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पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Wed, 29 Jun 2022 2:50 PM

हाई स्पीड एक्सपेंडेबल एरियल टारगेट - अभ्यास - का ओडिशा के तट पर सफलतापूर्वक उड़ान परीक्षण किया गया

अभ्यास - हाई स्पीड एक्सपेंडेबल एरियल टारगेट (एचईएटी) का 29 जून, 2022 को ओडिशा के तट पर स्थित चांदीपुर के इंटीग्रेटेड टेस्ट रेंज (आईटीआर) से सफलतापूर्वक उड़ान परीक्षण किया गया। उड़ान परीक्षण के दौरान निरंतर स्तर तथा उच्च गतिशीलता सहित कम ऊंचाई पर विमान का निष्पादन प्रदर्शित किया गया। टारगेट विमान को एक पूर्व-निर्धारित निम्न ऊंचाई वाले उड़ान पथ में एक ग्राउंड आधारित कंट्रोलर से उड़ाया गया जिसकी निगरानी राडार तथा इलेक्ट्रो-ऑप्टिकल टारगेटिंग सिस्टम सहित आईटीआर द्वारा तैनात विभिन्न ट्रैकिंग सेंसरों द्वारा की गई।

अभ्यास की डिजाइन एवं उसका विकास रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) के वैमानिकी विकास प्रतिष्ठान द्वारा किया गया है। इस हवाई वाहन को ट्विन अंडर-स्लग बूस्टर का उपयोग करने के जरिये लॉन्च किया गया जो व्हीकल को आरंभिक गति प्रदान करते हैं। यह हाई सबसोनिक स्पीड पर एक लंबी इंड्यूरेंस फ्लाइट को बनाये रखने के लिए एक छोटे से गैस टरबाइन द्वारा संचालित है। टारगेट विमान बहुत उंची उड़ान के लिए स्वदेशी रेडियो अल्टीमीटर तथा ग्राउंड कंट्रोल स्टेशन तथा टारगेट विमान के बीच इनक्रिप्टेड कम्युनिकेशन के लिए डाटा लिंक के साथ-साथ गाइडेंस और कंट्रोल के लिए फ्लाइट कंट्रोल कंप्यूटर के साथ नैविगेशन के लिए माइक्रो-इलेक्ट्रोमैकेनिकल सिस्टम आधारित इनर्शियल नैविगेशन सिस्टम के साथ सुसज्जित है। इस व्हीकल को पूरी तरह स्वचालित उड़ान के लिए प्रोग्राम किया गया है।

रक्षा मंत्री श्री राजनाथ सिंह ने अभ्यास के सफल उड़ान परीक्षण के लिए डीआरडीओ, सशस्त्र बलों तथा उद्योग को बधाई दी है और कहा कि इस सिस्टम का विकास सशस्त्र बलों के लिए एरियल टारगेट की

आवश्यकता को पूरा करेगा। रक्षा अनुसंधान एवं विकास विभाग के सचिव तथा डीआरडीओ के अध्यक्ष डॉ. जी सतीश रेड्डी ने सिस्टम के डिजाइन, विकास और परीक्षण से जुड़ी टीमों के प्रयासों की सराहना की।

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1837926>

अमर उजाला

Wed, 29 Jun 2022

ABHYAS: डीआरडीओ को बड़ी कामयाबी, ओडिशा के तट पर स्वदेशी लड़ाकू ड्रोन 'अभ्यास' का सफल परीक्षण

रक्षा अनुसंधान एवं विकास संगठन ने ओडिशा में बंगाल की खाड़ी के तट पर चांदीपुर एकीकृत परीक्षण रेंज से अभ्यास हाई स्पीड एक्सपेंडेबल एरियल टारगेट का सफल परीक्षण किया। इस लड़ाकू ड्रोन का फ्लाइट टेस्ट बुधवार को किया गया। इससे भारतीय रक्षा प्रणाली को और मजबूती मिलेगी। परीक्षण के दौरान लक्ष्य को जमीन-आधारित नियंत्रक से सबसोनिक गति से पूर्व-निर्धारित उड़ान पथ में उड़ाया गया। वाहन का इस्तेमाल विभिन्न मिसाइल प्रणालियों की निगरानी के लिए हवाई लक्ष्य के रूप में किया जा सकता है।

छोटे से गैस टरबाइन इंजन से संचालित होता है अभ्यास

यह एंडो-वायुमंडलीय, सतह से हवा और हवा से हवा में मार करने में सक्षम है। परीक्षण के दौरान वैज्ञानिक उपकरणों की मदद से इसके मार्ग, स्पीड आदि की निगरानी करते रहे। यह एक छोटे से गैस टरबाइन इंजन से संचालित होता है। इसे स्वायत्त उड़ान के लिए बनाया गया है और यह अपने लक्ष्य को आसानी से भेदने में सक्षम है। अभ्यास का निर्माण 2012 से चल रहा था। डीआरडीओ के मुताबिक यह हथियार प्रणाली को परीक्षण के लिए एक रियलिस्टिक खतरे का दृश्य देता है, जिसकी मदद से विभिन्न मिसाइलों या हवा में मार करने वाले हथियारों का परीक्षण किया जा सकता है।



अभ्यास ड्रोन

<https://www.amarujala.com/india-news/abhyas-heat-was-successfully-flight-tested-today-by-drdo-from-the-itr-chandipur-off-the-coast-of-bay-of-bengal-in-odisha>

ओडिशा तट पर DRDO ने किया HEAT का सफल परीक्षण, जानिए विमान की खासियत

रक्षा अनुसंधान एवं विकास संगठन (Defence Research and Development Organisation) ने बुधवार को ओडिशा (Odisha) के तट पर एकीकृत परीक्षण रेंज (ITR), चांदीपुर से हाई स्पीड एक्सपेंडेबल एरियल टारगेट (HEAT) का सफलतापूर्वक उड़ान परीक्षण किया। उड़ान परीक्षण के दौरान निरंतर स्तर तथा उच्च गतिशीलता सहित कम ऊंचाई पर विमान का निष्पादन प्रदर्शित किया गया। टारगेट विमान को एक पूर्व-निर्धारित निम्न ऊंचाई वाले उड़ान पथ में एक ग्राउंड आधारित कंट्रोलर से उड़ाया गया जिसकी निगरानी राडार तथा इलेक्ट्रो-ऑप्टिकल टारगेटिंग सिस्टम सहित आईटीआर द्वारा तैनात विभिन्न ट्रैकिंग सेंसरों द्वारा की गई।

विमान को डीआरडीओ ने किया तैयार

अभ्यास की डिजाइन और उसका विकास रक्षा अनुसंधान और विकास संगठन (DRDO) के वैमानिकी विकास प्रतिष्ठान द्वारा किया गया है। इस हवाई वाहन को ट्विन अंडर-स्लग बूस्टर का उपयोग करने के जरिये लॉन्च किया गया जो वहीकल को आरंभिक गति प्रदान करते हैं। यह हाई सबसोनिक स्पीड पर एक लंबी इंड्यूरेंस फ्लाइट को बनाये रखने के लिए एक छोटे से गैस टरबाइन द्वारा संचालित है।



हाई स्पीड एक्सपेंडेबल एरियल टारगेट

जानें विमान को किस तरह से किया जाएगा नियंत्रण

बता दें कि टारगेट विमान बहुत ऊंची उड़ान के लिए स्वदेशी रेडियो अल्टीमीटर तथा ग्राउंड कंट्रोल स्टेशन तथा टारगेट विमान के बीच इनक्रिप्टेड कम्युनिकेशन के लिए डाटा लिंक के साथ-साथ गाइडेंस और कंट्रोल के लिए फ्लाइट कंट्रोल कंप्यूटर के साथ नैविगेशन के लिए माइक्रो-इलेक्ट्रोमैकेनिकल सिस्टम आधारित इनर्शियल नैविगेशन सिस्टम के साथ सुसज्जित है। इस वहीकल को पूरी तरह स्वचालित उड़ान के लिए प्रोग्राम किया गया है।

रक्षा मंत्री ने डीआरडीओ को दी बधाई

रक्षा मंत्री राजनाथ सिंह ने अभ्यास के सफल उड़ान परीक्षण के लिए डीआरडीओ, सशस्त्र बलों और उद्योग को बधाई दी है और कहा है कि इस प्रणाली का विकास सशस्त्र बलों के लिए हवाई लक्ष्यों की

आवश्यकताओं को पूरा करेगा. वहीं, रक्षा अनुसंधान एवं विकास विभाग के सचिव और डीआरडीओ के अध्यक्ष डॉ जी सतीश रेड्डी ने प्रणाली के डिजाइन, विकास और परीक्षण से जुड़ी टीमों के प्रयासों की सराहना की.

