

मार्च
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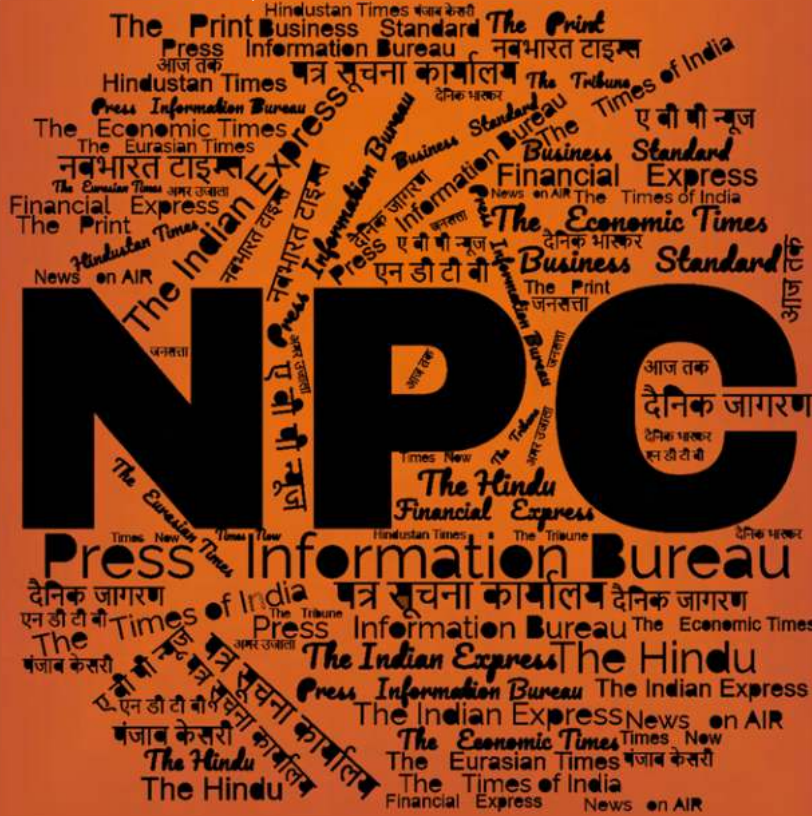
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समाचार पत्रों से चयित अंश Newspapers Clippings

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

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CONTENTS

S. No.	TITLE		Page No.
	DRDO News		1-10
	DRDO Technology News		1-8
1.	रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) ने ओडिशा समुद्र तट से बहुत कम दूरी की वायु रक्षा प्रणाली मिसाइल (प्रक्षेपणास्त्र) के लगातार दो सफल उड़ान परीक्षण किए	पत्र सूचना कार्यालय	1
2.	DRDO Conducts Two Successful Flight Tests of VSHORADS Missile	<i>The Indian Express</i>	2
3.	डीआरडीओ के स्वदेशी 'पावर टेक ऑफ शाफ्ट' का तेजस पर सफल उड़ान परीक्षण, जानें क्या होगा फायदा	<i>नवभारत टाइम्स</i>	3
4.	Maiden Successful Flight-test of DRDO's Indigenous Power Take off Shaft Conducted on LCA Tejas in Bengaluru	<i>Press Information Bureau</i>	3
5.	Successful Flight-test of DRDO's Indigenous Power Take off Shaft Conducted on LCA Tejas	<i>India Today</i>	4
6.	DRDO Performs Successful Flight-test of Indigenous PTO Shaft and Two VSHORADS Missile Test	<i>Outlook</i>	5
7.	डीसीजीआई ने रेडियोलॉजिकल और परमाणु आपात स्थितियों के लिए प्रौद्योगिकी विकास कोष के अंतर्गत विकसित एक महत्वपूर्ण दवा के निर्माण तथा विपणन को मंजूरी दी	पत्र सूचना कार्यालय	7
8.	Drug Developed Using DRDO Technology for Radiological and Nuclear Emergencies Gets DCGI Nod	<i>News18</i>	8
	DRDO on Twitter		9-10
	Defence News		11-24
	Defence Strategic: National/International		11-24
9.	India has Emerged as First Responder in Humanitarian Assistance and Disaster Relief (HADR) at Global Level: CDS Gen. Anil Chauhan	<i>Press Information Bureau</i>	11
10.	Joint India Singapore Exercise 'Bold Kurukshetra' Concludes at Jodhpur	<i>Press Information Bureau</i>	12
11.	Indian Army Takes Lead in Awarding First Contract for iDEX Project as per the Revised Procedure	<i>Press Information Bureau</i>	13
12.	Raksha Mantri Reviews Progress in Construction of Various Infrastructure Projects along Northern Border during a High-level Meeting in New Delhi	<i>Press Information Bureau</i>	14
13.	Next-gen Missile Vessels to Radars: Govt on Local Shopping Spree for Armed Forces	<i>The Indian Express</i>	15
14.	Indian Army Procures Integrated Mobile Camouflage Systems from a Start up	<i>Financial Express</i>	17
15.	Low-Altitude Drones, False Alarms at Pak Border New Focus Areas for India's Anti-Drone Technology	<i>News18</i>	18
16.	India Key Defence Provider for us, says Maldives FM	<i>Hindustan Times</i>	19
17.	Pakistan Team Sent to Myanmar to Repair Combat Aircraft	<i>The Economic Times</i>	20
18.	Learning from Ukraine, Taiwan shows off its Drones as Key to 'Asymmetric Warfare'	<i>The Economic Times</i>	21

19. Russian Fighter Jet hits American Drone over Black Sea: US *The Indian Express* 22

Science & Technology News

25-27

20. Digital Foot to Revolutionise Bionic Limbs *The Statesman* 25

21. First Semiconductor Fab Facility soon: Vaishnav *The Tribune* 26

22. Angelin Mary: From DRDO to Daimler *The Times of India* 26



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Tue, 14 Mar 2023

रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) ने ओडिशा समुद्र तट से बहुत कम दूरी की वायु रक्षा प्रणाली मिसाइल (प्रक्षेपणास्त्र) के लगातार दो सफल उड़ान परीक्षण किए

अनुसंधान और विकास संगठन (डीआरडीओ) ने आज 14 मार्च, 2023 को ओडिशा के समुद्र तट पर एकीकृत परीक्षण रेंज, चांदीपुर में बहुत कम दूरी की वायु रक्षा प्रणाली (वेरी शॉर्ट रेंज एयर डिफेंस सिस्टम – वीएसएचओआरएडीएस) मिसाइल से उच्च गति वाले मानव रहित हवाई लक्ष्यों के विरुद्ध एक भूमि (ग्राउंड) - आधारित मानव वहनीय प्रक्षेपक (मैन पोर्टेबल लांचर) से विमान के पास आने और उसके पीछे हटने की नकल करते हुए लगातार दो सफल उड़ान परीक्षण किए । मिशन के सभी उद्देश्यों को पूरा करते हुए इन लक्ष्यों को सफलतापूर्वक रोका (इंटरसेप्ट किया) गया ।

बहुत कम दूरी की वायु रक्षा प्रणाली (वेरी शॉर्ट रेंज एयर डिफेंस सिस्टम – वीएसएचओआरएडीएस) एक मानव वहनीय वायु रक्षा प्रणाली (मैन पोर्टेबल एयर डिफेंस सिस्टम – मैनपैड – एमएएनपीएडी) है जो कम दूरी पर रहने वाले एवं कम ऊंचाई वाले हवाई खतरों को निष्प्रभावी करने के लिए है । इसे डीआरडीओ की अन्य प्रयोगशालाओं और भारतीय उद्योग भागीदारों के सहयोग से अनुसंधान केंद्र भवन, हैदराबाद द्वारा स्वदेशी रूप से डिजाइन और विकसित किया गया है। इस मिसाइल में डुअल-बैंड आईआईआर सीकर, मिनिचराइज्ड रिएक्शन कंट्रोल सिस्टम और इंटीग्रेटेड एवियोनिक्स सहित कई नई प्रौद्योगिकियां शामिल हैं। इसका प्रणोदन (प्रोपल्सन) एक दोहरी शक्ति वाली ठोस मोटर द्वारा प्रदान किया जाता है।

रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) एवं उद्योग भागीदारों की सराहना करते हुए रक्षा मंत्री श्री राजनाथ सिंह ने कहा कि नई तकनीकों से लैस यह मिसाइल सशस्त्र बलों को और अधिक तकनीकी बढ़त प्रदान करेगी ।

रक्षा अनुसंधान एवं विकास विभाग (डीडीआर एंड डी) के सचिव और डीआरडीओ के अध्यक्ष डॉ. समीर वी. कामत ने भी लगातार सफल उड़ान परीक्षणों से जुड़ी टीमों को बधाई दी है ।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906992>



Tue, 14 Mar 2023

DRDO Conducts Two Successful Flight Tests of VSHORADS Missile

The Defence Research and Development Organisation (DRDO) on Tuesday conducted two consecutive successful flight tests of Very Short Range Air Defence System (VSHORADS) missile at Chandipur off the coast of Odisha.

The defence ministry said flight tests were carried out from a ground-based man portable launcher against high speed unmanned aerial targets. It said the targets were successfully intercepted, meeting all mission objectives.

Complimenting DRDO and industry partners, Defence Minister Rajnath Singh said the missile equipped with novel technologies will give further technological boost to the armed forces. VSHORADS is a man portable air defence system (MANPAD) meant for neutralising low altitude aerial threats at short ranges. It has been designed and developed indigenously by Research Centre Imarat, Hyderabad in collaboration with other DRDO laboratories and Indian industry partners.

“The DRDO conducted two consecutive successful flight tests of the Very Short Range Air Defence System (VSHORADS) missile at the integrated test range at Chandipur off the coast of Odisha on March 14,” the ministry said.

“The flight tests were carried out from a ground-based man portable launcher against high speed unmanned aerial targets, mimicking approaching and receding aircraft,” it said in a statement.

“The missile incorporates many novel technologies including Dual-band IIR Seeker, miniaturised reaction control system and integrated avionics. The propulsion is provided by a dual thrust solid motor,” the ministry said.

DRDO chairman Samir V Kamat also congratulated the teams associated with the consecutive successful flight tests of the missile.

<https://indianexpress.com/article/india/drdo-conducts-two-successful-flight-tests-of-vshorads-missile-8497253/>

नवभारत टाइम्स

Tue, 14 Mar 2023

डीआरडीओ के स्वदेशी 'पावर टेक ऑफ शाफ्ट' का तेजस पर सफल उड़ान परीक्षण, जानें क्या होगा फायदा

बेंगलुरु में हल्के लड़ाकू विमान तेजस पर 'पावर टेक ऑफ' (पीटीओ) शाफ्ट का सफल उड़ान परीक्षण किया गया। यह जानकारी रक्षा मंत्रालय ने दी। पीटीओ एक महत्वपूर्ण उपकरण होता है जो विमान के इंजन से गियरबॉक्स तक ऊर्जा पहुंचाता है। मंत्रालय ने कहा कि पीटीओ शाफ्ट का पहला सफल परीक्षण एलसीए तेजस लिमिटेड सीरीज प्रोडक्शन (एलएसपी)-3 विमान पर किया गया।

स्वदेशी रूप से डिजाइन और विकसित

मंत्रालय ने कहा, 'इस सफल परीक्षण के साथ, रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने जटिल हाई-स्पीड रोटार तकनीक को साकार करके एक बड़ी तकनीकी उपलब्धि हासिल की है, जो केवल कुछ देशों ने हासिल की है।' पीटीओ शाफ्ट को डीआरडीओ के चेन्नई स्थित 'कॉम्बैट व्हीकल रिसर्च एंड डेवलपमेंट एस्टैब्लिशमेंट' द्वारा स्वदेशी रूप से डिजाइन और विकसित किया गया है।

आत्मनिर्भर भारत की दिशा में मील का पत्थर

रक्षा मंत्री राजनाथ सिंह ने डीआरडीओ, सार्वजनिक क्षेत्र के संबंधित उपक्रमों और उद्योगों की सराहना करते हुए कहा कि पीटीओ शाफ्ट को सफलतापूर्वक साकार किया जाना आत्मनिर्भर भारत की दिशा में एक और प्रमुख मील का पत्थर है। डीआरडीओ के अध्यक्ष समीर वी. कामत ने कहा कि इस सफलता ने देश की अनुसंधान क्षमता को प्रदर्शित किया है।

<https://navbharattimes.indiatimes.com/india/drdo-today-successfully-conducted-maiden-flight-test-of-power-take-off-shaft-with-lca-tejas/articleshow/98639207.cms>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 14 Mar 2023

Maiden Successful Flight-test of DRDO's Indigenous Power Take off Shaft Conducted on LCA Tejas in Bengaluru

Maiden successful flight-test of Power Take off (PTO) Shaft was conducted on Light Combat Aircraft (LCA Tejas) Limited Series Production (LSP) - 3 aircraft in Bengaluru on March 14, 2023. The PTO shaft is indigenously designed and developed by Combat Vehicles Research &

Development Establishment (CVRDE), Chennai of Defence Research and Development Organisation (DRDO).

The PTO shaft, which is a critical component in the aircraft, will support the requirements of future fighter aircraft & their variants and offers competitive cost & reduced time of availability. With this successful test, the DRDO has achieved a greater technological feat by realisation of complex high-speed rotor technology which only few countries have achieved.

The PTO shaft was designed with unique innovative patented 'Frequency Spanning Technique' which enables it to negotiate different operating engine speeds. The light weight high speed, lubrication free PTO shaft transmits higher power between aircraft engine gear box and Aircraft Mounted Accessory Gear Box while accommodating misalignments that arise in the drive line.

Aeronautical Development Agency, Centre for Military Airworthiness and Certification, Directorate General of Aeronautical Quality Assurance and Hindustan Aeronautics Limited teamed along with CVRDE to achieve this feat. The PTO shaft technology has already been transferred to Godrej & Boyce, Mumbai and Lakshmi Technology and Engineering, Coimbatore.

Raksha Mantri Shri Rajnath Singh has complimented the DRDO, PSUs and the Industry, saying that the successful realisation of PTO shaft is another major milestone towards 'Aatmanirbhar Bharat'.

Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat stated that the success showcased the country's research capability and will actively support the test aircraft programmes.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906869>



Wed, 15 Mar 2023

Successful Flight-test of DRDO's Indigenous Power Take off Shaft Conducted on LCA Tejas

A successful flight-test of power take off (PTO) shaft was conducted on the Light Combat Aircraft Tejas in Bengaluru on Tuesday, said the defence ministry in a statement. The PTO shaft is indigenously designed and developed by Chennai-based Combat Vehicles Research and Development Establishment of Defence Research and Development Organisation (DRDO), it added.

It said the maiden successful flight-test of the PTO shaft was conducted on LCA Tejas Limited Series Production (LSP)-3 aircraft. The PTO is a critical equipment that transmits power from aircraft engine to gearbox. It will support the requirements of future fighter aircraft and their variants and offer competitive cost and reduced time of availability. "With this successful test, the DRDO has achieved a greater technological feat by realisation of complex high-speed rotor technology which only few countries have achieved," said the ministry.

"The PTO shaft was designed with a unique innovative patented 'Frequency Spanning Technique' which enables it to negotiate different operating engine speeds," it said.

Defence Minister Rajnath Singh complimented the DRDO, public sector undertakings concerned and the industry, saying that the successful realisation of the PTO shaft is another major milestone towards Aatmanirbhar Bharat.

