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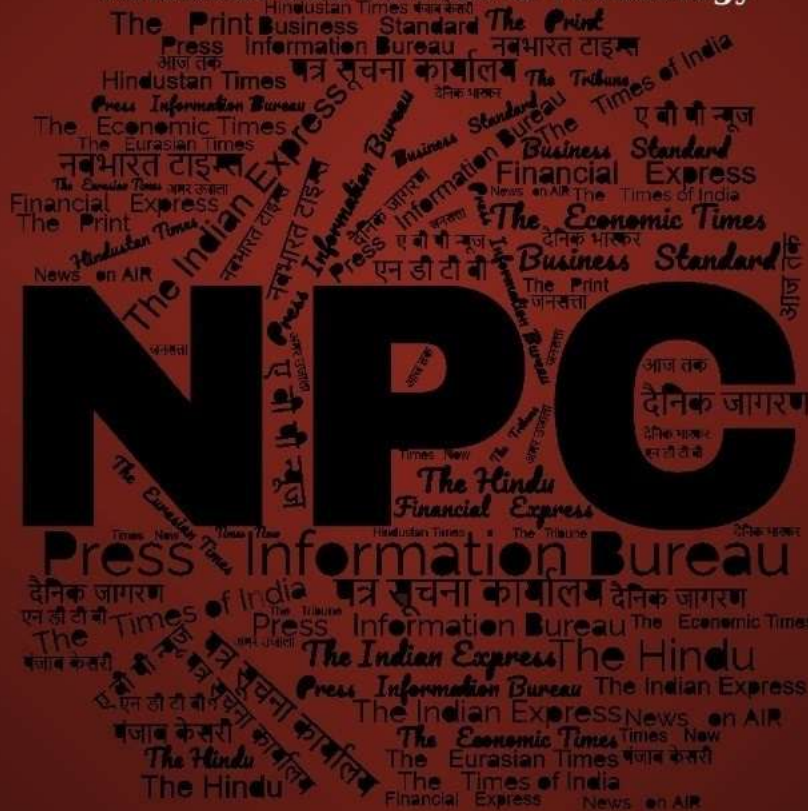
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Sat, 17 Aug 2024

Father of Agni missiles, renowned DRDO scientist Ram Narain Agarwal passes away

Renowned DRDO missile scientist Ram Narain Agarwal, widely known as the "father of Agni Missiles," passed away on Thursday in Hyderabad due to age-related ailments. 83-year-old Agarwal, a Padma Bhushan awardee, was a pioneering figure in India's defense research and has significantly contributed to the development of India's long-range ballistic missile program. Agarwal is survived by his wife and two children. Dr Agarwal led the country's ambitious Agni missile programme for over two decades right from its beginning in 1983 as Project Director. He inspired the team to successfully test the Technology demonstrator missile in May 1989. Thereafter, various versions of the missile were developed and inducted into the defence forces. Today, Agni V, the nuclear-capable, intermediate-range ballistic missile has the capability to strike targets beyond 5000 kms.

Dr Agarwal retired as the founder and director of the Advanced Systems Laboratory (ASL), Hyderabad in 2005. He was a distinguished Scientist of the Defence Research and Development Organisation (DRDO) and worked on the Agni and other missile programmes alongside Dr Arunachalam and Dr APJ Abdul Kalam, Dr Agarwal played a key role in establishing the re-entry technology, all composite heat shield, onboard propulsion system, guidance and control etc for missiles during a distinguished tenure of 22 years. In 1995 he was appointed Programme Director of Agni for weaponisation and deployment of Agni 2. Within 4 years in 1999, Dr Agarwal and team established the new version with road-mobile launch capability too with enhanced strike distance from Agni-1.

In subsequent years, the demonstration of the powerful Agni-3 missile weapon system has put India into a select club of countries with nuclear-capable missile power of long-range with strengths in indigenously developing all systems.

