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समाचार पत्रों से चयनित 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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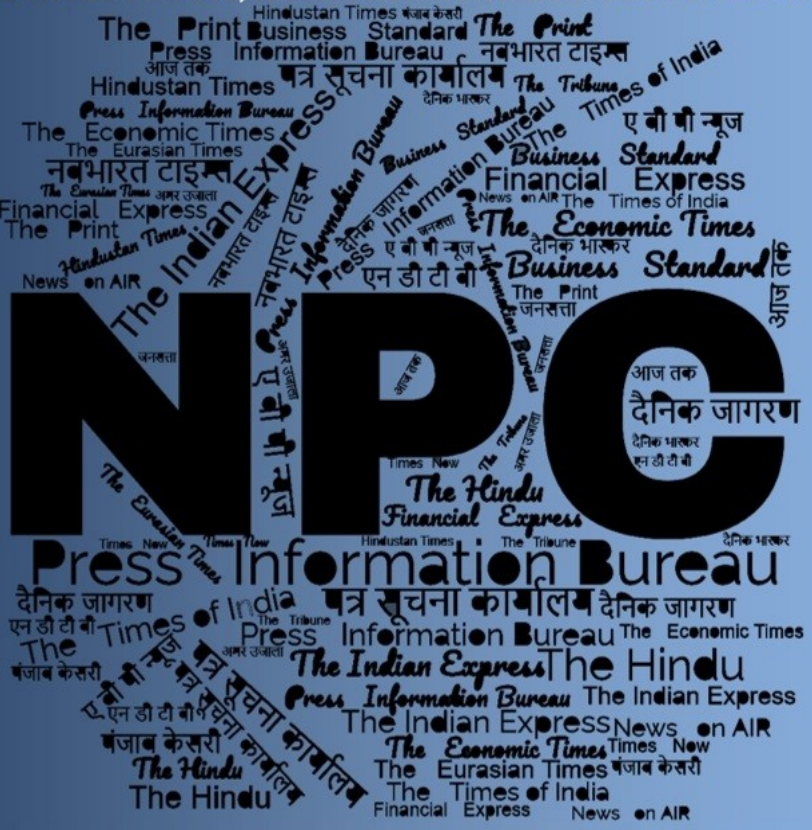

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DRDO News

Indigenous artillery ammo nears completion

Source: The Economic Times, Dt. 03 Jun 2025

India is inching closer to having its own indigenously designed and developed artillery ammunition, with several successful firings as part of a Defence Research and Development Organisation (DRDO) project to reduce foreign dependency.

Sources said that four variants of the 155 mm artillery ammunition have been tested over the past two years and have been found to match or exceed the requirements of the Army. The variants include high explosive rounds, smoke rounds and dual purpose improved conventional munition (DPICM) rounds that are used to target a larger area.

Final development-cum-user trials are planned by November, following which the ammunition can be ordered in large numbers if found fit by the Army. "The development phase of the ammunition is almost over and we are moving towards user trials. The user is already being closely involved in the project," a source said.

The ammunition is being made under the Development Cum Production Partner (DCPP) programme with two industry partners chosen to first make prototypes and then deliver larger numbers to the armed forces. There is a significant demand for artillery ammunition in India and across the world - the Indian requirement is likely to be to the tune of ₹10,000 crore over the next decade while exports can amount to several times of that.

The companies - Reliance Infrastructure-owned Jai Ammunition Limited and state-owned Yantra India Limited - have closely worked with DRDO for the past two years to develop the ammunition.

https://economictimes.indiatimes.com/news/defence/indigenous-artillery-ammo-nears-completion/articleshow/121579524.cms

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Mach 8 speed, 1500 km strike range: India to speed up Brahmos-II hypersonic missile development after DRDO's scramjet success

Source: DNA India, Dt. 02 Jun 2025

Days after the success of the indigenous scramjet of DRDO, India is set to fast-track BrahMos-II hypersonic missile development, reports suggest. The advanced missile reportedly targets to reach Mach 8 speed and 1,500 km strike range. This next-generation system places India in the elite club of nations developing hypersonic capabilities, alongside the US, Russia, and China.

The present BrahMos missile system was developed through collaboration between India and Russia. Both nations have a 50-50 stake in the missile’s technology. Now, the two nations are expected to restart high-level discussions regarding the joint development of the BrahMos-II.

The BrahMos-II project was first conceptualised by the Indo-Russian joint venture BrahMos Aerospace nearly 10 years ago. However, it couldn't be started due to several reasons, including Russia's initial unwillingness to share sophisticated hypersonic technology. But now, a renewed international emphasis on hypersonic weapons has revived interest.

Once operational, the BrahMos-II will deliver a critical capability to neutralise high-value, time-sensitive targets with exceptional speed and precision. Hypersonic missiles are extremely difficult to intercept due to their low-altitude flight paths, manoeuvrability, and rapid pace. With the Brahmos-II, India is not just keeping up with the hypersonic race, but is also preparing to compete at the highest level.

The Brahmos-II's development is central to India's broader strategy of technological dominance in the aerospace and defence sectors. Significant portions of the missile's components, subsystems, and production are now being undertaken domestically, reinforcing the objectives of Atmanirbhar Bharat (self-reliant India). Hypersonic missiles are of increasing strategic importance globally due to their high speed, which significantly reduces interception time and challenges existing missile defence systems.

BrahMos missile

The existing BrahMos missile, formed in 1998, currently holds the title of the world's fastest supersonic cruise missile. It can attain speeds of up to Mach 3.5 and cover distances from 290 to 800 kilometres, varying by model. The missile is operational across the Indian Army, Navy, and Air Force and has demonstrated its adaptability through land, sea, air, and submarine-launched versions.

https://www.dnaindia.com/india/report-india-speeds-up-brahmos-ii-hypersonic-missile-development-after-drdo-s-scramjet-success-to-reach-mach-8-speed-1500km-strike-range-3156218

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India Can Kill Nukes Mid-Air, Former DRDO Director General Reveals New Defence Capabilities

Source: ETV Bharat, Dt. 02 June 2025

India can intercept and destroy nuclear missiles or any conventional warhead at high altitudes, claimed missile man and former Director General of Defence Research and Development Organisation (DRDO), Vijay Kumar Saraswat.

“When a missile is launched, we can’t determine whether it is carrying a nuclear warhead or a conventional warhead. If it is carrying a nuclear warhead, we can intercept it at a high altitude. So, once it is destroyed at high altitude, its nuclear effect also becomes negligible. If there is a leakage, in case we are not able to intercept, then we have an Ando atmospheric interceptor which will intercept at 15 or 20 km altitude, where the nuclear effect will not be there,” Saraswat said in an exclusive interview with ETV Bharat.

According to him, a nuclear bomb is not harmful if it is not triggered. “It is like any other chemical which burns with a low degree of radiation. However, India can destroy it before any trigger takes place or before the fusion reaction takes place,” said Saraswat.

The statement given by the former DRDO director general assumes much more significance following the fact that Pakistan, on many occasions, used to give its nuclear reference. India also challenged Pakistan's nuclear deterrence during Operation Sindoor.

