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समाचार पत्रों से चयित अंश
Newspapers Clippings

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

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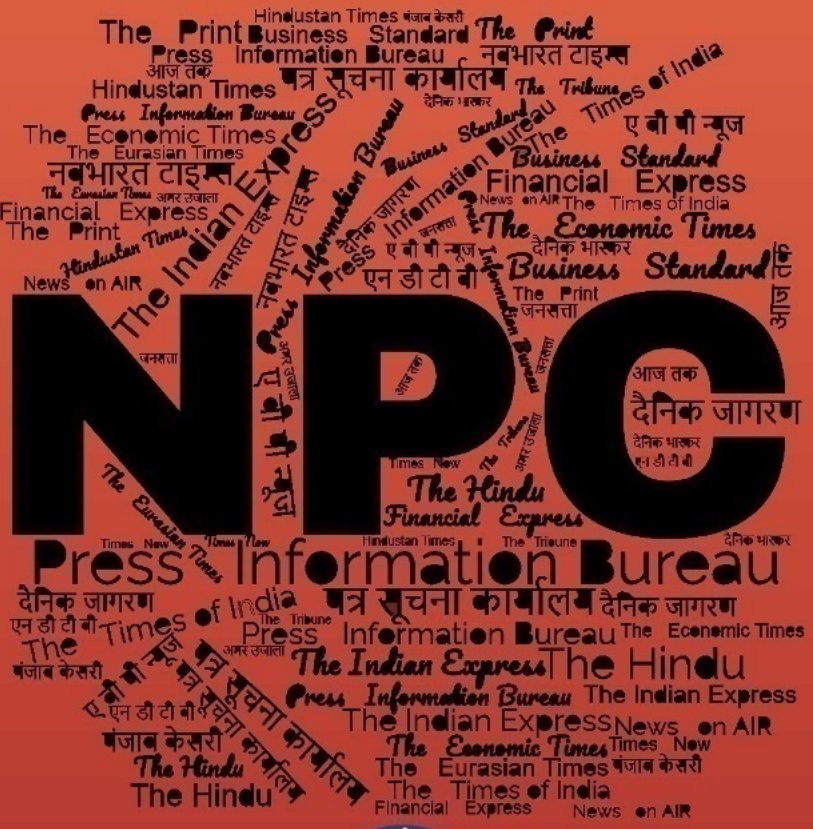

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DD NEWS

Wed, 29 May 2024

डीआरडीओ ने हवा से सतह पर मार करने वाली RudraM–II मिसाइल का किया सफलतापूर्वक परीक्षण

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने आज (बुधवार) लगभग 11 बजकर 30 मिनट पर भारतीय वायु सेना (आईएएफ) के सुखोई–30 एमके–I प्लेटफॉर्म से हवा से सतह पर मार करने वाली RudraM–II मिसाइल का ओडिशा के तट पर सफलतापूर्वक परीक्षण किया। इस महत्वपूर्ण परीक्षण ने प्रपल्शन प्रणाली और नियंत्रण एवं पथप्रदर्शन से संबंधित आंकड़ों की सटीकता पर खरा उतरने के साथ परीक्षण के सभी उद्देश्यों को पूरा किया।

इस मिसाइल परीक्षण के दौरान प्रत्येक गतिविधि को ऑन–बोर्ड जहाज सहित विभिन्न स्थानों पर चांदीपुर के एकीकृत परीक्षण रेंज द्वारा तैनात इलेक्ट्रो–ऑप्टिकल सिस्टम, रडार तथा टेलीमेट्री स्टेशनों जैसे रेंज ट्रैकिंग उपकरणों के माध्यम से प्राप्त किए गए आंकड़ों से मान्य किया गया है।

रक्षा मंत्रालय के अनुसार RudraM–II एक स्वदेशी रूप से विकसित ठोस ईंधन से चलने वाली वायु–प्रक्षेपित मिसाइल प्रणाली है, जो शत्रु के कई प्रकार के हथियारों को नष्ट करने के लिए हवा से सतह पर मार करने में सक्षम है। इस मिसाइल प्रणाली में रक्षा अनुसंधान एवं विकास संगठन की विभिन्न प्रयोगशालाओं द्वारा विकसित की हुई कई अत्याधुनिक स्वदेशी तकनीकों का इस्तेमाल किया गया है।

रक्षा मंत्री राजनाथ सिंह ने RudraM–II के सफल परीक्षण पर रक्षा अनुसंधान एवं विकास संगठन, भारतीय वायु सेना और रक्षा उद्योग जगत को बधाई दी है। उन्होंने कहा कि सफल परीक्षण ने सशस्त्र बलों के लिए शक्ति गुणक के रूप में RudraM–II प्रणाली की भूमिका को सशक्त बनाया है।

रक्षा अनुसंधान एवं विकास विभाग के सचिव और रक्षा अनुसंधान एवं विकास संगठन के अध्यक्ष डॉ. समीर वी कामत ने सफलतापूर्वक परीक्षण करने के लिए डीआरडीओ की टीम को उनके अथक प्रयासों एवं योगदान करने हेतु सराहना की।

https://ddnews.gov.in/drdo–from–air–to–surface/

Press Information Bureau
Government of India

Ministry of Defence

Wed, 29 May 2024

RudraM-II air-to-surface missile successfully flight-tested by DRDO from Su-30 MK-I off the Odisha coast

Defence Research & Development Organisation (DRDO) successfully flight-tested the RudraM-II air-to-surface missile from Su-30 MK-I platform of the Indian Air Force (IAF) off the coast of Odisha at around 1130 hours on May 29, 2024. The flight-test met all the trial objectives, validating the propulsion system and control & guidance algorithm. The performance of the missile has been validated from the flight data captured by range tracking instruments like electro-optical systems, radar and telemetry stations deployed by Integrated Test Range, Chandipur at various locations, including the on-board ship.

