जून
June
2023

खंड/Vol. : 48 अंक/Issue : 118
23/06/2023

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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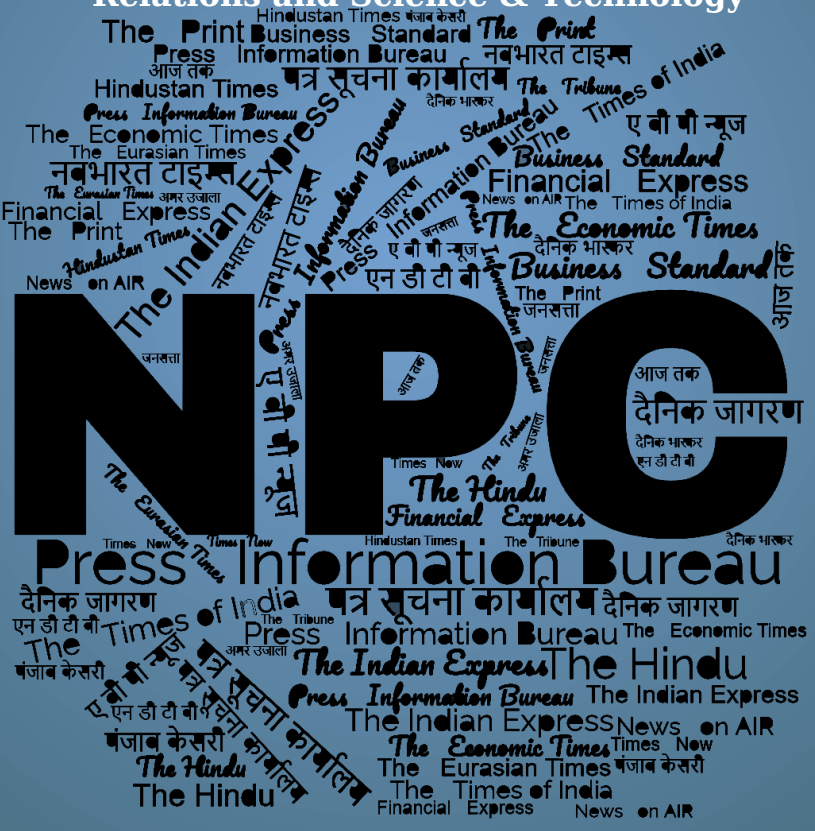

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THE ECONOMIC TIMES

Thu, 22 Jun 2023

L&T, DRDO Sign Contract for AIP System for Submarines of Indian Navy

Larsen & Toubro and the Defence Research and Development Organisation (DRDO) on Thursday signed a contract for realisation of two Air Independent Propulsion (AIP) System Modules for Kalvari Class of submarines of the Indian Navy.

The AIP Modules have been indigeneously developed by Naval Materials Research Laboratory (NMRL) wing of DRDO with L&T as its industry partner. L&T, however, is the recipient of Transfer of Technology (ToT) for this DRDO developed AIP System. The manufacturing, integration and factory acceptance trials of the Energy Modules will be undertaken in L&T's AM Naik Heavy Engineering Complex at Surat, as per the company's press release.

Arun T Ramchandani, Executive Vice President and Head-L&T Defence said that the addition of these green AIP Module in submarines is believed to add India to the club of a handful of nations who have indigeneously developed the the fuel cell based AIP System.

"Our commitment to nation-building continues to be as strong as ever and establishes yet another milestone in our journey to fulfil India's aspirations to become Atmanirbhar in critical technologies," he added.