The Agni missile was the most ambitious of the 5 missiles sought to be developed under the Integrated Guided Missile Development Programme launched in 1983 by the Government of India. The others were --Prithvi, Akash, Nag and Trishul.

Dr Agarwal won many laurels for his contributions. Among these are the Lifetime Achievement Award 2004 for contributions to the field of aerospace and Agni by the Prime Minister; the DRDO Technology Leadership Award, Chandrasekhara Saraswati National Eminence Award along with PM, PV Narasimha Rao and Bharat Ratna M S Subbalaxmi and the Biren Roy Space Sciences Award. He was conferred the Padma Sri in 1990 and Padma Bhushan in 2000 by the President of India. Born in Jaipur into a traders family on July 24, 1941, Dr Agarwal did his Aeronautical Engineering from MIT, Guindy and Masters from the Indian Institute of Science, Bangalore. He obtained a doctorate from the University of Rajasthan. He was a member of various national academies and delivered lectures on self-reliance and missile technology at various forums. He was a fellow of the Aeronautical Society of India and the National Academy of Engineering.

<https://www.newindianexpress.com/nation/2024/Aug/15/father-of-agni-missiles-renowned-drdo-scientist-ram-narain-agarwal-passes-away>



Press Information Bureau
Government of India

Fri, 16 Aug 2024

DRDO hands over Authority Holding Sealed Particulars of ‘Nipun’ munition to Directorate General of Quality Assurance

Defence Research and Development Organisation (DRDO) has handed over the Authority Holding Sealed Particulars (AHSP) of ‘Nipun’ munition to Directorate General of Quality Assurance (DGQA) at Armament Research & Development Establishment (ARDE), Pashan, Pune. NIPUN is a Soft Target Munition designed and developed by the ARDE in association with High Energy Materials Research Laboratory (HEMRL), Pune. Director, ARDE Shri A Raju handed over the AHSP to Controller CQA (A), Khadki, Pune Maj Gen J James.

After the successful completion of General Staff Qualitative Requirements (GSQR)-based evaluation, NIPUN Munition has been inducted into the Indian Army. Two Indian private industries, namely Economic Explosives Ltd (EEL), Nagpur and Premier Explosives Ltd (PEL), Secunderabad have absorbed the technology from DRDO. Both the industries have currently undertaken the bulk production against a purchase order from Indian Army. More than 20 lots of munitions have been delivered to the Indian Army till now. NIPUN is highly user-friendly and deadly against the enemy. It is completely safe during handling, transportation and laying.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2045992>

Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat congratulated the ARDE team for the successful AHSP transfer of NIPUN to DGQA and termed it as a great achievement as the munitions will further enhance the combat capabilities of the Indian Army to a great extent.

Defence News

Defence Strategic : National/International

THE ECONOMIC TIMES

Sun, 18 Aug 2024

Rajnath Singh inaugurates new Coast Guard facilities in Tamil Nadu, Puducherry

Defence Minister Rajnath Singh on Sunday inaugurated a new rescue coordination centre and two units of the Indian Coast Guard here and in Puducherry. Singh inaugurated the Coast Guard's new Maritime Rescue Coordination Centre (MRCC) and the Regional Marine Pollution Response Centre (RMPRC) here and a Coast Guard Air Enclave in Puducherry, through remote mode. "The new Coast Guard MRCC situated near Napier Bridge in Chennai, constructed at a cost of Rs 26.10 crore, will be an iconic structure facilitating the enhanced coordination for rescue of mariners and fishermen in distress at sea. "The MRCC is installed with latest equipment for distress monitoring through terrestrial and satellite systems and are also equipped with advanced communication systems for real-time management of alerts by highly trained personnel of Indian Coast Guard specialising in search-and-rescue procedures, with rescue aircraft, ships and other facilities," a PIB (defence ministry) release said. The new MRCC will serve as the nerve centre for coordinating all maritime rescue operations on the east coast of India and beyond, ensuring the safety and well-being of Indian fishermen and mariners, it said. The RMPRC, based

at Chennai Port premises, is the "first-of-its-kind facility for coordinating response against marine pollution, particularly oil and chemical pollution, in waters adjoining the coastal states in the Indian Ocean Region (IOR)." The creation of this centre was first announced by Singh during the maiden IndoASEAN meeting held in Cambodia in November 2022, the release said. The setting up of this centre was spearheaded by Coast Guard Regional Headquarters East at its premises within Chennai Port.