DRDO Chairman Samir V Kamat said the success showed the country's research capability and will actively support the test aircraft programmes.

<https://www.indiatoday.in/india/story/successful-flight-test-drdo-indigenous-power-take-off-shaft-conducted-lca-tejas-2346735-2023-03-15>

Outlook

Wed, 15 Mar 2023

DRDO Performs Successful Flight-test of Indigenous PTO Shaft and Two VSHORADS Missile Test

A successful flight-test of power take off (PTO) shaft was conducted on the Light Combat Aircraft Tejas in Bengaluru on Tuesday, the defence ministry said.

The power take off shaft (PTO shaft) is a critical equipment that transmits power from aircraft engine to gearbox.

The ministry said the maiden successful flight-test of PTO shaft was conducted on LCA Tejas Limited Series Production (LSP)-3 aircraft.

DRDO today successfully conducted Maiden flight test of Power Take off (PTO) shaft with LCA Tejas. PTO is critical high speed power transmission system of aircraft & was designed and developed with patented technology by CVRDE.#Aatmanirbharbharat @DefenceMinIndia pic.twitter.com/b40N0prgZD

— DRDO (@DRDO_India) March 14, 2023

"With this successful test, the DRDO has achieved a greater technological feat by realisation of complex high-speed rotor technology which only few countries have achieved," it said.

What is a PTO shaft?

The PTO shaft is indigenously designed and developed by Chennai-based Combat Vehicles Research and Development Establishment of Defence Research and Development Organisation (DRDO).

"The PTO shaft, which is a critical component in the aircraft, will support the requirements of future fighter aircraft and their variants and offers competitive cost and reduced time of availability," the defence ministry said in a statement.

"The PTO shaft was designed with a unique innovative patented 'Frequency Spanning Technique' which enables it to negotiate different operating engine speeds," it said.

"The light weight, high speed, lubrication free PTO shaft transmits higher power between aircraft engine gear box and aircraft mounted accessory gearbox while accommodating misalignments that arise in the drive line," the ministry added.

Defence Minister Rajnath Singh complimented the DRDO, public sector undertakings concerned and the industry, saying that the successful realisation of PTO shaft is another major milestone towards Aatmanirbhar Bharat.

DRDO Chairman Samir V Kamat stated that the success showcased the country's research capability and will actively support the test aircraft programmes.

Two successful flight tests of VSHORADS missile

The Defence Research and Development Organisation (DRDO) on Tuesday conducted two consecutive successful flight tests of Very Short Range Air Defence System (VSHORADS) missile at Chandipur off the coast of Odisha.

The defence ministry said flight tests were carried out from a ground-based man portable launcher against high speed unmanned aerial targets.

#DRDOUpdates | DRDO today conducted two consecutive successful flight tests of Very Short Range Air Defence System (VSHORADS) missile off the coast of Odisha. The missile is meant for neutralising low altitude aerial threats at short ranges. @DefenceMinIndia @SpokespersonMoD pic.twitter.com/9XMsod2T05

— DRDO (@DRDO_India) March 14, 2023

It said the targets were successfully intercepted, meeting all mission objectives.

Complimenting DRDO and industry partners, Defence Minister Rajnath Singh said the missile equipped with novel technologies will give further technological boost to the armed forces.

What is VSHORADS?

VSHORADS is a man portable air defence system (MANPAD) meant for neutralising low altitude aerial threats at short ranges.

It has been designed and developed indigenously by Research Centre Imarat, Hyderabad in collaboration with other DRDO laboratories and Indian industry partners.

"The DRDO conducted two consecutive successful flight tests of the Very Short Range Air Defence System (VSHORADS) missile at the integrated test range at Chandipur off the coast of Odisha on March 14," the ministry said.

"The flight tests were carried out from a ground-based man portable launcher against high speed unmanned aerial targets, mimicking approaching and receding aircraft," it said in a statement.

"The missile incorporates many novel technologies including Dual-band IIR Seeker, miniaturised reaction control system and integrated avionics. The propulsion is provided by a dual thrust solid motor," the ministry said.

DRDO chairman Samir V Kamat also congratulated the teams associated with the consecutive successful flight tests of the missile.

<https://www.outlookindia.com/national/drdo-performs-successful-flight-test-of-indigenous-pt shaft-and-two-vshorads-missile-test-news-270133>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Tue, 14 Mar 2023

डीसीजीआई ने रेडियोलॉजिकल और परमाणु आपात स्थितियों के लिए प्रौद्योगिकी विकास कोष के अंतर्गत विकसित एक महत्वपूर्ण दवा के निर्माण तथा विपणन को मंजूरी दी

डीआरडीओ प्रौद्योगिकी पर उद्योग द्वारा प्रशियन ब्लू अघुलनशील फॉर्मूलेशन विकसित

ड्रग्स कंट्रोलर जनरल ऑफ इंडिया (डीसीजीआई) ने टेक्नोलॉजी डेवलपमेंट फंड (टीडीएफ) योजना के अंतर्गत विकसित प्रशियन ब्लू अघुलनशील फॉर्मूलेशन के वाणिज्यिक उपयोग के लिए विनिर्माण और विपणन लाइसेंस की मंजूरी स्काॅट-एडिल फार्माशिया लिमिटेड, बर्दी, हिमाचल प्रदेश तथा स्केॅट्र लाइफसाइंस एलएलपी, अहमदाबाद को दी है। इस दवा को उद्योग द्वारा रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) की प्रयोगशाला, इंस्टीट्यूट ऑफ न्यूक्लियर मेडिसिन एंड एलाइड साइंसेज (आईएनएमएस), दिल्ली की तकनीक के आधार पर विकसित किया गया है।

यह दवा प्रुडे-कॉर्प-टीएम तथा प्रुडे-कॉर्प-एमजी के ट्रेड नाम से उपलब्ध होगी। फॉर्मूलेशन का उपयोग सीज़ियम और थैलियम के परिशोधन के लिए किया जाता है। यह रेडियोलॉजिकल तथा परमाणु आपात स्थितियों के लिए विश्व स्वास्थ्य संगठन (डब्ल्यूएचओ) द्वारा सूचीबद्ध महत्वपूर्ण दवाओं में से एक है।

रक्षा अनुसंधान एवं विकास विभाग के सचिव तथा डीआरडीओ के अध्यक्ष डॉ. समीर वी. कामत ने इस उपलब्धि पर संगठन के साथ-साथ उद्योग को भी बधाई दी है। उन्होंने कहा कि टीडीएफ परियोजना के अंतर्गत इन दवाओं के फॉर्मूलेशन का विकास तथा डीसीजीआई की मंजूरी प्रधानमंत्री श्री नरेन्द्र मोदी के 'आत्मनिर्भर भारत' के विजन को साकार करने के उद्देश्य से उद्योग को बढ़ावा देने के लिए डीआरडीओ का एक सफल प्रयास है।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906866>



Tue, 14 Mar 2023

Drug Developed Using DRDO Technology for Radiological and Nuclear Emergencies Gets DCGI Nod

A critical drug developed on a DRDO technology for radiological and nuclear emergencies has received approval from the Drugs Controller General of India (DCGI), the defence ministry said on Tuesday.

The drug — 'prussian blue' insoluble formulations — was developed under the Technology Development Fund (TDF).

The TDF was launched primarily for creating an ecosystem for promoting self-reliance by building indigenous state-of-the-art systems for defence application.

In a statement, the defence ministry said the drug has been developed by the industry based on the technology of Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi.

The INMAS is a laboratory of the Defence Research and Development Organisation (DRDO).

"The manufacturing and marketing licenses for the commercial use of Prussian blue insoluble formulations, developed under the Technology Development Fund (TDF) scheme, have been granted to Scott-Edil Pharmacia Ltd, Baddi, Himachal Pradesh and Skantr Lifescience LLP, Ahmedabad, Gujarat by Drugs Controller General of India (DCGI)," the ministry said.