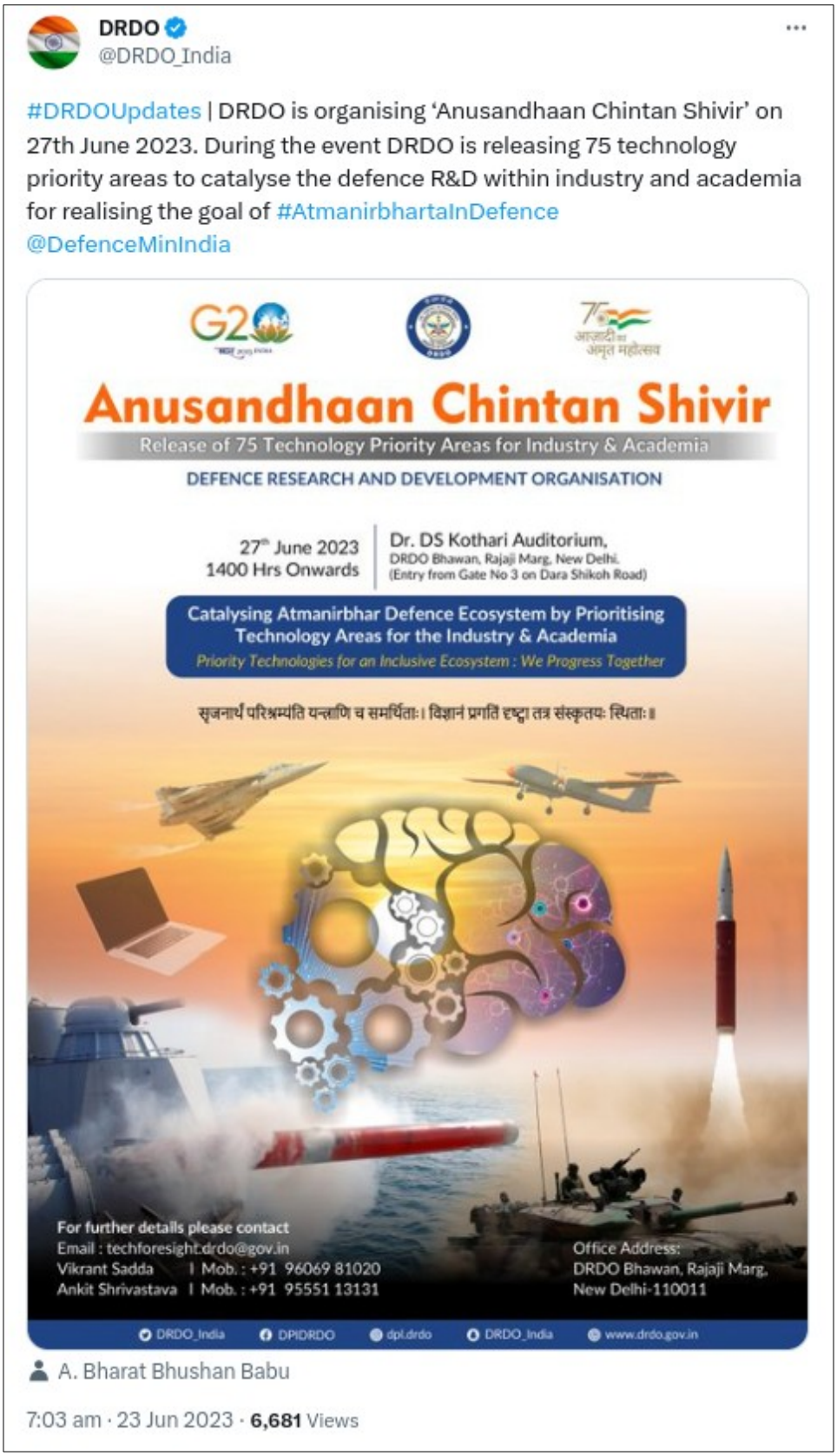
The EMs will be supplied for integration into the AIP Plug that will be retrofitted into the submarine. The EMs are capable of producing the power required and also generating Hydrogen on-board ruling out the need to carry it. The unique technology, therefore, ensures safety of the submarine as the Modules generates hydrogen on demand.

The air-independent propulsion (AIP) technology enhances the underwater endurance and stealth of conventional submarines who otherwise have to come on the surface to use oxygen to recharge their batteries.

