

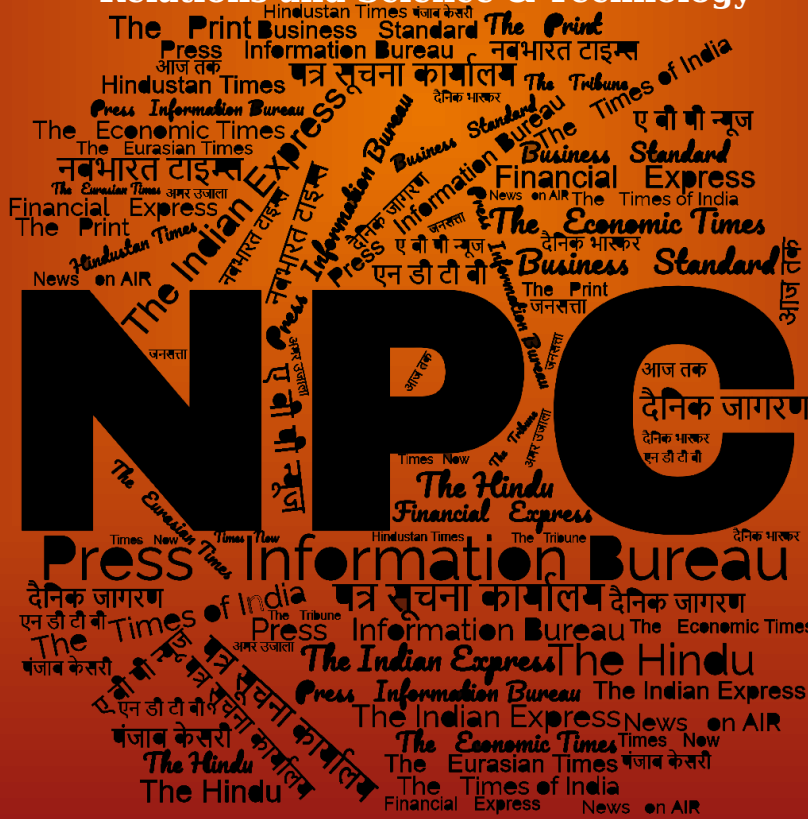
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समाचार पत्रों से चयित अंश Newspapers Clippings

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		1-3
DRDO Technology News		1-3
1.	Indian Missile System: लद्दाख में अब नहीं गलेगी चीन की दाल, 6 किमी के रेंज में यह मिसाइल मचा देगा तबाही	1
2.	India may soon have its Own Desi Portable Air Defence Missiles	2
Defence News		3-14
Defence Strategic: National/International		3-14
3.	Vice Admiral Dinesh K Tripathi, AVSM, NM Takes Over as Vice Chief of the Naval Staff	3
4.	Ministry of Defence Signs Contracts Worth Rs 802 Crores for Procurement of Military Equipment	4
5.	Ministry of Defence Signs Two Contracts Worth ₹802 Crore	5
6.	BSF Jawans Serving on Indo-Pak Border in Raj to Try out Special 'Cold Jackets'	5
7.	India may Meet Modi's Defence Production Target Sooner than Expected	6
8.	Pune a Growing Hub for Defence Production	7
9.	Relationship with China not Normal: MEA	8
10.	India-Nepal Joint Commission: Fostering Collaboration through Agreements and Relief Initiatives	9
11.	Red Sea Crisis: India Says it is Closely Monitoring the Situation	10
12.	Sri Lanka to Deploy Naval Vessel in Red Sea to Fight Houthi Attacks: President Ranil Wickremesinghe	11
13.	Russia Goes Ahead with Plans to Buy Iranian Ballistic Missiles: Report	12
14.	Russian Hackers were Inside Ukraine Telecoms Giant for Months: Cyber Spy Chief	12
Science & Technology News		14-17
15.	Indigenous Equipment Developed for Mechanical Recycling of Waste Thermoplastic Polymers to Composites	14
16.	DST Mulls over Positioning India as Global S&T Leader for a Vikshit Bharat	16
17.	Aditya L1, ISRO's First Sun Mission Set to be Injected into Final Orbit Tomorrow	17



Thu, 04 Jan 2024

Indian Missile System: लद्दाख में अब नहीं गलेगी चीन की दाल, 6 किमी के रेंज में यह मिसाइल मचा देगा तबाही

VSHORADS Missile: चीन की हर एक नापाक चाल को नाकाम करने के लिए भारतीय फौज पूरी तरह से तैयार है. चीन किस तरह से घुसपैठ के जरिए भारत को अस्थिर करने की कोशिश करता है. यह पूरी दुनिया भी जानती है. लद्दाख के पूर्वी इलाकों में चीन गिद्ध की तरह नजर गड़ाए बैठा है. चीन को मात देने के लिए भारतीय फौज ने रूसी एयर डिफेंस की तैनाती भी कर चुका है. हालांकि इन सबके बीच अब स्वदेशी तकनीक पर काम किया जा रहा है. इन सबके बीच भारत वेरी शॉर्ट रेंज एयर डिफेंस सिस्टम यानी VSHORADS के उत्पादन की दिशा में आगे बढ़ चुका है. पोर्टेबल मिसाइल सिस्टम 6 किमी के रेंज में दुश्मन देश के किसी भी एक्शन को हवा में ही नेस्तनाबूद कर देगी.

क्या है VSHORADS

वेरी शॉर्ट रेंज एयर डिफेंस सिस्टम को डीआरडीओ ने विकसित किया है. इसके जरिए कम ऊंचाई पर उड़ने वाले फाइटर जेट्स, ड्रोन को निशाना बनाया जा सकता है. करीब 6 किमी की रेंज में अगर दुश्मन किसी तरह की हिमाकत करेगा तो उसे मार गिराया जा सकता है. टाइम्स ऑफ इंडिया में छपी रिपोर्ट के मुताबिक इसे सेना को ट्रायल के लिए मुहैया कराया जाएगा. वेरी शॉर्ट रेंज एयर डिफेंस सिस्टम, अभी इस्तेमाल में लाए जा रहे हैं मैन पोर्टेबल एयर डिफेंस सिस्टम से तकनीकी तौर पर अधिक उन्नत है. इंफ्रारेड इमेजिंग सिस्टम से लैस यह तकनीक दुश्मन देश की किसी भी नापाक कार्रवाई को नेस्तनाबूद कर देगी.