RudraM-II is an indigenously-developed solid-propelled air-launched missile system meant for Air-to-Surface role to neutralise many types of enemy assets. A number of state-of-the-art indigenous technologies developed by various DRDO laboratories have been incorporated in the missile system.

Raksha Mantri Shri Rajnath Singh congratulated DRDO, IAF and industry on the successful test-flight of RudraM-II. The successful test has consolidated the role of the RudraM-II system as a force multiplier to the Armed Forces, he said.

Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat complimented the DRDO team for their untiring efforts and contribution culminating into the successful flight test.

https://pib.gov.in/PressReleasePage.aspx?PRID=2022076

Defence News

Defence Strategic: National/International

Press Information Bureau
Government of India

Ministry of Defence

Wed, 29 May 2024

Indian Army Commemorates 76th International Day Of Un Peacekeepers

The Indian Army commemorated the 76th International Day of United Nations (UN) Peacekeepers, today, by paying homage to the fallen comrades by laying a wreath at the National War Memorial, New Delhi. Lieutenant General Rakesh Kapoor, Deputy Chief of the Army Staff (Information Systems & Coordination), officials of United Nations Organisation, Staff from Ministry of Defence and Ministry of External Affairs laid wreaths. This is the day when in 1948 the first UN Peacekeeping Mission, "UN Truce Supervision Organisation (UNTSO)" began operations in Palestine.

Each year on this day, the UN and countries across the globe pay rich tributes to the professionalism, dedication and courage of men and women who have served/ are serving in UN Peacekeeping Missions. This day also honours the memory of sacrifices of those who have laid down their lives for the cause of peace.

India has a rich legacy of contribution to UN Peacekeepers operations and is one of the largest contributors of troops. India has contributed services of approximately 2,87,000 troops to peacekeeping missions. Indian Army personnel have operated under difficult, challenging terrain and operational conditions and have displayed exemplary courage and valour, to the extent of making the supreme sacrifice to uphold the UN mandates.

It is noteworthy that 160 Indian Army soldiers have made the supreme sacrifice to ensure peace across the globe. Presently, Indian Armed Forces are deployed across nine countries in peacekeeping missions, namely UNDOF, UNIFIL, UNTSO, UNFICYP, MONUSCO, UNMISS, UNIFSA, MINUSCA and MINURSO.

India has been at the forefront of capacity development for the UN, host nations and partner nations. India has always strived to support UN initiatives by providing agile and flexible units, peacekeeper training, logistic support, enhancing gender parity and contributing to technological

enhancements. India has provided active support for host nation capacity development by providing training, infrastructure development and Civil Military Coordination (CIMIC) activities. In addition, Veterinary Detachments of the Indian Army have displayed noteworthy performance in various UN Missions.

Efforts made to bring a significant improvement in the health of livestock in Abyei by Lieutenant Colonel Gurpreet Singh Bali, Commander of the Veterinary Detachment in Sudan were appreciated by the UN Headquarters.

The Indian Army has established a Centre for UN Peacekeeping (CUNPK) in New Delhi to impart niche training in peacekeeping operations. This Centre trains more than 12,000 troops every year. CUNPK undertakes a multitude of activities from contingent training to national and international courses for potential peacekeepers and trainers.

It also hosts foreign delegations as part of sharing best practices. The Centre regularly dispatches Mobile Training Teams to Friendly Foreign Countries as part of capacity building in the field of UN peacekeeping training. The Institute has evolved in the last two decades as a Centre of Excellence and repository of experience and best practices.

In order to ensure operational efficiency and sustainability of Indian contingents in UN missions, the Indian Army has deployed state-of-the-art equipment and vehicles.

These vehicles and equipment are manufactured in India and have successfully withstood the vagaries of difficult terrain, weather and operational conditions in the mission areas.

The UN has set out mandated targets to increase the participation of women peacekeepers as part of its gender parity drive to better address the concerns of the local women population in the missions. In full support of the UN's noble initiative and in sync with Nari Shakti initiative, India has deployed Female Engagement Teams (FETs) in Democratic Republic of Congo and Abyei (the second-largest Indian women contingent after Liberia).

India has also deployed women military police in Golan Heights and women Staff Officers/ Military Observers in various missions. The contribution towards other missions has also been increased as per roll on plan.

Major Radhika Sen has been selected to be awarded with “Military Gender Advocate of the Year 2023” by the UN Headquarters, which is a testament to the positive contribution of the Indian Women in the UN peacekeeping initiatives.