The RMPRC will have an Emergency Response Centre (ERC) which will be manned round-the-clock by Coast Guard personnel to monitor marine oil pollution incidents. It will also impart training in pollution response techniques to various organisations such as ports, oil handling agencies, government organisations and private participants. Apart from this, RMPRC will also train personnel from friendly foreign countries in combating oil pollution at sea. The practical training at RMPRC will involve actual deployment of various oil handling equipment, for maximum exposure to real-time oil spill scenarios, it said. The Coast Guard Air Enclave at Puducherry marks a significant milestone for ICG and will play a vital role in maritime security along the Puducherry and South Tamil Nadu coast. "The Air Enclave will be equipped with Chetak and Advanced Light Helicopter (ALH) squadrons. Both these helicopters are indigenously built and are capable of carrying out maritime patrol, search-and-rescue and other such missions both from land as well as from Coast Guard ships patrolling at sea," the release added.

<https://economictimes.indiatimes.com/news/defence/rajnath-singh-inaugurates-new-coast-guard-facilities-in-tamil-nadu-puducherry/articleshow/112609757.cms>

THE ECONOMIC TIMES

Sat, 17 Aug 2024

Army issues Rs 6,500 crore tender for buying 400 howitzers under Make-in-India

To promote the indigenously designed and developed weapons, the Indian Army issued a tender for buying 400 howitzers from Indian firms on Friday. Indian Army's Regiment of Artillery is looking to use the expertise of Indian Industry to produce a 155 mm/52 calibre Towed Gun System, which will be lighter, versatile and cater for future technological advancements. "A tender for buying 400, 155-mm 52-calibre towed artillery gun systems (TAGS) along with towing vehicles from Indian firms under the Buy IndianIDDM category has been issued," senior military officials told ANI.

"The firms who have received the tender include local defence majors Bharat Forge, Larsen and Toubro, Adani, and Ordnance Factory Board," they said. The Indian Army has already issued a tender for buying 307 Advanced Towed Artillery Gun Systems (ATAGS) along with one for finding a mounted gun system for its requirements along borders with China and Pakistan. The Indian Designed, Developed and Manufactured howitzer would mean that it would be totally Indian in all ways. The Army wants the guns to be lighter in weight and easier to deploy in highaltitude areas like the older Bofors guns. The procurement process is part of the Army plan for Mediumisation with indigenous guns and is likely to

be completed by the year 2042. In the last decade, four contracts have been concluded for the procurement of a 155 mm howitzer. These Gun Systems have already been inducted and more number of Regiments are being equipped with these guns. In the last decade, four contracts have been concluded for the procurement of a 155 mm howitzer. These Gun Systems have already been inducted and more number of Regiments are being equipped with these guns.

<https://economictimes.indiatimes.com/news/defence/army-issues-rs-6500-crore-tender-for-buying-400-howitzers-under-make-in-india/articleshow/112573675.cms>

THE ECONOMIC TIMES

Sat, 17 Aug 2024

First Defence Minister-led Joint Commanders' Conference to discuss security challenges, future warfare

Defence Minister Rajnath Singh is scheduled to address all the top military commanders during the first ever Joint Commanders' Conference planned to be held on September 4-5 in Lucknow. The conference would be held with the theme "Sashakt aur Surakahit Bharat: Transforming the Armed Forces' (String and Secure India: Transforming the Armed Forces'). The first day of the conference would be addressed by the Chief of Defence Staff, where the topmost defence officer in the country is expected to address the military commanders on how the wars of the future will be fought and how the Indian armed forces will tackle the security challenges through transformation into Theatre Commands, defence sources told ANI.

