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# समाचार पत्रों से चयित अंश Newspapers Clippings

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

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# CONTENTS

S. No.	TITLE	Page No.
<b>DRDO News</b>		<b>1-3</b>
<b>DRDO Technology News</b>		<b>1-3</b>
1.	डीआरडीओ के महानिदेशक बोले- आपदाओं को टालने के लिए राष्ट्र की इच्छा आवश्यक	<i>Jagran</i> 1
2.	DRDO arm to probe EV fires	<i>The Economics Times</i> 2
3.	DRDO seeks greater endurance for Rustom II	<i>Indian Defence Research Wing</i> 2
<b>Defence News</b>		<b>3-8</b>
<b>Defence Strategic: National/International</b>		<b>3-8</b>
4.	भारत-उज्बेकिस्तान संयुक्त सैन्य अभ्यास "युद्धाभ्यास इस्टलिक" उज्बेकिस्तान के यांगियारिक में संपन्न हुआ	<i>Press Information Bureau</i> 3
5.	Indo-Uzbekistan joint exercise "Ex Dustlik" concludes at Yangiarik in Uzbekistan	<i>Press Information Bureau</i> 4
6.	India plans to indigenize 153 Defence items by Dec 2022	<i>Indian Defence News</i> 4
7.	Govt strengthening defence PSUS, no question of weakening them: Defence Minister	<i>Indian Defence News</i> 5
8.	India to arm TEJAS fighter jets with American JDAM bombing kits	<i>India Today</i> 6
9.	Defence min, BEL ink deal to supply Advanced Electronic Warfare suite for IAF fighter jets	<i>Mint</i> 7
10.	Enhanced version of lethal Pinaka rocket successfully flight tested at Pokhran field firing ranges (PFFR)	<i>Indian Defence News</i> 7
<b>Science &amp; Technology News</b>		<b>8-10</b>
11.	ISRO's Chandrayaan-3, Aditya L-1 solar mission to avail Esa's support under special deal	<i>Republicworld.com</i> 8
12.	Sun erupts with 17 flares from single sunspot, sending solar storms toward Earth	<i>Space.com</i> 9



Wed, 30 Mar 2022

### डीआरडीओ के महानिदेशक बोले- आपदाओं को टालने के लिए राष्ट्र की इच्छा आवश्यक

सेवा इंटरनेशनल द्वारा गांधी दर्शन समिति परिसर में आपदा प्रबंधन पर आयोजित तीन दिवसीय सम्मेलन के दूसरे दिन रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) में महानिदेशक प्रौद्योगिकी प्रबंधन हरिबाबू श्रीवास्तव ने कहा कि आपदाओं को टालने के लिए राष्ट्र की इच्छा आवश्यक है। इसके लिए प्रौद्योगिकी में भी विस्तार की जरूरत है। उन्होंने आपदा से पहले और बाद के बचाव कार्यों और इन्हें अंजाम देने के तरीकों पर जोर दिया। उन्होंने उन आपदाओं की ओर ध्यान दिलाया, जिनके तत्काल परिणाम नहीं होते हैं। लेकिन, भविष्य में विनाशकारी प्रभाव हो सकते हैं। इनमें मिट्टी का कटाव और पानी की कमी आदि जैसी आपदाएं शामिल हैं।