Apart from export opportunities, the project also presents itself with an opportunity for orders of integrating AIP Systems for the remaining five Kalvari Class submarines in the future.

https://economictimes.indiatimes.com/news/defence/lt-drdo-sign-contract-for-aip-system-for-submarines-of-indian-navy/articleshow/101187577.cms

DRDO on Twitter



Defence News

Defence Strategic: National/International

Press Information Bureau
Government of India

Ministry of Defence

Thu, 22 Jun 2023

Indian Defence Industries Showcases Cutting-Edge Capabilities to Thailand

The Department Defence Production, MoD organized a briefing and interaction meeting with Thailand delegation led by Deputy Chief of Air Staff, Royal Thai Air force (RTAF) – Air Marshal Piboon Vorravanpreecha in New Delhi on June 22, 2023 showcasing defense industries cutting-edge capabilities and fostering bilateral defense cooperation between two countries.

The Indian Defense Industries presented their state-of-the-art defense capabilities to Thailand delegation marking a significant milestone in strengthening bilateral defense cooperation between the two nations. The event was aimed to deepen mutual understanding, explore potential partnerships, and contribute to the regional security.

During the event, both sides expressed their commitment to forging strong defense ties and exploring avenues for joint research, technology transfer, and strategic partnerships. The presentations and discussions would pave the way for future cooperation in areas of mutual interest, including defense research and development, joint exercises, and capacity-building initiatives.

https://pib.gov.in/PressReleasePage.aspx?PRID=1934538

THE HINDU

Thu, 22 Jun 2023

GE, HAL Sign MoU for Manufacture of Jet Engines in India; U.S. Congress Approval Awaited

Amid the ongoing U.S. visit of Prime Minister Narendra Modi, engine manufacturer GE Aerospace on June 22 announced that it has signed a Memorandum of Understanding (MoU) with Hindustan Aeronautics Limited (HAL) to produce fighter jet engines for the indigenous Light Combat Aircraft (LCA). The proposal needs authorisation from the U.S. Congress before an agreement can be concluded.

“The agreement includes the potential joint production of GE Aerospace’s F414 engines in India, and GE Aerospace continues to work with the U.S. government to receive the necessary export authorisation for this. The effort is part of the Indian Air Force’s (IAF) LCA Mk2 programme,” a statement from GE Aerospace said. “Today’s agreement will advance GE Aerospace’s earlier commitment to build 99 engines for the IAF as part of the LCA Mk2 programme.”

Further, GE noted that this puts the company in a strong position to create a family of products in India, including the F404 engine that currently powers the LCA Mk1 and LCA Mk1A aircraft and GE Aerospace’s selection for the “prototype development, testing and certification of the Advanced Medium Combat Aircraft (AMCA) programme with our F414-INS6 engine.” In addition, GE will continue to collaborate with Indian government on the AMCA Mk2 engine program, it stated.

The LCA MK1 and MK1A, 83 of which are on order, are powered by the F404 engine while the LCA-MK2 will be a larger and more capable jet and will be powered by the F414 engine.

Terming it a historic agreement, H. Lawrence Culp, Jr., Chairman and Chief Executive Officer of GE and CEO of GE Aerospace said, “Our F414 engines are unmatched and will offer important economic and national security benefits for both countries as we help our customers produce the highest quality engines to meet the needs of their military fleet.”

In 1986, GE began working with the Aeronautical Development Agency and HAL with its F404 engines for the LCA programme. “In total, 75 F404 engines have been delivered and another 99 are on order for LCA Mk1A. Eight F414 engines have been delivered as part of an ongoing development program for LCA Mk2,” GE stated.

The MK2 development received sanction from the Cabinet Committee on Security (CCS) in end-August 2022 at a total cost of ₹9,000 crore. DRDO officials had stated that the Prototype is expected to roll out by 2024-25 and be ready for production by 2027. The fifth generation AMCA is awaiting CCS sanction, the development of which would take 10 years after that, as reported by The Hindu earlier. The project cost of AMCA is estimated to be around ₹15,000 crore.

For AMCA-MK2, India is looking at a more powerful engine that it plans to co-develop with an international partner. The F414 deal, if it materialises, puts GE in the lead for which Rolls Royce of the U.K. and Safran of France are also competing.