During the UN Peacekeeping Ministerial held at Accra, Ghana on 05-06 December 2023, India has re-affirmed its commitment towards future peacekeeping initiatives by the UN. During the meet, India has pledged an Infantry Battalion Group, various sub-groups, UN Pre-Deployment Training of Trainers Course and UN Military Observers Course for the next two years, to meet the requirements of the UN.

https://pib.gov.in/PressReleasePage.aspx?PRID=2022052

Press Information Bureau
Government of India

Ministry of Defence

Wed, 29 May 2024

Delivery Of Sixth Ammunition Cum Torpedo Cum Missile Barge, LSAM 20 (Yard 130)

The delivery of 'Ammunition Cum Torpedo Cum Missile Barge, LSAM 20', 6th Barge of 11 x ACTCM Barge Project, built by MSME Shipyard, M/s Suryadipta Projects Pvt Ltd, Thane for Indian Navy, was undertaken on 29 May 24 at Naval Dockyard, Mumbai for NAD(Karanja). The Induction Ceremony was presided over by Cmde Nadella Ramana, GMR, ND(Mbi).

The contract for building 11 X ACTCM Barge was signed between MoD and M/s Suryadipta Projects Pvt Ltd, Thane on 05 Mar 21. Induction of these Barges would provide impetus to operational commitments of IN by facilitating Transportation, Embarkation and Disembarkation of articles/ ammunition to IN Ships both alongside jetties and at outer harbours.

These Barges are indigenously designed and built under relevant Naval Rules and Regulation of Indian Register of Shipping. The model testing of the Barge during the design stage was undertaken at Naval Science and Technological Laboratory, Visakhapatnam. These Barges are proud flag bearers of Make in India initiative of Government of India.

https://pib.gov.in/PressReleasePage.aspx?PRID=2022150

Press Information Bureau
Government of India

Ministry of Defence

Wed, 29 May 2024

Indian Naval Ship Kiltan Departs Brunei

Participates in a IN – RBN Maritime Partnership Exercise

Indian Naval Ship Kiltan visited Muara, Brunei as part of Operational Deployment of the Indian Navy's Eastern Fleet to South China Sea. The visit demonstrated India's commitment to further deepen relations between both maritime nations.

The port call included professional interactions, cross deck visits and cultural exchanges. The ship was also open for visitors wherein, members of Indian diaspora and Royal Brunei Navy personnel visited the ship. They were briefed about the ship, India's indigenous shipbuilding capabilities and rich maritime heritage. To bolster esprit de corps, volleyball was played between personnel from the Indian Navy and Royal Brunei Navy. The ship also participated in a IN – RBN Maritime

Partnership Exercise. This will enhance understanding of each other's tactics, techniques and procedure to further reinforce interoperability.

The successful completion of this port call is a demonstration of India's commitment for maintenance of peace and stability in the region in consonance to its 'Act East' and SAGAR policies.

https://pib.gov.in/PressReleasePage.aspx?PRID=2022105

JANES

Wed, 29 May 2024

Indian Army seeks hydrogen fuel for mobility vehicles

The Indian Army has signed a memorandum of understanding (MOU) with Indian Oil Corporation Limited (IOCL) to develop and deploy hydrogen fuel cell technology in its heavy-duty mobility vehicles, the company said in a press release on 27 May.

According to IOCL, it also delivered a hydrogen fuel cell bus to the Indian Army during the "handing over and [MOU] signing ceremony" held at the National War Memorial in New Delhi.

During the event, Chief of the Army Staff General Manoj Pande said, "The Indian Army is committed to exploring and adopting innovative technologies that enhance our operational capabilities while ensuring environmental sustainability."

Gen Pande added that the Indian Army will evaluate the hydrogen bus delivered by IOCL.

According to a press release by the Indian Ministry of Defence (MoD), hydrogen fuel cell technology "offers a clean and efficient alternative by converting hydrogen gas into electricity through an electrochemical process".

The process leaves water vapour as the only by-product, "thus ensuring zero emission", the MoD said.

According to the MoD, the hydrogen fuel cell bus has a seating capacity of 37 passengers and a mileage of 250–300 km on a full 30 kg onboard tank of hydrogen fuel.

The Indian Army has been taking various initiatives to become a 'green army' since 2022.

In February the Indian Army proposed the phased induction of electric vehicles in 'peace stations' across the country.

https://www.janes.com/defence-news/news-detail/indian-army-seeks-hydrogen-fuel-for-mobility-vehicles#:~:text=The%20Indian%20Army%20has%20signed,press%20release%20on%2027%20May.

Business Standard

Wed, 29 May 2024

Major 'make in India' defence deals including K-9 Vajra on Centre's agenda

Several crucial 'Made in India' defence projects including the proposal for buying more K-9 Vajra self-propelled howitzers and fighter aircraft engines will be on the Centre's agenda for final approval after the elections.

The deals were planned to be taken up for approval in March this year but all projects were postponed for decision after elections.

"K-9 Vajra howitzers, engines for the Su-30 MKi fighter aircraft engines and many research and development projects are on the agenda for the Cabinet Committee on Security," a defence official told ANI.

The defence public sector undertaking Hindustan Aeronautics Limited would be involved in the production of these engines which would be worth around Rs 20,000 crore.

The HAL manufactures these engines for the Su-30 MKI combat aircraft at its facility in Koraput in Odisha and it has a lot of indigenisation.

The engines are taken by the Indian Air Force at regular intervals for their planes but the requirements have accumulated in view of the pandemic and other developments at the international level.

The Centre is also expected to take up the proposal for buying 100 more K-9 Vajra SP howitzers in view of demand by the Indian Army.

The Indian Army had inducted these guns initially to meet its requirements in the plains and desert sector, but now it has been used successfully in the Ladakh sector by the force.A number of defence research and development programmes of the DRDO are also in the pipeline for clearance and final approval by the government.