‘Operation Sindoor, an Atmanirbhar War for India ’

A maximum number of technologies used during Operation Sindoor were developed by India under DRDO's leadership, Saraswat said. “All these weaponries and technologies are manufactured by the Indian industry. This was mainly because we have kept track of the evolving technologies and kept updating our weapon system,” he claimed.

The DRDO scientist said that India had its surveillance system, like an airborne early warning control system, which detects the radar and electronic warfare systems in the enemy territory. “Upgrading of technology and comparing it with the rest of the world has been the backbone of Operation Sindoor,” he said.

India's underwater attacking capabilities

Saraswat said that most of the ships of the Indian Navy were being designed and developed by the DRDO with the help of the dockyard, making India capable of underwater dominance. All the technologies, like radars, sonars and electronic warfare systems, are provided by the organisation to the navy, he said.

"The Indian Navy is currently seeking to acquire 12 mine countermeasure vessels (MCMVs), known as minesweepers, to address a critical gap in its capabilities. These vessels are needed to clear mines, safeguard sea lanes, and protect ports from threats. The Navy is going to ask for six or seven minesweepers. DRDO is also helping the navy in this direction,' said Saraswat.

Performance of DRDO

"The DRDO has performed very well. In fact, with the indigenous technology, the production value of DRDO is running into Rs 4-5 lakh crores," Saraswat said. The DRDO scientist said that India is self-reliant not only in tactical missiles but also in strategic missiles.

"We are self-reliant in the air defence system, airborne early warning system, and communication system. Our armaments, like Dhanush guns, are superb," he said. Manufactured by Advanced Weapons and Equipment India at the Gun Carriage Factory at Jabalpur, Dhanush is a 155 mm towed howitzer.

Private players in the defence sector

"Today the defence sector is open to private players considerably. Once upon a time, the private sector used to be engaged only as a component production centre. They used to manufacture components for different armaments, missiles, tanks, etc. Now, many of them are building systems. Their companies are manufacturing anti-tank missiles and shoulder-fired missiles. This all happened because of continuous interaction with DRDO laboratories," Saraswat said.

The policies of the government of India in providing support to the private sector are playing a major role, according to him. "We are opening a defence production corridor in Lucknow, Jhansi, and Tamil Nadu just to attract design development and production by the private sector players," he said.

Startup in the defence sector

"Today, the government of India has announced that 25 per cent of the DRDO budget should be spent in the private sector for designing and development. This includes funding the startups. DRDO's programme development cum production partners (DCPP), in which we have identified a development partner right in the beginning and taken it through the production. Many of the policies of the DRDO are to promote the participation of the private sector," said Saraswat.

Referring to the army design bureau, Saraswat said that the scenario has completely changed. "The bureau can give projects directly to the private sector based on their requirements," he said.

India's future position

As India is modernising its defence system with the help of DRDO and Indian industry, Saraswat said the drones programme was already in the way. "We are working on a

hypersonic missile programme, the next version of BrahMos, underwater missiles which can be launched from submarines; we are also looking for a hypersonic glider, the most advanced electronic warfare system with the help of AI. We are looking for Kamikaze kind of drones… The kind of projects India is taking today will ensure that even in the next 15 years, India can be contemporary or equal to the best of the technology," he said.

"India's ballistic missile defence system has been developed. We have the capacity to intercept an incoming missile in the air using our interceptor. We have developed a defence system to kill the satellite using the interceptor. In 2019, we demonstrated interception of a satellite from a land-based interceptor. So, we can counter the space threat. Our space defence is also emerging. We are on the right track, and we need to show confidence in our scientists," said Saraswat.

Vikshit Bharat

According to Saraswat, Vikshit Bharat is not a kind of single-point agenda but a goal. "In that goal, we have to progress in every aspect of India's growth. And India's growth will be in all sectors, whether it is health, education, tourism, or manufacturing industries," he said.

Referring to the recently concluded Governing Council meeting of the NITI Aayog, Saraswat said that states' participation for Viksit Bharat 2047 has been highlighted. "Every state has worked out its own goal. The States set out short-term as well as long-term goals. This requires an integrated approach to the development of all sectors," said Saraswat.

According to Saraswat, there are certain sectors like agriculture, manufacturing, tourism and others which can play a major role in Viksit Bharat. "They need to be given a larger focus. There should be multi-sector use of science and technology for improving the growth of our country," he said.

https://www.etvbharat.com/en/!bharat/india-can-kill-nukes-mid-air-former-drdo-director-general-reveals-new-defence-capabilities-enn25060205169

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DRDO ने कर दिखाया गजब का कारनामा, न्यूक्लियर रेडिएशन को बेअसर कर देगी ये देसी दवाई

Source: Zee News Hindi, Dt. 02 June 2025

पिछले कुछ सालों से कई देशों के बीच युद्ध जारी है जिसमें जंग लड़ रहे देश एक-दूसरे को परमाणु हमले की धमकी देते हैं. आखिरी बार जापान में हुए परमाणु हमले में 1 लाख से भी ज्यादा लोगों को जान गंवानी पड़ी थी जिसका सबसे बड़ा कारण था इससे निकलने वाला रेडिएशन, जो बहुत लंबे समय तक अपनी छाप छोड़े रखता है.

परमाणु हमले के बाद होने वाले रेडिएशन के खतरे से बचने के लिए भारत में बनी स्वदेशी एंटीडोट अब तैयार हो गई है. देश में पहली बार यह गजब का कारनामा DRDO(Defence Research and Development Organisation) ने कर दिखाया है. रक्षा अनुसंधान एवं विकास संगठन ने इसे दिल्ली में तैयार किया है.

DRDO की कामयाबी

DRDO की दिल्ली स्थित प्रयोगशाला इंस्टीट्यूट ऑफ न्यूक्लियर मेडिसिन एंड एलाइड साइंसेज ने इस स्वदेशी एंटीडोट को तैयार किया है. न्यूक्लियर रेडिएशन से बचाने वाली इस दवा को दवा नियामक(Drug Regulator) ने

भी अपनी मंजूरी दे दी है. आपको बता दें कि रेडिएशन से बचने के लिए अभी तक विदेशों से ही दवाएं मंगवाई जाती थी.

किस लिए महत्वपूर्ण

इस दवा का इस्तेमाल किसी भी परमाणु इमरजेंसी में किया जा सकता है. यह इमरजेंसी तब होती है जब परमाणु बिजली संयंत्र या Nuclear Power Plant से किसी कारण से रेडिएशन का रिसाव हो जाता है. ऐसे में इस दवा का एंटीडोट आपके स्वास्थ्य की रक्षा करने में सक्षम हो सकता है. साथ ही यह स्वदेशी एंटीडोट युद्ध के दौरान रक्षा कर्मियों के लिए भी फायदेमंद हो सकता हैं क्योंकि परमाणु हथियारों के इस्तेमाल से इसका सबसे अधिक खतरा रहता है.