<https://www.prabhatkhabar.com/national/drdo-successfully-test-fired-heat-off-odisha-coast-know-the-specialty-of-the-aircraft-pyu>



Wed, 29 Jun 2022

In Odisha, DRDO Successfully Tests 'Abhyas' High-Speed Expendable Aerial Target

On Wednesday, June 29, the Defence Research and Development Organisation (DRDO) announced the successful flight test of ABHYAS - the High-Speed expendable Aerial Target (HEAT) in Odisha. The test took place at the Integrated Test Range (ITR), Chandipur off the coast of Bay of Bengal in Odisha.

DRDO stated on Twitter that the aircraft ABHYAS strengthens India's indigenous capabilities and also went on to add that performance of the aircraft at low altitude including sustained level and high manoeuvrability, was demonstrated during the test flight.



The target aircraft was flown from a ground-based controller in a pre-designated low altitude flight path, which was monitored by various tracking sensors deployed by ITR, including radar and electro-optical targeting system.

ABHYAS; High-speed Expendable Aerial Target

The Press release from the Ministry of Defence stated that ABHYAS is a High-speed Expendable Aerial Target (HEAT) being designed and developed at Aeronautical Development Establishment (ADE) and It offers a realistic threat scenario for practice of weapon systems. The air vehicle was launched using twin under-slung boosters which provide the initial acceleration to the vehicle. It is powered by a small gas turbine engine to sustain a long endurance flight at high subsonic speed.

The target aircraft is equipped with Micro-Electromechanical Systems-based Inertial Navigation System for navigation along with the Flight Control Computer for guidance and control along with Indigenous Radio Altimeter for very low altitude flight and Data Link for encrypted communication between the Ground Control Station and Target Aircraft.

ABHYAS is designed for autonomous flying with the help of an autopilot, under development at ADE. ABHYAS has RCS, Visual and IR augmentation systems required for weapon practice.

Defence Minister Rajnath Singh, as a result of ABHYAS' successful flight test, has thanked and congratulated the DRDO, the Armed Forces, and the Industry. He also stated that further development of this system will satisfy the needs of the Armed Forces for aerial targets. Dr. G. Satheesh Reddy, Chairman of the DRDO and Secretary of the Department of Defence R&D, praised the work of the teams involved in the system's design, development, and testing.

<https://www.republicworld.com/india-news/general-news/abhyas-high-speed-expendable-aerial-target-successfully-flight-tested-by-drdo-in-odisha-articleshow.html>



Wed, 29 Jun 2022

India Successfully Tests High-Speed Expendable Aerial Target Abhyas

Defence minister Rajnath Singh congratulated the DRDO and the Indian armed forces for the successful trial and said that the development of this system would meet the requirements of aerial targets for the armed forces, a press release stated. India on Wednesday successfully tested the indigenously-designed Abhyas - a High-speed Expendable Aerial Target (HEAT) - in Odisha. The trial was carried out by the Defence Research and Development Organisation (DRDO) from the Integrated Test Range (ITR) in Odisha's Chandipur. The aircraft is programmed for a fully autonomous flight, meaning that it flies under the control of automatic systems and needs no intervention from a human pilot.

During the test flight, the aircraft was flown from a ground-based controller to examine its manoeuvrability and performance at low altitudes. The air vehicle was launched using twin under-slung boosters during the demonstration, which provided initial acceleration. It is powered by a small gas turbine engine for endurance flights at high subsonic speed. Defence minister Rajnath Singh congratulated the DRDO and the Indian armed forces for the successful trial and said that the development of this system would meet the requirements of aerial targets for the armed forces, a press release stated. A day earlier, the defence research body and the Army also successfully tested an indigenously-developed anti-tank guided missile in Maharashtra.

"In the test, the ATGM hit the bull's eye with textbook precision and successfully defeated the target at minimum ranges. Telemetry systems recorded the satisfactory flight performance of the missile," the defence ministry said in a statement. India also test-fired the Vertical Launch Short Range Surface to Air Missile (VL-SRSAM) in Chandipur last week. The VL-SRSAM is a ship-borne weapon system meant for neutralising various aerial threats at close ranges including sea-skimming targets.

<https://www.hindustantimes.com/india-news/india-successfully-tests-high-speed-expendable-aerial-target-abhyas-101656500259046.html>

Wed, 29 Jun 2022

India Successfully Tests High-Speed Expendable Aerial Target Abhyas

India on Wednesday successfully flight-tested the indigenously developed high-speed expendable aerial target (HEAT), ABHYAS, from the Integrated Test Range (ITR) in Chandipur off the Odisha coast, as per a statement.

The performance of the aircraft at low altitude, including sustained level and high maneuverability, was demonstrated during the test flight, it said.

The target aircraft was flown from a ground-based controller in a pre-designated low-altitude flight path, which was monitored by various tracking sensors deployed by ITR, including radar and an electro-optical targeting system, it added. ABHYAS is designed and developed by Aeronautical Development Establishment of Defence Research and Development Organisation (DRDO).



The target aircraft was flown from a ground-based controller in a pre-designated low-altitude flight path, which was monitored by various tracking sensors deployed by ITR, including radar and an electro-optical targeting system, it added.

The air vehicle was launched using twin under-slung boosters, which provide the initial acceleration to the vehicle. It is powered by a small gas turbine engine to sustain a long endurance flight at high subsonic speed, the statement said. The target aircraft is equipped with a micro-electromechanical systems-based inertial navigation system. It also has a flight control computer for guidance and control along with a radio altimeter for very low-altitude flight and a data link for encrypted communication. The vehicle is programmed for fully autonomous flight, the statement said.

Defence Minister Rajnath Singh congratulated DRDO and the armed forces for the successful flight trial of ABHYAS, and said that the development of this system will meet the requirements of aerial targets. DRDO chairman G Satheesh Reddy lauded the efforts of the teams associated with the design, development and testing of the system.

<https://www.financialexpress.com/defence/india-successfully-tests-high-speed-expendable-aerial-target-abhyas/2577035/lite/>

Wed, 29 Jun 2022

Atmanirbhar Bharat: Light Weight Tanks for the Indian Army Will Roll Out Next Year, Says DRDO Chief

In 2023, Indian Army will soon have Light Weight Tanks which have been made in India in collaboration with Defence Research and Development Organisation (DRDO) and Larsen & Toubro (L&T). The making of the Light Weight Tank comes under Make-I, or “government funded” project category. In an exclusive conversation with Financial Express Online in New Delhi, Secretary, Department of Defence R&D and Chairman DRDO Dr G Satheesh Reddy said, “Work on the Light Weight Tank is going on in full swing. By 2023 the tank will be fully ready for production.”



Chief Minister of Gujarat, Vijay Rupani along with JD Patil, Whole Time Director, L&T flagged-offing the 91st K9 VAJRA-T Gun from L&T's Armoured System Complex (ASC)

The DRDO has been doing R&D for the Light Weight Tank and has a tie-up with L&T. Once the project is completed and the Indian Army formally places orders, the production will be done by the L&T. The DRDO chief told Financial Express Online “We are involving the Indian industry as Development cum Production Partners (DcPP). A lot of projects are being developed along with the industry.” And this will help in supporting the fast growing Indian defence industrial ecosystem which is needed in the country’s journey towards Atmanirbhar Bharat in Defence.

Has the Indian Army placed any order for the Light Tanks?

According to sources no specific order has been placed by the Indian Army for these tanks. Earlier this year, the Ministry of Defence (MoD) had notified a list of items which will be produced locally here in India, in line with the “Atmanirbhar Bharat” initiative of the government. The idea behind the third positive list introduced recently was to also encourage the Indian Armed Forces to buy the equipment, and other platforms that have been manufactured here in India. Financial Express Online had reported earlier that the third positive list was built on the 101 items in the first one and 108 items in the second. The first and second lists were promulgated in 2020 and 2021 respectively.

Light Weight Tank along with other big platforms like Mounted Artillery Gun System 155mm/ 52 Cal; 7.62mm x 54 (Sniper) Ammunition; See Through Armour; Armoured Recovery Vehicle (ARV) for MBT Arjun; are part of the third positive list. In March this year, a decision was taken under the Make-I category of the 2020 Defence Procurement Procedure (DPP) for developing Light Weight tanks for the Indian Army.