The Centre had cleared the projects to buy 61 close-in weapon systems and High Powered Radars in its last meeting before the announcement of the model code of conduct came into force.

The Defence Ministry and the Army, Navy along with the Indian Coast Guard have also given their proposals to the government for inclusion in the 100 days and the 6-month agenda.Top government functionaries have also made it clear that the work will flow out soon after the poll process is completed.

Mega Indigenous deals like the Rs 65,000 crore worth 97 LCA Mark 1A aircraft programme are also in progress.

https://www.business-standard.com/external-affairs-defence-security/news/major-make-in-india-defence-deals-including-k-9-vajra-on-centre-s-agenda-124052901320_1.html

THE ECONOMIC TIMES

Wed, 29 May 2024

China enhances military support to Pakistan along LoC in Kashmir

Pakistan's key ally China has been actively bolstering the defence capabilities of the Pakistani army along the Line of Control (LoC) in Jammu and Kashmir over the past three years which includes the construction of steelhead bunkers and the provision of Unmanned Aerial and Combat Aerial Vehicles, officials said on Wednesday.

Chinese assistance also extends to the installation of highly encrypted communication towers and the laying of underground fibre cables along the LoC. Moreover, advanced radar systems of Chinese origin, such as the 'JY' and 'HGR' series, have been deployed to enhance medium and low altitude target detection capabilities, providing crucial intelligence support for army and air defence units, they said. Additionally, the presence of the SH-15, a 155 mm truck-mounted howitzer gun manufactured by a Chinese firm, has been noticed at various locations along the LoC.

This move is seen as part of efforts to strengthen China's ties with Pakistan and safeguard Chinese investments in Pakistan-occupied Kashmir, particularly related to the China-Pakistan Economic Corridor (CPEC). Though the presence of senior PLA officials at forward posts, as was detected in 2014, was not found, some intercepts suggested that Chinese troops and engineers were setting up infrastructure along the LoC, including building underground bunkers, officials said.

Chinese experts were engaged in tunnel construction in the Leepa Valley of Pakistan-occupied Kashmir (PoK), signalling preparations for an all-weather road to connect with the Karakoram highway, they said. This strategic move is linked to Beijing's ambitious 46-billion-dollar CPEC project, aiming to establish a direct route between Gwadar Port in Pakistan and Xinjiang province in China through the Karakoram highway, an area under the illegal occupation of China.

In 2007, a Chinese telecom company had taken over a Pakistani telecom company and formed China Mobile Pakistan (CMPak) -- a 100 per cent owned subsidiary of China Mobile Communications Corporation. In August 2022, the Pakistan Telecommunication Authority (PTA), while renewing the mobile licence of CMPak (Zong) for PoK, gave permission to expand Next Generation Mobile Services (NGMS) in the region.

While the Indian Army has maintained silence on the matter, intelligence agencies are reportedly being kept informed of the developments. The continued presence of Chinese military personnel in the region has raised concerns, with India voicing objections to Chinese activities in Gilgit and Baltistan areas in the past.

As tensions persist, India remains vigilant and prepared to thwart any potential threats emanating from across the border, officials said.

https://economictimes.indiatimes.com/news/defence/china-enhances-military-support-to-pakistan-along-loc-in-kashmir/articleshow/110532474.cms

Business Standard

Wed, 29 May 2024

Rafale M fighter deal: How navy's Rafale will be different from air force's

India and France are scheduled to begin contract negotiations in the over Rs 50,000-crore deal for 26 Rafale Marine, or Rafale M, fighter jets on May 30, after the arrival of a high-level French team.

If and when completed, the Rafale M deal will see the Indian Navy operate these aircraft from its two aircraft carriers -- INS Vikrant and INS Vikramaditya, news agency ANI reported, citing defence ministry officials. The news of the impending negotiations was also broken by the agency on Tuesday.

At present, the INS Vikramaditya and INS Vikrant operate with the Russian Mikoyan MiG-29K fighter aircraft.

Latest developments in Rafale M fighter jet deal

The Indian government will try to complete the negotiations with France and sign the agreement for the jets by the end of this financial year, added the report, citing unnamed government sources.

In a further indication of the deal's urgency, the report said that the Navy Chief has directed his team to ensure that the deal's timeframe is reduced significantly to ensure early induction of the aircraft.

Having carried out a detailed study of the French bid, submitted in December, India will reportedly conduct tough negotiations with French government officials for the government-to-government contract for the Rafale M.

How is Rafale M different from IAF Rafale?

France completed the delivery of all 36 Rafale jets to the Indian Air Force (IAF) in December 2022. India had ordered the combat aircraft from France in a Rs 59,000-crore government-to-government deal in September 2016.

For its navy, India selected the Rafale M over the American-made Boeing F/A-18 Super Hornet. One of the advantages of going for the Rafale M is its commonality with the IAF's Rafale jets, which could reduce costs related to spares and maintenance.

"The Air Force single-seat Rafale C, the Air Force two-seat Rafale B, and the Navy single-seat Rafale M feature maximum airframe and equipment commonality, and very similar mission capabilities," says Dassault Aviation, the aircraft's manufacturer. Both the IAF version and Rafale M share about 80 per cent of their components.

All the Rafale variants also belong to the 4+ generation of fighter aircraft, meaning that they are outfitted with advanced avionics and some capabilities that would be found on fifth-generation jets.

However, the Rafale M aircraft that could be bought for the navy under the latest deal will still possess some key differences compared to the IAF's Rafale variant.