परमाणु कचरे से खतरा

क्या आप जानते हैं कि परमाणु कचरा भी हमारी जान का दुश्मन बन सकता है. न्यूक्लियर वेस्ट में सीजियम पाया जाता है एक रेडियोधर्मी तत्व हैं, जिसे परमाणु रिएक्टरों द्वारा उत्पादित कचरे से निकाला जाता है. साथ ही इसका इस्तेमाल अस्पतालों में भी किया जाता है. अस्पतालों में इमेजिंग तकनीक में थैलियम का इस्तेमाल होता है. DRDO द्वारा विकसित ये एंटीडोट बाजार में प्रू-डिकोर्प के नाम से मिलेगी.

https://zeenews.india.com/hindi/science/drdo-indian-made-antidote-will-save-from-nuclear-attack-radiations-and-emergencies/2783109

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Defence News

Defence Strategic: National/International

Remaining S-400 defence system coming by 2026, says Russian envoy as he cites India-Pakistan conflict

Source: Hindustan Times, Dt. 02 Jun 2025

Russian deputy ambassador to New Delhi Roman Babushkin on Monday said India will receive the remaining regiments of the S-400 strategic air defence missile system by 2026, as scheduled. The S-400 missile system performed well in India's Operation Sindoor against Pakistan, intercepting Pakistani drones and missiles. There have been talks of an additional batch of the missile system.

“We heard that S-400 performed very efficiently during the situation between India and Pakistan,” Roman Babushkin told news agency PTI. Acknowledging that India and Russia have a long history of collaboration, Roman Babushkin said the air defence systems, “according to what we are experiencing, the situation in Europe, here, this is one of the promising topics of our partnership in defence preparation in general”.

"As far as my knowledge goes, the contract for the remaining S-400 units will be according to the schedule. We are open for a promotion of this partnership for the discussion of the expansion of dialogue on air defence system... I think it will be done in 2025, 2026," he added. India inked a $5.43 billion contract with Russia in 2018 for five

regiments. Of the five, three have been deployed along the western and northern fronts, bordering Pakistan and China, respectively.

India had received the first regiment in December 2021, while the second and third were delivered in April 2022 and October 2023, respectively. Re-christened as “Sudarshan Chakra”, the S-400 can detect, destroy hostile strategic bombers, jets, spy planes, missiles and drones at a range of 380 kilometres.

Going by information shared by the Indian government, the acquisition was to be completed by 2023, The New Indian Express reported, citing unnamed sources. The S-400 system's delivery schedule got delayed due to the Russia-Ukraine conflict which affected supply chains and production, the report added.

“The S-400 Missile is a potent system in terms of its operational capability to provide a continuous and effective air defence system to a very large area. With the induction of this system, air defence capability of the nation will be significantly enhanced,” the ministry of defence had said in a statement in 2021.

The S-400 system is capable of engaging multiple targets simultaneously, including aircraft, cruise missiles, and ballistic missiles, at varying ranges and altitudes.

It consists of three main components: missile launchers, a powerful radar, and a command centre. It is capable of targeting aircraft, cruise missiles, and even high-speed intermediate-range ballistic missiles. The S-400 is seen as a major threat by NATO members due to its impressive long-range capabilities. It can engage almost all types of modern combat aircraft.

https://www.hindustantimes.com/india-news/remaining-s-400-defence-system-coming-on-time-says-russian-envoy-as-he-cites-india-pakistan-conflict-101748852036400.html

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160 member BSF team sent to Congo for UN peacekeeping duties

Source: The Economic Times, Dt. 02 Jun 2025

A 160-member Border Security Force (BSF) contingent, comprising 25 women personnel, was on Monday flagged off for deployment with the UN peacekeeping mission in Congo, an African nation ravaged by armed conflict and mass displacement.

BSF director general (DG) Daljit Singh Chawdhary and other senior officers met the team at the headquarters of the force here on Lodhi Road. The DG asked them to ensure that the flags of India and the force are held high.

"Your conduct and turnout should be exemplary. You have been trained for the task, and I am sure you will ensure that the flag of the country and the force is held aloft," Chawdhary said. The action of the force during the recent Operation Sindoor has earned the BSF a "unique" recognition, and you should aim to lead by example, he told the personnel.

The Democratic Republic of Congo is the third largest country in Africa, bordering Uganda, Rwanda and Burundi. Congo has been placed under the United Nations due to internal disturbances. This 18th BSF contingent, led by Commandant Kailash Singh

Mehta, will join the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) located at Beni in that country, a BSF spokesperson said.

The 160-member team has seven officers, nine subordinate officers and 144 other personnel, including a woman medical officer and 24 female constables, he said. "The contingent will be replacing the 17th BSF contingent, which until now was deployed in Beni and is returning on June 4," he said.

The team underwent an 11-week-long pre-deployment training, including subjects like UN peacekeeping guidelines, standard operating procedures and policies, public order management, human rights and sexual and gender-based violence, and VIP security protection of civilians, the spokesperson said.

https://economictimes.indiatimes.com/news/defence/160-member-bsf-team-sent-to-congo-for-un-peacekeeping-duties/articleshow/121573714.cms

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Russia's Trojan horse moment and why Ukraine's 'Operation Spider's Web' upends scope of drone warfare

Source: The Indian Express, Dt. 03 Jun 2025

In an audacious aerial attack that was planned for more than a year and a half, Ukraine carried out large scale drone strikes on multiple Russian air bases, including one in Siberia some 4,000 km from the frontlines. Under Operation Spider Web, a swarm of Ukrainian drones struck at least five military airbases deep inside Russia's borders on June 1, and left some 41 bomber aircraft in flames.

Ukraine President Volodymyr Zelenskyy celebrated the "absolutely brilliant result", and said the Ukrainian actions will "undoubtedly be in the history books". He said planning began 18 months ago, and those involved "were withdrawn from Russian territory in time".

The attack came after Russia stepped up the bombing of Ukrainian cities, and was timed ahead of the second round of crucial talks between the two sides in Istanbul, Turkey. The talks, which began on Monday afternoon, concluded after two hours, with no information on their outcome.

Trojan Horse attack

Specialised first-person view (FPV) drones were smuggled into Russia, along with mobile wooden cabins. The cabins were carried by trucks with the drones hidden inside. The cabin roofs opened remotely — and then the drones took off, zoned in on the nearby bases to precisely mount the attacks.

Ukraine claimed the attack caused $7 billion in damage, and multiple combat planes were destroyed. The Russian defence ministry said Ukraine launched FPV drone attacks on five air bases across the Murmansk, Irkutsk, Ivanovo, Ryazan, and Amur regions. It said that all strikes on the Ivanovo, Ryazan, and Amur airfields were successfully repelled.

Audacity of the mission

“(For) all the long range missiles and fighter jets, but it was 150 drones in shipping containers or trucks that took out a reported third of Russia’s strategic bomber fleet and unmanned surface drones that neutered the Black Fleet,” said Alex Plitsas, a nonresident senior fellow with the Middle East Program’s Scowcroft Middle East Security Initiative, and formerly associated with Bridgewater Associates and NorthropGrumman.