The Joint Commanders' Conference led by the Defence Minister would be held every year by the forces, while the Combined Commanders' Conference headed by the Prime Minister would be held every two years. The last CCC meeting was held in Bhopal in March 2023 and the next one is expected to be held in March 2025. The second day of the JCC is scheduled to be addressed by the Defence Minister, who is expected to list out all the security challenges facing the country and give out his directives to the forces on the issue. The armed forces under the Defence Ministry carry out their specific roles based on the operational directives of the Defence Minister. The conference will also see presentations being made by the different directorates of the defence forces, including operations, during the conference. The conference will also have discussion on the different Make in India initiatives in the forces and the

progress made by the services. The defence ministry has allocated over 70 per cent of its budget to services for buying made-in-India weapon systems and multiple products have been successfully tested and inducted. The Indian defence forces have learnt from the ongoing conflicts in the Middle East and Russia-Ukraine that indigenisation is the only way the forces can fight long drawn wars without waiting for foreign supplies. The biggest transformation of the defence forces post independence towards the creation of theatre commands will also be on the agenda of the meeting. The initiative being taken forward by the Chief of Defence Staff has seen multiple steps taken by the Department of Military Affairs towards enhancing jointness and creating a common defence culture. A lot of jointness is being seen in the conduct of operations and operations on the ground, like maintenance and common procurement procedures and cases.

<https://economictimes.indiatimes.com/news/defence/first-defence-minister-led-joint-commanders-conference-to-discuss-security-challenges-future-warfare/articleshow/112571527.cms>



Press Information Bureau
Government of India

Sun, 18 Aug 2024

Indian naval ship tabar reaches esbjerg, denmark for a two day visit

Indian Navy's frontline stealth frigate, INS Tabar commanded by Captain MR Harish arrived at Esbjerg, Denmark for a two-day visit. The ongoing visit by INS Tabar to Esbjerg, Denmark aims to enhance the existing bonds between both nations and navies.

During the stay in Esbjerg harbour, the ship's crew will participate in various bilateral professional interactions with the Danish Armed Forces, including cultural exchange. The Indian Navy remains committed to fostering partnerships with navies across the world.

The diplomatic relations between India and Denmark, are based on historical links, common democratic traditions and shared desire for regional, as well as international peace and stability. The bilateral relations were elevated to the level of "Green Strategic Partnership" during the Virtual Summit held between Hon'ble Prime Minister Shri Narendra Modi and Prime Minister of Denmark Ms Mette Frederiksen on 28 Sep 20.

INS Tabar is equipped with a versatile range of weapons and sensors and is among the earliest stealth frigates of the Indian Navy. The ship is part of the Indian Navy's Western Fleet which is based at Mumbai under the Western Naval Command.



<https://pib.gov.in/PressReleasePage.aspx?PRID=2046437>



Press Information Bureau
Government of India

Sat, 17 Aug 2024

Indian Air Force & Indian Army carry out first-of-its-kind precise para-drop of BHISHM critical trauma care cube at 15,000 feet

Indian Air Force (IAF) and Indian Army have jointly carried out a first-of-its-kind precise para-drop operation of the Aarogya Maitri Health Cube at a high-altitude area close to 15,000 feet. These critical trauma care cubes have been indigenously developed under Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri). The operation was conducted in line with Prime Minister Shri Narendra Modi's vision of providing critical supplies to Humanitarian Aid and Disaster Relief (HADR) affected areas.