श्रीवास्तव ने गणितीय माडलिंग पर भी जोर दिया जो कि आने वाली आपदाओं की भविष्यवाणी करने के लिए उपयोग में आ सकता है। उन्होंने कहा कि गणितीय माडलिंग के माध्यम से हमें कोविड-19 की उत्पत्ति की जानकारी मिली। उन्होंने आपदा प्रबंधन में भौगोलिक सूचना प्रणाली और रिमोट सेंसिंग के महत्व पर भी ध्यान केंद्रित किया। वहीं, सामाजिक संस्था परोपकार की निदेशक एंजेली क्वात्रा ने कहा कि नागरिक समाज स्वैच्छिक सामूहिक सेवाओं का क्षेत्र है। इसके साथ ही सेंटर आफ डिजास्टर्स एंड डेवलपमेंट में सहायक प्रोफेसर महेश कांबले ने कहा कि सामुदायिक निर्भरता बहुत महत्वपूर्ण है। उन्होंने आपदाओं के दीर्घकालिक प्रभावों पर जोर दिया और कोविड के पीड़ितों का उदाहरण दिया, जो अभी तक उस सामाजिक आर्थिक संकट से उबर नहीं पाए हैं। सेवा इंटरनेशनल के सचिव श्याम परांडे ने कहा कि सेवा इंटरनेशनल का मिशन लोगों को जीवन के बारे में शिक्षित करना और उनके जीवन की गुणवत्ता में सुधार लाना है। इस दौरान जेएनयू के सहायक प्रोफेसर गर्जेन्द्र प्रताप सिंह और बोटलैब डायनामिक्स की सहसंस्थापक सरिता अहलावत व सेवा इंटरनेशनल के दिल्ली-एनसीआर प्रोजेक्ट कोर्डिनेटर हर्षित कुमार भी मौजूद रहे।

<https://www.jagran.com/delhi/new-delhi-city-ncr-drdo-director-general-said-will-of-nation-is-necessary-to-avert-disasters-22582085.html>

## DRDO arm to probe EV fires

The road transport and highways ministry has asked the Centre for Fire, Explosive and Environment Safety (CFEES) to investigate the fire instances in an Ola S1Pro and an Okinawa Praise Pro e-scooters. The CFEES is a laboratory of the Defence Research and Development Organisation (DRDO). The ministry has also asked the CFEES to suggest remedial measures for improvement in each of the cases. Recommended by Transport secretary Armane Girdhar told media persons on Tuesday that an independent agency will probe the explosion and fire in the Ola S1Pro scooter on March 26 in Dhanori area of Pune. The fire and explosion in Okinawa's Praise Pro e-scooter, which took place at Vellore, Tamil Nadu, will also come under investigation.

While no casualties were reported due to the Ola Electric incident, a man and his daughter died after their Okinawa e-bike went up in flames. Videos and news of the e-scooters catching fire were shared extensively on social media and instant messaging platforms. In response to queries from ET, Okinawa said that a short circuit due to negligence in charging the vehicle may have caused the fire. In a statement issued after the accident, Ola said it is investigating the incident. According to videos on social media, the Ola S1Pro scooter was parked on the side stand and not charging when it burst into flames. A road transport and highways ministry official said the Centre can force a recall or stop the sale of the vehicles under investigation if they are found to be unfit for Indian conditions. But such a decision can be taken only if the preliminary findings of the CFEES are adverse. According to officials representing the electric vehicle manufacturing industry, the scope of the investigation may not be limited to just Ola and Okinawa. "Any e-vehicles that use lithium-nickel-manganese-cobalt-oxide,, abbreviated as NMC technology, can eventually be investigated. The technology is being perceived as being notorious for catching fire if the cooling system is not optimised," said the official, who did not wish to be identified.

<https://economictimes.indiatimes.com/news/india/drdo-arm-to-probe-ev-fires/articleshow/90527500.cms>



Wed, 30 Mar 2022

## DRDO seeks greater endurance for Rustom II

India's Rustom II medium-altitude long-endurance (MALE) unmanned aerial vehicle (UAV) can reach the required altitude of 28,000 ft, G Satheesh Reddy, chairperson of the Defence Research and Development Organisation (DRDO) told Janes.

"We are now looking at endurance," he said, adding that in a month's time, the DRDO expects Rustom II to achieve more than 18 hours of flight time while operating at an altitude of 28,000 ft.

According to Janes All the World's Aircraft: Unmanned, Rustom II has an overall length of 9.5 m and a wingspan of 20.6 m. It is powered by two Saturn 36T turboprop engines, each rated at 74.57 kW (100 hp).

Also known as APAS-BH-201 (Tactical Advanced Platform for Aerial Surveillance-Beyond Horizon-201), Rustom II weighs 1,800 kg and has a cruising speed of 135 kt.