The Rafale M is a single-seat aircraft capable of performing a wide range of missions, including deep strikes, air defence, and reconnaissance. Like its IAF cousin, the Rafale M is also described as an "omnirole aircraft" by Dassault Aviation, meaning that it can conduct both air-to-air and air-to-ground missions simultaneously.

However, the Rafale M is designed to operate from aircraft carriers. This is possible because of various modifications, including a reinforced undercarriage, strengthened landing gears, and a longer and strengthened nose.

The Rafale M's reinforced undercarriage allows it to handle the stresses of landing on a carrier deck. It also possesses a tail hook for arrested landings and what's described as a "jump strut" nosewheel that only extends during short takeoffs, including when the aircraft is launched using a catapult.

The Rafale M also has a built-in ladder that allows the pilot to access its cockpit from the carrier deck, along with a carrier-based landing system. The Rafale M also has foldable wings due to the limited real estate on aircraft carriers.

Due to these modifications, the Rafale M is also slightly heavier than the air force Rafale.

Both the IAF's existing Rafales and the latest standard of the Rafale M are equipped with an active electronically scanned array (AESA) radar, the RBE2 radar developed by Thales. However, the radar on the Rafale M is optimised for maritime operations.

Both variants are also equipped with the same Thales SPECTRA internal electronic warfare system, which is also optimised for maritime operations on the Rafale M.

The Rafale M also has a new system for syncing its inertial navigation system to external equipment.

Both the air force variant and the Rafale M can carry armaments like the long-range Meteor air-to-air (A2A) missile, MICA A2A missile, HAMMER air-to-surface stand-off weapon, SCALP long-range stand-off missile, AM39 EXOCET anti-ship missile, and laser-guided bombs.

Can the Rafale M operate from Indian carriers?

Originally, the Rafale M was designed to operate from CATOBAR–equipped aircraft carriers.

CATOBAR stands for catapult-assisted take-off, barrier-arrested recovery. Such a system uses catapults to launch aircraft from the carrier and arrestor wires during their landing.

France operates the Rafale M from its only aircraft carrier, the Charles de Gaulle, which is equipped with the CATOBAR system.

However, the Indian Navy operates two 45,000-tonne aircraft carriers, the INS Vikramaditya and the INS Vikrant. Both are conventionally-powered carriers that use ski-jump ramps to assist aircraft takeoffs.

This challenge has been overcome, with the Rafale M having successfully demonstrated its ability to carry out a ski-jump from the shore-based test facility (SBTF) at INS Hansa, in Goa. The Rafale M was selected by the Indian Navy after rigorous testing at the SBTF facility in Goa.

The developments in the Rafale M deal come days after China's third aircraft carrier, the Fujian, returned after completing its eight-day maiden test voyage. At present, China operates two conventionally-powered, ski-jump ramp aircraft carriers, the 60,000 tonne-class Liaoning and Shandong. Unlike its predecessors, the 80,000 tonne-class Fujian is equipped with three electromagnetic catapults to launch aircraft.

Once operational, the Fujian will be able to deploy up to 70 aircraft, including J-15 fighter aircraft.

A catapult launch system allows a carrier to deploy fixed-wing airborne early warning aircraft, launch heavier aircraft and to do so more efficiently. A catapult launch also means the carrier's jets can carry heavier payloads.

https://www.business-standard.com/external-affairs-defence-security/news/rafale-m-fighter-deal-how-will-navy-s-rafale-be-different-from-air-force-s-124052901257_1.html

THE HINDU

Wed, 29 May 2024

Army expo concludes in Coimbatore

On May 29, 2024, the second and final day of the Army Expo in Coimbatore, people waited in a long queue to see the artillery and Army equipment on display; students took selfies with the Defence personnel; children clapped and cheered the soldiers who performed drills; and the industry had discussions on supplying to the Defence. “We are not celebrities. Yet, so many people wanted to take photos with us. This is like a Thiruvizha,” remarked one of the officers.

While the public, especially school and college students, learnt more about the Indian Army at the two-day Southern Star Army Academia Industry Interface (Army Expo) in Coimbatore, about 60 MSME engineering industries had a detailed discussion with the Defence Public Sector Undertakings (DPSUs) and the Army on the opportunities to be a part of the indigenisation programme of the Defence forces.

The meeting of the MSMEs lasted for more than an hour and the industries now have contacts at the DPSUs. The Army personnel and the DPSU officials visited the stalls and some of them the factories too. The main demand is for spares, said V. Sundaram, a director of the CODISSIA Defence Innovation and Atal Incubation Centre.

There is an online platform for the industries to present innovative products to the Defence forces. If the forces find it useful they can mentor the industries to develop the product for deployment, he added. Biggen Technology demonstrated their unmanned aerial vehicle helicopters (versions 1.0 and 2.0), which are currently used only in the Central and State governments’ sectors.

https://www.thehindu.com/news/cities/Coimbatore/army-expo-concludes-in-coimbatore/article68229503.ece

ThePrint

Wed, 29 May 2024

Italy's Leonardo returns to Indian aviation market, focuses on civil orders for helicopters

Leaving the ghosts of the VVIP chopper scam behind, Italian aviation giant Leonardo, earlier known as Finmeccanica, has re-entered the Indian aviation market eyeing the civil aerospace sector.

Universal Vulkaan Aviation Pte. Limited, its sole distributor in India, will now bring the latest range of Leonardo helicopters to the civil aviation market.