It said the drug will be available under the trade name of Pru-DecorpTM and PruDecorp-MG.

"The formulations are used for decontamination of Cesium and Thallium and its Active Pharmaceutical Ingredient (API). It is one of the critical medicines listed by the World Health Organisation (WHO) for radiological and nuclear emergencies," the ministry said.

DRDO Chairman Samir V Kamat has congratulated the teams involved in development of the drug. "He stated that the development of these drug formulations under the TDF project and the approval of DCGI is a successful endeavour of the DRDO for promoting the industry to achieve Prime Minister Shri Narendra Modi's vision of 'Aatmanirbhar Bharat'," the ministry said.

<https://www.news18.com/india/drug-developed-using-drdo-technology-for-radiological-and-nuclear-emergencies-gets-dcgi-nod-7293451.html>

DRDO on Twitter





DRDO ✓
@DRDO_India



[#DRDOUpdates](#) | SMRITI (Synchronising Managing her Research Innovations and Technological Inspirations) a two-day event to celebrate the [#Internationalwomensday2023](#) was organised by DFRL at SDMIMD Mysore.

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Dr Samir V Kamat, Secretary DDR&D and Chairman DRDO inaugurated the event. Renowned pediatric cardiologist Dr Vijayalakshmi Balekundri and Dr Harpreet Singh, ED, Air India Ltd was the Chief Guest and Dr U K Singh DG (LS) was the Guest of honour for the function.



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Defence News

Defence Strategic : National/International



Press Information Bureau
Government of India

Ministry of Defence

Tue, 14 Mar 2023

India has Emerged as First Responder in Humanitarian Assistance and Disaster Relief (HADR) at Global Level: CDS Gen. Anil Chauhan

India has emerged first responder in Humanitarian Assistance and Disaster Relief (HADR) at global level, said Chief of Defence Staff General Anil Chauhan, in his virtual message to a Workshop on Humanitarian Assistance, Disaster Relief, Risk Mitigation and Disaster Resilience organised under the aegis of Integrated Defence Staff (IDS), Ministry of Defence today on 14th March, 2023 at New Delhi. The workshop was organized as part of India's Chairmanship of the Shanghai Cooperation Organization (SCO) and was attended by speakers from Kazakhstan, Kyrgyz Republic, Belarus, Mongolia, Pakistan and China along with speaker from Russia in the virtual mode.

“In keeping with our cultural beliefs of Vasudhaiva Kutumbakam – the whole world is one family, India has been playing an important role in providing HADR in the region and beyond”, he added, citing the instances such as Operation Maitri – rescue operations during earthquake in Nepal, Assistance to Sri Lanka in 2016 during Cyclone Roanu, earthquake in Indonesia in 2018, flooding in Madagascar in January 2020, Supply of Vaccines during the COVID 19 pandemic etc. He further said that timely launch of Operation Dost following the recent earthquake in Turkiye is a testimony to India’s willingness to extend help to all possible corners of the globe.

The CDS further added that collective approach is essential to mitigate the consequences of disasters and with this objective India has been holding multilateral exercises with various countries and multi-lateral organisations such as the HADR exercise PANEX 21 for BIMSTEC members at Pune in 2021, SMANVAY 22 for ASEAN members at Agra in 2022 etc. “By strengthening multilateral partnerships through engagement via regional mechanisms, improved interoperability, and faster response, we have played our role as the first responder in the region” he said.

CDS further said that Armed forces along with dedicated organizational structure are often the first responders in the event of any disaster. The ability to work in hostile environment, organizational skills and logistics know-hows make the Armed Forces most suited for HADR operations.

Air Marshal BR Krishna, Chief of Integrated Defence Staff to the Chairman, Chiefs of Staff Committee inaugurated the workshop. He urged the member states to develop capability and capacities of their national organizations to make them capable of mitigating loss of life and property during natural calamities.

The objective of the workshop on Humanitarian Assistance and Disaster Relief (HADR) is to exchange information and share the best practices on risk reduction and resilience, integration of Armed Forces in a regional response and disaster infrastructure and for promoting global collaboration among SCO members. The main goals of SCO are strengthening mutual trust and neighborliness among the member states, promoting the effective cooperation in politics, trade, economy, technology and culture as well as in education, energy, transport, tourism, environmental protection and other areas. Making joint efforts to maintain and ensure peace, security and stability in the region and moving towards the establishment of a democratic, fair and rational new international political and economic order.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906761>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 14 Mar 2023

Joint India Singapore Exercise ‘Bold Kurukshetra’ Concludes at Jodhpur

The Singapore Army and Indian Army participated in the 13th edition of Exercise Bold Kurukshetra, a bilateral armour exercise from 06-13 March 2023 at Jodhpur Military Station, India. For the first time in the exercise series, both armies participated in a command post Exercise, which involved Battalion and Brigade level planning elements and computer wargaming. Hosted by the Indian Army, the exercise involved soldiers from the 42nd Battalion, Singapore Armoured Regiment and an Armoured Brigade of Indian Army.

The ten-day long joint training that commenced on 05th March fostered common understanding of mechanised warfare in emerging threats and evolving technologies, developing interoperability through a computer simulation-based Wargame using joint operational and tactical procedures controlled through a joint command post. Both contingents not only learnt about each other’s operating drills and procedure, but also exchanged ideas and best practices being followed in a modern combat zone.

Exercise Bold Kurukshetra is conducted under the ambit of the bilateral arrangement for the joint Army Training and exercises between the Singapore Army and the Indian Army. First conducted in 2005, this exercise underscores the strong and long-standing bilateral defence relationship between both countries and enhances cooperation between the two armies. Both defence establishments also interact regularly through high-level visits, policy dialogues, courses and other professional exchanges.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906808>



**Press Information Bureau
Government of India**

Ministry of Defence

Tue, 14 Mar 2023

Indian Army Takes Lead in Awarding First Contract for iDEX Project as per the Revised Procedure

The Indian Army has taken a lead in awarding the first ever procurement order of an Innovations for Defence Excellence (iDEX) project as per the revised procedure. The contract for procurement of an indigenously developed 'Integrated Mobile Camouflage System (IMCS)' for Mechanised Forces was signed with Indian Startup M/s Hyper Stealth Technologies Pvt Ltd on 14 March 2023, in presence of the Lt Gen JB Chaudhari, Deputy Chief of the Army Staff (CD&S) and Mr Anurag Bajpai, Joint Secretary, DDP in Sena Bhawan.

The Integrated Mobile Camouflage System (IMCS) comprises of low emissivity and/or CAM-IIR coatings and Mobile Camouflage System materials providing the ability to the Armoured Fighting Vehicle (AFV) to merge with a terrain background. The technology comprises of low emissivity coatings and mobile camouflage system material and will provide significant capability enhancement in stealth for AFVs. The niche technology will be a great leap in indigenous stealth technology and provide a boost to Aatmanirbharta. IMCS will achieve a reduction in the detection range of AFV when viewed through Hand Held Thermal Imager (HHTI) / Battle Field Surveillance Radar (BFSR) tank-based thermal camera under given environmental and weather conditions and signature management by controlling the Visual, Thermal, Infra-red & Radar Signatures of object.

iDEX was launched by Hon'ble PM during Def Expo India 2018. The aim of iDEX was to create an eco-system to foster innovation and encourage technological development in Defence and Aerospace by engaging R&D Institutes, Academia, Industries including MSMEs, Start-Ups, Individual Innovators and provide them grants/ funding and other support to carry out R&D which has good potential for future adoption by Indian Defence and Aerospace Organisation.

iDEX is funded and managed by Defence Innovation Organisation (DIO) under MoD (DDP). Over past four years, iDEX under DIO has been able to emerge as a front-runner in establishing the right kind of contact with the Startups and Innovators and has gained substantial traction in the Defence Startup Community.