ओडिशा में हो चुका है टेस्ट

रक्षा अनुसंधान और विकास संगठन (DRDO) ने मंगलवार को ओडिशा के तट से दूर चांदीपुर में बहुत कम दूरी की वायु रक्षा प्रणाली या VSHORADS मिसाइल के लगातार दो सफल परीक्षण उड़ान संचालन किए थे. यह टेस्ट जमीन-से मैन-पोर्टेबल तकनीक के जरिए अंजाम तक पहुंचाया गया. उच्च गति वाले अनमैन्ड एयर टारगेट के खिलाफ (MANPAD) की ही तरह है हालांकि इसमें कुछ बदलाव भी किए गए हैं. रक्षा मंत्रालय ने बताया था कि रक्षा प्रणाली ने मिशन के सभी उद्देश्यों को पूरा करते हुए लक्ष्यों को सफलतापूर्वक भेदा था.

लद्दाख में जवाब देने की तैयारी

वेरी शॉर्ट रेंज एयर डिफेंस सिस्टम के अपर रेंज को परखा जा चुका है अब एक किमी की ऊंचाई पर उड़ने वाले टारगेट पर सटीक निशाना साधने की दिशा में लगातार टेस्ट किए जा रहे हैं. राजनाथ सिंह की अगुवाई वाले डिफेंस एक्वीजीशन काउंसिल ने पिछले साल जनवरी में इस सिस्टम को जरूरत बताते हुए 1920 करोड़ के सौदे पर मुहर लगाई थी. एक बार इसके सफल यूजर ट्रायल के बाद इसे बड़े पैमाने पर बनाया जाएगा. इसी के साथ कुछ और भारतीय कंपनियां इसके समकक्ष एयर डिफेंस सिस्टम को मेक-2 कैटेगरी के तहत विकसित करने में जुटी हुई हैं. यह सिस्टम लेजर बीम से संचालित होगी. वेरी शॉर्ट एयर डिफेंस सिस्टम को इसलिए खास बताया जा रहा है कि

क्योंकि दुर्गम इलाकों में इसकी तैनाती और संचालन में आसानी होगी. अधिकारियों के मुताबिक रूस-यूक्रेन लड़ाई में इस तरह के हथियारों की उपयोगिता साबित हो चुकी है.

2009 से जुड़ा है सौदा

वेरी शॉर्ट एयर डिफेंस सिस्टम के सौदे का मामला 2009 से जुड़ा हुआ है. इस सौदे के लिए कई देशों खासतौर से फ्रांस और स्वीडेन से संपर्क साधा गया था. लेकिन अंत में रूसी फर्म को कामयाबी मिली. सौदे के तहत भारत डायनमिक्स लिमिटेड को तकनीक भी ट्रांसफर की जानी थी. हालांकि उसमें कामयाबी नहीं मिली. गलवान की घटना के बाद जब लद्दाख के पूर्वी इलाकों में चीन के साथ तनाव बढ़ा तो जमीनी जरूरत को ध्यान में रखकर इंडियन आर्मी और एयरफोर्स ने आपातकालीन खरीद के तहत इग्ला -एस-मनपैड्स की खरीद पर आगे बढ़े.

<https://zeenews.india.com/hindi/india/india-plans-for-trial-of-portable-desi-missile-very-short-range-air-defence-system/2043185>

THE ECONOMIC TIMES

Thu, 04 Jan 2024

India may soon have its Own Desi Portable Air Defence Missiles

India is gearing up to commence 'user trials' for its indigenous man-portable air defence missile system, designed to eliminate hostile aircraft, drones, and helicopters at very short ranges. This development comes as the armed forces are currently inducting a limited number of Russian systems to address operational gaps in the ongoing military standoff with China in eastern Ladakh, a TOI report stated.

The indigenous very short-range air defence system (VSHORADS), developed by DRDO to neutralize low-altitude aerial threats within a 6-km range, is expected to undergo user trials by April-May, according to a senior defense official. The official highlighted that the 4th generation VSHORADS surpasses existing MANPADS in the Indian armed forces due to its state-of-the-art uncooled imaging infrared seeker.

The defense acquisitions council, led by Rajnath Singh, approved the procurement of VSHORADS missiles at a cost of Rs 1,920 crore in January last year. The VSHORADS, with proven upper-range capabilities through developmental tests, is now set for crucial user trials before potential bulk production.

Simultaneously, Indian companies are exploring the development of "laser-beam riding VSHORADS" under the "Make-II" category project, funded by the industry for prototype development.

Despite heightened tensions along the northern borders with China, the armed forces view VSHORADS as a low-cost option for swift deployment, offering close air defense protection in rugged high-altitude areas and the maritime domain. An officer noted their operational versatility and utility, citing their success during the Russia-Ukraine war.

The procurement history of VSHORADS traces back to a tri-Service case initiated in June 2009. However, the selection process saw the Russian Igla-S anti-aircraft missile system chosen over French and Swedish contenders. The initial off-the-shelf purchase followed by technology transfer to Bharat Dynamics for subsequent production did not materialize, leaving the Army critically short of advanced man-portable air defence missiles.

As a temporary solution, the Army and IAF resorted to emergency procurement of Igla-S MANPADS over the past three years. The latest contract, signed in May last year, included 100 Igla-S missiles and 48 launchers. While the Army and IAF possess the older Igla-1M systems since 1989, the Igla-S variant boasts an improved interception range of up to 6-km. The success of the indigenous VSHORADS in user trials could mark a significant milestone in bolstering India's air defense capabilities.