<https://idr.w.org/drdo-seeks-greater-endurance-for-rustom-ii/>

## Defence News

### Defence Strategic: National/International



पत्र सूचना कार्यालय  
भारत सरकार

रक्षा मंत्रालय

Tue, 29 Mar 2022 5:33 PM

## भारत-उज्बेकिस्तान संयुक्त सैन्य अभ्यास "युद्धाभ्यास इस्टलिक" उज्बेकिस्तान के यांगियारिक में संपन्न हुआ

भारत-उज्बेकिस्तान संयुक्त सैन्य अभ्यास "युद्धाभ्यास इस्टलिक" का तीसरा संस्करण 29 मार्च 2022 को उज्बेकिस्तान के यांगियारिक में संपन्न हुआ। संयुक्त अभ्यास के दौरान दोनों सैन्य टुकड़ियों को अर्ध-शहरी वातावरण में आतंकवाद रोधी अभियानों में कार्रवाई के लिए प्रशिक्षण प्राप्त करने का अवसर मिला। अभ्यास के अंतिम दो दिन वेलिडेशन एक्सरसाइज के लिए समर्पित थे, जहां पर दोनों टुकड़ियों ने मिलजुल कर संयुक्त राष्ट्र के मैन्डेट के तहत चरमपंथी समूहों के खिलाफ सिम्युलेटेड ऑपरेशन किए।

इस अभ्यास का आयोजन काफी सफल रहा है, जिसमें मैदानी परिस्थितियों में क्रॉस ट्रेनिंग और कॉम्बैट कंडीशनिंग से लेकर खेल तथा सांस्कृतिक आदान-प्रदान के क्षेत्र में एक व्यापक हिस्से को कवर किया गया। "युद्धाभ्यास इस्टलिक" दोनों सेनाओं के बीच रक्षा सहयोग के स्तर को आगे बढ़ाएगा और भविष्य में भारत तथा उज्बेकिस्तान के बीच मित्रता के पारंपरिक बंधन को और मजबूत करने के लिए ऐसे कई संयुक्त कार्यक्रमों में उत्प्रेरक के रूप में कार्य करेगा।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1811065>



**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Tue, 29 Mar 2022 5:33 PM*

## **Indo-Uzbekistan joint exercise “Ex Dustlik” concludes at Yangiariq in Uzbekistan**

The 3rd edition of Indo-Uzbekistan Joint Field Training Exercise “ EX DUSTLIK” concluded at Yangiariq, Uzbekistan on 29 March 2022. The joint exercise provided an opportunity for both the contingents to train in Counter Terrorism operations in an semi-urban environment. The last two days of the exercise was dedicated to a validation exercise where both contingents jointly conducted simulated operations over extremist groups under a United Nations Mandate.

The conduct of this exercise, which covered a vast spectrum from cross training & combat conditioning in field conditions, to sports and cultural exchanges has been a grand success. “Exercise DUSTLIK” will enhance the level of defence cooperation between both the Armies and will act as a catalyst for many such joint programs in future to further consolidate the traditional bond of friendship between India and Uzbekistan.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1811027>



*Tue, 29 Mar 2022*

## **India plans to indigenize 153 Defence items by Dec 2022**

The Ministry of Defence on Monday informed the Rajya Sabha that 153 defence items are planned to be indigenized upto December this year, and there is "no stoppage on their exports".

Minister of State for Defence Ajay Bhatt gave the information in a written reply to a query on "the number of items related to the defence which are kept under the list of *Aatmanirbhar* Bharat and the export of which has been stopped between 2018-22".

"Two positive indigenisation lists comprising 101 and 108 items were promulgated by the Department of Military Affairs (DMA) Ministry of Defence (MoD) on August 21, 2020, and May 31, 2021, respectively. The lists have been hosted on the Ministry of Defence Website to give wide visibility to the Defence Industrial base in enabling them to effectively meet the requirements of the Armed Forces. Of these, 153 items are planned to be indigenized up to December 2022. There is no stoppage on their exports," Bhatt said.