The IAF utilised its advanced tactical transport aircraft C-130J Super Hercules to airlift and precisely para-drop the cube. The Indian Army's Para Brigade, known for its operational acumen and agility, played an instrumental role in the successful deployment of the trauma care cube, utilising their advanced precision drop equipment. This demonstration underscored the capability of such specialised

military assets to effectively support HADR operations, even in the most remote and mountainous regions. The successful para-drop and deployment of the BHISHM trauma care cube exemplified the synergy & jointness of the Armed Forces and underscored the commitment to providing timely & effective assistance as first responders.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2046219>

THE TIMES OF INDIA

Sat, 17 Aug 2024

With SSLV launch, Isro adds 3rd rocket to commercial kit

Indian Space Research Organisation (Isro) on Friday completed the third and final developmental flight of its Small Satellite Launch Vehicle (SSLV), making it ready for commercial launches and paving way for industry-led manufacturing through its first technology transfer. SSLV-D3 lifted off from the first launch pad at Satish Dhawan Space Centre, Sriharikota at 9.17am and, 13 minutes later, injected two satellites EOS-08, an earth observation satellite, and SR-0 Demosat into a 475km circular low-earth orbit. "The mission is almost a 100% success," said Isro chairman S Somanath. "With this, our SSLV programme is complete. Now we've to manufacture and launch the rocket for commercial purposes."

Isro is exploring two routes for this. One is through NSIL, which will fund and realise the rockets required for commercial purposes, and the other is through technology transfer, which InSpace will handle. SSLV, a 34m rocket (PSLV is 44m) that weighs 119 tonnes, can launch satellites of 10kg to 500kg mass into a 500km planar orbit. Isro officials said the rocket is designed for low turnaround time, costs less, is flexible in accommodating multiple satellites, has feasibility for launch on demand and requires minimal launch infrastructure. SSLV had its first developmental flight on August 7, 2022. "It was a near miss," said the Isro chairman. "The orbit we achieved was slightly shorter. We made corrections, and the second flight went very well. And now, the third." The Isro chief said a team will identify an industry consortium that will work with Isro for two years to understand the technology and realise two vehicles, which will be launched by NSIL.

After that, the technology will be open for industry. "We have cataloged the skills the industry must possess. RFI outlines criteria like manufacturing ability, facility capability, and financial strength, with weighted marks for each. Companies will be shortlisted based on these criteria, and contract will be awarded for a technology transfer fee." The chairman said the second spaceport in Kulasekarapattinam, being built for SSLV launches, will be ready in two years. The Sriharikota spaceport will handle

launches to orbits that require the rocket to fly eastwards. This is to avoid flying over Sri Lanka, the Isro chairman said.

<https://timesofindia.indiatimes.com/india/with-sslv-launch-isro-adds-3rd-rocket-to-commercial-kit/articleshow/112579588.cms>



Fri, 16 Aug 2024

First Gaganyaan test flight launch likely in December: ISRO chief S Somanath

The Indian Space Research Organisation (ISRO) is aiming to launch the first test flight of the Gaganyaan mission by December of this year, said ISRO chairman S Somanath in Sriharikota. The official announcement came after the successful launch of the third and final developmental flight of the SSLV, placing the Earth Observation Satellite into orbit on Friday. Somanath said that some of the rocket hardware for the human space programme has reached the Satish Dhawan Space Centre in Sriharikota and the integration of the crew module was going on at the Vikram Sarabhai Space Centre

"Today, we are working on the first mission of the Gaganyaan called G1. The first unmanned mission. The status today is the rocket, the S200 stage, the L1, C32 stage are all at Satish Dhawan Space Centre," he said.

He said the Crew Module integration was going on at VSSC Trivandrum while Crew Escape hardware was also ready. "So, we have to complete with full wiring and testing should be done. Our target is by November the whole system will reach here, possibly by December launch will happen," he said, responding to a query. Gaganyaan is ISRO's orbital spacecraft, and the mission is the next step towards the Indian Human Spaceflight Programme. The spacecraft is designed to carry three people, while the upgraded version of the same is expected to have docking capabilities. This will be ISRO's first crewed mission, in which the Gaganyaan spacecraft will orbit the Earth at 400 km altitude for up to seven days, with a crew of two or three astronauts on board.

Meanwhile, the Small Satellite Launch Vehicle (SSLV) was launched on Friday, placing the EOS in orbit and achieving a major feat for India's space programme. The success of the third and final developmental flight of the SSLV paves the way for the launch of commercial missions using the smallest vehicle by ISRO's commercial arm NewSpace India Ltd (NSIL).