The decision was taken against the backdrop of the conversion of the tracked 155 Howitzer K-9 Vajra mobile a into a 35-tonne light weight tank. These light weight tanks are ideal to be used for

mountain warfare and will be deployed along the Line of Actual Control (LAC) where the need for these tanks was felt during the ongoing stand-off with China.

The need for Light tanks

Following the standoff between the armies of India and China along the LAC in Eastern Ladakh, the need for Light Weight Tanks was felt in that terrain. Since the Indian Army does not have Light Tanks it has deployed heavier tanks like the T-72 weighing 45 tons and T-90 which weighs around 46 tons. Last year in April the Indian Army had issued a Request For Information (RFI) for procuring around 350 light tanks with a weight of less than 25 tonnes to be deployed in High Altitude Areas (HAA).

<https://www.financialexpress.com/defence/atmanirbhar-bharat-light-weight-tanks-for-the-indian-army-will-roll-out-next-year-says-drdo-chief/2577306/>



Thu , 30 Jun 2022

DRDO Developing Indigenous Autonomous System to Tackle Nuclear Contamination

The Defence Research and Development Organisation (DRDO) is developing a new remotely operated system to survey radiologically affected areas and collect contaminated samples.

Termed as Automatic Terrain Monitoring and Decontamination System (ATMADS), it will be a lightweight battery-powered autonomous vehicle outfitted with sensors, cameras and mechanical components to lift and store samples. DRDO's Defence Laboratory, Jodhpur, which works in the area of nuclear radiation and sensor technologies, has been tasked with the execution of the project, which will be done in collaboration with the industry. According to DRDO sources, ATMADS is being designed to scan a potentially nuclear contaminated area, identify the source and location of the contamination and place the suspected samples into a radiation-proof container.



www.indiandefensenews.in Via DRDO: DRDO's Jodhpur Defence Laboratory has been tasked with the execution of the project

The unmanned vehicle will have an onboard navigation system to negotiate the terrain and the required equipment to monitor beta and gamma radiations, which would be relayed back to the control station through radio communication. ATMADS will be able to operate in a remote-controlled mode, where it will receive commands continually from the control station, as well as in a fully autonomous mode, where it will be pre-programmed to carry out missions. Artificial intelligence will be employed to carry out the operational tasks in the autonomous modes as well as for data processing and analysis. Pinpointing the source and assessing the extent of contamination is imperative for effective counter measures and decontamination operations, DRDO officials said.

<http://www.indiandefensenews.in/2022/06/drdo-developing-indigenous-autonomous.html?m=1>

DRDO On Twitter



DRDO ✓
@DRDO_India



[#DRDOforIndia](#) | Strengthening indigenous capabilities, [#ABHYAS-HEAT](#) has been successfully flight tested from ITR today. The test demonstrated the performance at low altitude including sustained level & high manoeuvrability.

[#AtmanirbharDefence](#)
[@DefenceMinIndia](#)
[@SpokespersonMoD](#)



3:45 PM · Jun 29, 2022 · Twitter for iPhone



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Wed, 29 Jun 2022 2:29PM

भारतीय सेना और रक्षा लेखा विभाग के बीच चौथा सिनर्जी सम्मेलन नई दिल्ली में आयोजित हुआ

अग्निवीरों के लिए वेतन एवं भत्तों की व्यवस्था को समय पर लागू करने पर चर्चा की गई

भारतीय सेना और रक्षा लेखा विभाग (डीएडी) के बीच चौथा सिनर्जी सम्मेलन 28 जून, 2022 को नई दिल्ली में आयोजित किया गया। दिन भर चलने वाले इस सम्मेलन की सह-अध्यक्षता थल सेना उप प्रमुख (वीसीओएएस) लेफ्टिनेंट जनरल बी एस राजू तथा रक्षा लेखा महानियंत्रक (सीजीडीए) श्री रजनीश कुमार ने की और इसमें भारतीय सेना एवं रक्षा लेखा विभाग के वरिष्ठ अधिकारियों ने भी भाग लिया।

इस सम्मेलन के प्राथमिक एजेंडे में अग्निपथ योजना पर विचार-विमर्श करना और अग्निवीरों के लिए वेतन एवं भत्तों की सुनियोजित व्यवस्था के सही समय पर कार्यान्वयन पर चर्चा करना शामिल था। सिनर्जी सम्मेलन की अन्य कार्य सूची में भारतीय सेना के जूनियर कमीशंड अधिकारियों/अन्य रैंकों की बेहतर सेवा वितरण के लिए वेतन व लेखा कार्यालयों (पीएओ) के कामकाज में सुधार करना शामिल था। दोनों पक्षों के वरिष्ठ अधिकारियों के परामर्श से भविष्य के लिए ठोस कार्य योजनाएं तैयार की गईं।

सीजीडीए ने सशस्त्र बलों के सेवा वितरण में सुधार के उद्देश्य से प्रौद्योगिकी की शक्ति का लाभ उठाने और बिल-प्रसंस्करण तथा भुगतान की प्रणाली को मौलिक रूप से बदलने हेतु नवीन व्यावसायिक प्रक्रिया री-इंजीनियरिंग को तैनात करने के लिए विभाग के दृष्टिकोण को साझा किया। उन्होंने डीएडी की विभिन्न पहल जैसे दर्पण (रक्षा लेखा रसीद, भुगतान एवं विश्लेषण) और आगामी केंद्रीकृत वेतन प्रणाली की रूपरेखा प्रस्तुत की। उन्होंने लक्षित उद्देश्यों को सफलतापूर्वक हासिल करने के लिए सेना की ओर से आवश्यक सहयोग पर भी प्रकाश डाला।

थल सेना उप प्रमुख ने रक्षा लेखा विभाग द्वारा कार्यान्वित की जा रही विभिन्न गतिविधियों की सराहना की। उन्होंने भारतीय सेना और डीएडी के वरिष्ठ अधिकारियों से आंतरिक लेखा परीक्षा व भुगतान के विभिन्न मुद्दों को हल करने के लिए निकट से समन्वय में कार्य करने का आग्रह किया। उन्होंने निर्णय लेने और रक्षा बजट के बेहतर प्रबंधन में सहायता हेतु इकाइयों तथा संरचनाओं के लिए लागत और व्यय का खाका तैयार करने की आवश्यकता की बात भी कही। वीसीओएस ने भारतीय रक्षा लेखा सेवा के अधिकारियों द्वारा महत्वपूर्ण वित्तीय निर्णयों तक पहुंचने और लेखा तथा लेखा परीक्षा समारोह के माध्यम से वित्तीय अनुशासन सुनिश्चित करने के लिए भारतीय सेना का मार्गदर्शन करने में निभाई गई महत्वपूर्ण भूमिका को सराहा।

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1838005>

नवभारत टाइम्स

Thu , 30 Jun 2022

एलएसी पर तैनात भारतीय सैनिक दे सकेंगे चीनी सैनिकों को उनकी ही भाषा में जवाब, सेना की बड़ी तैयारी

लाइन ऑफ एक्चुअल कंट्रोल (एलएसी) पर तैनात सैनिकों को चीनी भाषा में डेरिन सिखाने पर भारतीय सेना का फोकस बढ़ रहा है। आईटीबीपी (इंडो-तिब्बत बॉर्डर पुलिस) ने इस दिशा में ज्यादा तेजी से काम किया है। आईटीबीपी के सैनिक इंडो-तिब्बत बॉर्डर पर तैनात हैं और एलएसी पर वह भारतीय सेना के साथ मिलकर पेट्रोलिंग करते हैं। आईटीबीपी का लक्ष्य है कि 2030 तक पूरी फोर्स यानी आईटीबीपी के हर जवान से लेकर ऑफिसर तक काम चलाने लायक मेडरिन सीख लें।

भारतीय सेना ने कई सिविल यूनिवर्सिटी और संस्थानों के साथ टाईअप किया है, जहां उनके सैनिक और ऑफिसर मेडरिन सीख सकते हैं। सेना ने हर साल में डेरिन सीखने वालों की संख्या भी बढ़ाई है। वहीं आईटीबीपी ने सभी जवानों से लेकर ऑफिसर तक के लिए में डेरिन की बेसिक जानकारी जरूरी कर दी है। आईटीबीपी ने वैसे तो साल 2017 से ही यह शुरू कर दिया था कि जो भी आईटीबीपी में शामिल होगा तो शुरुआती ट्रेनिंग में ही में डेरिन की भी ट्रेनिंग दी जाएगी। हालांकि बीच में कोविड की वजह से इसकी रफ्तार थोड़ी धीमी रही। आईटीबीपी के सूत्रों के मुताबिक आईटीबीपी कॉस्टेबल की 44 हफ्तों की ट्रेनिंग होती है। हर हफ्ते उन्हें 3-4 वाक्य में डेरिन में सिखाए जाते हैं। इस तरह जब तक उनकी ट्रेनिंग पूरी होती है तो वह में डेरिन में करीब 100 वाक्य सीख लेते हैं। जो एलएसी पर चीनी सैनिकों से बातचीत के लिए काफी हैं। ni hao नी हाओ (हैलो), ni hao ma नी हाओ मा (आप कैसे हैं), Zhè shì wǒ de qūyù चश वद च्युयू (यह हमारा इलाका है) जैसे वाक्य उन्हें सिखाए जा रहे हैं ताकि वह चीनी सैनिकों को उनकी भाषा में जवाब दे