“Warfare as we knew it just a decade ago, is over,” he said. There are several reasons why the attack changes the rules of battlefield engagement in Ukraine. This was one of the significant raiding actions in modern warfare, one which was planned for 18 months.

It was different from the sort of attacks Ukraine has mounted so far — larger fixed-wing drones attacking at night, closer to the Russia-Ukraine border. The June 1 attack upends that pattern entirely: small drones were used during the day, far away from the frontlines. In Irkutsk province in eastern Siberia, thousands of kilometres from Ukraine, locals posted footage of small quadcopter drones emerging from the roof of trucks, and flying towards a nearby airfield, followed by smoke after impact.

Among the 41 aircraft said to have been destroyed are A-50 early-warning planes and Tu-22M3 and Tu-95 strategic bombers, most of which are now out of production, and extremely difficult to replace. Russia is estimated to have had fewer than 100 strategic bombers, and around a third of that fleet has been impacted by the attack.

These attacks were carried out by the SBU, Ukraine’s main security agency. The agency released footage in which its chief, Vasily Maliuk, said: “Russian strategic bombers… all burning delightfully.” Commentators on X aligned to Ukraine’s security services indicated that over a 100 quadcopter FPV drones with bombs were smuggled into Russia for the operations, which were meticulously housed in specially-built wooden cabins on top of lorries, with remotely retractable roofs.

FPV drones are smaller in size and have cameras on their front, which sends live video to the operator. This enables precise flying and manoeuvrability by the operator, almost like an aircraft. The Economist reported that these drones used Russian mobile-telephone networks to relay footage back to Ukraine. It is possible that the drivers of the trucks did not know their cargo.

A source quoted by The Economist said the Russians were first encouraged to move more of their planes to particular bases by Ukrainian strikes on other ones. Three days before this drone attack, dozens of planes were moved to the Olenya airfield in Murmansk province, according to reports published at the time. This was precisely where the most damage was caused.

Scope of drone warfare

The Ukrainian strikes demonstrate the effectiveness of deep-strike programs, and take the possibilities of drone warfare to another level. According to Thomas Shugart, an Adjunct Senior Fellow with the Defense Program at the Center for New American Security who served for more than 25 years in the US Navy, “containers at railyards, on Chinese-owned container ships in port or offshore, on trucks parked at random properties… spewing forth thousands of drones that sally forth and at least mission-kill the crown jewels of the [US Air Force]”… would be “entirely feasible”.

The warning issued by Shugart, who has previously written about the threat to airfields from drones and recommended that key aircraft such as bombers should have hardened shelters for just this sort of attack, could resonate across geographies, including in India.

https://indianexpress.com/article/explained/operation-spider-web-russia-ukraine-drone-warfare-battlefield-trojan-horse-10043072/

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Indian Army holds high-level joint urban warfare drill in Mumbai. Why is this important?

Source: The Week, Dt. 02 Jun 2025

The Indian Army conducted a high-level Joint Inter-Services Security Exercise in response to the evolving nature of non-conventional threats and the current heightened security environment. According to the defence ministry, the two-day exercise, held on Friday and Saturday, at the Army Training Area, Colaba and Force One training area Mumbai and culminated at the Bombay Stock Exchange (BSE) saw the coordinated participation of the Indian Army, Indian Navy, Indian Air Force, Indian Coast Guard, Force One (Maharashtra) and Mumbai Police.

The exercise simulated a series of complex contingencies, including coordinated tactical response drills, rapid deployment operations, area sanitisation and threat neutralisation procedures, casualty evacuation (Cas Evac) drills and joint command and control simulations. These scenarios were executed under time-sensitive conditions to ensure realism and pressure-based decision-making.

The primary objective was to strengthen inter-agency collaboration, assess operational readiness, and validate integrated response mechanisms to multi-dimensional security scenarios.

The exercise served as an invaluable platform to refine interoperability protocols, streamline communication flows, and reinforce a unified approach among the participating agencies, the defence ministry said.

"The collective professionalism and synergy demonstrated during the exercise highlighted India's robust multi-agency security architecture and its ability to mount a swift, integrated response to any emerging threat," the statement said.

https://www.theweek.in/news/defence/2025/06/02/indian-army-holds-high-level-joint-urban-warfare-drill-in-mumbai-why-this-is-important.html

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स्वदेशी हथियारों से सेना को मिलेगी नई ताकत... जोधपुर बन रहा डिफेंस टेक्नोलॉजी का हब, विदेशों से भी मिले ऑर्डर

Source: Aaj Tak, Dt. 02 Jun 2025

'मेक इन इंडिया' (Make in India) के तहत राजस्थान में रक्षा क्षेत्र को नई पहचान मिलने जा रही है. ऑपरेशन सिंदूर की सफलता के बाद अब 'मेड इन राजस्थान' ब्रांड के तहत अत्याधुनिक राइफलों और मल्टी बैरल मशीन

गन का निर्माण जोधपुर से शुरू होने जा रहा है. इस दिशा में जोधपुर को बड़ी उपलब्धि मिली है, जहां 1500 करोड़ रुपये से अधिक के निवेश से संबंधित समझौता ज्ञापन (एमओयू) अब धरातल पर उतरने के लिए तैयार है. इसके लिए रक्षा मंत्रालय से आवश्यक अनुमतियां मिल गई हैं और फील्ड परीक्षण भी सफल रहा है. इसका मतलब यह है कि अब राजस्थान न केवल देश के रक्षा क्षेत्र में अपनी मजबूत उपस्थिति दर्ज कराने जा रहा है, बल्कि 'मेड इन इंडिया' अभियान के तहत अंतरराष्ट्रीय स्तर पर 'मेड इन राजस्थान' को भी स्थापित करेगा.

वैश्विक मानकों के अनुरूप, निर्यात के लिए भी तैयार

रक्षा स्टार्टअप से जुड़े प्रमुख उद्योगपति रविन्द्र सिंह राठौड़ के अनुसार, इस परियोजना के तहत निर्मित किए जा रहे हथियारों का परीक्षण पहले ही विदेशों में किया जा चुका है. इन परीक्षणों के परिणाम काफी उत्साहजनक रहे हैं. रक्षा मंत्रालय ने इस परियोजना को दो चरणों में मंजूरी दी है, जिससे ये हथियार न केवल भारतीय सेना के लिए उपयोगी होंगे, बल्कि इनका निर्यात भी किया जा सकेगा. फिलहाल, अफ्रीकी देश टोगो और एशियाई देश थाईलैंड ने इन हथियारों में रुचि दिखाई है, जो इस बात का प्रमाण है कि राजस्थान की यह तकनीक अंतरराष्ट्रीय बाजार में प्रतिस्पर्धा करने की क्षमता रखती है.