<https://economictimes.indiatimes.com/news/defence/india-may-soon-have-its-own-desi-portable-air-defence-missiles/articleshow/106542292.cms>

Defence News

Defence Strategic: National/International



Press Information Bureau
Government of India

Ministry of Defence

Thu, 04 Jan 2024

Vice Admiral Dinesh K Tripathi, AVSM, NM Takes Over as Vice Chief of the Naval Staff

Vice Admiral Dinesh K Tripathi, AVSM, NM took over as Vice Chief of the Naval Staff on 04 Jan 24. On taking over, the Flag Officer paid homage to the Bravehearts who made the supreme sacrifice in service of the nation by placing a floral wreath at the National War Memorial. Prior to taking over as Vice Chief of the Naval Staff, VAdm Dinesh K Tripathi served as the Flag Officer Commanding-in-Chief, Western Naval Command.

An alumnus of Sainik School Rewa and National Defence Academy, Khadakwasla, he was commissioned into the Indian Navy on 01 Jul 1985. A Communication and Electronic Warfare specialist, he served on frontline warships of the Navy as Signal Communication Officer and Electronic Warfare Officer, and later as the Executive Officer and Principal Warfare Officer of Guided Missile Destroyer INS Mumbai. He commanded Indian Naval Ships Vinash, Kirch and Trishul. He has also held various important operational and staff appointments which include Fleet Operations Officer of the Western Fleet at Mumbai, Director of Naval Operations, Principal Director Network Centric Operations and Principal Director Naval Plans at New Delhi. On promotion to the rank of Rear Admiral, he served as Assistant Chief of Naval Staff (Policy and Plans) at NHQ and as the Flag Officer Commanding Eastern Fleet.

On promotion to the rank of Vice Admiral in Jun 2019, the Flag Officer was appointed as Commandant of the prestigious Indian Naval Academy at Ezhimala, Kerala. He was the Director General of Naval Operations from July 2020 to May 2021, a period that witnessed a high tempo of

Naval Maritime Operations. He ensured that Navy remained a 'Combat Ready, Credible, Cohesive and Future Proof Force, ready to address a host of complex security challenges despite all round severity of COVID Pandemic. Later, from Jun 21 to Feb 23, the Flag Officer served as the Chief of Personnel.

The Admiral is a graduate of Defence Services Staff College, Wellington, where he was awarded the Thimmaiya Medal. He also attended Naval Higher Command Course and Naval Command College at the US Naval War College, Newport, Rhode Islands in 2007-08, where he won the prestigious Robert E Bateman International Prize.

Vice Admiral Tripathi is a recipient of Ati Vishisht Seva Medal and Nausena Medal for devotion to duty. He is also a keen sportsman and avidly follows tennis, badminton, and cricket. The Flag Officer is a keen student of international relations, military history and art & science of leadership. He is married to Mrs Shashi Tripathi, an artist and homemaker. The couple have one son, a practising lawyer, who is married to Tanya, who works in the policy making domain.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1993013>



Press Information Bureau
Government of India

Ministry of Defence

Thu, 04 Jan 2024

Ministry of Defence Signs Contracts Worth Rs 802 Crores for Procurement of Military Equipment

Ministry of Defence inked two contracts for procurement of Qty-697 Bogie Open Military (BOM) Wagons at a cost of 473 Cr with M/s Jupiter Wagons Limited and procurement of Qty-56 Mechanical Minefield Marking Equipment (MMME) Mark II at a cost of 329 Cr with M/s BEML Ltd, under Buy (Indian-IDD) category on January 4, 2024 in New Delhi. The BOM Wagons and MMME will be produced with equipment and sub-system sourced from indigenous manufacturers, giving a boost to the indigenous manufacturing and participation of the private sector in defence production, realizing the vision of Atmanirbhar Bharat.

Bogie Open Military (BOM) wagons, designed by Research Design and Standard Organization (RDSO) are specialist wagons used by the Indian Army for mobilization of the Army units. BOM wagons are used to transport light vehicles, Artillery Guns, BMPs, Engineering Equipment etc. from their peacetime locations to operational areas. This Critical Rolling Stock will ensure speedy and simultaneous induction of units and equipment into operational areas during any conflict situation besides, facilitating their peacetime movement for Military exercise and movement of units from one station to another.

Marking of all minefields is a mandatory requirement as per amended Protocol-II on Convention in certain Conventional Weapons to which India is a signatory. MMME has been designed to operate cross country with complete load of stores and carry out marking of minefields with minimal time and manpower employment. The equipment is based on an in-service High Mobility Vehicle having advanced mechanical and electrical systems which will reduce the timings for minefield marking during operations and will enhance the operational capability of Indian Army.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1993031>

Thu, 04 Jan 2024

Ministry of Defence Signs Two Contracts Worth ₹802 Crore

The Defence Ministry on Thursday signed two contracts worth ₹802 crore towards equipment for the Army. They include 697 Bogie Open Military (BOM) wagons at a cost of ₹473 crore with Jupiter Wagons Limited and 56 Mechanical Minefield Marking Equipment (MMME)-Mark II at a cost of ₹329 crore with Bharat Earth Movers Limited under the Buy (Indian-IDD) category.

“The BOM Wagons and MMME will be produced with equipment and sub-system sourced from indigenous manufacturers, giving a boost to the indigenous manufacturing and participation of the private sector in defence production, realizing the vision of atmanirbhar bharat,” a Ministry statement said.

BOM wagons, designed by the Research Design and Standard Organisation are specialist wagons used by the Indian Army for mobilisation of Army units. BOM wagons are used to transport light vehicles, artillery guns, engineering equipment, etc., from their peacetime locations to operational areas. This critical rolling stock will ensure speedy and simultaneous induction of units and equipment into operational areas during any conflict situation besides facilitating their peacetime movement for military exercises, and movement of units from one station to another, the statement said.

Marking of all minefields is a mandatory requirement according to the amended Protocol-II in certain conventional weapons to which India is a signatory. The MMME has been designed to operate cross country, with a complete load of stores, and carry out marking of minefields with minimal time and manpower employment, the Ministry said. “The equipment is based on an in-service high mobility vehicle having advanced mechanical and electrical systems which will reduce the timings for minefield marking during operations and will enhance the operational capability of the Army,” the statement said.

