मुख्यालय के प्रतिनिधियों के अलावा सभी कमानों, नौसेना गोदी/मरम्मत यार्डों और सामग्री आपूर्ति संगठनों के प्रतिनिधियों ने भाग लिया। सरकार की आत्मनिर्भर भारत की पहल के अनुरूप ही इस वर्ष के सम्मेलनों में एक सत्र स्वदेशीकरण को भी समर्पित था। चीफ ऑफ मैटेरियल ने अपने संबोधन में रक्षा क्षेत्र में सार्वजनिक निजी संबंधों को मजबूत करने की आवश्यकता पर बल दिया। सुधार व मरम्मत प्रक्रियाओं पर विचार-विमर्श, किसी भी चुनौती के लिए पोतों को तैयार रखने में रखरखाव नीतियों को बदलने पर चर्चा और नौसेना की बढ़ती आवश्यकताओं को पूरा करने हेतु बुनियादी ढांचे में वृद्धि की समीक्षा, इस सम्मेलन का मुख्य एजेंडा था।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1812959>



Press Information Bureau
Government of India

Ministry of Defence

Sun, 03 Apr 2022 1:26PM

Indian Navy's annual refit conference and annual infrastructure & indigenisation conference for the year 2022

Indian Navy's Annual Refit Conference and Annual Infrastructure & Indigenisation Conference for the year 2022 was inaugurated by Vice Admiral MA Hampiholi, AVSM, NM, Flag Officer

Commanding-in-Chief, Southern Naval Command at Headquarters, Southern Naval Command, Kochi on 31 March 2022. The conference, chaired by Vice Admiral Sandeep Naithani, AVSM, VSM, Chief of Materiel, was attended by representatives of Naval Headquarters in addition to representatives from all Commands, Dockyards/ Repair Yards and Material Organisations. In consonance with the Government initiative of Atmanirbhar Bharat, this year's conferences had a session dedicated to indigenisation. The Chief of Materiel in his address to the forum emphasised the need to bolster public private relationship in the defence sector. Deliberations on refit processes, discussions on transforming maintenance policies to keep ships ready for any challenges and review of infrastructure augmentation for meeting growing requirements of the Navy, were the main agenda of the conference.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1812936>



Press Information Bureau
Government of India

Ministry of Defence

Sun, 03 Apr 2022 5:00PM

Chief of army staff proceeds on a visit to Singapore

General MM Naravane, the Chief of Army Staff (COAS) has proceeded on a three day visit to Singapore from 04 to 06 April 2022. During the visit, he will be meeting senior military and civilian leadership of the country.

On 04 April 2022, General Naravane will lay a wreath at the Kranji War Memorial. The Army Chief is scheduled to call on with the Minister of Defence, Chief of Singapore Army and other senior dignitaries where he will discuss avenues for enhancing India-Singapore defence relations. The COAS will also visit the Infantry Gunnery Tactical Simulation and Wargame Centre, Regional HADR Coordination Centre, Info Fusion Centre and the Changi Naval Base.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1812975>

 **The Indian EXPRESS**

Sun, 03 Apr 2022

Underlining supply issues, Rajnath pushes for indigenous Defence tech

In the backdrop of India's defence requirements coming under stress amid Russian invasion of Ukraine, Defence Minister Rajnath Singh on Saturday underlined supply constraints even as he pushed for indigenous defence technology. "These days, there have been challenges in ensuring supply lines. External situation has affected the serviceability of critical weapons and

equipment. Therefore, we are leaving no stone unturned to achieve self-reliance. Earlier, the country was dependent on imports from other countries to bolster the defence sector. This government believes in strengthening our own shoulders to protect ourselves. We are making sure that India is not dependent on anyone,” Singh said while addressing an IAF event in Hyderabad to commemorate 60 years of Chetak helicopters.