मिलिट्री ग्रेड स्नाइपर राइफल: लंबी दूरी तक सटीक हमला

इस परियोजना के तहत मिलिट्री ग्रेड स्नाइपर राइफल तैयार की जा रही है, जिसे विशेष रूप से लंबी दूरी तक सटीक निशाना लगाने के लिए डिजाइन किया गया है. यह राइफल सब-एमओए (मिनट ऑफ एंगल) सटीकता हासिल करने में सक्षम है, यानी यह बहुत कम विचलन के साथ लंबी दूरी तक निशाना लगा सकती है. परीक्षण में यह राइफल 2.4 किलोमीटर तक प्रभावी फायर करने में सफल रही है. साथ ही, यह अलग-अलग जलवायु और भौगोलिक परिस्थितियों में स्थिर और सुसंगत प्रदर्शन कर रही है, जो इसे हर मौसम और मोर्चे पर उपयोगी बनाता है. गौरतलब है कि यह राइफल 100 फीसदी 'मेड इन इंडिया' होगी, यानी इसका हर हिस्सा देश में ही निर्मित होगा.

मल्टी बैरल मशीन गन: हर मिनट 6,000 राउंड फायर करने में सक्षम

इस प्रोजेक्ट का एक और अहम हिस्सा मल्टी बैरल मशीन गन है, जो तकनीकी रूप से बेहद उन्नत है. यह गन एक मिनट में करीब 6 हजार राउंड फायर करने की क्षमता रखती है और एक हजार गज तक सटीकता से मार कर सकती है. इसके साथ ही, इसमें एक बेल्ट में 15 हजार राउंड तक गोला बारूद फायर करने की सुविधा होगी. भविष्य में इसे C-RAM (काउंटर रॉकेट, आर्टिलरी और मोर्टार) यानी एंटी-एयरक्राफ्ट हथियार प्रणाली के रूप में अपग्रेड किया जाएगा, जो इसे दुश्मन के ड्रोन और हवाई हमलों के खिलाफ भी कारगर हथियार बनाएगा. इस परियोजना को भी 'मेक इन इंडिया' के तहत विकसित किया जा रहा है और इसकी तकनीक और निर्माण प्रक्रिया पूरी तरह स्वदेशी होगी.

जोधपुर, जयपुर समेत कई शहरों में बनेगा नेटवर्क

इस परियोजना के तहत हथियारों के विभिन्न पार्ट्स का निर्माण जोधपुर, जयपुर और राज्य के अन्य औद्योगिक क्षेत्रों में किया जाएगा. मुख्य उत्पादन केंद्र जोधपुर के बोरानाडा औद्योगिक क्षेत्र में स्थित फैक्ट्री होगी, जहां मशीन गन के बैरल तैयार किए जाएंगे. इसके अलावा अन्य जरूरी पार्ट्स राज्य के विभिन्न शहरों में बनाए जाएंगे और अंत में उन्हें एक गुप्त स्थान पर असेंबल किया जाएगा, जिसकी जानकारी सुरक्षा कारणों से सार्वजनिक नहीं की गई है.

बारूद भंडारण के लिए मांगी गई विशेष जमीन

मशीन गन और स्नाइपर राइफल के निर्माण के साथ-साथ उनके संचालन के लिए जरूरी बारूद और गोलियों का उत्पादन भी इस परियोजना का अहम हिस्सा होगा. लेकिन बारूद के भंडारण के लिए भारत सरकार द्वारा तय

नियम बेहद सख्त हैं. इसके तहत जिस स्थान पर बारूद का भंडारण किया जाएगा, उसके 8 से 10 किलोमीटर के दायरे में कोई आबादी नहीं होनी चाहिए. इस स्थिति को ध्यान में रखते हुए सरकार से ऐसी भूमि की मांग की गई है, जो सुरक्षा मानकों के अनुरूप हो तथा परियोजना का सुचारू संचालन सुनिश्चित कर सके.

राजस्थान की धरती से रक्षा आत्मनिर्भरता की ओर

रक्षा क्षेत्र में राजस्थान की यह नई पहल न केवल राज्य के औद्योगिक विकास के लिए मील का पत्थर साबित होगी, बल्कि भारत के रक्षा आत्मनिर्भरता के लक्ष्य को भी मजबूती प्रदान करेगी. 'मेड इन राजस्थान' ब्रांड के तहत निर्मित ये आधुनिक हथियार आने वाले समय में भारतीय सेना की ताकत को और बढ़ाएंगे तथा राज्य को वैश्विक रक्षा मानचित्र पर नई पहचान दिलाएंगे. यह परियोजना राजस्थान के युवाओं के लिए रोजगार, तकनीकी कौशल तथा रक्षा उत्पादन क्षमता के मामले में अनगिनत अवसरों के द्वार भी खोलेगी.

https://www.aajtak.in/defence-news/story/made-in-rajasthan-will-strengthen-the-army-production-of-high-tech-weapons-started-in-jodhpur-lclcn-rptc-2254772-2025-06-02

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अरब सागर में उतरेंगे नौसेना के जंगी जहाज, लाइव फायरिंग ड्रिल के लिए 'NOTAM' जारी

Source: TV9 Bharatvarsh, Dt. 03 Jun 2025

भारत ने अरब सागर क्षेत्र में एक बड़े नौसैनिक फायरिंग अभ्यास को लेकर NOTAM (Notice to Airmen) जारी किया है. यह अभ्यास 8 जून से 11 जून तक पश्चिमी तट पर मुंबई के समुद्री क्षेत्र में किया जाएगा. अधिसूचना के अनुसार, यह नौसैनिक अभ्यास 96,000 वर्ग किलोमीटर के व्यापक क्षेत्र में किया जाएगा, जिसकी अधिकतम लंबाई लगभग 600 किलोमीटर होगी. अभ्यास की टाइमिंग 8 जून को सुबह 8:00 बजे (IST) से शुरू होकर 11 जून को शाम 7:30 बजे (IST) तक चलेगी.

नागरिक और वाणिज्यिक जहाजों और विमानों को इस क्षेत्र से बचने की सलाह दी गई है. भारतीय नौसेना के इस अभ्यास का उद्देश्य समुद्री रणनीतिक तैयारियों को परखना और युद्धक क्षमता को मजबूत करना है.

अरब सागर में फायरिंग अभ्यास

इससे पहले भारतीय नौसेना ने 3 से 7 मई तक फायरिंग अभ्यास किय था. यह अभ्यास कर्नाटक के करवार तट से लगभग 390 किलोमीटर दूर अरब सागर में किया गया था. बता दें कि इस तरह के अभ्यास ना सिर्फ रूटीन ट्रेनिंग का हिस्सा है, बल्कि पाकिस्तान को एक साफ चेतावनी भी है. करवार नौसेना अड्डा, जो नेवी का एक रणनीतिक केंद्र है, यहां से यह फायरिंग अभ्यास एक तरह से यह दिखाता है कि भारत समुद्री सीमा पर भी सतर्क और आक्रामक नीति अपनाए हुए है.

दरअसल पहलगाम हमले के बाद से पाकिस्तान से तनाव बढ़ गया है.ऐसे में भारत अब हर तरह के जवाबी रणनीति पर काम कर रहा है. यह फायरिंग अभ्यास सिर्फ एक परीक्षण नहीं, बल्कि पाकिस्तान और उसके समर्थित आतंकी संगठनों को यह बताने का भी तरीका है कि भारत की तीनों सेनाएं मुस्तैद हैं. साथ ही यह भारतीय नौसेना की ताकत और समुद्री सुरक्षा को मजबूत करने का भी बेहद खास कदम है.

https://www.tv9hindi.com/india/indian-navy-firing-exercise-in-arabian-sea-notam-issued-in-navigation-area-3322812.html

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Is Turkey planning to set up weapons production units in Bangladesh's Chittagong, Narayanganj?