With more than five million flight hours and eight nations with F414-powered aircraft in operation or on order, the F414 continues to exceed goals for reliability and time on the wing. To date, more than 1,600 F414 engines have been delivered globally.

The statement added that GE’s presence in India includes its research and technology centre, the John F Welch Technology Centre at Bengaluru, which opened in 2000 and its Multi-modal Factory at Pune, which opened in 2015.

INDUS-X

Coinciding with Mr. Modi’s visit, the India-United States Defence Acceleration Ecosystem (INDUS-X) was launched at an event co-organised by Innovations for Defence Excellence and the U.S. Department of Defence and hosted by U.S.-India Business Council.

“The event saw a first-of-its-kind joint showcasing by Indian and U.S. start-ups. 15 Indian start-ups and 10 U.S. start-ups, from multiple domains of maritime, AI, autonomous systems, and space, showcased their technologies to Indian and U.S. stakeholders,” the Defence Ministry said in a statement.

Speaking at the event, Frank Kendall, U.S. Secretary of the Air Force, noted that there is enormous potential for start-ups of both nations to collaborate in deep-tech innovations, especially in the

Space and AI domain. INDUS-X is meant as a platform for Indian and U.S. start-ups and tech companies to collaborate for the co-development and co-production of advanced technologies.

https://www.thehindu.com/news/national/ge-hal-sign-mou-for-manufacture-of-jet-engines-in-india-us-congress-approval-awaited/article66996981.ece

THE TIMES OF INDIA

Thu, 22 Jun 2023

Legislation Introduced in US Senate to Simplify Defence Exports to India

Two top US senators have introduced legislation to simplify defence exports to India by streamlining consideration of defensive military sales to the country under the US Arms Export Control Act (AECA). The legislation was introduced by senators Mark Warner and John Cornyn (R-TX), co-chairs of the Senate India Caucus on Wednesday ahead of Prime Minister Narendra Modi's state visit to the US.

The legislation that would streamline consideration of defensive military sales to India under the US Arms Export Control Act (AECA), supporting ongoing security cooperation between the two nations.

The AECA outlines requirements for Congress to be notified prior to the finalisation of foreign military sales.

Under standard consideration, a presidential administration is required to notify Congress 30 calendar days before any deal for defence articles, services, or training above a certain financial threshold becomes final.

However, for certain countries outlined under the AECA - like Australia, Japan, Israel, New Zealand and South Korea - the law provides an expedited 15-day consideration period for Congress and raises the financial threshold for deals that trigger that review.

The legislation would list India as one of the countries that receives expedited consideration, reflecting the importance of this security relationship, and ultimately supporting more resilient defence supply chains. This legislation does not intend to address membership in any formal alliances and instead addresses domestic US arms export regulation.

"The relationship between the United States and India is a crucial one," said Warner.

"Streamlining our nation's ability to consider defence sales to India will strengthen our defence partnership as well as our supply chains - both of which are crucial as we grapple with threats to a free and open Indo-Pacific region."

Cornyn said India's transition from Russian-made weapons to military equipment made in the US and India is a step towards ensuring "this critical ally has the defence capabilities it needs without enriching one of our adversaries."

"By increasing investment by US companies and expediting the process of purchasing military equipment, we can remove barriers to US-India cooperation and increase our own national security at the same time," he said. Separately, Bob Menendez, Chairman of the Senate Foreign Relations Committee, along with Warner and Cornyn introduced a resolution in the Senate celebrating US-India relations ahead of this week's official state visit with India.

The resolution reaffirms the strong and long-standing partnership between the US and India rooted in people-to-people ties, strategic interests, including upholding peace, security, and prosperity in the Indo-Pacific region.

It encourages the United States and India to continue and expand cooperation for a free, open, and resilient Indo-Pacific, including through the Quadrilateral Security Dialogue.

It welcomes the India's participation in economic initiatives, including through bilateral and multilateral forums, its participation in the Quad, and other venues of cooperation.