सकें। आईटीबीपी के पास अभी 163 मास्टर ट्रेनर हैं जिन्होंने मेंडेरिन का डिटेल कोर्स किया है। यह मास्टर ट्रेनर औरों को ट्रेनिंग दे रहे हैं। इसके अलावा हर बटालियन में भी जवानों को बेसिक जानकारी दी जा रही है। हर साल आईटीबीपी में करीब 3000 नए जवान और ऑफिसर आते हैं। सब को बेसिक मेंडेरिन सिखाई जा रही है। आईटीबीपी का अनुमान है कि 2030 तक पूरी फोर्स ट्रेड हो जाएगी। एक सीनियर अधिकारी ने कहा कि यह गेम चेंजर साबित होगा। चीनी सैनिकों को ही उनकी भाषा में जवाब नहीं दिया जाएगा बल्कि उनकी तरफ से जो पोर्टर आते हैं उनसे भी अगर उनकी जुबान में बात करेंगे तो इसका साइकोलॉजिकल इफेक्ट होगा।

<https://navbharattimes.indiatimes.com/india/indian-soldiers-posted-on-lac-will-will-learn-chinese-language-mandarin/articleshow/92558577.cms>



Thu , 30 Jun 2022

ICG Chief Flies Dhruv Mk-III Chopper, Lands on Warship in Arabian Sea

Indian Coast Guard director-general VS Pathania on Tuesday flew the recently-commissioned Advanced Light Helicopter (ALH) Dhruv MK-III helicopter and landed it on a ship located in the Arabian Sea. These helicopters will 'enhance the range and capability of the ship', he said. "It is a made-in-India helicopter that has strengthened our reach and capability. These helicopters are force multipliers when they mark on ships, they enhance the range and capability of the ship multi-fold because of their speed and endurance," Pathania explained to news agency ANI.

On Tuesday, he commissioned a squadron (the third) of the made-in-India Dhruv MK-III choppers at Porbandar in Gujarat in a bid to strengthen the Coast Guard's operations in the northwest. According to officials, the choppers can fulfil both reconnaissance and offensive roles as they have 12.7 mm heavy machine guns that can hit targets at a range of 1,800 metres. The induction boosts the Coast Guard's maritime surveillance and recon capabilities, officials said yesterday. The ALH Dhruv Mk III is an 'indigenously designed and developed, twin-engine, multi-role, multi-mission new generation helicopter' made by Bangalore-based Hindustan Aeronautics Limited (HAL) and boosts the Indian government's 'Aatmanirbhar defence' philosophy.

Designed for utility roles in the defence services, one version comes with an electronic warfare suite and a countermeasure system, among other features. It also has weapon systems and mission sensors that include a turret gun, air-to-air and air-to-ground missiles, a helmet-pointing system, an infra-red jammer and an obstacle avoidance system.

<http://www.indiandefensenews.in/2022/06/chinas-belt-and-road-initiative-in.html>

Thu , 30 Jun 2022

China is Sharpening its Ability to Shoot Down Ballistic Missiles; Sends Ominous Signals to the US, India and All of Asia

China's test of a ground-based anti-ballistic missile (ABM) test last week and US counter-persecution risk an arms race in Asia. Developments could force both countries and their allies to develop systems to counteract the effectiveness of the other. This is also happening in the midst of rising tensions in the Western Pacific with Taiwan and the Korean Peninsula, where North Korea's relations with the South and the United States continue to deteriorate. Pyongyang is conducting missile tests in response to what it perceives as a growing Washington-Seoul military alliance. While it was unclear which missile China was using to conduct the ABM test, a Pentagon report from 2021 identified that the CH-AB-X-02 (HQ-19) may have an ABM capability.

“China is also developing kinetic-kill vehicle technology to set up a midcourse interceptor that will form the top tier of a multi-tiered missile defence.” Experts believe this is in line with China's development of the Dong Neng series of ABMs, which also have an anti-satellite capability (ASAT). Another Chinese system experiment is the HQ-26 series, which is similar to the US SM-3 series. On February 20, 2008, a Standard Missile-3 (SM-3) was launched from a US Navy Aegis system-activated destroyer to take out the US-193 reconnaissance satellite, which the Americans said was in decay and threatened Earth with the toxic hydrazine fuel on board. . The latest Chinese test brings the total number of such tests to six, where they were previously performed in 2010, 2013, 2014, 2018 and 2021. Although it is unknown which interception phase the 2014 test ended, the other five intercepted the missile in the mid-term phase.

Intercontinental Ballistic Missiles

An intercontinental ballistic missile (ICBM) travels in three phases. The first, the boost stage, propels the missile from the ground from the launch site. It is the easiest and yet risky to intercept a missile here, as it would be deep inside enemy territory. Mid-course stage is the second where it reaches the top of its parabolic arc path and is briefly outside the atmosphere. It is difficult to intercept a missile here as it has gone outside the atmosphere and has a very high speed. However, ground, air and space monitoring systems make it easier to detect it at this stage. In the third and final terminal phase (or re-entry phase) the missile drifts down to Earth at an enormous speed.

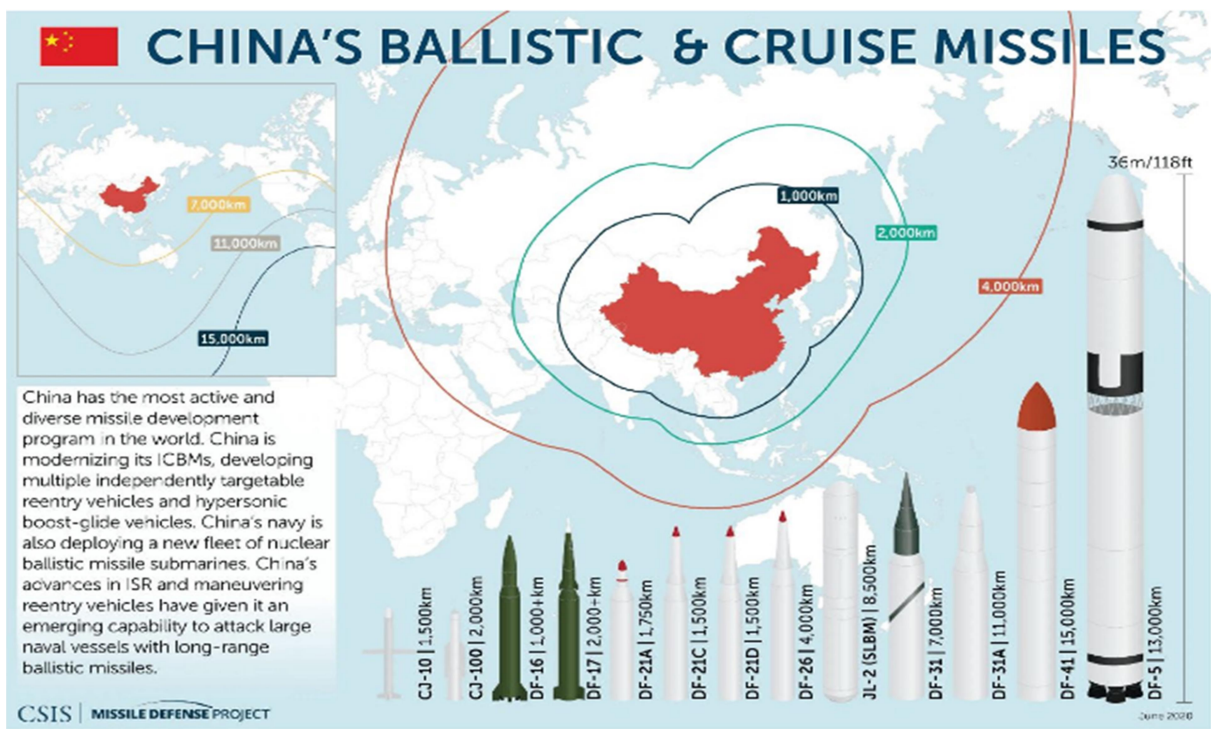
Arms Race Between The United States And China