After already signing the pre-sales contract for 5 units of AW 09 helicopters in January, the Indian distributor has ordered 11 units of types AW109 Trekker, AW139, and AW169 from the Leonardo's range to serve the growing needs of this sector.

This is in addition to the 14 helicopters that were purchased by the Vulkaan Group from the pre-owned market, which include the AW 119 Kx and AW 109 Trekker. This will bring the available inventory to 30 machines, the company said in a statement.

Stefano Villanti, SVP Sales and Marketing at Leonardo Helicopters said his company is committed to competitiveness in the VIP-Corporate market, with strong interest in both multi-engine and new AW09 single-engine helicopters.

"We are extending our reach to a wider range of users and are extremely pleased with the acceptance of our modern, safe, and sustainable technology. Our new Indian distributor, Universal Vulkaan Aviation Pte Limited has signed a contract for three twin-engine helicopters (one AW109 GrandNew, one AW169, and one AW139) and preliminary sales contracts for five AW09s as part of a larger agreement for 11 twin-engine helicopters slated for delivery over the next three years," he said.

"This partnership highlights our commitment to providing cutting-edge solutions for India's rapidly growing civil aviation market."

Way back in 2014, Leonardo (then Finmeccanica) found itself embroiled in the VVIP helicopter bribery scam involving AgustaWestland helicopters and was subsequently banned. This significantly impacted the company's presence in the Indian market.

In November 2021, India formally lifted the ban on AgustaWestland and its parent company Leonardo, paving the way for them to take part in the multiple ongoing projects and bid for upcoming defence contracts.

While the ban was lifted, the probe by the Central Bureau of Investigation (CBI) and the Enforcement Directorate (ED) continues in the Rs 3,600 crore VVIP chopper scam in which chargesheets have been filed.

The 2014 ban led to the company's exclusion from several key projects, including multiple naval helicopter deals, where it had products to compete with others.

The Italian firm also went through a global re-branding exercise and changed its name from the scam-tainted Finmeccanica to Leonardo in 2016. Headquartered in Italy, Leonardo products and solutions are used in over 150 countries worldwide.

https://theprint.in/defence/italys-leonardo-returns-to-indian-aviation-market-focuses-on-civil-orders-for-helicopters/2106786/

ThePrint

Wed, 29 May 2024

UN award for peacekeeper Naik Dhananjay Kumar Singh who died while on Congo mission

Indian peacekeeper Naik Dhananjay Kumar Singh will be honoured posthumously by United Nations secretary general Antonio Guterres with the Dag Hammarskjold medal in recognition for his service with the UN Stabilization Mission in the Democratic Republic of Congo (MONUSCO).

The award will be conferred 30 May when the UN commemorates the International Day of United Nations Peacekeepers.

Naik Singh is among the 61 military, police and civilian peacekeepers to be honoured posthumously with the prestigious medal. On 1 November last year, Naik Singh died due to ischemic heart disease while on duty.

He was from the Army Medical Corps, which primarily provides medical services to army personnel. Serving as a nursing assistant, Naik Singh was made part of the Indian Battalion-1 on 7 July 2023.

Naik Singh imparted medical training on basic life support and combat medical care, and was responsible for timely medical examination and vaccination of troops. In the mission area, he was instrumental in functioning of Level-1 hospital ensuring round-the-clock operability of critical care and medical support.

UN Peacekeeping is aimed at reducing the conflict and bringing peace in those countries that are engulfed in violence. Currently, there are 11 peacekeeping operations ongoing in the world, with MONUSCO in Democratic Republic of Congo being one of them.

The mission was established in July 2010 and is headquartered at Kinshasa. The number of personnel belonging to all nationalities currently serving in this mission are 17,761 as of February 2024, of which 16,316 are uniformed personnel, including those from military, police as well as personnel of formed police units.

In this mission, India is the second highest troop contributor with 1,817 personnel serving in Congo, while Pakistan tops the list with 1,908 active personnel. When it comes to police

contribution, India stands at the fifth place with 139 personnel. As many as 275 personnel belonging to all nationalities have died while serving in Congo.

The mission’s mandate, according to the UN Peacekeeping website, is aimed at the protection of civilians, humanitarian personnel and human rights defenders in view of “imminent threat of physical violence and to support the Congo government in its stabilisation and peace consolidation efforts”.

https://theprint.in/defence/un-award-for-peacekeeper-naik-dhananjay-kumar-singh-who-died-while-on-congo-mission/2106672/

Science & Technology News

THE ECONOMIC TIMES

Wed, 29 May 2024

After four failed attempts, space startup Agnikul Cosmos carries out successful sub-orbital launch of Agnibaan rocket

After four failed attempts, Chennaibased space start-up Agnikul Cosmos on Thursday successfully carried out a sub-orbital test-flight of its home-built 3D-printed semi-cryogenic rocket -- Agnibaan -- from its own launch pad at Sriharikota, making it India's second private entity to do so.

The private company to achieve the feat was Skyroot Aerospace, which launched the Vikram S in November 2022. The Agnilet engine is the world's first single-piece 3D-printed semi-cryogenic rocket engine. The mission will last just over two minutes from launch to splashdown.

"Humbled to announce the successful completion of our first flight - Mission 01 of Agnibaan SOrTeD - from our own and India’s first & only private Launchpad within SDSC-SHAR at Sriharikota. All the mission objectives of this controlled vertical ascent flight were met and performance was nominal.