The resolution supports the US and India in identifying further opportunities to deepen engagement and further defence, commercial, and investment ties and affirms the importance of technology cooperation between the United States and India, including through the initiative on Critical and Emerging Technology.

It views the bilateral relationship as holding the potential to bring significant benefits to the citizens of both nations and to make considerable contributions to addressing the global challenges of the 21st century.

"I would like to join the vibrant and important Indian-American community in the United States and in my home state of New Jersey in celebrating US-India relations ahead of this week's official state visit," said Chairman Menendez.

"From our people-to-people and educational exchanges to our collaboration in critical international forums such as the Quadrilateral Security Dialogue ("the Quad") and the G20, the growing U.S.-India relationship promises a prosperous future for our two nations and the world," he said.

He said Modi's visit symbolises the value that the US places on this relationship and their mutual commitment to continue to bring the two societies closer together for the sake of promoting global prosperity in the decades to come.

"It is my honour as Co-Chair of the Senate India Caucus to join the Indian diaspora in Virginia and across the country in welcoming this official state visit by Prime Minister Modi," said Senator Warner.

"This visit will continue the important work of building a strong partnership between our two countries, which has now grown into one of the most consequential relationships for the United States. From strengthening defence relations to increased collaboration in the tech realm, our shared commitment to this relationship is crucial to freedom and prosperity around the globe."

https://timesofindia.indiatimes.com/business/india-business/legislation-introduced-in-us-senate-to-simplify-defence-exports-to-india/articleshow/101199375.cms

Hindustan Times

Thu, 22 Jun 2023

PM Modi, Joe Biden to Announce Mega Defence Drones Deal. Facts About MQ-9B Predator

Prime Minister Narendra Modi and US President Joe Biden will announce a series of defence and commercial deals designed to improve military and economic relations between the two key nations during Thursday’s State visit at the White House. PM Modi, who is on his maiden state visit to the US, began the second leg of his journey in Washington on Wednesday.

The White House, in a statement, said Modi and Biden will announce a mega deal on the purchase of General Atomics 30 MQ-9B Predator ("Reaper") drones armed drones by India. The move is expected to further bolster India's national security and surveillance capabilities, not only in the Indian Ocean but also along the frontier with China. The MQ-9B has two variants - SkyGuardian and its sibling SeaGuardian, news agency PTI reported.

HT earlier reported that India's acquisition of 31 high altitude long endurance (HALE) drones from the US will be a phased exercise involving initial absorption of technology, with the first batch of 10 drones being without weapons, and the creation of three tri-service intelligence, surveillance, and reconnaissance command centres, one in the south and two in the north with a specific focus on India's northern boundaries, especially the one with China.

On June 15, the Defence Acquisition Council (DAC) headed by defence minister Rajnath Singh approved a tri-service proposal to acquire a total of 31 drones, 15 MQ9-B SeaGuardians and 16 SkyGuardian drones from the US. It was reported that the nearly USD 3 billion deal is expected to be announced following talks between Modi and Biden in Washington.

Facts about MQ-9B Predator ("Reaper") drones:

1. The General Atomics MQ-9 "Reaper" can carry 500 per cent more payload and has nine times the horsepower in comparison to the earlier MQ-1 Predator. Moreover, MQ-9 UAV provides long endurance, persistent surveillance, and strike capability for the warfighter.

2. The General Atomics MQ-9 Reaper has an endurance of over 27 hours, speeds of 240 KTAS, can operate up to 50,000 feet, and has a 3,850 pound (1,746 kilogrammes) payload capacity that includes 3,000 pounds (1,361 kilogrammes) of external stores, according to General Atomics Aeronautical Systems (GA-ASI).

3. MQ-9 Reaper is a highly sophisticated drone built on the experience gained with the company's battle-proven Predator RPA and is a major evolutionary leap forward in overall performance and reliability, according to GA-ASI.

4. In 2020, the Indian Navy had taken on lease two MQ-9B Sea Guardian drones from General Atomics for a period of one year for surveillance in the Indian Ocean. The lease period has been extended subsequently.