<https://www.thehindu.com/news/national/ministry-of-defence-signs-two-contracts-worth-802-crore/article67705564.ece>

The Statesman

Thu, 04 Jan 2024

BSF Jawans Serving on Indo-Pak Border in Raj to Try out Special ‘Cold Jackets’

Border Security Forces (BSF) soldiers stationed along the scorching Indo-Pak border in Jaisalmer and Barmer are set to test specialised ‘cold jackets’ designed to reduce body temperature by 6 to 7 degrees Celsius during the peak summer season in desert areas.

A senior BSF official informed The Statesman that these long-awaited jackets are slated for pilot testing in the international border regions of Jaisalmer and Barmer, specifically under the Rajasthan Frontier.

Notably, the Defence Research and Development Organization (DRDO) had previously developed a 'cool vest jacket' aimed at aiding BSF jawans stationed in extreme heat along the international border. Trials of this vest, coupled with a cap, were conducted in the Shahgarh Bulge area.

BSF sources indicate ongoing efforts to enhance the vest's efficacy, with the BSF panel overseeing trials and providing suggestions for improvements.

"If the pilot project proves successful, BSF intends to incorporate these jackets into its inventory starting from the next season," the official stated.

BSF jawans, enduring temperatures ranging from 50 to 55 degrees Celsius near the international border with Pakistan, regularly grapple with numerous challenges due to prolonged exposure to extreme heat.

Once this initiative bears fruit, soldiers along the 804-km-long Indo-Pak border, stretching from Jaisalmer to Sri Ganganagar district under the Rajasthan Frontier, will be equipped with 'cold jackets' which function on the principle of latent heat absorption.

<https://www.thestatesman.com/india/bsf-jawans-serving-on-indo-pak-border-in-raj-to-try-out-special-cold-jackets-1503256289.html>



Thu, 04 Jan 2024

India may Meet Modi's Defence Production Target Sooner than Expected

India's defence production crossed the ₹1 lakh crore mark for the first time ever during the financial year 2023 and the industry might just meet the Narendra Modi government's target of ₹1.75 lakh crore set for the financial year 2025 well before time.

Defence secretary Giridhar Aramane, in an exclusive conversation with CNBC-TV18 on January 3, said: "We are aiming very high. We have passed ₹1 lakh crore, but not satisfied. We were still the largest weapons importer in the world until last year. We should be able to obviate imports by increasing capacity."

On FY24 targets, the defence secretary said: "I am fervently hoping that our production this financial year will cross ₹1.5 lakh crore and may even inch up higher if exports offer a better opportunity. Largely ₹1.75 lakh crore will be a very ambitious target, but I don't think the Indian industry will fail me on this ambition." He underlined that 45% of new orders are likely to go to the private sector.

Months before achieving ₹1,06,800 crore in defence production, India had set a target to achieve production worth ₹1.75 lakh crore in aerospace and defence goods and services by FY25. This target includes achieving defence exports worth ₹35,000 crore.

Sharing a break-up, Aramane said India is likely to achieve a set target of ₹20,000 crore in defence exports this financial year, "if everything goes well". The defence exports in FY23 were at ₹16,000 crore.

Here is a look at defence production targets and achievements:

FY	Defence production	Of which exports
2024-25*	₹1,75,000 crore	₹35,000 crore
2023-24*	₹1,50,000 crore	₹20,000 crore
2022-23	₹1,06,800 crore	₹16,000 crore
2021-22	₹95,000 crore	₹12,815 crore
* Targets		
Source: Rajya Sabha replies, news reports		

Aramane said the ₹20,000 crore export target seems reasonable and underlined that India "doesn't supply to conflict zones".

Defence Minister Rajnath Singh has been exhorting defence public sector undertakings to develop/adopt to latest technologies to make India a global defence manufacturing hub and achieve Prime Minister Narendra Modi's vision of Aatmanirbhar Bharat. Singh has also stressed the need to increase India's defence market share across the globe.

During the conversation with CNBC-TV18, defence secretary Aramane said private companies, too, were picking up in a major way.

"They (private companies) are supplying to major multinational companies such as Boeing and Lockheed Martin, among others. I hope that they will be able to contribute at least 40% of this year's exports," he said.

Sharing an example of how low-cost drones can neutralise submarines, fighter jets and warships as has been witnessed in recent wars, Aramane said India would soon unveil a scheme to encourage the private sector to develop emerging defence technologies.

"There is a need to strengthen defence with the cheapest possible solutions. We need the private sector and new age companies to work on drones, UAVs, electronic warfare, improve air defence and ground mobility," he said.

<https://www.cnbc18.com/economy/india-defence-production-export-target-giridhar-aramane-rajnath-singh-narendra-modi-defence-budget-18714291.htm>



Fri, 05 Jan 2024

Pune a Growing Hub for Defence Production

Pune the comprehensive directory, compiled by the maharashtra chamber of commerce, industries and agriculture (mccia) features an impressive 641 micro, small, and medium enterprises (msmes) actively contributing to the defence domain in maharashtra, with most having bases in the pune district.

This marks a significant increase from the 505 entries in the previous 2021 edition, highlighting the burgeoning strength of the sector in the region.

According to industry players, around 80 to 90 per cent of the 641 firms are from Pune region.

MCCIA launched the third edition of the Defence Manufacturers Directory at Southern Command, Pune, on Wednesday when Lt Gen AK Singh, GOC-in-C, Southern Command was also present.

The directory sheds light on the growth and diversity of Maharashtra's defence-oriented industries. According to MCCIA, the directory highlights the evolving landscape of the sector in and around Pune.

The financial diversity of listed MSMEs, with 36 entities boasting a turnover exceeding ₹100 crore, indicates the varied economic capacities of these industries.

Prashant Girbane, director-general MCCIA, attributed Pune's success in defence manufacturing to the government's indigenization policies and the region's pre-existing engineering skills, bolstered by the auto components industry.

"Pune, known for its engineering excellence, leads the nation in engineering goods exchange according to merchandise goods export rankings," he said.