India imports majority of its defence equipment from Russia. These supplies have come under pressure due to the ongoing war. Underlining the importance of a strong security apparatus for nations to maintain peace in the world, he stated that in the last few years, the government has created an environment which has enabled the Armed Forces, scientists and defence manufacturers to think pro-actively and move forward on the path of making India strong and self-reliant. Singh called for fast-tracking of design and development of helicopters in India. “According to an estimate, there is a demand for more than 1,000 civilian helicopters in the country and an equal number of helicopters in the defence sector. We need to exploit this huge potential in the helicopter market. In addition, we need to make efforts to strengthen India’s claim in the Rotary wing domain. The era is changing. I am sure that in the times to come, we will be more bright, strong and completely self-reliant,” he said.

<https://indianexpress.com/article/india/underlining-supply-issues-rajnath-pushes-for-indigenous-defence-tech-7849988/>



Sat, 02 Apr 2022

India’s ‘Loyal Wingman’ warrior drone will be flight tested by 2024

According to Janes, flight testing of India’s ‘Warrior’ drone, which is part of the indigenous Combat Air Teaming System (CATS) being developed by Hindustan Aeronautics Limited (HAL) and private sector partners, would begin in 2024. The story claims that “a loyal wingman programme being built by India’s HAL is on track to see flight-testing by 2024.” HAL’s Warrior is being designed to complement and maximise the effectiveness of existing manned fighter jets such as the LCA Tejas and Rafale of the Indian Air Force. The drone, which will be equipped with sensors, will act as a force multiplier for the human fighter, assisting it with surveillance, reconnaissance, and early warning tasks.

HAL’s pavilion at Aero India 2021 featured a mock-up of the drone, which initially appeared in 2019. It was positioned beneath a mock-up of an LCA Tejas fighter that was carrying other CATS systems. “A composite amalgamation of manned and unmanned platforms that work together to penetrate heavily protected enemy airspace,” according to CATS. When it was unveiled at Aero India 2021, this manned-unmanned teaming technology was still in the early phases of development. CATS also has a cruise missile dubbed the CATS Hunter on show at Aero India, as well as the CATS ALFA-S switchblade swarm drone. The CATS Hunter will be able to hit targets from a distance of 200 kilometres.

New Space Research & Technologies, a Bengaluru-based start-up, is developing the ALFA-S [Air Launched Flexible Asset – Swarm] drone. It is a swarm drone system that can hone in on numerous targets. It was first presented as part of the 'Jaguar Max' upgrade package in 2019. Drones are housed in a carrier with this method. This drone carrier, placed on a fighter, can fly for up to 100 kilometres before deploying the drones. These drones may strike adversary objectives like surface-to-air missile positions and parked aircraft. A private company is also working on the Warrior drone. Air-to-air and air-to-ground missiles can be carried by the faithful wingman. The Smart Anti-Airfield Weapon (SAAW), an indigenously manufactured long-range precision-guided stand-off munition created by the Defence Research and Development Organisation, was carried by the Warrior model on exhibit at Aero India 2021. (DRDO).

The IAF's fighter jets will be modernised and modified to command unmanned warfare platforms, according to reports. A single fighter plane equipped for the purpose (the LCA Tejas fighter labelled 'CATS MAX' in the image above) will be able to command several Warrior drones and transport additional CATS parts. The deployment of an unmanned Warrior platform as a faithful wingman will not only operate as a force multiplier, but it will also reduce the likelihood of casualties during an attack. The United States, Australia, and the United Kingdom are all working on similar air combat teaming systems. In Australia, Boeing is developing an Airpower Teaming System, popularly known as the Boeing Loyal Wingman project. In the United States, Kratos Defense & Security Solutions has developed the Valkyrie, a faithful wingman aircraft.

<https://defenceaviationpost.com/indias-loyal-wingman-warrior-drone-will-be-flight-tested-by-2024/>

Business Standard

Sun, 03 Apr 2022

Need to progress on 10 tonne Indian multirole Chopper: Rajnath Singh

Observing that India has shown its strength in the design, development and operation of helicopters in the five tonne category, Defence Minister Rajnath Singh on Saturday said in order to become a global leader there is a need to progress in the design of 10 tonne Indian multi-role helicopter. Further, aggression of any type has never been there in the history of India and in the last few years, the relation among peace, security and military power have deepened, he said.