5. The baseline system of the MQ-9 carries the Multi-Spectral Targeting System (MTS-B), which integrates various sensors such as infrared, colour and monochrome daylight TV cameras, shortwave infrared camera, laser designator, and visual sensors for precise targeting

6. MQ-9 can be disassembled and loaded into a single container for deployment, and it can be transported using aircraft such as the C-130 Hercules or larger platforms. This enhances its mobility and flexibility for deployment in various operational theatres.

https://www.hindustantimes.com/india-news/pm-narendra-modi-in-us-joe-biden-defence-drones-deal-facts-about-mq-9b-predator-reaper-101687430639602.html

ThePrint

Fri, 23 Jun 2023

Defence Cooperation: India to Place Liaison Officers in US Commands

To increase defence cooperation and deepen critical information sharing, Prime Minister Narendra Modi and President Joe Biden have agreed to place three Indian liaison officers in US commands.

The US and India advanced steps to operationalise tools that will allow the two nations to increase their defence cooperation, the White House said on Thursday following summit talks between Biden and Modi. The two countries have "resolved to strengthen undersea domain awareness cooperation. The agreement to place three Indian liaison officers in US commands for the first time – deepening our partnership and critical information sharing", it said.

The US and India have also commenced negotiations for a security of supply arrangement and a reciprocal defence procurement arrangement that will enable the supply of defence goods in the event of unanticipated supply chain disruptions, the White House said.

They have finalised a Defense Industrial Roadmap that provides policy direction to defence industries and enables co-production of advanced defence systems as well as collaborative research, testing, and prototyping of technologies that will determine the future of military power, it said. In a joint statement following the talks, President Biden and Prime Minister Modi appreciated the strong military-to-military ties, mutual logistics support, and efforts to streamline implementation of foundational agreements.

"They noted that information sharing and placement of liaison officers in each other's military organisations will spur joint service cooperation. They also reiterated their resolve to strengthen maritime security cooperation, including through enhanced underwater domain awareness," the joint statement said. The leaders welcomed the launch of dialogues in new defence domains, including space and artificial intelligence, which will enhance capacity building, knowledge, and expertise, it said.

"Both sides are committed to addressing any regulatory barriers to defence industrial cooperation. The leaders also noted the decision of India's Ministry of Defence and the US Department of Defense to commence negotiations for concluding a security of supply arrangement and initiate discussions about reciprocal defence procurement agreement," the joint statement.

Biden and Modi also welcomed India's emergence as a hub for maintenance and repair for forward deployed US Navy assets and the conclusion of master ship repair agreements with Indian shipyards.

This will allow the US Navy to expedite the contracting process for mid-voyage and emergent repair. As envisaged in the Defense Industrial Roadmap, both countries agree to work together for the creation of logistic, repair, and maintenance infrastructure for aircrafts and vessels in India, the statement said. According to a White House Fact Sheet, the US Navy has concluded a master ship repair agreement with the Larsen and Toubro Shipyard in Kottapuli (Chennai) and is finalising agreements with the Mazagon Dock Limited (Mumbai) and the Goa Shipyard (Goa).

https://theprint.in/world/defence-cooperation-india-to-place-liaison-officers-in-us-commands/1638555/

THE ECONOMIC TIMES

Thu, 22 Jun 2023

INDUS-X Launch: India, US Focus on Co-developing Technology

The government has called for co-development and co-production of advanced technologies by Indian and American startups as the India-United States Defence Acceleration Ecosystem (INDUS-X) was launched at an event in Washington, the defence ministry said on Thursday. At the launch of INDUS-X, Joint Secretary (Defence Industries Promotion) Anurag Bajpai asked the participants

to develop mechanisms for future collaborations across industries, academia and investors. He also gave an overview of the "Make in India" initiative, focussing on "Aatmanirbhar Bharat" (self-reliant India) and the philosophy of "Make in India, for the world", the ministry said in a statement.

Bajpai led the Indian delegation at the two-day INDUS-X event that was co-organised by Innovations for Defence Excellence (iDEX), the Ministry of Defence and the US Department of Defence (DoD), and hosted by the US-India Business Council (USIBC) on June 20-21.