"In terms of turnover, the MSMEs listed in this directory exhibit diverse financial strengths: 36 entities boast a turnover exceeding ₹ 100 crore, 21 falls within the ₹50 to ₹100 crore range, 408 operate within the ₹1 crore to ₹50 crore bracket, and 176 have turnovers below ₹1 crore. This diverse spectrum underscores the varied economic capacities and contributions of the listed industries," said Girbane.

MCCIA had recently conducted a survey of defence manufacturers in and around Pune to gauge their annual growth rate over the past five years.

"The findings revealed a dynamic landscape, with 23% of respondents reporting a growth rate exceeding 30%, 20% achieving growth between 25 to 30%, 8.5% with a growth rate between 20 and 25%, 20% experiencing growth between 15 to 20%, and another 20% reporting growth between 10 to 15%," said Girbane.

"This positive trajectory in the Pune defence manufacturing ecosystem is attributed to the indigenization policies of the Government of India, which have facilitated an increase in manufacturing capacities and overall business growth," Girbane said.

<https://www.hindustantimes.com/cities/pune-news/pune-a-growing-hub-for-defence-production-101704396359716.html>

THE ECONOMIC TIMES

Thu, 04 Jan 2024

Relationship with China not Normal: MEA

India on Thursday once again said that its relationship with China is "not normal" and that both sides are engaged in diplomatic and military talks to resolve the pending issues in eastern Ladakh. The Indian and Chinese troops are locked in an over three-and-half-year confrontation in certain friction points in eastern Ladakh even as the two sides completed disengagement from several areas following extensive diplomatic and military talks.

"Our position on China is very well known. It is a relationship which is not normal but we have had dialogues both on the military side as well as on the diplomatic side," External Affairs Ministry spokesperson Randhir Jaiswal said.

His comments at a media briefing came in response to a question on the situation in eastern Ladakh.

Jaiswal also referred to the last rounds of military and diplomatic talks between the two sides in October and November respectively.

"The idea is that we engage so that we can have some sort of resolution," he said.

In the military talks on October 9 and 10, the two sides exchanged views in an open and constructive manner for an early and mutually acceptable resolution of the remaining issues along the Line of Actual Control (LAC) in the Western Sector.

The government refers to eastern Ladakh as Western Sector.

On the diplomatic talks that took place on November 30, Jaiswal said both sides had an in-depth and constructive discussion and looked at proposals to resolve remaining issues and achieve complete disengagement in eastern Ladakh.

India has been maintaining that its ties with China cannot be normal unless there is peace in the border areas.

The eastern Ladakh border standoff erupted on May 5, 2020, following a violent clash in the Pangong lake area.

The relations between the two countries nosedived significantly following the fierce clash in the Galwan Valley in June 2020 that marked the most serious military conflict between the two sides in decades.

As a result of a series of military and diplomatic talks, the two sides completed the disengagement process in 2021 on the north and south banks of the Pangong lake and in the Gogra area.

<https://economictimes.indiatimes.com/news/defence/relationship-with-china-not-normal-me/articleshow/106552890.cms>



Fri, 05 Jan 2024

India-Nepal Joint Commission: Fostering Collaboration through Agreements and Relief Initiatives

The conclusion of the 7th meeting of the India-Nepal Joint Commission marked a key moment in bilateral relations as the two nations finalized agreements in various fields and inaugurated three cross-border transmission lines.

External Affairs Minister Dr S Jaishankar's two-day official visit to Nepal, from Jan 4 to 5, upon the invitation of Nepal's Minister for Foreign Affairs, NP Saud, further emphasizes the priority partnership between the two countries under India's Neighbourhood First Policy. This visit not only reaffirms the tradition of high-level exchanges between India and Nepal but also underscores their enduring and amicable neighbourly relations.

The agreements inked between India and Nepal cover a diverse spectrum, including the Implementation of High Impact Community Development Projects, Long Term Power Trade, Cooperation in Renewable Energy Development, the launch of the Munal Satellite, and the handover of the 5th tranche of post-Jajarkot earthquake relief supplies. The India-Nepal Joint

Commission, comprehensively reviewing bilateral cooperation and developmental partnerships, saw mutual appreciation for the achievements made since the 6th meeting held in January 2021.

Details of the Memorandums of Understanding (MoUs)

The agreement for the implementation of High Impact Community Development Projects (HICDPs) witnessed a noteworthy increase in the budgetary ceiling, soaring from NPR 5 crore to NPR 20 crore. The Long Term Power Trade Agreement between the governments of India and Nepal aims to bolster power export from Nepal to India to 10,000 MW within a ten-year timeframe. This underscores the commitment to encouraging mutually-beneficial investments in Nepal's hydropower generation sector and transmission infrastructure.

The Launch Service Agreement for the Munal Satellite, developed by Nepali students, stands as a testament to collaborative achievements in space exploration, with India offering support for its launch on an Indian rocket. The MoU for Cooperation in Renewable Energy Development between NTPC Limited and Nepal Electricity Authority establishes a robust framework for joint efforts in the renewable energy sector.

The joint inauguration of three 132 kV cross-border transmission lines signifies a tangible step towards enhancing connectivity between the two nations. In the presence of the ministers, the fifth tranche of post-Jajarkot earthquake relief supplies provided by India was handed over, comprising prefabricated houses, blankets, tents, and sleeping bags. This humanitarian aid, targeted at earthquake-affected people in Nepal, will be distributed over the next few weeks.

In addition to the relief supplies, Jaishankar announced a financial assistance package of approximately NPR 1000 crores to support reconstruction efforts after the recent earthquake in Jajarkot. Notably, a significant portion of this assistance is offered as grant assistance, emphasizing India's commitment to aiding Nepal in times of need.

During his visit, he paid courtesy calls on President Ram Chandra Paudel and Prime Minister Pushpa Kamal Dahal 'Prachanda, engaging in discussions on bilateral matters of mutual interest. Meetings with other senior political leaders and a dinner hosted by the Foreign Minister of Nepal in honor of Jaishankar further strengthened diplomatic ties.

On Friday (Jan 5, 2024), the minister is scheduled to inaugurate 59 post-earthquake reconstruction projects, including the new building of the Tribhuvan University Central Library, a testament to the collaborative efforts with the grant assistance of the Government of India.