However, this heralds a possible arms race between the two superpowers. The development of ABM systems usually encourages opposing countries to develop even advanced delivery systems that can bypass them in an escalating cycle of countermeasures. It is the classic ‘shield versus sword’ phenomenon where a person with a larger shield will force their opponent to strike preventively with the sword. This is because the larger shield can encourage its holder to attack

first and use its shield to permanently protect itself from any retaliatory attack, making the word redundant. In the field of nuclear strategy, a country with a weak (or possibly non-existent) ABM system may fear that its ballistic missile arsenal is in vain, as it will foresee that its opponent will attack first and then hire ABM to make itself immune to for any retaliatory attack. The United States' withdrawal from the 1972 anti-ballistic missile defence (ABM) treaty on December 13, 2001 triggered another arms race due to the acceleration it affected Russian, Chinese, and eventually Indian missile programs. This is not the first time the United States has withdrawn from treaties to prevent arms races and nuclear build-up. Since 1996, the United States has failed to ratify the Comprehensive Test Ban Treaty (CTBT) and has expressed reluctance to renew the 2010 New Start Agreement under President Donald Trump. It also withdrew from the 1987 Intermediate-Range Nuclear Forces (INF) Treaty on 2 February 1919.

The New Start Treaty, signed between former US and Russian Presidents Barack Obama and Dmitry Medvedev, called for cutting their strategic warheads down to 1550. The most recent was the withdrawal from the Open Skies Treaty with Russia on 21 May 2020. On a broader level, the Chinese test may also be a response to India's latest series of tests of its Agni missile. Infographics and details released by the government often show the missile's ability to reach deep inside China. But given China's perception of the United States as its primary military, economic and strategic rival and New Delhi and Beijing, which are currently on the verge of de-escalating their relations, this seems unlikely.

US Nuclear Modernization



Also, the United States plans to spend \$ 1.5 trillion on improving each leg of its nuclear triad, leading with the Earth-Based Strategic Deterrence (GBSD), which many experts have said is an absurd and pointless endeavour.

Essentially, they point to how the United States already has a highly survivable nuclear delivery system, with 70% of it deployed on its ballistic missile submarines (SSBNs) and stealth aircraft, which are less likely to be intercepted by Russian or Chinese systems. Moreover, a new ICBM as a GBSD will mean that it will first be fired at Russia or China, where each country mistakenly believes that is the goal. For example, a missile aimed at China flying over Russia could provoke Moscow to fire its missiles, leading to an unintentional nuclear exchange between the two countries. The results for the world, even with a single nuclear exchange, would be catastrophic.

<http://www.indiandefensenews.in/2022/06/china-is-sharpening-its-ability-to.html?m=1>

THE ECONOMIC TIMES

Thu , 30 Jun 2022

Looking to Co-Create Defence Tech with India: UK Minister Jeremy Quin

UK's Minister for Defence Procurement Jeremy Quin said the country is looking to build industrial partnerships for future defence technologies with India, with maritime and fighter engines, helicopters and undersea technologies as possible areas of cooperation. In an interview with ET ahead of defence minister Rajnath Singh's visit to UK, where he is likely to be accompanied by defence industry delegation, Quin said the aim is to build upon existing industrial partnerships within combat air, complex weapons and maritime technologies to co-create future defence products.

"The Royal Navy and British industry now stand ready to co-produce an indigenous Electric Propulsion capability in support of the Indian Navy. The UK is also working with India on strategic collaboration for Modern Fighter Aircraft and Jet Engine Advanced Core Technology, and co-production of Laser Beam Riding Man Portable Air Defence (MANPAD) Systems," said Quin. Describing the UK as a serious partner of choice for India, the minister said other areas that can be discussed include helicopters and underwater battle space. There is also interest for cooperation in development of next generation fighter jets.

<https://economictimes.indiatimes.com/news/defence/looking-to-co-create-defence-tech-with-india-uk-minister-jeremy-quin/articleshow/92555263.cms>



Thu , 30 Jun 2022

US to Boost Military Presence in Europe for Russia Threat

US President Joe Biden on Wednesday said the US will significantly increase its military presence in Europe for the long haul, including by establishing its first permanent presence in Poland, to bolster regional security after Russia's invasion of Ukraine. Meeting NATO Secretary-General Jens Stoltenberg at the opening of the alliance's annual leaders' summit in Madrid, Biden said "NATO is strong and united" and that steps to be taken during the gathering will "further

augment our collective strength”. Biden opened his participation in the summit by announcing the permanent basing of a US military garrison in Poland. He also said the US is sending two additional F-35 fighter jet squadrons to the UK and will send more air defense and other capabilities to Germany and Italy.

“Today I'm announcing the US will enhance our force posture in Europe and respond to the changing security environment as well as strengthening our collective security,” he said. Stoltenberg, who earlier on Wednesday said the alliance was facing its biggest challenge since World War II because of Russia's aggression toward Ukraine, welcomed Biden's announcement. “This really demonstrates your decisive leadership and strength in the trans-Atlantic bond,” Stoltenberg said, thanking Biden for the “unwavering support from you and from the US to Ukraine.” Biden said the US will permanently station the US Army V Corps forward command in Poland, a move that he said would strengthen US-NATO inter-operability across the alliance's eastern flank. The move marks the first permanent basing of US forces on NATO's eastern edge.

Biden added that the US is also stepping up its rotational deployments of troops to Romania and the Baltic region. Celeste Wallander, an assistant US secretary of defence for international affairs, told reporters that having a permanent presence in Poland will be key to helping NATO navigate the changed security environment in Europe caused by Russia's invasion. The US supplies the bulk of NATO's military power. US officials emphasised that the permanent basing applied only to headquarters units, not combat troops, and was therefore consistent with a 1997 agreement between NATO and Russia in which the alliance agreed not to permanently base combat troops in Eastern Europe as it aimed to build more constructive ties in the post-Cold War environment. Poland's Deputy Foreign Minister Pawel Jablonski told Poland's state PAP news agency that the decision to add US command structure was a “manifestation of the ever closer cooperation between the US and Poland” and would give NATO allies a frontline insight into the Russian threat.

The combat units Biden is sending to Romania and the Baltic region are on rotational deployments, rather than permanent assignment, to remain in compliance with that agreement. “There has been no communication with Moscow about these changes, nor is there a requirement to do that,” John Kirby, a spokesman for Biden's National Security Council. Biden announced on Tuesday after arriving for the summit that the US would base two additional destroyers at its naval base in Rota, Spain, bringing the total number to six. The US currently has more than 100,000 service-members deployed across Europe, up by about 20,000 since just before Russian President Vladimir Putin's invasion of Ukraine began four months ago.

Biden predicted that meetings this week would make for a “history-making summit” as leaders were set to approve a new strategic framework, announce a range of steps to boost their defense spending and capabilities, and clear the way for historically neutral Finland and Sweden to join NATO. Biden said Putin thought NATO members would splinter after he invaded Ukraine, but got the opposite response instead. “Putin was looking for the Finland-isation of Europe,” Biden said. “You're gonna get the NATO-isation of Europe. And that's exactly what he didn't want, but exactly what needs to be done to guarantee security for Europe.”

Turkey, the last remaining holdout to approve the Nordic countries' accession into NATO, reached an agreement on the eve of the summit late Tuesday to support adding them to the 30-nation alliance. While the White House said the US was not a direct party to the negotiations, a senior administration official said Biden spoke with Turkish President Recep Tayyip Erdogan on

Tuesday to encourage him to clear the way for Sweden and Finland to join. The two leaders are set to meet on Wednesday afternoon to discuss other issues, the White House said.

Biden will also sit down on Wednesday with South Korean President Yoon Suk Yeol and Japanese Prime Minister Fumio Kishida, who are attending the NATO summit as the alliance looks to strengthen its ties in the Indo-Pacific region and address challenges from China. The White House said the three leaders would also discuss North Korea's nuclear and ballistic missile programmes.

