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MH60R Helicopter Makes Maiden Landing on INS Vikrant



In a significant milestone for the Indian Navy, an MH 60 ‘Romeo’ (MH60R) helicopter, which is awaiting induction into the service, undertook maiden landing on the indigenously designed and constructed aircraft carrier, INS Vikrant on Wednesday. The helicopter from the naval air station INS Garuda Kochi landed on the aircraft carrier somewhere in the Arabian Sea. The navy said that the integration of the helicopter with naval warships is a major boost to the navy’s Anti-Submarine Warfare and Fleet Support capability. The integration would further strengthen the Navy’s capability to counter underwater threats, monitor maritime activities and conduct surveillance operations. Earlier on May 19, an MH 60R made its maiden at-sea landing on board indigenously designed and built naval destroyer, INS Kolkata in the Arabian Sea off Kochi. MH60R helicopter is a versatile platform known for its exceptional Anti-Submarine Warfare (ASW), surveillance, anti-shipping and Search and Rescue capabilities. The ongoing modernisation of the air fleet of the Indian Navy will get a major boost with the induction of multirole helicopters procured from US defence major Lockheed Martin. MH60 R, considered one of the most advanced maritime helicopters in the world, are designed to operate from frigates, destroyers, cruisers and aircraft carriers. It is an all-weather helicopter designed to support multiple missions with state of the art avionics/ sensors. The induction of these helicopters would further enhance the Indian Navy’s three dimensional capabilities.

Source: <https://timesofindia.indiatimes.com/india/mh60r-helicopter-makes-maiden-landing-on-ins-vikrant/ articleshow/100657468.cms>

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CURRENT AFFAIRS

Norway explores Space Collaboration with ISRO

Norwegian Ambassador, H.E. Mr. Hans Jacob Frydenlund, paid a visit to the Chairman, ISRO, Shri Somanath S, at the ISRO Headquarters on June 7, 2023. Accompanying the ambassador were officials from Kongsberg Satellite Service (KSAT), a Norway-based organization specializing in satellite communication and maritime surveillance services. The Chairman welcomed the visitors and appreciated Norway's technical support to the Indian Space programme. He provided an overview of India's progress in involving private players in the space domain and highlighted the opportunities available for foreign participants. The Norwegian Ambassador acknowledged the numerous commonalities between India and Norway, including their shared democratic values, focus on oceans and climate issues, and technological competencies. He also recognized the growing influx of talent from India to Norway, indicating the strong ties between the two nations. Ms Indregard Marte, Chief Commercial Officer of KSAT expressed the company's eagerness to transition from a supporting role to establishing technical partnerships with ISRO and India. She specifically mentioned KSAT's plans for satellite communication services and maritime surveillance services. ISRO extended an invitation to the KSAT team to explore the expansion of its navigational services for ship and aircraft monitoring to the global stage, proposing the establishment of a ground station in India. The meeting concluded with a mutual agreement on the importance of maintaining a continued partnership and fostering increased engagements between India and Norway in the field of space exploration and technology. Both sides expressed their commitment to further collaboration and cooperation in the future.

Source: <https://www.isro.gov.in/>

India flight-tests new-gen ballistic missile 'Agni Prime'

'Agni Prime', the new-generation ballistic missile, was successfully flight-tested from an island off the Odisha coast on Thursday, officials said. The test was conducted from the Dr APJ Abdul Kalam Island by the Defence Research and Development Organisation (DRDO), and all objectives were successfully met, they said. This was the first pre-induction night launch conducted after three successful developmental trials of the missile, validating the accuracy and reliability of the system, they said. Range instrumentation such as radar, telemetry and electro-optical tracking systems were deployed at different locations, including two down-range ships, to capture flight data covering its entire trajectory, they added. Senior officials of DRDO and Strategic Forces Command witnessed the successful flight test, which paved the way for the induction of the system into the armed forces.

Source: <https://www.deccanherald.com/>

Explore cross-movement of scientists with other institutions: Rajnath to DRDO

Defence Minister Rajnath Singh on Thursday mooted the idea of the cross-movement of scientists between DRDO and other institutions as an option to enhance the links between the two research establishments leading to the development of new technologies. Addressing a conclave here, Mr Singh asked scientists from