The vehicle was completely designed in-house and was powered by the world’s first single piece 3d printed engine and also happens to be India’s first flight with a semi cryo engine," said Agnikul Cosmos on the launch.

The test-flight on Thursday was carried out without any live-streaming and in presence of fewer dignitaries at the Sriharikota launch pad located within ISRO's Satish Dhawan Space Centre. "Congratulations @AgnikulCosmos for the successful launch of the Agnibaan SoRTed-01 mission from their launch pad. A major milestone, as the first-ever controlled flight of a semi-cryogenic liquid engine realised through additive manufacturing," the ISRO said in a post on X.

Elated at the successful launch of Agnibaan SOrTeD by @AgnikulCosmos ! A historic moment for India's space sector. Powered by the world's first single piece 3D printed semi-cryogenic engine,

this achievement showcases the brilliance of our young innovators," Pawan Goenka, Chairman, Indian National Space Promotion and Authorisation Centre (IN-SPACe), said on X. This was the fifth attempt by Agnikul to launch the Agnibaan Sub-Orbital Technology Demonstrator (SOrTeD) since March 22.

"This is a huge boost and a proud moment for India's thriving private space industry and just a glimpse into what the future holds for us, our hearty congratulations to the entire team behind this and best wishes for their future efforts," Lt Gen A K Bhatt (retd) Director General, Indian Space Association (ISpA) said.

About Agnikul's Agnibaan:

Agnibaan is a customisable, two-stage launch vehicle that can carry a payload of up to 300 kg into orbit of about 700 km, according to the company. Among many firsts, the private space start-up in its rocket used a semicryogenic engine with a mix of liquid and gas propellants. The said technology is yet to be demonstrated by the Indian Space Research Organisation (ISRO) in any of its rockets.

The SOrTeD mission is a single-stage launch vehicle demonstration that will be powered by a semi-cryogenic engine, the Agnilet, a sub-cooled liquid oxygen-based propulsion system developed indigenously. The start-up has readied the vehicle with the first-ever ethernet-based avionics architecture and fully in-house developed autopilot software from India.

Powered by sub-cooled Liquid Oxygen (LOX) and Aviation Turbine Fuel (ATF), the vehicle is equipped with four carbon composite fins to provide passive control. Following lift-off, the vehicle is expected to perform a pitch-over manoeuvre nearly four seconds into flight.

This manoeuvre involves the controlled rotation of the vehicle to change its orientation from vertical to a predetermined angle with respect to the ground or its flight path. The vehicle will then go into the wind-biasing manoeuvre at just over 39 seconds, which is introduced in rockets to compensate for the effects of wind on the trajectory of the rocket during ascent.

At 1 minute 29 seconds, the launch vehicle is expected to reach apogee, the point it will be farthest from the launch site before it splashes down at just over two minutes into the flight, marking the completion of the mission.

Agnikul, whose name is derived from the Hindi and Sanskrit work for fire, was founded in 2017 and runs India's first private launchpad and mission control centre. All other launchpads are operated by ISRO. Among other feats, India now aims to set up 'Bharatiya Antariksha Station' by 2035, and send the first Indian to the Moon by 2040.

https://economictimes.indiatimes.com/news/science/after-four-failed-attempts-space-startup-agnikul-cosmos-successfully-carries-successful-sub-orbital-launch-of-agnibaan-rocket/articleshow/110550279.cms

THE HINDU

Wed, 29 May 2024

World's first wooden satellite built by Japan researchers

The world's first wooden satellite has been built by Japanese researchers who said their tiny cuboid craft will be blasted off on a SpaceX rocket in September. Each side of the experimental satellite developed by scientists at Kyoto University and logging company Sumitomo Forestry measures just 10 centimetres (four inches).

The creators expect the wooden material will burn up completely when the device reenters the atmosphere -- potentially providing a way to avoid the generation of metal particles when a retired satellite returns to Earth. These metal particles could have a negative impact on the environment and telecommunications, the developers said as they announced the satellite's completion on Tuesday. "Satellites that are not made of metal should become mainstream," Takao Doi, an astronaut and special professor at Kyoto University, told a press conference.

The developers plan to hand the satellite, made from magnolia wood and named LignoSat, to space agency JAXA next week. It will be sent into space on a SpaceX rocket from the Kennedy Space Center in September, bound for the International Space Station (ISS), they said. From there, the satellite will be released from the Japanese ISS experiment module to test its strength and durability.

"Data will be sent from the satellite to researchers who can check for signs of strain and whether the satellite can withstand huge changes in temperature," a Sumitomo Forestry spokeswoman told AFP on Wednesday. Also on Tuesday, a rocket carrying a separate sophisticated satellite -- a collaboration between the European Space Agency (ESA) and JAXA -- blasted off from California on a mission to investigate what role clouds could play in the fight against climate change. The EarthCARE satellite will orbit nearly 400 kilometres (250 miles) above Earth for three years.

https://www.thehindu.com/sci-tech/science/worlds-first-wooden-satellite-built-by-japan-researchers/article68227798.ece

news nine

Wed, 29 May 2024

ESA’s Solar Orbiter traces solar wind to its source for first time, heralding a new age of heliophysics

Solar wind is a cosmic tempest made up of a soup of energetic, electrically charged particles streaming out of the Sun. The wind is variable, with parameters such as speed, density and composition constantly changing, depending on the region on the solar surface that the wind originates from.