<https://www.dailypioneer.com/2022/world/us-to-boost-military-presence-in-europe-for-russia-threat.html>

THE ECONOMIC TIMES

Wed, 29 Jun 2022

NATO Calls Russia its "Most Significant and Direct Threat"

NATO declared Russia the "most significant and direct threat" to its members' peace and security, as the military alliance met Wednesday to confront what NATO's chief called the biggest security crisis since World War II. It also promised to "step up political and practical support" to Ukraine as it fights off Russia's invasion. But Ukrainian President Volodymyr Zelenskyy chided NATO for not embracing his embattled country more fully and asked for more weapons to defeat Moscow's forces. Russia's invasion of its neighbour shattered Europe's peace, drove NATO to pour troops and weapons into eastern Europe on a scale not seen since the Cold War, and was set to give the defense organization two new members in Sweden and Finland. "President (Vladimir) Putin's war against Ukraine has shattered peace in Europe and has created the greatest security crisis in Europe since the Second World War," said Secretary-General Jens Stoltenberg.

The alliance promised to more support for Ukraine, which has already received billions in military and civilian aid from NATO countries. But Zelenskyy lamented that NATO's open-door policy to new members did not appear to apply to his country. "The open-door policy of NATO shouldn't resemble the old turnstiles on Kyiv's subway, which stay open but close when you approach them until you pay," Zelenskyy said by video link to the leaders of the 30 NATO nations meeting in Madrid. "Hasn't Ukraine paid enough?" He asked for more modern artillery systems and other weapons and warned the leaders that they either had to provide Ukraine with the help it needed to defeat Russia or "face a delayed war between Russia and yourself." "The question is who's next? Moldova? Or the Baltics? Or Poland? The answer is: all of them," he said. "We are deterring Russia to prevent it from destroying us and from destroying you." Zelenskyy has acknowledged that NATO membership is a distant prospect. The alliance is trying to strike a delicate balance, letting its member-nations arm Ukraine without sparking a direct confrontation between NATO and nuclear-armed Russia.

Under NATO treaties, an attack on any member would be considered an attack on all and trigger a military response by the entire alliance. U.S. President Joe Biden, whose country provides the bulk of NATO's military power, vowed the Madrid summit would send "an unmistakable message ... that NATO is strong and united." "We're stepping up. We're proving that NATO is more needed now than it ever has been," said Biden. He announced a hefty boost in America's military presence in Europe, including a permanent U.S. base in Poland, two more Navy

destroyers based in Rota, Spain, and two more F35 squadrons to the U.K. Still, strains among NATO allies have also emerged as the cost of energy and other essential goods has skyrocketed, partly because of the the war and tough Western sanctions on Russia.

There also are tensions over how the war will end and what, if any, concessions Ukraine should make to stop the fighting. Money could also be a sensitive issue - just nine of NATO's 30 members currently meet the organisation's target of spending 2% of gross domestic product on defense.

British Prime Minister Boris Johnson, whose country does hit the target, urged NATO allies "to dig deep to restore deterrence and ensure defense in the decade ahead." The war has already triggered a big increase in NATO's forces in eastern Europe, and allies are expected to agree at the summit to boost the strength of the alliance's rapid reaction force nearly eightfold, from 40,000 to 300,000 troops, by next year. The troops will be based in their home nations but dedicated to specific countries on NATO's eastern flank, where the alliance plans to build up stocks of equipment and ammunition. Stoltenberg said it was part of the "the biggest overhaul of our collective defense since the end of the Cold War."The leaders are also set to publish NATO's new Strategic Concept, its once-a-decade set of priorities and goals. The last such document, in 2010, called Russia a "strategic partner." Now, the alliance is set to declare Moscow its No. 1 threat. The document will also set out NATO's approach on issues from cybersecurity to climate change - and the growing economic and military reach of China.

For the first time, the leaders of Japan, Australia, South Korea and New Zealand are attending the summit as guests, a reflection of the growing importance of Asia and the Pacific region. Stoltenberg said China was not NATO's adversary, but posed "challenges to our values, to our interest and to our security." Biden was due to hold a rare meeting with Japanese Prime Minister Fumio Kishida and South Korean President Yoon Suk Yeol on the sidelines of the summit, focused on North Korea's nuclear program. The summit opened with one problem solved, after Turkey agreed Tuesday to lift its opposition to Sweden and Finland joining NATO. In response to the invasion, the two Nordic nations abandoned their long-held nonaligned status and applied to join NATO as protection against an increasingly aggressive and unpredictable Russia - which shares a long border with Finland.

NATO operates by consensus, and Turkish President Recep Tayyip Erdogan threatened to block the Nordic pair, insisting they change their stance on Kurdish rebel groups that Turkey considers terrorists. After urgent top-level talks with leaders of the three countries, Stoltenberg said the impasse had been cleared.Turkey hailed Tuesday's agreement as a triumph, saying the Nordic nations had agreed to crack down on groups that Ankara deems national security threats, including the Kurdistan Workers' Party, which is also considered a terrorist group by the U.S. and the EU, and its Syrian extension. It said they also agreed "not to impose embargo restrictions in the field of defense industry" on Turkey and to take "concrete steps on the extradition of terrorist criminals." Stoltenberg said leaders of the 30-nation alliance will issue a formal invitation Wednesday to the two countries. The decision has to be ratified by all individual nations, but he said he was "absolutely confident" Finland and Sweden would become members. Stoltenberg said he expected the process to be finished "rather quickly," but did not set a time on it.

<https://economictimes.indiatimes.com/news/defence/nato-calls-russia-its-most-significant-and-direct-threat/articleshow/92550736.cms?from=mdr>

NATO Backs Military Aid for 'Heroic' Ukraine, Russia Steps Up Attacks

NATO on Wednesday branded Russia the biggest "direct threat" to Western security after its invasion of Ukraine and agreed plans to modernise Kyiv's beleaguered armed forces, saying it stood fully behind Ukrainians' "heroic defence of their country". At a summit dominated by the invasion and the geopolitical upheaval it has caused, NATO also invited Sweden and Finland to join and pledged a seven-fold increase from 2023 in combat forces on high alert along its eastern flank against any future Russian attack. In reaction, President Vladimir Putin said Russia would respond in kind if NATO set up infrastructure in Finland and Sweden after they join the U.S.-led military alliance.

Putin was quoted by Russian news agencies as saying he could not rule out that tensions would emerge in Moscow's relations with Helsinki and Stockholm over their joining NATO. U.S. President Joe Biden announced more land, sea and air force deployments across Europe from Spain in the west to Romania and Poland bordering Ukraine. These included a permanent army headquarters with accompanying battalion in Poland - the first full-time U.S. deployment on NATO's eastern fringes. "President Putin's war against Ukraine has shattered peace in Europe and has created the biggest security crisis in Europe since the Second World War," NATO Secretary-General Jens Stoltenberg told a news conference. "NATO has responded with strength and unity," he said. Britain said it would provide another 1 billion pounds (\$1.2 billion) of military support to Ukraine, including air defence systems, uncrewed aerial vehicles and new electronic warfare equipment.

'FIGHTING EVERYWHERE'

As the 30 national NATO leaders were meeting in Madrid, Russian forces intensified attacks in Ukraine, including missile strikes and shelling on the southern Mykolaiv region close to front lines and the Black Sea. The mayor of Mykolaiv city said a Russian missile had killed at least five people in a residential building there, while Moscow said its forces had hit what it called a training base for foreign mercenaries in the region. The governor of eastern Luhansk province reported "fighting everywhere" in a battle around the hilltop city of Lysychansk, which Russian forces are trying to encircle as they try to capture the industrialised eastern Donbas region on behalf of separatist proxies. Donbas comprises Donetsk and Luhansk provinces. Regional Donetsk Governor Pavlo Kyrylenko told Ukrainian television that Russian attacks killed one civilian and wounded eight on Wednesday.

Reuters was not able to independently verify the reports. Also in Donetsk, a video clip aired on Russia's RIA state news agency showed former U.S. soldier Alexander Druke, who was captured while fighting for Ukrainian forces. "My combat experience here was that one mission on that one day," said Druke, from Tuscaloosa, Alabama, referring to the day he was captured outside Kharkiv, Ukraine's second-largest city. "I didn't fire a shot. I would hope that would play a factor in whatever sentence I do or don't receive." President Volodymyr Zelenskiy once again told NATO that Ukrainian forces needed more weapons and money, and faster, to erode Russia's

huge edge in artillery and missile firepower, and said Moscow's ambitions did not stop at Ukraine.

The Russian invasion that began on Feb. 24 has destroyed cities, killed thousands and sent millions fleeing. Russia says it is pursuing a "special military operation" to rid Ukraine of dangerous nationalists. Ukraine and the West accuse Russia of an unprovoked, imperial-style land grab. The top U.S. intelligence official Avril Haines said on Wednesday the most likely near term scenario is a grinding conflict in which Moscow makes only incremental gains, but no breakthrough on its goal of taking most of Ukraine.