"When I am talking about making oneself strong, I don't mean establishing our dominance in the world. India has been such a country, if it has carried arms, then it is for protecting the 'shastras'. Shastra means knowledge. Shastra means our civilizational values shastra means truth, non-violence and peace." "Aggression of any type has never been there in the history of India. If you see the situation during the last few years, you will find that the relation among peace, security and military power have deepened. If the message of 'vasudhaiva kutumbakam' (the whole world is one family) has gone to the whole world, it has only gone from our motherland, India," he said

in his address at a conclave organised here to commemorate the 60 years of Chetak helicopter's service to the nation.

The Defence Minister said the indigenously designed and developed Advanced Light Helicopter DHRUV and its variants are examples of the country's strength.

He described the Light Combat Helicopter as another example of the country's capability in light helicopters for combat operations.

He stressed on the need to march forward in the design of the 10-tonne Indian multi-role helicopter. According to an estimate, there is demand for more than 1,000 civilian helicopters and an equal number of helicopters in the military sector in the country, Singh said, adding, this opportunity in the chopper market should be exploited.

There is also a need to make efforts to strengthen the country's claim in the Rotary wing domain, he said. He reiterated the government's resolve of achieving 'Aatmanirbharta' (self-sufficiency) in defence production and preparedness, in view of the constantly changing global security scenario.

External conditions have impacted on the serviceability of India's critical weapons and equipment and therefore, efforts for self-sufficiency continues to be the need of the hour. Singh said that by being strong, India does not mean to establish dominance in the world.

India has always followed the path of truth, non-violence and peace and does not support aggression of any kind, he said. He also spoke about the efforts made to encourage domestic industry. "Free technology is being transferred to them by DRDO. FDI limit has also been increased," he said.

Two positive indigenisation lists of defence items have been issued, while the third list will be out soon, he said. He pointed out the positive response from the services, research and development organisations and public and private sector industries.

The MSMEs, start-ups, innovators and academia are together exploring new avenues of defence production, he said, exuding confidence that the unprecedented steps taken by the government would get unprecedented response. The Defence Minister said the conclave is a fitting tribute to those who have served the nation with hard work and dedication. Comparing 'Chetak', a horse of Rajput king Rana Pratap, he described the helicopter named after it as not just a machine, but a vibrant and dedicated entity which has been continuously engaged in the service of the nation for the last six decades, setting an example for others.

Chetak played a key role in the 1971 Indo-Pak war and Lt Gen Niyazi (who signed the surrender document) and a Major General were brought as Prisoners of War to India in a Chetak helicopter, a senior official said.

https://www.business-standard.com/article/current-affairs/need-to-progress-on-10-tonne-indian-multirole-chopper-rajnath-singh-122040200730_1.html

THE TIMES OF INDIA

Sun, 03 Apr 2022

Tap huge demand for Choppers: Defence minister Rajnath Singh

Defence minister on Saturday said the ever-changing global scenario is throwing up new challenges for the defence sector but the country, which is on the path of self-reliance, will not be dependant on any one any more. Stating that there is a demand for 1,000 civilian helicopters and another 1,000 in the defence sector, the minister said the country has to march forward in the design and development of 10-tonne Indian multi-role helicopter which, he said, is a significant requirement for the armed forces.