Asked about the amount of foreign reserve that would be saved, and whether the government is considering adding more items for indigenous production; the Minister said "In addition, to minimize import by DPSUs, Department of Defence Production (DDP) or Ministry MoD has

also notified a positive indigenisation list of sub-systems or assemblies or sub-assemblies or components on December 27, 2021".

"The list contains 2,500 items, which are already indigenized and 351 items which will be indigenized in coming three years till December 2024. Of these 351 items, 172 items are planned to be indigenized up to December 2022."

The minister further said that the positive indigenisation list comprises defence equipment that will be designed, developed and manufactured over a period from 2020 to 2025, therefore, it will not be possible to assess actual savings at this juncture.

However, as per available projections, Bhatt said, "It is estimated that over approximately Rs 5 lakh crore worth of equipment included in both the positive indigenisation lists will be procured from domestic industry over the next five to seven years.

He also informed that the government is considering adding more items for indigenous production, mentioning "timeline to add more items is reviewed continuously based on the requirements of Armed Forces as well as capability of Domestic Industry".

<http://www.indiandefensenews.in/2022/03/india-plans-to-indigenize-153-defence.html>



*Tue, 29 Mar 2022*

## **Govt strengthening defence PSUs, no question of weakening them: Defence Minister**

Union defence minister Rajnath Singh said on Monday that there is no question of weakening state-owned companies operating in the defence sector and asserted that the government is taking all steps to strengthen them with equity support, clearing liabilities besides giving high-level orders.

Replying to a query during the Question Hour in the Upper House, the Defence Minister said, "Our government is strengthening all DPSUs (Defence Public Sector Undertakings) with equity support. We are also clearing their committed liabilities so that our DPSUs do not weaken in any manner."

That apart, the government is providing high-level orders to DPSUs. "As per my knowledge, about 80 per cent orders are given to DPSUs even today. There is no question of weakening the DPSUs," he added.

Noting that the defence sector is driven by high-end technology and innovation, Minister of State for Defence Ajay Bhat said production orders are given to DPSUs too, even as FDI has been allowed in areas where the country does not have expertise and capacity.

The government is taking steps to make the country self-reliant in defence sector. Therefore, the government has split the Ordnance Factory Board into seven new public sector units, he said.

The minister further said that the country is benefitting from the opening of the defence sector to private firms. The FDI inflow in defence and aerospace, which stood at Rs 1,382

crore during 14 years from 2001, rose to Rs 3,343 crore in the ongoing seven years of the Modi government.

Responding to a supplementary query on lower investment after the FDI was opened in defence, the Minister said, the government has made a list of 209 defence items to become self-reliant.

In the 2022-23 Union Budget, 68 percent of the capital procurement budget has been set aside for domestic industries, he added. Responding to another query on protecting contractual workers, Bhatt said the government has not cut any staff.

On steps taken to boost domestic production, Bhatt said the government has formed two defence industrial corridors, one each in Uttar Pradesh and Tamil Nadu. India is exporting to 72 countries and figures in top 35 defence exporting nations in the world.

<http://www.indiandefensenews.in/2022/03/govt-strengthening-defence-psus-no.html>



*Tue, 29 Mar 2022*

## **India to arm TEJAS fighter jets with American JDAM bombing kits**

Amid an ongoing conflict with China along the northern borders, India has placed orders for American Joint Direct Attack Munition (JDAM) precision-guided bombing kits to enhance the capabilities of its LCA Tejas fighter jets.

The acquisition of JDAM kits under delegated financial powers by the Air Force will enable Tejas jets to take out enemy bunkers and runways at 80 km and distances beyond. It would enable the Tejas to carry out Balakot-like airstrikes with more accuracy and precision, top government sources told India Today.

The order for the JDAM from the US for the Light Combat Aircraft (LCA) Tejas was placed to prepare the indigenous aircraft for taking on enemy planes in a much better way.

The emergency powers were given to the armed forces because of the ongoing conflict with the People's Liberation Army of China in the Eastern Ladakh sector.

India has already activated two LCA Tejas fighter squadrons and is looking to get four more in a couple of years. They will replace the outgoing MiG-21 inventory.