'FULL SOLIDARITY'

In a nod to the precipitous deterioration in relations with Russia since the invasion, a NATO communique called Russia the "most significant and direct threat to the allies' security", having previously classified it as a "strategic partner". NATO issued a new Strategic Concept document, its first since 2010, that said a "strong independent Ukraine is vital for the stability of the Euro-Atlantic area". To that end, NATO agreed a long-term financial and military aid package to modernise Ukraine's largely Soviet-era military. "We stand in full solidarity with the government and the people of Ukraine in the heroic defence of their country," the communique said. Stoltenberg said NATO had agreed to put 300,000 troops on high readiness from 2023, up from 40,000 now, under a new force model to protect an area stretching from the Baltic to the Black seas. Zelenskiy, in a video link-up with the summit, said Ukraine needed \$5 billion per month for its defence and protection.

"This is not a war being waged by Russia against only Ukraine. This is a war for the right to dictate conditions in Europe - for what the future world order will be like," he said. NATO's invitation to Sweden and Finland to join the alliance marks one of the most momentous shifts in European security in decades as Helsinki and Stockholm drop a tradition of neutrality in response to Russia's invasion.

<https://economictimes.indiatimes.com/news/defence/nato-backs-military-aid-for-heroic-ukraine-russia-steps-up-attacks/articleshow/92557970.cms?from=mdr>



Wed, 29 Jun 2022

Space Force Mulls New Acquisition Approach for Next Phase of Medium, Heavy Launches

The U.S. Space Force is poised to start drafting its acquisition strategy for next phase of medium and heavy launch services contracts amid a fresh push from the House Armed Services Committee to consider "new and innovative" procurement methods. Frank Calvelli, assistant secretary of the Air Force for space acquisition and integration, told reporters at a June 28 briefing that he expects the strategy for the Phase 3 of the National Security Space Launch program to be completed by the end of the fall. The Space Force in 2020 awarded five-year contracts to United Launch Alliance and SpaceX to provide lift services for more than 30 planned Phase 2 NSSL launches between fiscal 2022 and fiscal 2027. ULA, once the sole

government large-class launch provider, won a 60% cut of the missions and SpaceX, a commercial launch company and new entrant to the national security market, secured the rest.

Although the launches included in the Phase 2 deal will continue through fiscal 2027, orders for those services end in fiscal 2024, and the Space Force plans to begin soliciting bids for Phase 3 that same year. The Phase 2 NSSL contract was significant in that it opened what was a closed, sole-source market for major military space launches to more companies. Lawmakers including House Armed Services Committee Chairman Adam Smith, D-Wash., want the Space Force to consider more ways to spur competition in the next round of contracts. In the committee's version of the fiscal 2023 defense policy bill, lawmakers called for the service's strategy to account for growth and innovation in the launch industry as well as the Space Force's plan to shift to a hybrid architecture with smaller satellites located in more diverse orbital regimes. The committee also urged the service to consider a range of contracting approaches, including options to add providers during the execution of Phase 3 "to address manifest changes beyond the planned national security space unique launches at the time of the initial award." The service has yet to finalize its plans for Phase 3, Calvelli said. It's considering the possibility of including smaller launch vehicle classes as part of the contract.

"There's all these different providers out there, there's some really great ones out there," Calvelli said. "So, how do you take advantage of some of that and make sure that you're able to be innovative in terms of allowing new folks to be on the contract?" He highlighted one of the Space Force's small launch contracting mechanisms, the Rocket Systems Launch Program, which coordinates launch services for non-NSSL missions and works with a growing pool of commercial providers. He said one consideration for the acquisition team will be whether to keep RSLP separate from the NSSL contract.

Calvelli told reporters he will travel this week to ULA's factory in Decatur, Alabama, to get an update on the company's progress with its Vulcan Centaur rocket, which will replace the company's Atlas V and Delta IV launch vehicles and carry a propulsion system developed by space launch company Blue Origin. Development issues with Blue Origin's BE-4 engine have slowed ULA's launch plans, but the company plans to launch Vulcan this year. "One of the first industry visits I make is down there to make sure they understand the importance of hitting their milestones with that engine delivery as well as with the launch," he said. Meanwhile, the Space Force is on track to launch two missions this week -- one procured through RSLP and one through NSSL.

The RSLP launch, dubbed STP-S28A, will fly Wednesday from Virgin Orbit National Systems' air-launched rocket, LauncherOne. The rocket will carry seven experimental payloads. Based in El Segundo, Calif., Virgin Orbit National Systems is a national security focused company owned by Virgin Orbit. Wednesday's mission will lift off from a Virgin Orbit 747-400 carrier aircraft, which will begin its flight at the Mojave Air and Space Port in California. The NSSL mission, USSF-12, is scheduled to launch June 30 and will carry multiple payloads meant to reduce risk and mature technology for future programs. One of those satellites, the Wide-Field-of-View Testbed demonstration, was designed to mature technology for the Space Force's Next-Generation Overhead Persistent Infrared program.

<https://www.defensenews.com/battlefield-tech/space/2022/06/29/space-force-mulls-new-acquisition-approach-for-next-phase-of-medium-heavy-launches/>

Science & Technology News



पत्र सूचना कार्यालय
भारत सरकार

विज्ञान एवं प्रौद्योगिकी मंत्रालय

Wed, 29 Jun 2022 3:51PM

केन्द्रीय मंत्रिमंडल ने विज्ञान, प्रौद्योगिकी और नवाचार के क्षेत्र में सहयोग पर विज्ञान और प्रौद्योगिकी विभाग, भारत एवं व्यापार तथा उद्योग मंत्रालय, सिंगापुर के बीच समझौता ज्ञापन (एमओयू) को मंजूरी दी

प्रधानमंत्री श्री नरेन्द्र मोदी की अध्यक्षता में केंद्रीय मंत्रिमंडल को भारत गणराज्य के विज्ञान और प्रौद्योगिकी विभाग एवं सिंगापुर गणराज्य की सरकार के व्यापार और उद्योग मंत्रालय के बीच विज्ञान, प्रौद्योगिकी और नवाचार के क्षेत्र में सहयोग के बारे में हस्ताक्षरित एक समझौता ज्ञापन (एमओयू) से अवगत कराया गया। इस समझौता ज्ञापन पर फरवरी 2022 में हस्ताक्षर किए गए थे।

यह समझौता ज्ञापन एक ऐसा तंत्र प्रदान करेगा जो इसके लिए इकोसिस्टम बनाने में मदद करेगा जिसमें परस्पर सहयोग के माध्यम से नई प्रौद्योगिकी निर्माण, जनशक्ति प्रशिक्षण, आईपी जनरेशन के लिए अग्रणी दोनों देशों में नवाचार और उद्यमिता को बढ़ावा दिया जा सकेगा।

इस सहयोग के अंतर्गत क्रियान्वित गतिविधियों के माध्यम से नया ज्ञान और प्रौद्योगिकी संबंधी विकास आत्मनिर्भर भारत को गति प्रदान करेगा। यह समझौता ज्ञापन एक तंत्र प्रदान करेगा जो ऐसा इकोसिस्टम बनाने में मदद करेगा जिससे दोनों देशों में नवाचार और उद्यमिता को बढ़ावा मिलेगा ताकि परस्पर सहयोग के माध्यम से नई प्रौद्योगिकी निर्माण, जनशक्ति प्रशिक्षण एवं आईपी जनरेशन हो सके। समझौता ज्ञापन में परिकल्पित गतिविधियों में उत्पाद संबंधी विकास और प्रौद्योगिकी विनिमय भी शामिल होगा जिससे नए उद्यमों व रोजगार का सृजन हो सकता है।

इस ज्ञापन का उद्देश्य भारत और सिंगापुर के बीच विज्ञान, प्रौद्योगिकी और नवाचार में समान रुचि के क्षेत्रों में सहयोग को प्रोत्साहित करना, उसे विकसित करना और सुविधाजनक बनाना है। आपसी हित के किसी भी क्षेत्र में ऐसे सहयोग को प्राथमिकता दी जाएगी जो निम्नलिखित क्षेत्रों में अनुसंधान, नवाचार और तकनीकी विकास में प्रगति को आगे बढ़ा सके:

- i. कृषि और खाद्य विज्ञान एवं प्रौद्योगिकी;
- ii. उन्नत विनिर्माण और इंजीनियरिंग;
- iii. हरित अर्थव्यवस्था, ऊर्जा, जल, जलवायु और प्राकृतिक संसाधन;
- iv. डेटा विज्ञान, उभरती हुई प्रौद्योगिकियां;
- v. उन्नत सामग्री; तथा
- vi. स्वास्थ्य एवं जैव प्रौद्योगिकी।

आपसी सहमति से साझा हित के अन्य क्षेत्रों को भी शामिल किया जाएगा।

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1837948>



Wed, 29 Jun 2022

Major Breakthrough Puts Dream of Unlimited, Clean Nuclear Fusion Energy Within Reach

The old joke is that nuclear fusion is always 30 years away. However, the dream of plentiful clean energy is no laughing matter as we meet an ITER researcher to catch up on progress at the reactor facility. By creating light and heat through nuclear fusion, the Sun has fueled life on Earth for billions of years. Given that incredible power and longevity, it seems there can hardly be a better way to generate energy than by harnessing the same nuclear processes that occur in stars, including our own sun. Nuclear fusion reactors aim to reproduce this process by fusing hydrogen atoms to create helium, which releases energy in the form of heat. Sustaining this at a large scale has the potential to produce a safe, clean, almost inexhaustible power supply.