Taking part in the 60th anniversary celebrations of the induction of helicopter into the Indian Air Force, Singh said the country was always dependent on imports from other countries to bolster the defence sector. "This government, however, believes in strengthening our own expertise to protect ourselves," he asserted. Claiming that India has a huge market potential, the minister called upon experts to fast-track the design and development of helicopter technology in the country, terming it as a dual-use technologies which will make India a dominant force in the helicopter market. "This huge potential has to be exploited and India's claim in the rotary wing domain has to be strengthened. The era is changing. I am sure in the times to come, we will be more strong and completely self-reliant," Singh said. The minister also recalled the extraordinary contribution of the Chetak helicopter during the 1971 war. "From providing air support to ground troops to heli-bridging operations and destroying enemy positions, Chetak showed exemplary courage and professionalism. Our victory in the war has been written in golden letters in the history books. We fought that war to protect humanity and democracy," he said. The minister spoke on the role domestic industry can play in achieving 'Aatmanirbhar Bharat'..

<https://timesofindia.indiatimes.com/city/hyderabad/tap-huge-demand-for-choppers-rajnath/articleshow/90616599.cms>



Sat, 02 Apr 2022

18 military platforms, including directed energy weapons and long-range UAVS, will be developed by domestic industry

The Defence Ministry announced on Friday (11 March) that the private sector has been tasked with designing and developing 18 significant platforms, including directed energy weapons, naval ship-borne Unmanned Aerial Systems, and light weight tanks. The move is part of the ministry's bigger strategy to bolster the domestic defence sector. Other key platforms to be developed under the initiative include a hypersonic glide vehicle, unmanned autonomous AI-

based land robot, 127 mm naval gun, electric propulsion (engines) for ships, and standoff airborne jammer, in addition to directed energy weapons, naval ship borne Unmanned Aerial System, and light weight tanks. According to the ministry, 18 important platforms have been designated for industry-led design and development, in line with the government's goal of increasing defence manufacturing self-sufficiency.

Under the 'Make-I' category of the Defence Acquisition Procedure (DAP) 2020, the private sector is developing 14 platforms, according to the defence ministry. The 'Make' Category of the DAP 2020 aspires to achieve self-sufficiency by involving more Indian industry. This category includes initiatives involving the design and construction of equipment, systems, key platforms, or updates thereto by the industry, according to the statement. The Ministry of Defence would fund up to 70% of the total cost of prototype development for projects in the Make-I sub-category. According to the government, two platforms will be built under the Special Purpose Vehicle (SPV) paradigm.

Under the SPV model, private industry will be encouraged to collaborate with the Defence Research and Development Organisation (DRDO) and other organisations to design and manufacture military systems and equipment. Long-range unmanned aerial vehicles (UAVs) and the Indian Multi-Role Helicopter have been considered as platforms for development under the SPV model (IMRH). Under the iDEX programme, which promotes start-ups and MSMEs, a platform dubbed Low Orbit Pseudo Satellites will be built. Anti-jamming systems for numerous platforms are being developed under the 'Make-II' category, according to the ministry.

The initiatives in the 'Make-II' category are funded by the private sector with government procurement guaranteed. According to the ministry, four large platforms have already received Approval-In-Principle (AIP) under the Make-I category, out of a total of 18 big platforms. Communication System (AFNET System Switches, Routers, Encryptors, and VOIP Phones); EO Pod (with subsequent upgrading to EO/IR) with high resolution sensing; Standoff Airborne Jammer; and Light Weight Tanks are the four platforms awarded AIP. According to the ministry, developing these projects domestically will assist the domestic defence sector harness its design strengths and establish India as a design leader in these technologies.

<https://defenceaviationpost.com/18-military-platforms-including-directed-energy-weapons-and-long-range-uavs-will-be-developed-by-domestic-industry/>



Sun, 03 Apr 2022

Army inducts Russian MANPADS

The Army, which has for long been looking for new man portable air defence systems, has inducted a small number of Igla-S systems recently bought from Russia under emergency procurement, according to defence sources. However, a much larger contract for Igla-S systems under the Very Short Range Air Defence System (VSHORAD) deal is still pending and under review by the Defence Ministry. "The contract was signed in December 2020 and the equipment was delivered by December 2021. This includes 24 launchers, 216 missiles and testing equipment," one of the sources said.