both sides to explore the possibility of deploying Defence Research and Development Organisation researchers as faculty in academic institutions while allowing scientists from other institutions to serve on deputation in DRDO. Elaborating on the benefits of the DRDO–academia partnership, he said a synergy will help the defence research body get skilled human resources from institutions like the Indian Institute of Science, IITs, NITs and universities. The academia, on the other hand, will benefit from the R&D fund of DRDO that it spends on developing new technologies. Also, scientists from non-DRDO institutions will get access to the infrastructure and advanced laboratory facilities in the defence research organisation. “Such a symbiotic relationship will be helpful in further enhancing the start-up culture in our country,” Mr Singh said. The Union government last year announced that the defence R&D will be opened up for industry, start-ups and academia with 25% of the defence R&D budget earmarked for such joint projects. “Unless we do research, we will not be able to adopt new technologies. R&D has the ability to convert ordinary substances into valuable resources. It has been a key factor in the development of civilisations throughout history,” Mr Singh added. Addressing another conference largely attended by industry leaders, Mr Singh asked the industry to become a ‘leader’ from an ‘imitator’ in futuristic technologies. “Security equations are changing at an unprecedented pace and countries are focusing more than ever on technological advancements in the fields of artificial intelligence, quantum computing & genetics, etc. This is an opportunity to make a mark with the aim to help the nation leapfrog on the path of progress,” he said at the CII annual session.

Source: <https://www.deccanherald.com/>

IAF taking steps to be ever ready keeping in view overall security scenario, says President Murmu

The Indian Air Force is taking steps to be ever-ready and future-ready keeping in view the overall security scenario including the challenges of fighting a high technology war in a network-centric future battle space, President Droupadi Murmu said on Saturday. Addressing the Combined Graduation parade at Air Force Academy, she said the ability to absorb technology at a rapid pace will be essential for defence preparedness at land, sea and air. “I am happy to note that our Air Force is taking steps to be ever-ready, especially future-ready keeping in view the overall security scenario including the challenges of fighting a high technology war in a network-centric future battle space. The President said the country’s defence forces together protect land frontiers, large coastline and territorial waters and huge air space. “Each and every officer of the armed forces has to keep in mind an integrated perspective of defence preparedness,” she said. Modernisation of the Indian Air Force by the induction of Rafale fighter aircraft and Chinook heavy lift choppers strengthens the operational capabilities of IAF, she opined. Narrating the humanitarian assistance and disaster relief measures undertaken by IAF during the crisis, Mrs Murmu said the successful evacuation operation to airlift more than 600 Indians and other nationals stuck in Kabul, involving flying and landing in a hostile environment is a testimony to the high capabilities of the Indian Air Force. She further said the great role played by the brave warriors of the IAF in defending the country in the wars with the hostile neighbour in 1948, 1965 and 1971 is written in golden letters and the force demonstrated the same resolve and skills in the Kargil conflict and later, in destroying the terror hideout at Balakot. The President said the IAF is now inducting women officers in all roles and branches, and the substantial number of women fighter pilots is bound to increase. Recalling her personal experience, Mrs Murmu said in April 2023, she flew a sortie in a Sukhoi 30 MKI fighter aircraft at the Tejpur Air Force station in Assam for nearly 30 minutes. “I flew for nearly 30 minutes covering Brahmaputra and Tejpur valleys with a great view of the Himalayas before returning to the Air Force station. It was indeed a great experience to fly at a height of about 2 km above sea level at a speed of about 800 km/hour,” she recalled. The President was the chief guest on the occasion and the Reviewing Officer of the CGP. Telangana Governor Tamilisai Soundararajan and Union Minister for Culture G Kishan Reddy also attended the programme.

Source: <https://www.deccanherald.com>

IAF fighter jets perform air show over UP's Purvanchal Expressway

As spectators cheered, fighter jets of the Indian Air Force Saturday performed aerobatics over the newly built Purvanchal Expressway, district officials here said. Around 300 people attended the air show which commenced around 11 am and lasted for two hours. Sukhoi and Mirage fighter jets made a 'touch and go' on the three-and-a-half-kilometre airstrip at Arwal Kiri Karwat in the Kurebhar area here on the expressway, the officials said. In view of the programme, a 12 km stretch of the expressway was closed and a traffic diversion was put in place by the authorities. District Magistrate Jasjit Kaur, Superintendent of Police Somen Barma, Jaisinghpur MLA Raj Babu Upadhyay, along with several army officials, were present at the event. Villagers from more than two dozen nearby villages came to watch the air show, the officials said. The team of Air Force officials was alerted when a dog ran into the airstrip and police personnel were deployed to stop canines from reaching the airstrip. The 341-km long Purvanchal Expressway from Lucknow to Ghazipur, which was inaugurated by Prime Minister Narendra Modi on November 16, 2021, passes through nine districts of the state. During the inauguration, Modi himself landed on the airstrip in a Hercules aircraft of the Air Force.