The quest began decades ago, but could a long-running joke that nuclear fusion is always 30 years away soon start to look dated?

Some hope so, following a major breakthrough during a nuclear-fusion experiment in late 2021. This came at the Joint European Torus (JET) research facility in Oxfordshire, UK, in a giant, doughnut-shaped machine called a tokamak. Inside, superheated gases called plasmas are generated in which the fusion reactions take place, containing charged particles that are held in place by powerful magnetic fields. Such plasmas can reach temperatures of 150 million degrees Celsius, an unfathomable 10 times hotter than the Sun's core. In a sustained five-second burst, researchers in the EUROfusion consortium released a record-breaking 59 megajoules (MJ) of fusion energy. This was almost triple the previous 21.7 MJ record set at the same facility in 1997, with the results touted as "the clearest demonstration in a quarter of a century of the potential for fusion energy to deliver safe and sustainable low-carbon energy." Follow the link to learn more about the successful nuclear fusion experiment at JET. The results provided a major

boost ahead of the next phase of nuclear fusion's development. A larger and more advanced version of JET known as ITER (meaning "The Way" in Latin) is under construction on a 180-hectare site in Saint-Paul-lès-Durance, southern France.

ITER, which is being built as a collaboration between 35 nations, including those in the EU, is aimed at further firming up the concept of fusion. One of the most complicated machines ever to be created, it was scheduled to start generating its first plasma in 2025 before entering into high-power operation around 2035 – although researchers on the project expect some delays because of the pandemic.

Major milestone

The results at JET represent a major landmark, said Professor Tony Donn , program manager of the EUROfusion project, a major consortium of 4,800 experts, students, and facilities across Europe. "It's a huge milestone – the biggest for a long time," he said. "It's confirmed all the modeling, so it has really increased confidence that ITER will work and do what it's meant to do." While the energy generated at JET lasted just a few seconds, the aim is to ramp this up to a sustained reaction that produces energy. The results were the culmination of years of preparation, with Prof Donn  explaining that one of the key developments since 1997 involved changing the inner wall of the JET vessel. Previously, the wall was made of carbon, but this proved too reactive with the fuel mix of deuterium and tritium, two heavier isotopes – or variants – of hydrogen used in the fusion reaction. This resulted in the formation of hydrocarbons, locking up the tritium fuel in the wall. In the rebuild, which involved 16 000 components and 4 000 tonnes of metal, the carbon was replaced with beryllium and tungsten to reduce tritium retention. Ultimately, the team was able to cut the amount of trapped fuel by a large multiple, contributing to the success of the recent fusion shot.

DEMO run

In preparation for the next stage of fusion's epic journey, upgrades to JET ensured that its configuration aligns with the plans for ITER. Further in the future, the next step beyond ITER will be a demonstration power plant known as DEMO, designed to send electricity into the grid – leading on to fusion plants becoming a commercial and industrial reality. "ITER is a device which will create 10 times more fusion energy than the energy used to heat the plasma," said Prof Donn . "But as it is an experimental facility, it will not deliver electricity to the grid. For that, we need another device, which we call DEMO. This will really bring us to the foundations for the first generation of fusion power plants."

Prof Donn  added: "JET has shown now that fusion is plausible. ITER has to show that it's further feasible, and DEMO will need to demonstrate that it really works." Planned to provide up to 500 megawatts (MW) to the grid, he thinks it is realistic for DEMO to come into operation around 2050. "We hope to build DEMO much faster than we built ITER, making (use of the) lessons learned," he said. Yet there are other key challenges to overcome on the way to getting nuclear fusion up and running. Not least is that while deuterium is abundant in seawater, tritium is extremely scarce and difficult to produce. The researchers, therefore, plan to develop a way of generating it inside the tokamak, using a "breeding blanket" containing lithium. The idea is that high-energy neutrons from the fusion reactions will interact with the lithium to create tritium.

Essential energy

Prof Donné said nuclear fusion could prove a pivotal green and sustainable energy source for the future. “I would say it’s essential,” he said. “I’m not convinced that by 2050 we can make the carbon dioxide transition with only renewables, and we need other things.” And although he says the current method of creating nuclear energy through fission is becoming safer and safer, fusion has key advantages. Proponents for ITER talk of benefits such as an absence of meltdown risk, adding that nuclear fusion does not produce long-lived radioactive waste and that reactor materials can be recycled or reused within 100 to 300 years.

“It’s definitely much safer,” said Prof Donné. Referencing the stigma carried by nuclear energy, he said, “What we see when we interact with the public is that people very often haven’t heard about nuclear fusion. But when we explain the pros and cons, then I think people get positive.” Referring to Lev Artsimovich, dubbed the “father of the tokamak,” he said, “Artsimovich always said fusion will be there when society really needs it. If we get fusion up and running, then really we have a very safe and clean energy source which can give us energy for thousands of years.”

<https://scitechdaily.com/major-breakthrough-puts-dream-of-unlimited-clean-nuclear-fusion-energy-within-reach/amp/>

ThePrint

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India’s First mRNA Vaccine by Gennova Gets DCGI Approval, to be Rolled Out Soon

India’s first indigenously developed mRNA vaccine against the COVID-19 gets the Emergency Use Authorization (EUA), to be sold under the brand name GEMCOVAC™-19 and will be rolled out soon, informed the officials on Wednesday. The vaccine will be available for adults above 18 years of age. It is a two-dose vaccine to be administered intramuscularly at 28 days apart. The Pune-based subsidiary of Emcure Pharmaceuticals Ltd, Gennova Biopharmaceuticals Ltd. announced that its mRNA vaccine – GEMCOVAC™-19 – against COVID-19 received the Emergency Use Authorization (EUA) from the office of the Drugs Controller General of India (DCGI).

GEMCOVAC-19™ is the very first mRNA vaccine developed in India and the only third mRNA vaccine to be approved for COVID-19 in the world. These vaccines are highly efficacious because of their inherent capacity of being translated into the protein structure inside the cell cytoplasm. “It’s India’s first mRNA vaccine, only the third vaccine based on this platform to get this authorization globally and the fact that this vaccine is stable at two to eight degrees Celsius. We did have the manufacturing at risk, approval already in place, there are 7 million doses that we have already manufactured and released not only by our in-house quality control but also by the CDL Kasauli,” Samit Mehta, COO, Gennova Biopharmaceuticals Ltd told ANI.

He also confirmed that the distribution would be entirely guided by the government and confirmed that major side effects were at the bay during trials. “We can roll out in the private market, we will be entirely guided by the government and no major side effects have been reported during trials,” he added. The mRNA vaccines are considered safe as mRNA is non-

infectious, non-integrating in nature, and degraded by standard cellular mechanisms. Notably, this technology provides flexibility to quickly tweak the vaccine for any existing or emerging variants of the virus and this technology platform will empower India to be pandemic ready.

Gennova's GEMCOVAC™-19 has reached the primary endpoint of Phase III clinical trial. The clinical data were evaluated by the Central Drugs Standard Control Organisation (CDSCO).

The vaccine was found to be safe, well-tolerated and immunogenic. Gennova Biopharmaceuticals Ltd. aims to produce around 40 – 50 lakhs of doses per month and this capacity can be quickly doubled. Beyond India, Gennova aims at providing sustainable access to low-and middle-income countries around the world to the vaccine to blunt the spread of the COVID pandemic. (ANI)

<https://theprint.in/india/indias-first-mrna-vaccine-by-gennova-gets-dcgi-approval-to-be-rolled-out-soon/1017508/>