<https://www.financialexpress.com/business/defence-india-nepal-joint-commission-fostering-collaboration-through-agreements-and-relief-initiatives-3355964/>

THE ECONOMIC TIMES

Thu, 04 Jan 2024

Red Sea Crisis: India Says it is Closely Monitoring the Situation

India on Thursday said it is closely watching the unfolding situation in the Red Sea, amid growing global concerns over Houthi militants stepping up attacks on several commercial ships in the region. The comments by External Affairs Ministry Spokesperson Randhir Jaiswal came a day after the Indian Navy said its ships and aircraft remain "mission deployed" to maintain surveillance and undertake maritime security operations in the North and Central Arabian Sea.

"We attach very high importance to freedom of navigation, free movement of commercial shipping. It is an evolving situation and we are looking at all aspects of it," Jaiswal said at a media briefing.

"As you know, we have Indian Navy ships patrolling the area. They are also keeping a watch on Indian ships there. So far, we are not part of any multilateral initiative in the area. We are looking at the unfolding situation very closely," he said.

There have been concerns over Iran-backed Houthi militants launching strikes on several commercial ships in the Red Sea in the last couple of weeks amid the Israel-Hamas conflict.

Liberian-flagged vessel MV Chem Pluto, with 21 Indian crew members, was the target of a drone attack off India's west coast on December 23 that triggered security concerns in New Delhi.

Besides MV Chem Pluto, another commercial oil tanker that was on the way to India came under a suspected drone strike in the Southern Red Sea on the same day.

The vessel had a team of 25 Indian crew.

In another incident, Malta-flagged vessel MV Ruen was hijacked on December 14 by pirates.

The Indian Navy on Wednesday said it continues to monitor the maritime security situation in the North and Central Arabian Sea and Gulf of Aden.

"Indian Naval ships and aircraft remain mission deployed for maintaining enhanced surveillance and undertaking maritime security operations," it said.

"In the last one week, Indian Naval Task Groups deployed in the area have investigated large number of fishing vessels and boarded vessels of interest," it added.

<https://economictimes.indiatimes.com/news/defence/red-sea-crisis-india-says-it-is-closely-monitoring-the-situation/articleshow/106552344.cms>

THE ECONOMIC TIMES

Thu, 04 Jan 2024

Sri Lanka to Deploy Naval Vessel in Red Sea to Fight Houthi Attacks: President Ranil Wickremesinghe

President Wickremesinghe has announced that Sri Lanka will provide a Navy vessel to fight attacks by Houthi rebels on merchant ships in the Red Sea, joining countries like India in protecting the key waterway for global trade. The Iran-backed Houthi rebels have launched more than 20 attacks on merchant ships in recent weeks, claiming to take revenge against Israel for its military campaign against Palestinian terror group Hamas in Gaza.

These attacks have sharply raised goods costs between Asia and Europe.

Addressing an award ceremony here on Wednesday, Wickremesinghe, who holds the defence ministry portfolio, noted that merchant shipping was hit by Houthi attacks at the Red Sea and said if the ships were to be diverted and re-routed around South Africa, the voyages would become much more expensive.

This could create (an) escalation of the cost of goods. "So we have agreed to send a Naval vessel to combat Houthi attacks in the Red Sea," he said. The Houthis, who control most of Yemen, are currently in solidarity with Palestine because of the ongoing Israeli-Hamas conflict in Gaza.

The Houthi attacks centred on the Red Sea's Bab al-Mandeb southern chokepoint have disrupted shipping in a waterway that carries about 12 per cent of global trade, according to the Times of Israel newspaper.

The rebel group will continue their attacks until more aid enters the Gaza Strip, where Israel is at war with the ruling Hamas terror group following its devastating October 7 attack that killed over 1,200 people in Israel, the report said.

Last month, an Indian-flagged crude oil tanker was among two vessels that came under drone attacks by the Houthi rebels in the Southern Red Sea, according to the US Central Command.

Indian Navy on Wednesday said its ships and aircraft remain "mission deployed" for maintaining enhanced surveillance and undertaking maritime security operations.

In the last one week, Indian Naval Task Groups deployed in the area have investigated a large number of fishing vessels and boarded vessels of interest, it said.

The US Central Command said in a statement that on December 23, two Houthi anti-ship ballistic missiles were fired into international shipping lanes in the Southern Red Sea from Houthi-controlled areas of Yemen. No ships reported being impacted by the ballistic missiles.

<https://economictimes.indiatimes.com/news/defence/sri-lanka-to-deploy-naval-vessel-in-red-sea-to-fight-houthi-attacks-president-ranil-wickremesinghe/articleshow/106544614.cms>



Thu, 04 Jan 2024

Russia Goes Ahead with Plans to Buy Iranian Ballistic Missiles: Report

Russia is planning to buy short-range ballistic missiles from Iran, a step that would enhance Moscow's ability to target Ukraine's infrastructure, the Wall Street Journal reported on Thursday, citing US officials.

Last year, the White House said it was seeing more indications that Russia and Iran were expanding an unprecedented defence partnership that would help Moscow prolong its war in Ukraine as well as pose a threat to Iran's neighbours.

<https://indianexpress.com/article/world/russia-iran-missiles-us-defence-partnership-ukraine-9095179/>



Thu, 04 Jan 2024

Russian Hackers were Inside Ukraine Telecoms Giant for Months: Cyber Spy Chief

Russian hackers were inside Ukrainian telecoms giant Kyivstar's system from at least May last year in a cyberattack that should serve as a "big warning" to the West, Ukraine's cyber spy chief told Reuters.

The hack, one of the most dramatic since Russia's full-scale invasion nearly two years ago, knocked out services provided by Ukraine's biggest telecoms operator for some 24 million users for days from Dec. 12.

In an interview, Illia Vitiuk, head of the Security Service of Ukraine's (SBU) cybersecurity department, disclosed exclusive details about the hack, which he said caused "disastrous" destruction and aimed to land a psychological blow and gather intelligence.

"This attack is a big message, a big warning, not only to Ukraine, but for the whole Western world to understand that no one is actually untouchable," he said. He noted Kyivstar was a wealthy, private company that invested a lot in cybersecurity.