“LCA Tejas is a far better aircraft than the Chinese developed JF-17 and the HAMMER would take it ahead of their fleet in strike capabilities,” an official said.

<https://www.indiatoday.in/india/story/indian-air-force-combat-aircraft-tejas-fighter-jets-american-jdam-bombing-kits-1931023-2022-03-29>



*Tue, 29 Mar 2022*

## **Defence min, BEL ink deal to supply Advanced Electronic Warfare suite for IAF fighter jets**

The Ministry of Defence and Bharat Electronics Limited (BEL) has finished the contract for the supply of Advanced Electronic Warfare (EW) suite for Fighter aircraft of the Indian Air Force. The contract, for which the estimated cost is ₹ 1993 crore, was signed between MoD and BEL.

As per the official statement, the supply of advanced EW systems will significantly enhance the battle-survivability of IAF fighter aircraft while undertaking operational missions against adversaries' ground-based as well as airborne fire control and surveillance radars.

The EW suite has been indigenously designed & developed by Defence Research and Development Organisation (DRDO). The Project essentially embodies the spirit of Atmanirbhar Bharat and will help facilitate realising the journey towards self-reliance, it also added.

<https://www.livemint.com/news/india/defence-min-bel-ink-deal-to-supply-advanced-electronic-warfare-suite-for-iaf-fighter-jets-11648566195532.html>



*Wed, 30 Mar 2022*

## **Enhanced version of lethal Pinaka rocket successfully flight tested at Pokhran field firing ranges (PFFR)**

Ordnance factories have emerged as another player that can now contend for getting a contract to make enhanced Pinaka rocket systems for the Army reported TOI. The rockets jointly made by Yantra India Limited (YIL) and Munitions India Limited (MIL) — the new PSUs formed out of ordnance factories — successfully completed test fire of the enhanced range rockets at Pokhran on Tuesday. This clears the way for advanced stages like users trials and financial bidding as and when the Army issues a request for proposal (RFP) for the rockets.

Lately, Solar Group, a private company from Nagpur, had successfully test-fired enhanced Pinaka rockets, making it eligible for further processes, including user trials and bidding for orders on basis of RFP. Now both Solar and the PSUs can compete for the orders.

The trials lasted for two days during which 24 enhanced range rockets were fired at four different ranges. All the objectives were met and the trials were 100% successful, stated a press release.

The enhanced Pinaka rockets have a range of 45 km as against 39 km of the basic version, which is also being made at the ordnance factory. The rockets have been made on the basis of design by Armament Research and Design Establishment (ARDE), and High Energy Materials Research Laboratory (HEMRL), which come under DRDO.

“Now, with the validation done in terms of design, user trials which are done along with Army, can be carried out. Success of the current trial means that there is one more established manufacturing agency for the rockets,” said an official here. Currently, the Army is using the Pinaka Mk1 rockets, which have a range of 39 km. The bulk production is being done at ordnance factory Ambajhari, which has now become YIL, along with MIL that has factories at Itarsi and Chandrapur under it.

The Army plans to eventually replace Pinaka MK-1 with the enhanced version. YIL had also recently tested the Pinaka rockets with dual purpose improved conventional munition (DPICL) warhead, and is now awaiting user trials for this version. Also known as area denial munition (ADM), this version has bomblets which explode creating a larger impact. As against the benchmark of 90% bomblets going off, the YIL rocket got a score of over 96%. The hardware for the rockets is made by YIL which is based at Nagpur, and explosives are made by MIL that has its headquarters in Pune. Similar trials are planned for the Pinaka guided rocket version also.

<http://www.indiandefensenews.in/2022/03/enhanced-version-of-lethal-pinaka.html>

## Science & Technology News

**R. REPUBLICWORLD.COM**

*Tue, 29 Mar 2022*

### **ISRO's Chandrayaan-3, Aditya L-1 solar mission to avail Esa's support under special deal**

In a key development, the Indian Space Research Organisation (ISRO), which is preparing for three major missions in 2022, will receive ground support from the European Space Agency (ESA). The assistance will be provided under a special agreement that was signed in June 2021 between ESA Director General Josef Aschbacher and ISRO's former Chairman K Sivan. The European agency announced that it would use its global deep-space communication antennas for ISRO to track Indian spacecraft, pinpointing their locations at crucial stages, transmitting commands and receiving valuable data.