Source: The Week, Dt. 02 Jun 2025

As the rift between India and Turkey grows, speculations are rife that Turkey could join hands with Bangladesh in setting up a weapons factory in Chittagong and Narayanganj.

In a move many describe the move as calculated and strategic, Bangladesh Investment Development Authority (BIDA) executive chairman Chowdhury Ashiq Mahmud Bin Harun went on a five-day visit to Turkey to discuss the matter with Turkish officials. Harun was also granted the rare opportunity to visit the state-owned defence factory Makine ve Kimya Endüstrisi (MKE) in the city of Kirikkale, Turkey.

The entourage was given a special briefing on the factor, testing centre and secret weapons management, according to local Bangladeshi media, which added that the purpose of the visit was to strengthen the defence ties between the countries.

The report added that Dhaka might offer various benefits including tax exemptions and duty waivers under the Bangladesh Economic Zone Act, 2010. The government also thinks Chittagong and Narayanganj are ideal locations for setting up the units because these regions are connected to two seaports or waterways, which are strategically important for weapons production and transportation.

A technical team from MKE will soon come to Bangladesh to conduct surveys in these regions, the report added.

Interestingly, the Bangladeshi delegation's visit came amid the standoff between India and Turkey over the latter's support for Pakistan during Operation Sindoor. However, Bangladesh had engaged with MKE earlier too with Dhaka procuring MKE Boran 105mm howitzers last year. They have also purchased Bayraktar drones, which now form the central component of Bangaldesh's airborne intelligence and strike capabilities. Besides, Dhaka has also been exploring purchasing the Turkish-made Otokar Tulpar light tanks.

The Bangladesh Army has also purchased Roketsan TRG 300/230 Tiger guided multiple rocket launch system, armoured vehicles, small arms and a night vision system.

https://www.theweek.in/news/defence/2025/06/02/is-turkey-planning-to-set-up-weapons-production-units-in-bangladesh-s-chittagong-narayanganj.html

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भारतीय सेना में शामिल हुआ FPV ड्रोन, सेना के अफसर ने बनाई तकनीक, अब चीन और पाकिस्तान की खैर नहीं

Source: News18 Hindi, Dt. 02 Jun 2025

ऑपरेशन सिंदूर में चीन और पाकिस्तान की तकनीक को एक साथ धूल चटाई. एंटी ड्रोन सिस्टम ने एक भी अटैक को सफल नहीं होने दिया. भारत की स्वदेशी कंपनियां तो झंडे गाड़ ही रही हैं, सेना भी कोई कसर नहीं छोड़ रही. आज के दौर के सबसे खतरनाक ड्रोन को भारतीय सेना ने तैयार कर दिया है. सेना ने बनाया है FPV ड्रोन यानी फर्स्ट पर्सन व्यू ड्रोन. भारतीय सेना के 9 कोर की फ्लूर–डी–लिस ब्रिगेड ने टर्मिनल बैलिस्टिक रिसर्च लेबोरेटरी (TBRL) चंडीगढ़ के साथ मिलकर इसे विकसित किया. इसके कई सफल परीक्षण किए गए और नतीजा जबरदस्त

था. इसके बाद सेना में इसे शामिल भी कर लिया गया. 400 ग्राम विस्फोटक के साथ यह आसानी से किसी भी टार्गेट को निशाना बना सकता है. रूस के एयरबस पर किए हमले ने एक बार फिर से FPV ड्रोन की ताकत को साबित कर दिया. एसिमेट्रिक वॉरफेयर के दौर में यह ड्रोन बेहद खास और कारगर है। भारतीय सेना ने जो FPV ड्रोन बनाया है वह कामिकाजी एंटी टैंक म्यूनिशन से लैस है. भारतीय सेना में यह अपनी तरह का पहला प्रोजेक्ट है.

भारतीय FPV ड्रोन की खासियत

यह प्रोजेक्ट अगस्त 2024 में शुरू किया गया था. यह पूरा ड्रोन राइजिंग स्टार ड्रोन बैटल स्कूल में असेंबल किया गया है. मार्च 2025 तक 100 से ज्यादा ड्रोन तैयार किए गए हैं. हर ड्रोन की कीमत 1,40,000 रुपये है. अभी 5 FPV ड्रोन को सेना में शामिल किया जा चुका है, 95 अभी मिलने हैं. इस ड्रोन में पेलोड के लिए ड्युअल सेफ्टी मैकेनिज्म है ताकि ऑपरेटर की सुरक्षा सुनिश्चित हो सके. ट्रांसपोर्टेशन, हैंडलिंग और उड़ान के दौरान किसी एक्सीडेंटल ब्लास्ट को रोकता है. इसे एक्टिवेट सिर्फ ड्रोन पायलट ही कर सकता है. इसके अलावा एक लाइव फीडबैक रिले सिस्टम पायलट को FPV गॉगल्स के जरिए पेलोड की स्थिति के बारे में रियल टाइम अपडेट देता है. इससे ड्रोन उड़ाने के दौरान सही और तेजी से फैसले लेने में मदद मिलती है. आमतौर पर FPV ड्रोन की रेंज 6 से 7 किलोमीटर बताई जाती है. इस ड्रोन को ऑपरेट करने के लिए किसी कमांड एंड कंट्रोल सेंटर की जरूरत नहीं होती. दुश्मन के इलाके के महज 3 से 5 किलोमीटर दूर किसी भी बंकर में बैठकर भी इसे ऑपरेट किया जा सकता है.

एसिमेट्रिक वॉरफेयर का सुल्तान है

ड्रोन नॉन–कॉन्टेक्ट वॉरफेयर के दौर में लॉन्ग रेंज वेपन से ज्यादा मफीद है ड्रोन. महज 500 डॉलर के एक FPV ने करोड़ों के एयरक्राफ्ट को नष्ट कर दिया. इसे कहते हैं एसिमेट्रिक वॉरफेयर. इसके अलावा अगर किसी ड्रोन अटैक को रोकने के लिए बड़े एयर डिफेंस मिसाइल का इस्तेमाल किया जाए तो भी यह महंगा सौदा साबित होता है. FPV की खासियत यह है कि ड्रोन टार्गेट को दूर से लॉन्च किए जा सकते हैं और महज कुछ किलोमीटर दूर से ऑपरेट भी किए जा सकते हैं. FPV को लॉन्च करना और उसे ऑपरेट करना ठीक उसी तरह है जैसे कि वीडियो गेम खेलना. ड्रोन में लगा कैमरा ऑपरेटर के लिए अटैक को आसान बना देता है. रूस के जितने भी एयरक्राफ्ट पर ड्रोन अटैक हिट किए गए, वे विंग पर थे. इसकी वजह यह है कि सभी एयरक्राफ्ट का फ्यूल विंग्स पर ही होता है. इससे साफ हो जाता है कि FPV से कितनी सफाई से ऑपरेशन को अंजाम दिया जा सकता है.