The attack wiped "almost everything", including thousands of virtual servers and PCs, he said, describing it as probably the first example of a destructive cyberattack that "completely destroyed the core of a telecoms operator."

During its investigation, the SBU found the hackers probably attempted to penetrate Kyivstar in March or earlier, he said in a Zoom interview on Dec. 27.

"For now, we can say securely, that they were in the system at least since May 2023," he said. "I cannot say right now, since what time they had ... full access: probably at least since November."

The SBU assessed the hackers would have been able to steal personal information, understand the locations of phones, intercept SMS-messages and perhaps steal Telegram accounts with the level of access they gained, he said.

A Kyivstar spokesperson said the company was working closely with the SBU to investigate the attack and would take all necessary steps to eliminate future risks, adding: "No facts of leakage of personal and subscriber data have been revealed."

Vitiuk said the SBU helped Kyivstar restore its systems within days and to repel new cyber attacks.

"After the major break there were a number of new attempts aimed at dealing more damage to the operator," he said.

Kyivstar is the biggest of Ukraine's three main telecoms operators and there are some 1.1 million Ukrainians who live in small towns and villages where there are no other providers, Vitiuk said.

People rushed to buy other SIM cards because of the attack, creating large queues. ATMs using Kyivstar SIM cards for the internet ceased to work and the air-raid siren - used during missile and drone attacks - did not function properly in some regions, he said.

He said the attack had no big impact on Ukraine's military, which did not rely on telecoms operators and made use of what he described as "different algorithms and protocols".

"Speaking about drone detection, speaking about missile detection, luckily, no, this situation didn't affect us strongly," he said.

RUSSIAN SANDWORM

Investigating the attack is harder because of the wiping of Kyivstar's infrastructure.

Vitiuk said he was "pretty sure" it was carried out by Sandworm, a Russian military intelligence cyberwarfare unit that has been linked to cyberattacks in Ukraine and elsewhere.

A year ago, Sandworm penetrated a Ukrainian telecoms operator, but was detected by Kyiv because the SBU had itself been inside Russian systems, Vitiuk said, declining to identify the company. The earlier hack has not been previously reported.

Russia's defence ministry did not respond to a written request for comment on Vitiuk's remarks.

Vitiuk said the pattern of behaviour suggested telecoms operators could remain a target of Russian hackers. The SBU thwarted over 4,500 major cyberattacks on Ukrainian governmental bodies and critical infrastructure last year, he said.

A group called Solntsepyok, believed by the SBU to be affiliated with Sandworm, said it was responsible for the attack.

Vitiuk said SBU investigators were still working to establish how Kyivstar was penetrated or what type of trojan horse malware could have been used to break in, adding that it could have been phishing, someone helping on the inside or something else.

If it was an inside job, the insider who helped the hackers did not have a high level of clearance in the company, as the hackers made use of malware used to steal hashes of passwords, he said.

Samples of that malware have been recovered and are being analysed, he added.

Kyivstar's CEO, Oleksandr Komarov, said on Dec. 20 that all the company's services had been fully restored throughout the country. Vitiuk praised the SBU's incident response effort to safely restore the systems.

The attack on Kyivstar may have been made easier because of similarities between it and Russian mobile operator Beeline, which was built with similar infrastructure, Vitiuk said.

The sheer size of Kyivstar's infrastructure would have been easier to navigate with expert guidance, he added.

The destruction at Kyivstar began at around 5:00 a.m. local time while Ukrainian President Volodymyr Zelenskiy was in Washington, pressing the West to continue supplying aid.

Vitiuk said the attack was not accompanied by a major missile and drone strike at a time when people were having communication difficulties, limiting its impact while also relinquishing a powerful intelligence-gathering tool.

Why the hackers chose Dec. 12 was unclear, he said, adding: "Maybe some colonel wanted to become a general."

<https://economictimes.indiatimes.com/news/defence/russian-hackers-were-inside-ukraine-telecoms-giant-for-months-cyber-spy-chief/articleshow/106540555.cms>

Science & Technology News



Press Information Bureau
Government of India

Ministry of Science & Technology

Thu, 04 Jan 2024

Indigenous Equipment Developed for Mechanical Recycling of Waste Thermoplastic Polymers to Composites

Indigenous equipment called single screw extruder developed for mechanical recycling through melt-mixing of waste thermoplastic polymers and inorganic particulate fillers can help manufacture

and characterize polymer composites that can be molded to the required shape for making paver blocks, tiles, and bricks.

At present, commercially available melt-mixing equipment are not designed for handling waste thermoplastic polymers that are often adhered by contaminants, as the barrel and screw system are not robust enough.

IIT Bombay has developed an instrument named GoLDN (pronounced as Golden) for melt-mixing of waste thermoplastic polymers and inorganic particulate fillers to manufacture polymer composites.

It can carry out melt mixing as a continuous process, particularly in laboratory conditions, to replicate the real-life conditions as compared to other conventionally available instruments. The researchers at the institute considered some key parameters such as compression ratio and clearance depth to facilitate efficient mixing of waste polymers and fillers.

The above technology, developed with the support of Department of Science and Technology (DST) through Waste Management Technologies, is now ready for commercialization for carrying out melt- mixing operations in a laboratory environment. It can bring down the cost of this instrument to INR 5 lakhs (by 6-8 times at least) by avoiding the complex design and operating tools and including the indigenous fabrication that are required.

The researchers have also developed a TGeosA for obtaining thermogravimetric analyses of the polymer composites obtained from the melt mixing instrument. The setup facilitates a sample size as high as 200 g that can incorporate the heterogeneity aspect of the materials being tested.

Further, a pilot-scale setup for manufacturing polymer composites has been indigenously fabricated. This setup consists of a shredder, a mixer cum preheater, and an extruder to obtain the fresh binder filler composite to shred the plastic waste, mix and preheat plastic waste and IBPs, and melt plastic waste along with IBPs followed by conveying at the end, respectively.