Currently, there are a total of 48 projects of the Indian Army as part of Defence India Startup Challenge (DISC), Open Challenges, iDEX4 Fauji & iDEX PRIME scheme which involves handholding of 41 Startups for the development of the latest state of art solutions for the challenges posed by Indian Army. For each challenge, a dedicated Nodal Officer & Establishment as Centre of Excellence from the Indian Army is nominated for handholding and providing continuous support in progressing their respective projects.

A further boost was given to the initiative in April 2022 as the revised methodology for iDEX was approved by the Hon'ble Raksha Mantri which ensures significant reduction in timelines of procurement to approx 24 weeks.

IMCS was the first system to be trial evaluated as per 'Single Stage Composite Trial' methodology based on revised DAP 2020. RFP was issued to the developing agency in September 2022 and within a record time of six months contract was signed on 14 March 23.

Balance AoN accorded iDEX projects of the Indian Army are also under finalisation with a contract likely by mid-April 2023.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906830>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 14 Mar 2023

Raksha Mantri Reviews Progress in Construction of Various Infrastructure Projects along Northern Border during a High-level Meeting in New Delhi

All pending projects should be expedited on top priority: Shri Rajnath Singh

A committee of Secretaries set up to fast-track the projects

Raksha Mantri Shri Rajnath Singh chaired a high-level meeting in New Delhi on March 14, 2023 to review the progress in construction of various infrastructure projects on the northern border areas. The Raksha Mantri called for expediting all pending projects on top priority, stating that 'whole of nation' approach should be adopted in matters of national security. To fast-track the pending projects, it has been decided to set up a committee of Secretaries which will meet at frequent intervals.

Minister of Road Transport and Highways Shri Nitin Gadkari, Minister of Railways, Communications, Electronics & Information Technology Shri Ashwini Vaishnaw, Minister of Power and New & Renewable Energy Shri RK Singh, Minister for Environment, Forest & Climate Change Shri Bhupender Yadav, Raksha Rajya Mantri Shri Ajay Bhatt, National Security Advisor Shri Ajit Doval, Chief Minister of Arunachal Pradesh Shri Pema Khandu, Chief Minister of Uttarakhand Shri Pushkar Singh Dhami and Lieutenant Governor of Ladakh Brig (Dr) BD Mishra (Retd), Chief of Defence Staff General Anil Chauhan, Chief of the Air Staff Air Chief Marshal VR Chaudhari, Chief of the Army Staff General Manoj Pande, Defence Secretary Shri Giridhar Aramane and other senior officials of the concerned Ministries attended the meeting.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1906925>

Next-gen Missile Vessels to Radars: Govt on Local Shopping Spree for Armed Forces

With the financial year drawing to a close and no headway yet on clearing outstanding Rouble payments for weapons purchased from Russia, the government is set to go in for a series of big-ticket indigenous acquisitions for the military to use up its pending defence capital funds, top officials told The Indian Express.

Several new acquisitions, officials said, are under consideration and orders are likely to be placed this month once they get the final nod from the Cabinet Committee on Security (CCS) or the Ministry of Defence.

Some of the naval projects for which orders might be placed this month include fleet support ships, Next Generation Offshore Patrol Vessels and Next Generation Missile Vessels — all made in Indian shipyards.

Negotiations have been underway between the Hindustan Shipyard Limited for five fleet support ships since 2021.

In 2018, the Defence Acquisition Council (DAC) had accorded approval for the procurement of six Next Generation Offshore Patrol Vessels (NGOPVs), fitted with state-of-the-art sensor suite, for the Navy. These platforms are aimed at strengthening maritime security by undertaking a multitude of operational roles.

In 2021, the Cochin Shipyard Limited had emerged as the lowest bidder for the construction of six Next Generation Missile Vessels at a cost of Rs 10,000 crore.



THE SHOPPING LIST

INDIAN ARMY

- EW system for mountains, dedicated communications satellite
- Air defence control and reporting system

INDIAN AIR FORCE

- Medium and high power radars

INDIAN NAVY

- Six Dornier-228 aircraft, 70 HTT-40 basic trainer aircraft
- Fleet support ships, next-gen offshore patrol vessels, next-gen missile vessels
- Next-gen maritime mobile coastal batteries with BrahMos missiles

The infographic features a background image of a missile launch over the ocean, with a ship visible in the distance.

Also in the pipeline are Next Generation Maritime Mobile Coastal Batteries (NGMMCBs) fitted with BrahMos surface-to-surface supersonic cruise missiles. In 2019, the DAC had accorded approval for procurement of the NGMMCBs for deployment along the coast. They have been developed and made in India by BrahMos Aerospace Private Limited, an India-Russia joint venture company.

Additionally, contracts for additional Lynx U2 Fire Control Systems – a Naval Gun Fire Control System for frontline warships and Super Rapid Gun Mount Systems (SRGMS) – might be inked soon.

Contracts for submarine refits are also in the pipeline. While the Ministry of Defence signed a contract Monday for normal refit of a third Kilo Class diesel-electric submarine, Sindhukirti, with HSL for Rs 934 crore, the Navy is pushing for another submarine refit contract.

Earlier, in December 2020, the Ministry had signed a contract with Bharat Electronics Limited (BEL) for procuring 10 Lynx U2 Fire Control Systems which were designed to acquire, track, and engage targets amidst sea clutter. In 2021, BHEL had bagged an order to supply two SRGMS to the Navy.

Earlier this month, the CCS accorded approval to sign a contract with L&T for the acquisition of three cadet training ships worth Rs 3,108.09 crore.

For the IAF, procurement of indigenously-developed medium power radars and high power radars for detection and tracking of aerial targets including fighter aircraft and slow-moving objects and close-in weapon systems is also on cards.

On Friday, the Ministry signed a contract with Hindustan Aeronautics Limited (HAL) to procure six Dornier-228 aircraft for the IAF at a cost of Rs 667 crore. The aircraft will be used for transport and communication duties.

Earlier this month, the CCS approved the procurement of 70 HTT-40 Basic Trainer Aircraft from HAL for the IAF at a cost of Rs 6,828.36 crore. The aircraft, which will provide basic training to IAF pilots, will be supplied over six years.

For the Army, contracts for Project Himshakti, a DRDO-developed integrated electronic warfare system for mountains, a dedicated communications satellite for the Army, and an indigenous air defence control and reporting system are in the pipeline.

The Army is already using the homegrown electronic warfare system. Last year, the DAC had accorded approval for the procurement of GSAT 7B for the Army.

According to officials, the three services are yet to fully exhaust their capital budgets for the current fiscal. A major chunk of this unspent funds are Rouble payments worth Rs 28,000 crore for weapons India procured from Russia.

Officials, however, said that the armed forces might end up surrendering a significant chunk of their capital budget even if all the contracts under discussion go through.

<https://indianexpress.com/article/india/next-gen-missile-vessels-to-radars-govt-on-local-shopping-spree-for-armed-forces-8497432/>

Indian Army Procures Integrated Mobile Camouflage Systems from a Start up

To reduce thermal and radar signatures the Indian Army has placed its first order for Integrated Mobile Camouflage Systems (IMCS) for Mechanised Forces with an Indian start-up Hyper Stealth Technologies Private Limited. This is the first ever procurement order of an Innovations for Defence Excellence (iDEX) project by the Indian Army. The contract, which was signed on March 14, 2023, marks a significant milestone in the Indian Army's efforts to promote innovation and technological development in defence and aerospace.

The procurement order is for an indigenously developed 'Integrated Mobile Camouflage System (IMCS)' for Mechanised Forces. The IMCS comprises low emissivity and/or CAM-IIR coatings and mobile camouflage system materials that enable armoured fighting vehicles (AFVs) to blend in with their terrain background, significantly enhancing capability in stealth for AFVs. This niche technology is expected to considerably boost indigenous stealth technology, facilitating Aatmanirbharta in line with the Government of India's (GoI) vision.