Some of the unique features of SSLVs are -- they provide low-cost access to Space, offer low turn-around time and flexibility in accommodating multiple satellites, 'launch on demand' feasibility and SSLV missions demand minimal launch infrastructure.

<https://www.hindustantimes.com/india-news/first-gaganyaan-test-flight-launch-likely-in-december-isro-chief-s-somanath-101723815375757.html>

Science & Technology News



Mon, 19 Aug 2024

NASA warns of a 620-foot building-sized asteroid approaching Earth at scary speed today

Nasa has issued a critical warning about a significant near-Earth asteroid, 2024 JV33, which is set to make its closest approach on August 19. This asteroid, comparable in size to a building at approximately 620 feet across, is expected to pass Earth at a distance of about 2,850,000 miles.

Asteroid 2024 JV33 belongs to the Apollo group—a collection of asteroids known for their frequent crossings of Earth's orbit. Hurling through space at an impressive speed of 24, 779 miles per hour, this asteroid will be relatively close to our planet, though still three times farther away than the Moon. In astronomical terms, this proximity is noteworthy enough for NASA to maintain vigilant surveillance.

To provide some perspective, despite its significant distance, 2024 JV33 is classified as a near-Earth object (NEO), necessitating careful observation. NASA's ongoing tracking efforts ensure that we remain aware of any potential space threats. NASA's Persistent Vigilance on Near-Earth Objects. NASA, together with various space agencies, employs a sophisticated network of telescopes and advanced computing systems to monitor near-Earth objects. While the majority of these NEOs remain safely away from Earth, those that venture within 7.5 million kilometres and exceed 460 feet (140 metres) in size receive heightened scrutiny. The Centre for Near-Earth Object Studies (CNEOS) at NASA is dedicated to closely observing these space rocks, assessing any risks they may present. This meticulous

monitoring is crucial for understanding and preparing for any potential cosmic hazards that could impact our planet.

<https://www.moneycontrol.com/science/nasa-warns-of-a-620-foot-building-sized-asteroid-approaching-earth-at-scary-speed-today-article-12800069.html>



Sat, 17 Aug 2024

NASA captures stunning image of NGC 6496, a 10-billion-year-old star cluster

A 10-billion-year-old globular cluster of stars known as NGC 6496, which the National Aeronautics and Space Administration (NASA) refers to as 'heavy metal,' has been captured in a photograph by the space agency. Compared to stars in other clusters of a similar kind, the stars that make up this remarkable spherical cluster have far greater metal amounts. Scottish astronomer James Dunlop discovered NGC 6496 in 1826 and these clusters are located around 35,000 light-years from Earth in the southern constellation of Scorpius. According to NASA, a variety of long-period variables, or massive pulsing stars, may be found in NGC 6496. These stars' brightness can fluctuate for up to several thousand days. The NGC 6496 contains short-period eclipsing binaries, in which two stars pass in front of one another and cause a dimming of the brightness. Astronomers may collect measurements of these stars' mass, radius, brightness, temperature, composition, and development from their variability, which can provide valuable information that would be challenging or impossible to get from other sources. Initially, NGC 6496 was thought to belong to the globular clusters GC disc system; however, several scientists have since questioned this categorisation.

Alternatively, they proposed that NGC 6496 may be sharply inclined to orbit halo clusters. A globular cluster is a gravitationally bound spheroidal group of stars having a larger concentration of stars in the centre. It has a gravitational pull so strong that stars are held closely together. According to NASA's description of the image, the picture shows a virtually full blanket of space's blackness from sparkling stars of various sizes. Some stars appear yellow, while several have an eerie blue hue. It also said that several of the stars have diffraction spikes.



<https://www.cnbctv18.com/india/science/nasa-captures-stunning-image-of-ngc-6496-a-10-billion-year-old-star-cluster-19461220.htm>

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