The technology developed by IIT Bombay in collaboration with Belagavi works of M/s. Hindalco Industries Ltd. (Industry collaborator) is at the TRL-09 and a field-scale plant has been set up.

Scholarly outcome from the project as of 20.12.2023

International Journal Articles:

Goli, V. S. N. S., & Singh, D. N. (2023). Polymer blends manufactured from fresh & landfill mined plastic waste: Are they composites?. *Journal of Cleaner Production*, 426, 139096. <https://doi.org/10.1016/j.jclepro.2023.139096> (Impact Factor: 11.10)

Goli, V. S. N. S., & Singh, D. N. (2023). Effect of ultrasonication conditions on polyethylene microplastics sourced from landfills: A precursor study to establish guidelines for their extraction from environmental matrices. *Journal of Hazardous Materials*, 459, 132230. <https://doi.org/10.1016/j.jhazmat.2023.132230> (Impact Factor: 13.60)

Goli, V. S. N. S., & Singh, D. N. (2023). Valorization of landfill mined plastic waste and soil-like fractions in polymer composites – A comprehensive solution for sustainable landfill mining. *Journal of Cleaner Production*, 420, 138349. <https://doi.org/10.1016/j.jclepro.2023.138349> (Impact Factor: 11.10)

Goli, V. S. N. S., & Singh, D. N. (2023). Discussion on “Thermal and Mechanical Characterization of Composite Materials from Industrial Plastic Wastes and Recycled Nylon Fibers for Floor Paving Tiles Application” by Owen et al., *Waste Management* 166 (2023) 25-34. *Waste Management*, 169, 286-288.

<https://doi.org/10.1016/j.wasman.2023.07.013> (Impact Factor: 8.10)

Vaverková, M. D., Paleologos, E. K., Goli, V. S. N. S., Koda, E., Mohammad, A., Podlasek, A., Winkler, J., Jakimiuk, A., Černý, M., & Singh, D. N. (2023). Environmental impacts of Landfills: perspectives on biomonitoring. *Environmental Geotechnics*, 1–11. <https://doi.org/10.1680/jenge.23.00003> (Impact Factor: 2.20)

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Beta, P., Goli, V. S. N. S., Singh, P. & Singh, D. N. Converting the temperature values captured from the IR images” following “image fusion with visible light images”. *Diary Number: 8762/2023-CO-SW*, Date of Application: 03.04.2023 (Indian Copyright).

<https://pib.gov.in/PressReleasePage.aspx?PRID=1993084>



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Ministry of Science & Technology

Thu, 04 Jan 2024

DST Mulls over Positioning India as Global S&T Leader for a Vikshit Bharat

The Department of Science and Technology (DST) is mulling over ways to reposition itself in changing times when there are huge expectations from it to make science and technology the fulcrum of development of the country.

At an interaction meeting with scientists of DST, Secretary DST Professor Abhay Karandikar said that India’s goal of becoming a developed nation can be possible only when it becomes a global leader in science and Technology.

“We need to initiate consolidation of existing programmes and start big ticket projects that can create impact at the national level. Apart from the several disruptive programs such as creation of incubation centres, INSPIRE program; NM-ICPS, international bilateral programme centers and several programmes of SERB, we may start some major programmes in areas such as precision agriculture; Indigenous Biomedical devices; 6 G Semiconductor, intelligent transportation, hydrogen energy, research in automobile sector and so on,” DST Secretary suggested at the meeting coordinated by Department of Science & Technology Scientific Officer Forum.

He added that these programmes may be initiated by bringing in industry as a major collaborator. He pointed out that with the formation of ANRF, DST’s role will become bigger. DST will then focus on developing flagship national importance programmes and policies. “It will initiate some big basic science programmes oriented towards discovery science,” said Professor Karandikar. He also highlighted the need to improve the ease of doing research by simplifying financial rules and regulations.

Secretary DST suggested to organise brainstorming sessions to further dwell upon such plans and prepare a work program on some of key areas.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1993089>

Aditya L1, ISRO's First Sun Mission Set to be Injected into Final Orbit Tomorrow

Aditya L1, the Indian Space Research Organisation's (ISRO) maiden solar mission, is set for its final manoeuvre to reach its destination and will be injected into its final orbit on the evening of January 6. Upon reaching its final destination, the spacecraft will be able to view the sun without any eclipses.

Launched on September 2 last year, the spacecraft has undergone four earth-bound manoeuvres and a Trans-Lagrangian Point 1 Insertion (TL1I) manoeuvres, all successfully.

ISRO chief S Somanath told news agency ANI on Monday "Aditya-L1 is going to reach its L1 point on January 6 at 4pm and we are going to do the final manoeuvre to keep it there."

Here are the top five things to know about the solar mission:

- After a flight duration of 63 minutes and 20 seconds on January 6, the Aditya-L1 spacecraft would have achieved a successful injection into an elliptical orbit measuring 235x19500 km around the Earth.
- Aditya-L1 stands as the inaugural Indian space-based observatory designed to examine the Sun from a halo orbit positioned around the first Sun-Earth Lagrangian point (L1), situated approximately 1.5 million km away from Earth. Indian Institute of Astrophysics, Bengaluru Director told The Indian Express, "Aditya L1 will make it to a halo orbit around the L1 point. As the Earth moves around the Sun, the L1 point will also move. So does the halo orbit."
- An ISRO official told The Indian Express that "Aditya L1 has already reached the L1 point and the manoeuvre (on January 6) will put it in the desired orbit. Without getting into the orbit, the spacecraft will continue to travel towards the Sun".
- The Lagrange Point is a unique region where gravitational forces between the Earth and the Sun reach equilibrium. While absolute neutralization is not achievable due to the influence of other celestial bodies such as the Moon, Mars, and Venus, the L1 point provides a stable position for observational purposes.
- Aditya-L1 is equipped with seven scientific payloads, all developed indigenously by ISRO and national research laboratories. These payloads are specifically designed to observe the photosphere, chromosphere, and the outermost layers of the Sun (the corona) using electromagnetic particle and magnetic field detectors.

<https://www.hindustantimes.com/science/aditya-l1-isro-first-sun-mission-final-orbit-january-6-101704419294504.html>