https://hindi.news18.com/news/nation/indian-army-develops-fpv-drone-surpasses-china-pakistan-technology-ws-bkl-9282094.html

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करीब दो साल की हो चुकी है देरी, आर्मी को है अपाचे अटैक हेलिकॉप्टर का इंतजार

Source: Navbharat Times, Dt. 03 Jun 2025

इंडियन आर्मी को अपाचे अटैक हेलिकॉप्टर का इंतजार है, जिसे मिलने में दो साल की देरी पहले ही हो चुकी है। आर्मी की एविएशन कोर ने पिछले साल मार्च में ही जोधपुर के नागतलाव में अपाचे की स्क्वॉड्रन भी तैयार कर ली थी। साथ ही पायलट और ग्राउंड स्टाफ को ट्रेनिंग दी जा चुकी है। स्क्वॉड्रन तैयार है और हेलिकॉप्टर का इंतजार है। पाकिस्तान बॉर्डर पर आर्मी की क्षमता बढ़ाने के लिए इन हेलिकॉप्टर की डील की गई थी।

इंडियन आर्मी को अपाचे (Apache AH-64E) अटैक हेलिकॉप्टर 2023 से मिलने शुरु होने वाले थे लेकिन पहले कोविड की वजह से इसमें देरी हुई और बाद में दूसरी वजहों से। आर्मी के लिए 6 अपाचे हेलिकॉप्टर की डील फरवरी 2020 में साइन हुई थी, जो 2023 में मिलने शुरू होने थे। इसमें हुई देरी के बाद कहा गया कि 2024 की शुरूआत से अपाचे हेलिकॉप्टर मिलने शुरू हो सकते हैं।

फिर कहा गया कि 2024 के आखिर तक ये आएंगे। लेकिन अभी एक भी हेलिकॉप्टर आर्मी को नहीं मिल पाया है। अपाचे की मैन्युफैक्चरिंग कंपनी बोइंग है। एनबीटी ने बोइंग से देरी की वजह पूछी और हेलिकॉप्टर का मौजूदा स्टेटस जानना चाहा, इसके जवाब में बोइंग ने कहा कि 'हम अमेरिकी सरकार और इंडियन आर्मी के साथ लगातार संपर्क में हैं और इंडियन आर्मी की फ्लीट आवश्यकताओं को पूरा करने के लिए अपने कॉन्ट्रेक्ट को जल्द से जल्द पूरा करने की दिशा में काम कर रहे हैं'।

अपाचे अटैक हेलिकॉप्टर दुनिया के सबसे आधुनिक और घातक हेलिकॉप्टर माने जाते हैं। यह दुश्मन की किलेबंदी को भेदकर उसकी सीमा में घुसकर अटैक करने में सक्षम हैं। अमेरिका ने खुद अपाचे अटैक हेलिकॉप्टर का इस्तेमाल पनामा से लेकर अफगानिस्तान और इराक तक में किया। अपाचे अटैक हेलिकॉप्टर में दो जनरल इलैक्ट्रिक T700 टर्बोशैफ्ट इंजन हैं और आगे की तरफ एक सेंसर फिट है जिससे यह रात के अंधेरे में भी उड़ान भर सकता है। यह 365 किलोमीटर प्रति घंटे की रफ्तार से उड़ान भरता है। किसी भी तरह के मौसम में यह अपनी पूरी क्षमता से काम करता है।

कैबिनेट कमिटी ने स्वीकृति दी थी

कैबिनेट कमिटी ने अमेरिका से 39 अपाचे हेलिकॉप्टर लेने को स्वीकृति दी थी। जिसके बाद इंडियन एयरफोर्स के लिए 22 अपाचे हेलिकॉप्टर लेने की डील सितंबर 2015 में साइन हुई। जिसके बाद सरकार ने तय किया कि अब जो भी अपाचे हेलिकॉप्टर की खरीद होगी वह आर्मी के पास जाएंगे। एयरफोर्स को सभी 22 अपाचे अटैक हेलिकॉप्टर मिल गए हैं। आखिरी खेप में पांच हेलिकॉप्टर आए जो जुलाई 2020 में आए। उस वक्त ईस्टर्न लद्दाख में लाइन ऑफ एक्चुअल कंट्रोल पर भारत चीन के बाद तनाव चरम पर था।

https://navbharattimes.indiatimes.com/india/indian-armys-apache-attack-helicopter-delivery-delayed-by-two-years/articleshow/121583721.cms

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Science & Technology News

Union Minister Dr. Jitendra Singh launches 'Bharat Gen' - India' s first of its kind Indigenously developed government funded AI based Multimodal LLM for Indian Languages at BharatGen Summit

Source: Press Information Bureau, Dt. 02 Jun 2025

Union Minister of State (Independent Charge) for Science & Technology, Dr. Jitendra Singh, today launched 'Bharat Gen', India's first-of-its-kind, indigenously developed, Artificial Intelligence (AI) based, government-funded, Multimodal Large Language Model (LLM) for Indian languages, at the prestigious "BharatGen Summit"—India's largest Generative Artificial Intelligence (AI) and LLM summit and hackathon.

Developed under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) and implemented through TIH Foundation for IoT and IoE at IIT Bombay, BharatGen aims to revolutionize AI development across India's linguistic and cultural spectrum. The initiative is supported by the Department of Science and Technology (DST) and brings together a robust consortium of leading academic institutions, experts, and innovators.

Speaking at the Summit, Union Minister of State (Independent Charge) for Science & Technology, Minister of State for Prime Minister's Office, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, described BharatGen as a "national mission to create AI that is ethical, inclusive, multilingual, and deeply rooted in Indian values and eothos." The platform integrates text, speech, and image modalities, offering seamless AI solutions in 22 Indian languages.

"This initiative will empower critical sectors such as healthcare, education, agriculture, and governance, delivering region-specific AI solutions that understand and serve every Indian," said Dr. Singh.

Recalling a success story from his own constituency, Dr. Jitendra Singh spoke about AI-powered telemedicine services where an AI doctor communicates fluently in the patient's native language. "It not only builds trust but has a placebo-like psychological effect, enabling better care in remote regions connected with superspeciality hospitals across India," he noted.

Dr. Jitendra Singh emphasized that BharatGen aligns with Prime Minister Narendra Modi's vision of "India's Techade"—not just for innovation but for inclusion. He hailed India's AI progress as a global benchmark, including CPGRAMS, now studied by several countries as a model grievance redressal system. The Minister reiterated that Anusandhan NRF will further boost India's R&D and innovation ecosystem, and highlighted the ongoing transformation through flagship schemes like PM MUDRA Yojana, PM SVANidhi, and PM Vishwakarma Yojana, which uplift street vendors, artisans, and micro-entrepreneurs.