The procurement was done through the Vice Chiefs emergency financial powers given to the Services for the first time after the Balakot air strike in February 2019 and further extended after the standoff with China in Eastern Ladakh in May 2020. Under this, Services can procure weapons systems upto ₹300 crores on an urgent basis without any further clearances. In the backdrop of the Russian special military operation in Ukraine and the Western sanctions, India and Russia are working out modalities to utilise the Rupee-Rouble route in a large way for trade and payments. The Ministry is also assessing the impact it would have on the timely execution of deals as well as steady supplies of spares and support.

The larger VSHORAD deal which began in 2010 and saw several rounds of trials and re-trials is still pending. This deal which was close to conclusion is now under review as part of the overall relook at all direct import deals by the Defence Ministry. Deliberations are still continuing on the larger VSHORAD deal, another defence source said.

The Request for Proposal (RFP) for VSHORAD was issued in October 2010 for over 5,000 missiles, 258 single launchers and 258 multi-launchers. Five contenders responded and eventually three made it to the trials - MBDA of France, Rosoboronexport of Russia and SAAB of Sweden. Eventually all three companies were declared technically compliant in 2017 and Igla-S was declared the lowest bidder in November 2018.

While the benchmark price arrived at by the Army was just over \$2 bn, Rosoboronexport's bid was much lower at around \$1.47 bn, SAAB at about \$2.6 bn, and MBDA at about \$3.68 bn. This led to much deliberation within the Ministry as the Russian bid was much lower compared to the benchmark price. The deal also saw several allegations of deviations in procedures with some of the vendors sending protest letters. As per requirements, the VSHORAD should have a maximum range of 6 km, altitude of 3 km along with all-weather capability and will replace the existing Igla in service which is in urgent need of replacement. VSHORAD is the soldier's last line of defence against enemy combat aircraft and helicopters in the multilayered air defence network.

In addition to the Igla-S, the Army variant of the Medium Range Surface to Air Missile (MRSAM) being jointly developed by the Defence Research and Development Organisation (DRDO) and Israel Aerospace Industries (IAI) completed trials earlier this month and is now ready for induction. The maiden launch of MRSAM Army Version was conducted in December 2020. Air Defence functions in three levels – gun/missile system, medium range, and high range. Within this the Air Defence guns are of two types, AD Gun Missile system, AD self propelled guns. The Army is looking for AD guns in both the categories. In the medium segment, it has the indigenous Akash SAM while MRSAM fits in the high range.

<https://www.thehindu.com/news/national/army-inducts-igla-s-shoulder-fired-air-defence-systems-from-russia/article65284695.ece>

Mon, 04 April 2022

NASA calls off critical Artemis 1 moon rocket test over safety concerns

NASA called off a critical fueling test of its Artemis 1 moon rocket on Sunday due to safety concerns with ground equipment on the booster's mobile launcher platform. Technicians planned to fuel the Artemis 1 megarocket, called the Space Launch System (SLS), with 700,000 gallons (2.6 million liters) of super-cold propellant on Sunday (April 3) at Pad 39B of NASA's Kennedy Space Center in Florida. The fueling test was the final stage of a three-day "wet dress rehearsal" designed to test launch countdown process for NASA's Artemis 1 mission to the moon later this year. But a problem on the Artemis 1 rocket's mobile launcher, a platform that includes its gantry tower and other vital equipment, foiled the test, NASA officials said. A system that uses fans to pressurize the mobile launcher and keep out harmful gases failed.