The IMCS reportedly achieves a reduction in the detection range of AFVs when viewed through a Hand Held Thermal Imager (HHTI)/Battle Field Surveillance Radar (BFSR) tank-based thermal camera under given environmental and weather conditions and signature management by controlling the Visual, Thermal, Infra-red and Radar Signatures of the object.

According to the Ministry of Defence IMCS was the first system to be trial evaluated as per 'Single Stage Composite Trial' methodology. This is based on the revised DAP 2020. And Request for Proposal (RfP) was issued last September to the developing agency and the contract has been signed in six months. Balance Acceptance of Necessity (AoN) accorded iDEX projects of the Indian Army are also under finalization and mid-next month an agreement is expected to be finalized.

The awarding of the procurement order to Hyper Stealth Technologies Private Limited is a testament to the Indian Army's commitment to promoting innovation and technological development in defence and aerospace, and it is a significant achievement for the start-up community. It is a positive step towards achieving the government's vision of Aatmanirbharta and promoting indigenous stealth technology.

Managed by the Defence Innovation Organisation (DIO) under the Ministry of Defence (MoD) (DDP), iDEX has emerged as a front-runner in establishing the right contact with start-ups and innovators and has gained substantial traction in the defence start-up community. Currently, there are a total of 48 projects of the Indian Army as part of the Defence India Start-up Challenge (DISC), Open Challenges, iDEX4 Fauji and iDEX PRIME scheme, involving handholding of 41 start-ups for the development of the latest state-of-the-art solutions for the challenges posed by the Indian Army.

<https://www.financialexpress.com/defence/indian-army-procures-integrated-mobile-camouflage-systems-from-a-start-up/3009308/>



Tue, 14 Mar 2023

Low-Altitude Drones, False Alarms at Pak Border New Focus Areas for India's Anti-Drone Technology

Low-flying drones and false alarms are the new focus areas for India's anti-drone technology developers as they come up with systems to detect and destroy China-made drones flying in from Pakistan. Sources said indigenous anti-drone technology developers, including the Defence Research and Development Organisation (DRDO), are working with particular focus on these two problem areas. Sources added that the DRDO's Drone Detect, Deter and Destroy system (D4S), the most advanced anti-drone system, is also under evaluation by all three armed forces.

A Border Security Force (BSF) analysis of the flight path of a drone that recently entered Indian air space showed it was manufactured in Shanghai and had entered Punjab from Pakistan. The flight path shows it had flown over several areas of Pakistan before entering India via Punjab border.

Sources said the technology can help at the India-Pakistan border, but the need of the hour is to focus on false alarms. The system must have the ability to clearly differentiate between unmanned aerial vehicles and other objects like birds. The system has been used in New Delhi on high-alert occasions like Independence Day celebrations.

"The focus area is to detect low-flying drones that can hide easily. The system can easily tackle high-flying drones. With the technology of 'soft' or 'hard' kill, it can destroy any type of drone of any size. But during the review process, it was found that the system must detect drones flying at lower altitudes," an official associated with the project told News18.

Once these drones enter Indian territory, they lower their altitude to a few meters above the ground to take advantage of the vegetation and night cover to escape detection by security forces.

Sources said DRDO's D4S is likely to be inducted and deployed at the borders in the next few months. This would be a single-point solution for all types of kills for the security forces, the official said on condition of anonymity.

Issues in the Current System

The BSF, which, along with Punjab Police, detects and deals with drones coming from across the border, has been facing problems in the existing system. The current system has limited range and can perform limited functions. It is also struggling with false alarms and low-level flying drones coming from Pakistan, a source in Punjab Police said.

According to data available, the BSF has successfully detected and captured 22 drones and seized 316.988 kg of heroin, 67 weapons and 850 rounds. It also killed two Pakistani intruders and apprehended 23 Pakistan nationals in 2022. Punjab remains the most vulnerable and busiest route for smugglers to funnel guns, ammunition and drugs into India.

<https://www.news18.com/india/low-altitude-drones-false-alarms-at-pak-border-new-focus-areas-for-indias-anti-drone-technology-7286179.html>

India Key Defence Provider for us, says Maldives FM

The development of a key naval facility in the Maldives with Indian help will end the practice of sending vessels abroad for maintenance and improve the archipelago's security capabilities, Maldivian foreign minister Abdulla Shahid said.

Work on developing the harbour at Uthuru Thila Falhu base under a bilateral agreement is ongoing and the project is aimed at creating a hub for vessel maintenance, Shahid said in an interview. He dismissed criticism of bilateral security cooperation, saying this was the work of elements whose interests are affected by such collaboration.

“The Maldives being a large ocean state, with our borders very porous, we need an effective surveillance and maritime operations, an effective coast guard. We do not have a proper hub to do the required maintenance of our boats. Every time, there needs to be maintenance or repair work, (the boat) has to be either taken to Sri Lanka or India,” Shahid said about the development of the coast guard base.

“So, this facility would give us the required harbour facility to attend to such work,” he said, adding Maldivian personnel will be trained as part of the project. Besides strengthening the country's capabilities, the Maldives is “making sure that our maritime security regiment is strengthened”, he added.

Asked about criticism from some quarters about India-Maldives collaboration in defence, Shahid said information-sharing and cooperation in security between like-minded countries helps prevent “major catastrophes”. The biggest challenge to criminal gangs, narco-terrorists, mercenaries, terror groups and non-state actors trying to undermine the sovereignty of small states comes from such cooperation, he said.

“So, people try to target international cooperation because it is threatening their thinking, their way of life – which is undermining security, which is the deep state, which is terrorism, which is piracy, which is trafficking of narcotics. When their trade is challenged, yes, I expect criticism,” Shahid said.

In 2021, India extended a \$50 million line of credit to the Maldives for defence projects and the two countries signed a pact to develop the harbour at Uthuru Thila Falhu. In the absence of a navy, the coast guard functions as the armed maritime component of the Maldives National Defence Force (MNDF), which has received patrol vessels and maritime surveillance aircraft from India.

The Maldives is one of the biggest beneficiaries of India's Neighbourhood First policy and Shahid lauded development assistance from New Delhi for being “very transparent”.

“The processes are transparent, the execution is transparent and the projects that come out are also transparently seen,” he said, listing projects such as the Greater Male Connectivity Project, redevelopment of Hanimadoo airport and a cancer hospital being built at Hulhumale. Many people have benefited from smaller projects to provide fresh water, build community centres and improve roads. “When we came into office, only 30% of the country had fresh water and proper

sewerage. At the end of these five years, all the islands in the Maldives will have proper fresh water and proper sewage,” he said.

“Many projects that are grassroots level (are) impacting the lives of people,” he said. “So, the way in which India has reached out to the Maldives is very, very much appreciated.”

Shahid, however, cautioned that bilateral ties should not be taken for granted. “Because there are individuals, groups of people who would want to undermine this special relationship...the groups of people, who are non-state actors, would very much like to undermine this relationship because in the Indian Ocean, all this is in a very strategic location,” he said.

“Creating instability in the Maldives works into the hands of such groups of people. But now with a strong leadership in the Maldives, no such group will be able to have their way in the Indian Ocean,” he added.

<https://www.hindustantimes.com/india-news/india-key-defence-provider-for-us-says-maldives-fm-101678819203676.html>

THE ECONOMIC TIMES

Wed, 15 Mar 2023

Pakistan Team Sent to Myanmar to Repair Combat Aircraft

Pakistan Air Force has sent a technical team for repair and maintenance of Myanmar's JF-17 combat aircraft, a move that will help upgrade their defence partnership.

This comes as Myanmar Air Force officials are visiting Pakistan for a six-month training course on maintenance of JF-17, ET has learnt.

The near simultaneous visits reflect growing confidence in each other's military establishment, according to Myanmar watchers.