The agency stated that its 35-metre deep-space Estrack antennas, ranging from Australia to Argentina would guide ISRO at every step. The 15-metre antenna at Europe's spaceport in French Guiana's Kourou and the commercial 32-metre deep-space antenna at Goonhilly station in the UK would also be used for additional support.

**ISRO's gears up for Chandrayaan-3 and Aditya L-1**

While ISRO's pipeline is filled with three biggest missions this year- Gaganyaan, Chandrayaan-3 and Aditya L-1 solar mission, the last two are what would test ESA's commitment first. The Chandrayaan-3, which is targeted for launch in August this year, would mark India's first-ever successful landing on another celestial body. Under this mission, ISRO would launch a lander and a rover, to scan the Moon's south pole for two weeks.

Ramesh Chellathurai, ESA Service Manager and Liaison Officer for ISRO, said as per the European agency, "Deep space communication is an essential part of any space mission. Ground stations keep spacecraft safely connected to Earth as they venture into the unknowns and risks of space. Without ground station support, it's impossible to get any data from a spacecraft, to know how it's doing, to know if it is safe or even to know where it is".

Another mission to be benefitted from the agreement would be the Aditya-L1 mission, wherein ISRO will launch a spacecraft to the first Lagrange point- about 15 lakh kilometres from Earth. The spacecraft is being launched deep into space in order to study a number of solar properties, such as the dynamics and origins of coronal mass ejections. Explaining the importance of a global network of antennae for this mission, Chellathurai explained, "The (Aditya) spacecraft will always be in the same direction from Earth as the Sun. So, as Earth rotates, no single ground station will always be in view of Aditya-L1. Using a global station network like ESA's is the best way to exchange data and commands with this spacecraft as often as possible".

<https://www.republicworld.com/science/space/isros-chandrayaan-3-aditya-l-1-solar-mission-to-avail-esas-support-under-special-deal-articleshow.html>



*Wed, 30 Mar 2022*

## **Sun erupts with 17 flares from single sunspot, sending solar storms toward Earth**

At least 17 solar eruptions from a single sunspot on the sun have blasted into space in recent days, including some charged particles that may create a colorful sky show on Earth. The sun eruptions originated from an overactive sunspot, called AR2975, which has been firing off flares since Monday (March 28). We may soon see some moderate sky storms on Earth due to the stellar event.

Sunspots are eruptions on the sun that occur when magnetic lines twist and suddenly realign near the visible surface. At times, these explosions are associated with coronal mass ejections (CMEs), or streams of charged particles that shoot into space. NASA's powerful Solar Dynamics Observatory captured stunning views of the solar eruptions, as did the the Solar and Heliospheric Observatory.

"The eruptions have hurled at least two, possibly three, CMEs toward Earth," wrote SpaceWeather.com of the event. NASA and the National Oceanic and Atmospheric Administration, the website added, suggest the first CME will arrive on Thursday (March 31), with at least one other expected on Friday (April 1.)

Modeling suggests that the particles may generate G2 or G3 (moderate) geomagnetic storms, although auroras (northern lights and southern lights) are notoriously hard to predict.

The year 2022 is expected to be relatively quiet for the sun overall, as we are still towards the beginning of the 11-year solar cycle of activity that began in December 2019. Cycle beginnings usually have fewer sunspots and fewer eruptions. Activity should increase as we approach the peak, forecasted to be in mid-2025.

Scientists are debating how strong this current solar cycle will be, although forecasts so far indicate that the average number of sunspots may be lower than usual.

While this possible storm is only moderate, NASA and other space agencies keep an eye on solar activity to improve solar weather predictions. A strong flare aimed towards Earth, along with a large CME, may induce problems such as damaging power lines or disabling satellites.

<https://www.space.com/sun-erupts-sunspot-17-solar-flares>