NASA will attempt to finish the wet dress rehearsal on Monday (April 4), with loading of fuel expected to begin around 7 a.m. EDT (1100 GMT), agency officials confirmed during a news conference held Sunday evening. The Artemis 1 rocket has had a busy few days during the wet dress rehearsal, which began Friday evening (April 1). "The last 48 hours has been one of the more interesting 48 hours that I've had in the context of working missions leading up to a launch," Mike Sarafin, Artemis mission manager for NASA, said during the news conference. Saturday was a particularly stormy day in Cape Canaveral, where KSC is located; weather officials for the procedure predicted a 90% chance of precipitation and an 80% chance of lightning, both of which materialized. "We knew that weather was going to be probably one of our bigger challenges," Sarafin said. And indeed, by early afternoon on Saturday, four lightning strikes were detected at Pad 39B, one of them particularly strong, but none of them struck the SLS rocket, NASA reported. They were diverted by the pad's lightning protection system, which is made up of three tall towers and a network of catenary lines that redirect electrical current to the ground away from the rocket. Responding to the lightning strikes set the team back about four hours, Charlie Blackwell-Thompson, the Artemis 1 launch director, said during the news conference. Overnight, the teams made up most of that time, and officials decided to proceed with the wet dress rehearsal on Sunday.

"We kinda knew that we were proceeding at risk relative to the timeline, but we had great weather today and we had the range available so we decided to proceed," Sarafin said. But shortly after 7 a.m. EDT (1100 GMT), Blackwell-Thompson said, the team was alerted to an issue with a fan that pressurizes the mobile launcher. That issue turned out to be a breaker trip, and personnel switched to the fan's redundant back-up — only to have that fan also stop working. As of 5:30 p.m. local time (2130 GMT), teams were inspecting the fan system, Blackwell-Thompson said, and she expected to have their results in hand within an hour or two.

"The fans are needed to provide positive pressure to the enclosed areas within the mobile launcher and keep out hazardous gases," NASA wrote in an update Sunday. "Technicians are unable to safely proceed with loading the propellants into the rocket's core stage and interim cryogenic propulsion stage without this capability." Currently, personnel do not believe that the fan issue is related to the lightning strikes, since the fan continued to operate into Sunday morning before the failure. Besides the fan system, all seems well, Blackwell-Thompson said. "That's the only real issue that our team is really looking at," she said.

The team will attempt to begin fueling the rocket on Monday at about 7 a.m. EDT, she said, which would put the "launch" time of the rehearsal at about 2:40 p.m. (1840 GMT). If Monday's attempt also encounters an issue, NASA will have to weigh range schedules and the availability of fuel before setting a new date. (The SLS is so large that NASA can't store extra tanks worth of liquid hydrogen, one of its two fuels, on site.)

NASA's Artemis 1 SLS rocket is standing atop Pad 39B, which neighbors Launch Pad 39A, where a SpaceX Falcon 9 rocket is scheduled to launch four private astronauts to the International Space Station on Wednesday (April 6) on the Ax-1 mission for the company Axiom Space. The Ax-1 mission's launch was delayed from an April 3 target to make way for NASA's Artemis 1 fueling test. Agency officials have said the Ax-1 mission must launch by April 7 or so to avoid even more delays due to a subsequent SpaceX astronaut launch for NASA, a mission called Crew-4 currently scheduled for April 20, that will ferry four more astronauts to the International Space Station for NASA.

During the news conference, NASA officials declined to comment on whether today's scrub would affect the Ax-1 or Crew-4 launches. "Teams will discuss range and commodity availability as part of the forward plan," NASA officials said of the Artemis 1 fueling test in the update. Artemis 1 is the first mission to the moon of NASA's Artemis program, which aims to return astronauts to the lunar surface by 2025 or so. The mission will use NASA's first Space Launch System rocket to launch an uncrewed Orion spacecraft around the moon and return it to Earth. If all goes well with the flight, NASA aims to launch a crewed Orion spacecraft around the moon in 2024 followed by the the Artemis 3 crewed landing mission sometime later. The Artemis 1 "wet dress rehearsal" is a critical step in verifying that the SLS rocket is ready for launch. The booster is NASA's most powerful rocket ever and the agency's first moon rocket since its Saturn V rockets launched Apollo astronauts in the 1960s and 1970s.