Myanmar has 11 JF-17 aircraft, developed jointly by China and Pakistan, all exported by Pakistan to Myanmar but currently grounded due to technical faults. Myanmar wants JF-17 combat ready to fight rebel groups within its territory.

ET had earlier reported on how the Myanmar military junta isolated by the West has created a military-industrial partnership with Pakistan at China's behest.

The JF-17-a lightweight multi-role combat aircraft-that the Myanmar Air Force added to its fleet have structural cracks and other technical issues, according to Myanmar watchers. The Myanmar military lacks the technical expertise to address the challenges.

Last year, a senior-level Pakistani military delegation visited Myanmar to inspect a defence industry complex near Yangon and participate in a workshop on JF-17 block II aircraft that Myanmar had purchased from Islamabad, ET had then reported. Another Pakistani team had also visited Myanmar to provide technical assistance to manufacture weapons, ET had reported.

Last year, another Myanmar military team had visited Pakistan to inspect delivery of bombs and bullets that it had ordered from Islamabad, ET had reported. Pakistan, egged by China, has stepped up military-industrial partnership with Myanmar, one of India's key neighbours to the

east. Myanmar is keen to develop its domestic arms industry with Sino-Pak support even as it has developed close defence partnership with Russia.

With coup leader Senior General Min Aung Hlaingmaking regular visits to Russia with a shopping list of fighter jets, helicopters and missiles, China is concerned that it will lose Myanmar as a customer for its weapons, ET had earlier reported.

Pakistan was reportedly considering selling heavy machine guns, 60 mm and 81 mm mortars and M-79 grenade launchers to Myanmar, which is also eyeing to purchase air to surface missiles from Pakistan for their JF-17 fighter aircraft.

Pakistan was formerly a strong critic of the Myanmar government for what it alleged was a “state-sponsored campaign” against Rohingyas in western Myanmar’s Rakhine state. Myanmar had in the past accused Pakistan of arming and training the radical group Arakan Rohingya Salvation Army.

<https://m.economictimes.com/news/defence/pakistan-team-sent-to-myanmar-to-repair-combat-aircraft/articleshow/98640757.cms>

THE ECONOMIC TIMES

Tue, 14 Mar 2023

Learning from Ukraine, Taiwan shows off its Drones as Key to 'Asymmetric Warfare'

Taiwan showcased new models of its domestically produced military drones on Tuesday, saying they are key to its "asymmetric warfare" capacity to make its forces more agile if they have to face a far larger Chinese military.

China, which has never renounced the use of force to bring Taiwan under its control, has ramped up military activity near the democratically governed island to force it to accept Chinese sovereignty despite Taiwan's objections.

The war in Ukraine has lent new urgency to Taiwan military's efforts to bolster defence including a push to develop drones.

In a rare display of its drone capabilities, the military-owned National Chung-Shan Institute of Science and Technology (NCSIST), showed off its latest models, including the Albatross II surveillance drone, and combat drones that operate with global positioning system satellites.

NCSIST head Art Chang said the war in Ukraine had focused attention on drones, and his institution had teamed up with Taiwan companies to build a "national team" to develop military drones.

Taiwan's military has announced a partnership with companies aimed at producing 3,000 drones next year.

Chi Li-Pin, director of Aeronautical Systems Research Division for NCSIST, said the armed forces should increase their adoption of drones in their strategies.

"I hope our national troops can familiarise themselves with this weapon of asymmetric warfare and use them boldly," he told reporters at an NCSIST facility in the central city of Taichung.

President Tsai Ing-wen has championed the idea of "asymmetric warfare" to make Taiwan's forces more mobile and harder to attack.

Taiwan's armed forces are well-equipped but still dwarfed by China's.

Among the drones on display was an attack drone with loitering munitions that can cruise towards a target before plummeting at velocity and detonating on impact.

China has sent its drones to areas close to Taiwan to test its responses, the island's defence ministry has said.

Last year, Taiwan shot down a civilian drone that entered its airspace near an islet off the Chinese coast.

The island's defence ministry said in a report to parliament this week, a copy of which was reviewed by Reuters, that China was quickly building up its combat capacity with drones, including swarms of flying robots.

In response, Taiwan will focus on developing its combat and surveillance drones, as well as anti-drone systems, the ministry said.

<https://economictimes.indiatimes.com/news/defence/learning-from-ukraine-taiwan-shows-off-its-drones-as-key-to-asymmetric-warfare/articleshow/98624288.cms>



Wed, 15 Mar 2023

Russian Fighter Jet hits American Drone over Black Sea: US

A Russian fighter jet struck the propeller of a US surveillance drone over the Black Sea on Tuesday in a "brazen violation of international law," causing American forces to bring down the unmanned aerial vehicle, the US said.

But Russia insisted its warplanes didn't hit the MQ-9 Reaper drone. Instead, it said the drone manoeuvred sharply and crashed into the water following an encounter with Russian fighter jets that had been scrambled to intercept it near Crimea.

The incident, which added to Russia-US tensions over Moscow's war in Ukraine, appeared to be the first time since the height of the Cold War that a US aircraft was brought down after an encounter with a Russian warplane.

US President Joe Biden was briefed on the incident by national security adviser Jake Sullivan, according to White House national security spokesman John Kirby. He added that US State Department officials would be speaking directly with their Russian counterparts and "expressing our concerns over this unsafe and unprofessional intercept." State Department spokesman Ned Price called it a "brazen violation of international law." He said the US summoned the Russian ambassador to lodge a protest and the US ambassador to Russia, Lynne Tracy, has made similar representations in Moscow.

The US European Command said two Russian Su-27 fighter jets intercepted the drone while it was operating within international airspace. It said one of the Russian fighters struck the propeller of the MQ-9, causing US forces to bring it down in international waters.

Prior to that, the Su-27s dumped fuel on the MQ-9 and flew in front of it several times in “a reckless, environmentally unsound and unprofessional manner,” the US European Command said in a statement from Stuttgart, Germany. “This incident demonstrates a lack of competence in addition to being unsafe and unprofessional,” it added.

US Air Force Gen James B. Hecker, commander of US Air Forces Europe and Air Forces Africa, said the MQ-9 aircraft was “conducting routine operations in international airspace when it was intercepted and hit by a Russian aircraft, resulting in a crash and complete loss of the MQ-9.” He added that “in fact, this unsafe and unprofessional act by the Russians nearly caused both aircraft to crash.”

Pentagon spokesman Air Force Brig. Gen. Pat Ryder said the incident occurred at 7.03 am Central European time (0603 GMT; 11.30 am IST) over international waters, and well clear of Ukraine, after the Russian jets had flown in the vicinity of the drone for 30 to 40 minutes. There did not appear to be any communications between the aircraft before the collision, Ryder added.

The MQ-9 includes a ground control station and satellite equipment and has a 20-meter wingspan. It is capable of carrying munitions, but Ryder would not say whether it was armed. The US had not recovered the crashed drone, US Air Forces-Europe said in a statement, and neither had Russia, Ryder said.

He said it appeared the Russian aircraft also was damaged in the collision, but the US has confirmed that it did land, although Ryder would not say where.

Russia’s Defense Ministry said the US drone was flying over the Black Sea near Crimea and intruded in an area that was declared off limits by Russia as part of what it calls its “special military operation” in Ukraine, causing the military to scramble fighters to intercept it.

“As a result of a sharp manoeuvre, the MQ-9 drone went into unguided flight with a loss of altitude and crashed into the water,” it said. “The Russian fighters didn’t use their weapons, didn’t come into contact with the unmanned aerial vehicle, and they safely returned to their base.”

The Russian ambassador to Washington, Anatoly Antonov, described the US drone flight as a “provocation” and argued that there was no reason for US military aircraft and warships to be near Russia’s borders.