Source: <https://www.deccanherald.com>

On Completing 25 years, BrahMos Aerospace CEO Reveals Future Plans

The CEO and MD of BrahMos Aerospace Mr Atul Rane revealed the future plans of the organisation on completing 25 years of the joint venture. "BrahMos Aerospace has decided not to stay and rest on the laurels which we have done till now. We have embarked on a new journey of modernising BrahMos that is reducing its size, in terms of weight and dimensions so that it can be carried on a light-combat aircraft. We expect to start production in another 3 to 4 years and start the test by the end of next year," he said.

Source: <https://timesofindia.indiatimes.com/videos/news/on-completing-25-years-brahmos-aerospace-ceoreveals-future-plans/videoshow/100654991.cms>

Tejas Mk 2 to be Ready for First Flight by 2025

The much-delayed, India-made Tejas Mk 2 light combat aircraft (LCA) could be ready for its maiden flight by 2025 with an American engine, according to Prabhulla Chandran VK, director of 13 avionics and weapons systems at the Aeronautical Development Agency (ADA), the nodal agency for the design of the indigenous fighter. The Central Scientific Instrumentation Organisation, which had designed the head-up display (HUD) for Tejas Mk 1, is also involved in the manufacture of the HUD for the Tejas Mk 2. Prior to the US collaboration, India was looking at France and Rolls Royce for the engine manufacture.

Source: <https://timesofindia.indiatimes.com/city/chandigarh/tejas-mk-2-to-be-ready-for-first-flight-by2025/articles>

TECHNOLOGY

Rajnath Singh inaugurates Integrated Simulator Complex 'Dhruv' at Southern Naval Command

Defence Minister Rajnath Singh inaugurated the Integrated Simulator Complex "Dhruv" at the Southern Naval Command in Kochi on Wednesday, the ministry said in a statement. The Integrated Simulator Complex hosts state-of-the-art indigenously-built simulators which will significantly enhance practical training in the Indian Navy. These simulators are envisaged to give real-time experience on navigation, fleet operations and Naval tactics and will also be utilised for training personnel from friendly nations, it said. Amongst the many simulators in the complex, Mr Singh visited Multi-Station Handling Simulator, Air Direction and Helicopter Control Simulator (ADHCS) and Astronavigation Dome. The Ship Handling Simulators produced by ARI Pvt Ltd have been exported to 18 countries while the Astronavigation Dome developed by Infovision Technologies Pvt Ltd is the first of its kind in the Indian Navy. The ADHCS — developed by Institute for Systems Studies and Analysis, a DRDO laboratory — would be able to provide real-time operational environment scenarios to trainees. The Defence Ministry said these technologically advanced simulators are indicative of the government's Aatmanirbhar Bharat initiative and promise great defence export potential for the nation. Some of the other indigenously developed simulators in the Complex include Combat Management System and Maritime Domain Awareness Lab. Mr Singh also interacted with senior representatives from the firms involved in the development of these simulators.

Source: <https://www.deccanherald.com>

Jet engine deal ensures 80% technology transfer to HAL; first engine in three years

It will open up the possibility of technology transfer for heavier engine to power a larger fighter aircraft; the 2012 deal had 58% technology transfer, says official, adding that current agreement reflects the level of trust India evokes in the U.S. and the strategic priorities that the countries share. The jet engine deal with U.S. is an "almost done" deal and will see 80% technology transfer by General Electric (GE) to Hindustan Aeronautics Limited (HAL). This will include critical technologies. The first engine will roll out three years after the contract is ready, according to a senior Defence Ministry official. A previous 'Engine Development Agreement' in 2012 between GE and HAL for the F414 engine had 58% technology transfer, the official stated.

Groundbreaking

A factsheet issued by the White House on the bilateral meetings, described the GE proposal to jointly produce the F414 Jet Engine in India as "groundbreaking", adding that a manufacturing license agreement has been submitted for Congressional notification. "It will take three years for the first engine to roll out once the contract is signed. The 80% technology transfer to HAL is of critical importance. Such a transfer has not happened before and shows the level of trust India evokes in the US," a senior defence source said on the Memorandum of Understanding (MoU) between GE and HAL to manufacture F414 engines for the Light Combat Aircraft (LCA)-MK2 in India. "Except for a small component, the F-414-INS6 engine will entirely be manufactured in India." "This trailblazing initiative to manufacture F-414 engines in India will enable greater transfer of US jet engine technology than ever before," the joint statement issued after talks between Prime Minister Narendra Modi and President Joe Biden said.