Certain aspects of solar wind remain poorly understood despite decades of study. This is because by the time the solar wind reaches the Earth, much of the detail on the Sun's surface will have changed or smeared out, making it nearly impossible to trace the solar wind back to its source. Solar wind influences the entire Solar System, causing outgassing from the surface of the Moon, and stripping away the atmosphere on Mars.

On Earth, it can disrupt power grids and satellite comms, while causing spectacular polar lights. Understanding solar wind is critical to safeguarding our assets in space. Now, for the first time ESA's Solar Orbiter has traced solar wind back to its source, accomplishing a key goal of the mission. The new results demonstrate that it is possible to trace solar wind back to the source, opening up a novel approach to study the origin of solar wind. The observations was conducted during the first close approach to the Sun by the spacecraft, two years ago.

A combination of in situ and remote sensing instruments is what allowed the Solar Orbiter to make the connection. The in situ instruments measure the solar wind rushing past the spacecraft, while the remote sensing instruments can simultaneously capture images of the Sun itself. There is a difference of a few days between the two observations.

The researchers developed a Magnetic Connectivity Tool, which uses a series of six solar telescopes located around the world to monitor oscillations on the surface of the Sun. A computer model then calculates how the solar wind propagates through the Solar System. A paper describing the findings has been published in Nature Astronomy. Lead author of the paper, Stephanie Yardley says, "You can predict where you think Solar Orbiter will be connected to on the solar surface a few days in advance. Solar Orbiter flew past the coronal hole and the active region, and we saw fast solar wind streams, followed by slow ones. We saw a lot of complexity that we could tie back to the source regions."

https://www.news9live.com/science/esas-solar-orbiter-traces-solar-wind-to-its-source-for-first-time-heralding-a-new-age-of-heliophysics-2554538

REUTERS

Wed, 29 May 2024

NASA's Lucy spacecraft unlocks asteroid Dinkinesh's dynamic history

A little asteroid called Dinkinesh - visited last November by NASA's Lucy spacecraft - has a surprisingly dynamic history, according to scientists, along with its moonlet Selam that is comprised of two bodies that gently melded into one.

Dinkinesh and Selam are the smallest asteroids from our solar system's main asteroid belt, located between the planets Mars and Jupiter, ever seen up close by a spacecraft. Lucy observed ridges, trough structures and other characteristics on Dinkinesh that hint at a complicated past for the asteroid and its companion, the researchers said on Wednesday.

Asteroids are primordial remnants from the solar system's early stages, offering clues about how Earth and other planets formed roughly 4.5 billion years ago.

The U.S. space agency launched Lucy in 2021 on a 12-year mission to study asteroids - in particular, Jupiter's Trojan asteroids, two batches of space rocks that lead and trail the giant planet as it orbits the sun. On the way, Lucy flew past Dinkinesh and Selam in the inner edge of the main asteroid belt.

Dinkinesh has a diameter of nearly a half mile (720 meters). Selam is made up of two similarly sized lobes, one about 750 feet (230 meters) wide and the other about 690 feet (210 meters). Selam orbits Dinkinesh once about every 53 hours at a distance of about two miles (3.1 km).

It appears, the researchers said, that a big piece of rock broke free sometime in the past from Dinkinesh, amounting to about a quarter its total size, as the asteroid spun in its orbit, gouging a trough on its surface and sending debris into space. Some of this debris, they said, apparently fell back onto Dinkinesh's surface as boulders to form a ridge structure, while other material came together to form Selam.

"When referring to small bodies in the solar system, a contact-binary is when it appears that a single body is composed of two objects that collided gently enough not to become disrupted," said planetary scientist Katherine Kretke of the Southwest Research Institute (SwRI) in Colorado, a co-author of the study published in the journal Nature.

"They are relatively common in the solar system, but Selam was the first time a contact-binary has been observed orbiting another asteroid," Kretke said. "During their lifetime, small asteroids may shed material, which later ends up forming a small satellite or satellites. The complex shape of Selam indicates that this process may occur multiple times," said SwRI planetary scientist and Lucy mission deputy principal investigator Simone Marchi, another study co-author.

"A planet like Earth formed by the accumulation of countless small bodies. Understanding the properties of small asteroids such as Dinkinesh and Selam helps us to have a better picture of the earliest phases of planet formation," Marchi said.

NASA's spacecraft was named for the Ethiopian fossil nicknamed Lucy of the extinct human relative Australopithecus. That fossil has provided insight into a formative stage of the human evolutionary lineage, much as asteroids provide insight into planetary formation.

Dinkinesh is the Ethiopian name for the Lucy fossil, meaning "you are marvelous" in the Amharic language. Selam, the Ethiopian name for another Australopithecus fossil, means "peace" in Amharic.

Lucy will next visit the asteroid Donaldjohanson in 2025 in the main asteroid belt, with 11 asteroids in total on its agenda. The Dinkinesh visit was a late addition to Lucy's itinerary. "Dinkinesh was a test fly-by for the Lucy mission that allowed us to exercise some of the procedures that will be used later in the mission when we get to the Trojan asteroids," Marchi said. "Lucy performed flawlessly and as planned."

https://www.reuters.com/technology/space/nasas-lucy-spacecraft-unlocks-asteroid-dinkineshs-dynamic-history-2024-05-29/#:~:text=WASHINGTON%2C%20May%2029%20(Reuters),that%20gently%20melded%20into%20one.