Speaking after meeting with US Assistant Secretary of State for Europe Karen Donfried, Antonov insisted that the Russian warplanes didn’t hit the American drone or fire their weapons. He added that Moscow wants “pragmatic” ties with Washington, adding that “we don’t want any confrontation between the US and Russia.”

Moscow has repeatedly voiced concern about US intelligence flights close to the Crimean Peninsula, which Russia seized from Ukraine in 2014 and illegally annexed. The Kremlin has charged that by providing weapons to Ukraine and sharing intelligence information with Kyiv, the US and its allies have effectively become engaged in the conflict.

Kirby emphasised that the incident wouldn’t deter the US from continuing its missions in the area.

“If the message is that they want to deter or dissuade us from flying, and operating in international airspace, over the Black Sea, then that message will fail,” Kirby said. “We’re going to continue to fly and operate in international airspace over international waters. The Black Sea belongs to no one nation.”

The US European Command said the incident followed a pattern of dangerous actions by Russian pilots while interacting with US and allied aircraft over international airspace, including over the Black Sea.

“These aggressive actions by Russian aircrew are dangerous and could lead to miscalculation and unintended escalation,” it warned.

Gen. David Berger, commandant of the Marine Corps, said this type of collision is his greatest concern, both in that part of Europe as well as in the Pacific. “Probably my biggest worry both there and in the Pacific is an aggressive Russia or China pilot or vessel captain, or something gets too close, doesn’t realise where they are, and causes a collision,” Berger said, in response to a question at a National Press Club event Tuesday.

As fighting continued in Ukraine, a Russian missile struck an apartment building Tuesday in the eastern city of Kramatorsk, killing at least one person and wounding nine others in one of the major urban strongholds the Donetsk region.

Ukrainian President Volodymyr Zelenskyy posted a video showing gaping holes in the façade of the low-rise building, which bore the brunt of the strike that damaged nine apartment blocks, a kindergarten, a bank branch and two cars, said regional Gov. Pavlo Kyrylenko.

Russian President Vladimir Putin, speaking with workers at a helicopter factory in southern Siberia, again cast the conflict in Ukraine as an existential one for Russia.

“For us, it’s not a geopolitical task,” Putin said, “it’s the task of survival of Russian statehood and the creation of conditions for the future development of our country.” Russia had welcomed a Chinese peace proposal, but Kremlin spokesman Dmitry Peskov said Kyiv’s refusal to talk leaves Moscow with only military options.

“We must achieve our goals,” Peskov told reporters. “Given the current stance of the Kyiv regime, now it’s only possible by military means.” The Russian onslaught has focused on the devastated eastern city of Bakhmut, where Kyiv’s troops have been fending off attacks for seven months and which has become a symbol of resistance, as well as a focal point of the war.

Zelenskyy discussed Bakhmut with the military brass and they were unanimous in their determination to face down the Russian onslaught, according to the presidential office.

“The defensive operation in (Bakhmut) is of paramount strategic importance to deterring the enemy. It is key for the stability of the defense of the entire front line,” said Valerii Zaluzhnyi, the commander in chief of Ukraine’s armed forces.

<https://indianexpress.com/article/world/russian-fighter-jet-hits-american-drone-over-black-sea-us-8497317/>

Digital foot to revolutionise bionic limbs

A digital foot sole that enables scientists to see the neurological signals that control how we walk and balance, has been developed by researchers at the University of Sheffield.

The groundbreaking computational model, which provides a digital simulation of the signals that continuously flow through the body from the foot to the brain, could be used to design more sophisticated neuroprosthetics - artificial limbs that can give the brain feedback about the world around us, in electrical form.

Called FootSim, the model allows scientists to map how our nervous system continuously responds to contact with the soles of our feet and changes in pressure points in unprecedented detail.

The digital sole model has been developed by Dr Rodrigo Kazu Siqueira, a computational neuroscientist at the University of Sheffield and Natalija Katic, a PhD student at ETH Zurich and the University of Belgrade.

Dr Kazu Siqueira, from the University of Sheffield, said: "To walk and maintain balance, humans rely on continuous feedback from the soles of our feet. This information is sent in the form of electronic signals that travel through neurological pathways

between our feet and brain.

"Until now, it has been incredibly difficult for scientists to study these signals, which makes it difficult to fix them when they're disrupted or replicate them, for example in the use of bionic limbs.

"The model we've developed here at Sheffield now enables us to replicate the signals that allow the nervous system to walk and maintain balance in unprecedented detail. This level of insight opens up a world of possibilities, particularly for the future of healthcare. It could be used to help design new, more sophisticated assistive technologies that are more stable, responsive and reliable."

Dr Kazu Siqueira is part of Dr Hannes Saal's Active Touch Laboratory, and together with Luke Cleland, a PhD student from the group, programmed the model in Sheffield's Insigneo Institute for in silico Medicine - Europe's first research institute dedicated to using new digital technologies to transform the future of healthcare. The work was done in collaboration with Canadian researchers from Guelph and Calgary universities and with a group led by Dr Stanisa Raspopovic at ETH Zürich that has a history of successful and impactful research in prosthetics.

The Tribune

Tue, 14 Mar 2023

First Semiconductor Fab Facility soon: Vaishnaw

The country's first semiconductor fab facility will be announced in a few weeks, said Union Minister Ashwini Vaishnaw while addressing a session at the CII Partnership Summit 2023 here on Tuesday.

The government is "committed to do what's required to succeed," he said while pointing out that developments are leading to an inflection point where the first fab should be declared in the coming few weeks and "that's just beginning," said Vaishnaw. Given the progress on all fronts in India's semiconductor blueprint, "We should see a vibrant semiconductor industry in the coming 3-4 years," he said.

<https://www.tribuneindia.com/news/business/first-semiconductor-fab-facility-soon-vaishnaw-488214>

THE TIMES OF INDIA

Wed, 15 Mar 2023

Angelin Mary: From DRDO to Daimler

Why should boys have all the fun? Angelin Mary took this seriously, followed her heart, and has had a great career in the automobile industry. She's now vice president at the Daimler Truck Innovation Centre in India. Her team plays a critical role in developing embedded software across domains like infotainment and active safety. She is also equally focused on developing capabilities in middleware and base software layers.

But Angelin, who did a Master's in software systems from BITS, Pilani, actually began her career with the government's Defence Research and Development Organisation (DRDO), where she helped develop radars. But then she thought private industry would help her learn advanced technologies faster, and give her exposure to global stakeholders.

So she joined automotive technology supplier Aptiv, where she developed systems for vehicles. She made a slight detour to designing systems for buildings at Honeywell Technology Solutions, but soon returned to the world of vehicles with Daimler. "With the introduction of high-end vehicles that require software, women have a lot of scope in the automobile sector," Angelin says. Cars are no longer just about gears, and grease. "Software is the big differentiator. Back when I started in Aptiv, our global teams would say there are no high end cars. But now there are lots of them," she says.

Women, she says, have the advantage today that companies themselves are looking for women candidates in line with their diversity strategy. But women can make a beginning in this field, she says, only when they stop being conscious of their gender. She says they may have to deal with prejudices at least in the initial phases, when, say, seniors could feel women cannot be put

on travelling assignments. But those, she indicated, do get better over time if the woman performs.

Angelin says everyone in the auto field should first take time out to learn all about a vehicle's systems. It is also important, she says, to visit manufacturing facilities, and to understand procurement and logistics. Visiting manufacturing facilities was part of the skilling process during her transition from defence research to writing code at Aptiv. Learning these, she says, will help when talking to a customer, and help plan the business requirement better.

“The client will give only a high-level view of what they want. They want to hear more than just about the software and coding language. Places like Daimler will also teach you managerial skills, and how to have business discussions. This will help you move up the ladder,” she says.

<https://timesofindia.indiatimes.com/business/india-business/angelin-mary-from-drdo-to-daimler/articleshow/98647419.cms?from=mdr>