Critical technologies

Some of the key technologies that would be transferred to India include special coatings for corrosion; casting, machining and coating for Single Crystal for turbine blades; casting, machining and coating of nozzle guide vanes and other hot parts; blisk machining; forging/ power metallurgy discs for turbine; machining of thin walled titanium casing; friction inertia welding for fan and after burner; Polymer Matrix Composites (PMC) for bypass polymer duct; Ceramic Matrix Composites (CMC) for LPNGV, flaps; laser drilling technology for combustor; bottle boring of shafts. On the timeline, Foreign Secretary Vinay Kwatra said that the US Congress would have to approve the deal which involves two separate legislations: Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR), and that some of the spadework had been completed during the Strategic Trade Dialogue he participated in earlier this month in Washington. "Given that it is crucial to address the regulatory ecosystem, which intersects with technology cooperation, India and US recently held the first meeting of the strategic trade dialogue. The whole idea behind the strategic trade dialogue is that we look at regulatory issues more in terms of finding ways to enable our technology cooperation." Mr. Kwatra said that the Jet engine tech transfer deal was one of the "strong, strategic and shared priorities" for both PM Modi and President Biden. While the final cost is yet to be worked out, the official said the costing is indexed to the 2012 agreement based on which the current cost for 99 engines should be under \$1bn.

Payload boost

The F414 will significantly enhance the capability of the LCA-MK2 and engines for prototype and testing are already available. As reported by The Hindu earlier, the LCA-Mk2 will be 1350mm longer featuring canards and a payload of 6500kgs compared with 3500kgs for the Mk1 and MK1A.

Around 120-130 LCA-MK2 jets are likely to be produced. A final decision has to be taken by the Defence Acquisition Council headed by Defence Minister Rajnath Singh, who has been pushing the project towards faster execution, officials said. The official noted that they are still in talks for co-development of a 110KN engine to power the Advanced Medium Combat Aircraft (AMCA)-MK2. This F414 deal makes GE the frontrunner for the deal, though a final decision is yet to be taken.

Approval process

The defence official said that in addition to US Congressional approval, there are some commercial terms that are yet to be finalised. The official said it will result in shorter turnaround time for maintenance, repair and overhaul as well as access to new generation technologies which will percolate to other sectors. The deal also shows that the US trusts our Intellectual Property Rights (IPR) regime and that the technology would remain secure. The US has showed confidence in our military systems also, the official added. The Cabinet Committee on Security (CCS) has already approved the development of the LCA-Mk2 at a total development cost of ₹ 9000 crore and roll out of the first prototype is expected by 2024.

Source: <https://www.thehindu.com/>

BUSINESS

Paris Air Show: HAL and FAdeA of Argentina Sign MoU

HAL and Fabrica Argentina de Aviones (FAdeA), Argentina signed a MoU during the ongoing Paris Air show 2023 towards exploring the possibilities of collaboration in the field of MRO and to meet any offset requirements in case of probable sale of HAL made platforms in LATAM region. Similar to HAL, FAdeA is an Argentinian state owned Aerospace company under the administrative supervision of Ministry of Defence involved in design, manufacture and maintenance of civil and military aircraft.

Source: <https://hal-india.co.in/>

IAF set to receive LCA-Mk1A in February 2024

The Indian Air Force (IAF) is likely to receive its first home-grown combat aircraft with beyond-visual range strike capabilities next February, the defence ministry said here on Friday. The delivery of Tejas LCA-Mk-1A aircraft by Hindustan Aeronautics Limited (HAL) is likely to commence from February, 2024, the ministry said in a statement, while marking the seventh anniversary of the induction of the made-in-India fighter jet. "The new variant will be capable of firing weapons from increased stand-off ranges and many of these weapons will be of indigenous origin. The LCA MK-1A will see a substantial increase in the indigenous content of the aircraft," it said. Tejas is a single-engine multi-role fighter aircraft capable of operating in high-threat air environments. Two IAF units – 45 Squadron and 18 Squadron, both in Sullur – are currently flying the aircraft and more squadrons will take it up. The indigenous fighter jet is one of the military products that India has pitched for exports with Egypt, Argentina, USA, Australia, Indonesia, Malaysia and the Philippines showing interest. The Mark-1A version would be having 43 "improvements" from the first lot of 40 LCA Tejas that the IAF earlier purchased from the HAL at a price of Rs 8,802 crore. The improvements include digital radar warning receivers and external self-protection jammers besides having better maintainability for which additional infrastructure will be required.

Source: <https://www.deccanherald.com>

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