<https://www.space.com/nasa-artemis-1-moon-rocket-fueling-test-scrub>

Rocket Lab launches BlackSky satellites as it prepares for mid-air booster recovery

A Rocket Lab Electron launched another pair of imaging satellites for BlackSky April 2 as the company gears up to attempt recovery of the rocket's first stage. The Electron lifted off from Rocket Lab's Launch Complex 1 in New Zealand at 8:41 a.m. Eastern. The rocket's upper stage deployed a kick stage carrying two BlackSky satellites into orbit nearly 10 minutes later. The kick stage, after a burn of its Curie engine, released the satellites into a 430-kilometer orbit nearly an hour after liftoff.

The launch was the latest in a series of Electron launches of BlackSky satellites arranged by Spaceflight. That deal included launches of pairs of BlackSky satellites in November and December 2021 as well as a failed Electron launch in May 2021. Rocket Lab said March 24 that the launch, the second Electron flight of the year, was previously scheduled for March but postponed by weather. Because of the delay of the launch, revenue from the launch would be recognized in its fiscal second quarter rather than its first. The company updated its revenue projection for the first quarter from \$42–47 million to approximately \$40 million.

BlackSky said in December it would launch two to four satellites this year, joining the 12 it had in orbit at the time. The company is shifting its development focus to a new Gen 3 series of satellites with improved resolution, with the first of those satellites scheduled to launch in 2023. Rocket Lab did not attempt to recover the first stage of the Electron after this launch. The company said in November that, after three launches where it recovered Electron boosters after splashing down in the ocean, it was ready to attempt a midair recovery of a booster by catching it with a helicopter, the final step before reusing those boosters.

The company has not announced when that recovery will take place, but hinted it would take place soon. "The first one that we'll catch in the air is coming up very soon," said Lars Hoffman, senior vice president of global launch services at Rocket Lab, during a panel session at the Satellite 2022 conference March 22. "Then we're going to examine that and do any refurb that is necessary, and try to relaunch that as soon as it's ready, hopefully this year." He added that the company has a "full manifest" of Electron launches this year, including the first from Launch Complex 2 at Wallops Island, Virginia, with a goal of launching on average once per month. "We're keeping pace with the market. We're trying not to get too far ahead."

<https://spacenews.com/rocket-lab-launches-blacksky-satellites-as-it-prepares-for-mid-air-booster-recovery/>

ISRO gets flight-grade systems from private companies

Describing them as “new vistas of industry partnership in the space sector”, the Indian Space Research Organisation (ISRO) said private companies at the government-owned-company-operated (GOCO) facility at Vikram Sarabhai Space Centre (VSSC) have successfully realised key flight-grade systems. SFO Technologies, Hical, and Hical, Bengaluru, realised and delivered flight-grade RF systems and electromechanical actuators, respectively, at VSSC recently, Isro said. The space agency added: “RF packages and actuation systems are among the most complex systems in a launch vehicle. Their realisation is equally challenging. RF system Pointing out that actuation systems encompass complex mechanical and electrical integration, Isro said the realisation of these systems, therefore, predominantly remains an in-house activity.

“However, the demand to focus on new technology developments prompted the VSSC management to open the doors to private partners by adopting the GOCO model. The success of the GOCO model elsewhere, including at VSSC for surface treatment of mechanical parts, also gave impetus to the decision,” Isro said. An expression of interest was floated and then requests for proposal were sought. Finally, SFO Technologies and Hical Technologies were contracted. “RF packages are used in the telemetry and telecommand functions of a satellite launch vehicle mission.

Three RF packages were identified for realisation through the GOCO facility: programmable S-band transmitter, solid-state Cband transponder, and digital telecommand receiver. The RF GOCO facility was set up with state-of-the-art equipment for fabrication and testing of launch vehicle RF systems,” Isro added. Twelve types of electromechanical actuators for PSLV, GSLV and GSLV MkIII were identified for production in GOCO mode. The facility was established with bonded stores, a fitting shop, assembly and inspection areas, and a fully equipped Class-1000 cleanroom.

<https://timesofindia.indiatimes.com/city/bengaluru/isro-gets-flight-grade-systems-from-private-companies/articleshow/90629615.cms>