Dr. Jitendra Singh highlighted the transformative role of Generative AI in grassroots governance, citing the integration of multilingual feedback systems into platforms like CPGRAMS to enhance citizen engagement and grievance redressal. He underscored the inclusive vision of NEP 2020, which promotes interdisciplinary learning by enabling students to combine technical and humanities disciplines, thus enhancing their employability and innovation potential.

Dr. Jitendra Singh celebrated the success of over 3,000 Agri-tech StartUps, particularly those pioneering initiatives like lavender cultivation in Jammu & Kashmir, as evidence that innovation thrives beyond metros and IT sectors. The summit also witnessed a significant MoU exchange ceremony aimed at deepening collaboration across government departments and research hubs.

The launch of the Generative AI Hackathon 2025 marked a major step in engaging student innovators to solve real-world problems through AI. The BharatGen initiative is being executed through a network of 25 Technology Innovation Hubs (TIHs), four of which have been upgraded to Technology Translational Research Parks (TTRPs). The Mission's four pillars include technology development, entrepreneurship, human resource development, and international collaboration.

The BharatGen Summit witnessed the esteemed presence of key dignitaries including Prof. Abhay Karandikar, Secretary, Department of Science and Technology (DST); V. Srinivas, Secretary, Department of Administrative Reforms and Public Grievances (DARPG); Rajit Punhani, Secretary, Ministry of Skill Development & Entrepreneurship; andAbhishek Singh, Additional Secretary, Ministry of Electronics and IT (MEITY). The event also featured industry stalwart Kris Gopalakrishnan, Co-founder of Infosys, and Prof. Ganesh Ramakrishnan, Principal Investigator of BharatGen.

Their participation, alongside senior government officials, leading academicians, and young student innovators, added depth and vision to the summit's focus on advancing India's AI ecosystem.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2133312

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ISRO Successfully Conducts Third Hot Test of Semi-Cryogenic Engine Component on May 28

Source: Deccan Chronicle, Dt. 02 Jun 2025

The Indian Space Research Organisation (ISRO) today successfully carried out the third hot test of the Power Head Test Article (PHTA), a critical part of its semi-cryogenic engine, at the ISRO Propulsion Complex (IPRC) in Mahendragiri on May 28, 2025.

This test is part of a performance evaluation series that began in March 2025 to validate the design and functioning of key engine systems. The latest test focused on checking the engine's ignition and start-up sequence, helping ISRO fine-tune and finalize the procedures for future integrated engine tests.

During the three-second test, the engine was ignited and operated at up to 60% of its rated power, performing with stability and control throughout. The PHTA, which includes all major components of the engine except the thrust chamber, is designed to evaluate the propellant feed system, including low- and high-pressure turbo pumps, pre-burner, start systems, and control mechanisms.

This was the third in a series of hot tests. The First test (March 28, 2025) demonstrated smooth ignition and short-duration operation (2.5 seconds). Second test (April 24, 2025) focused on start-up sequence and engine build-up over 3.5 seconds. The third test (May 28, 2025) further refined the ignition and start-up sequence with stable operation at partial power.

The semi-cryogenic propulsion stage (SC120) powered by the 2000 kN class SE2000 engine, is being developed to replace the current (L110) liquid core stage of ISRO's LVM3 launch vehicle towards enhancing its payload capacity.

https://www.deccanchronicle.com/southern-states/andhra-pradesh/isro-successfully-conducts-third-hot-test-of-semi-cryogenic-engine-component-on-may-28-1882924

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Andhra govt, ISRO ink five-year deal to leverage space tech for citizen services

Source: The Economic Times, Dt. 02 Jun 2025

Chief Minister N Chandrababu Naidu has said his government has partnered with ISRO to leverage space tech for real-time citizen-centric governance. The Chief Minister on Monday noted that the southern state's Real Time Governance System (RTGS) inked a five-year deal with Sathish Dhawan Space Centre (SHAR) to enhance AWARE platform with satellite imagery and scientific inputs.

"In a landmark step in leveraging space tech for real-time citizen-centric governance, a 5-year MoU was signed between SHAR (ISRO) and RTGS today, in the presence of SHAR Director Mr Rajarajan," said Naidu in a post on X. As part of this collaboration, satellite imagery and scientific inputs will be fed into the AWARE platform over 42 applications spanning agriculture, weather, disaster management, urban planning and so on.

"AWARE integrates data from satellites, drones, IoT, sensors, mobile feeds, and CCTV to deliver real-time alerts and advisories to citizens and the government via SMS, WhatsApp, and media and social media," Naidu added.

https://economictimes.indiatimes.com/news/science/andhra-govt-isro-ink-five-year-deal-to-leverage-space-tech-for-citizen-services/articleshow/121586177.cms

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Indian scientists' 'sulphur' breakthrough on cloud formation in future

Source: Deccan Herald, Dt. 03 Jun 2025

Weather scientists from India and Europe on Monday reported a likely rise of a major sulphur bearing compound in the atmosphere in the coming decades, despite a projected decline of the source material generated in the ocean.

A combined climatic push given by a rise in the sea-surface temperature and increase in the speed of surface wind will lead to transport of a larger volume of the chemical – known as DMS or Dimethyl Sulphide – to the atmosphere in future, contributing to more

aerosol and cloud formations, the scientists say. In the atmosphere, the chemical undergoes transformation contributing to the formation of aerosol as well as cloud, which determines how much of the solar radiation will go back to space keeping the earth cool.

“DMS is the largest natural source of atmospheric sulphur, injecting 40% of sulphur into the atmosphere. Our study shows that while oceanic concentration of the chemical will drop, its level in the atmosphere will grow, eventually leading to greater cloud formation,” Anoop Mahajan, a senior scientist at Indian Institute of Tropical Meteorology, Pune, who led the team told DH.

“Greater cloud formation may offset some of the consequences of the warming effect,” he added. However, the impacts of global warming will not be negated completely. With nations bringing in new air quality policies to reduce the anthropogenic emissions of polluting gases like oxides of carbon, sulphur and nitrogen, scientists have been researching natural sources of sulphur like DMS to figure out how it will impact the weather in future.

“But none of the existing climatic models agree on mimicking the DMS behaviour. Some say its concentration will go up, others say the level will go down. That’s why we decided to look at it comprehensively to get an accurate picture,” Mahajan. The IITM researchers teamed up with scientists from Europe and pulled together all observation data on DMS. They used machine learning tools trained on global observations of biological processes to model emissions of DMS, which is produced by phytoplankton.

The models simulated seawater DMS concentrations from 1850 to 2100 using predictor variables from eight climate models. They found that DMS concentrations in the ocean are predicted to decrease under future warming scenarios, but at the same time, its emissions into the atmosphere are set to rise due to increasing surface wind speeds and sea-surface temperatures.

The latter finding contradicts current climate assessments that project a decrease in atmospheric DMS due to global warming. “The results show that seawater DMS will decrease in the future, but the sea-air emissions will increase. This suggests that DMS will play an increasingly important role as a sulphur source as further air quality measures reduce anthropogenic emissions of sulphur compounds,” the scientists reported.

https://www.deccanherald.com/science/indian-scientists-sulphur-breakthrough-on-cloud-formation-in-future-3568478

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