A reception for Indian and US government representatives, defence startups, think-tanks, incubators, investors, industries and other stakeholders was organised on June 20. Eric Garcetti, the US Ambassador to India, delivered the keynote address.

US Secretary of the Air Force Frank Kendall delivered the opening keynote address at the event on June 21 and said the India-US relationship is growing exponentially. He emphasised that there is enormous potential for startups in both countries to collaborate in deeptech innovations, especially in the space and artificial intelligence (AI) domains.

The event also saw a first-of-its-kind joint showcasing of innovative technologies by Indian and American startups. Fifteen Indian and 10 US startups from multiple domains such as maritime, AI, autonomous systems and space showcased their technologies to Indian and US stakeholders.

The exhibition was visited by senior US officials, including Congressman Ro Khanna, who serves on the House Armed Services Committee as the ranking member of the Subcommittee on Cyber, Innovative Technologies and Information Systems (CITI) and as the co-chair of the Congressional Caucus on India and Indian Americans, and by Radha Iyengar Plumb, Deputy Under Secretary of Defence for Acquisition and Sustainment, US DoD.

Two panel discussions and two roundtables were held, focussing on deepening collaborations across various domains, including government, academia and industry, especially startups. Discussions on export control regulations were also held.

An INDUS-X factsheet was released at the event.

According to the US Chamber of Commerce, INDUS-X has the potential to be a catalyst for India to achieve its target of USD 5 billion in defence exports by 2025 and diversify its defence supply chain. INDUS-X aims to pave the way towards the goals established in the US-India roadmap for defence industrial cooperation, capitalise on the tech-releasability outcomes that the industry anticipates from the US-India Initiative on Critical and Emerging Technologies (iCET), explore joint opportunities in high-tech defence innovation, research and development, and strengthen bilateral trade relationships and defence establishment linkages.

It will also enhance connectivity between American and Indian defence startups to encourage greater collaboration in defence technology.

https://economictimes.indiatimes.com/news/defence/indus-x-launch-india-us-focus-on-co-developing-technology/articleshow/101192519.cms

REPUBLICWORLD.COM

Thu, 22 Jun 2023

Maldives General Seeks India's Help in Training, Equipping its Defence Forces

Maldives has sought India’s help in training its cadets and for acquiring equipment for its forces. Maldives Marine Corps Commandant Brigadier General Wais Waheed on Thursday (June 22,

2023) requested assistance for the same from India's Director General of the NCC, Lieutenant General Gurbirpal Singh. "As a small country like the Maldives, I would greatly appreciate any assistance that the Indian NCC can provide us in terms of training, resources, and structural reforms," stated Brigadier General Waheed.

India to enhance Maldives defence and disaster response capabilities

Maldives will send a proposal to India, requesting assistance in training and acquiring equipment. If India deems it acceptable, then it will sanction the necessary aid for Maldives.

The Commandant of the Maldives National Defense Force (MNDF) spoke about the potential for future collaboration between the two countries. Given that the Maldives is prone to natural disasters, Brig Gen Waheed expressed his desire to jointly train Maldivian cadets with India's support, particularly for natural disaster response and relief efforts, considering it as a force multiplier.

Military Cooperation between Maldives and India

According to the Maldivian Commandant, the training module implemented by the Indian Army is also employed by the defence forces of Maldives. The ongoing 12th edition of their annual joint exercise, Ekuverin, between the Indian Army and the Maldives National Defense Force is taking place at Chaubatia, Uttarakhand. This exercise focuses on counter-insurgency/terrorism operations, as well as humanitarian assistance and disaster relief operations conducted under the UN mandate, spanning from June 11 to 24.

Another ongoing exercise is Operation Ekatha, an annual bilateral exercise between the navies of both countries. The sixth edition of this exercise is being held in the Maldives from June 4 to July 3. The naval exercise will see the participation of Maldivian Coast Guard and Indian divers from the Navy and Marine Commandos (MARCOS). The training regimen includes underwater demolition, close-quarter battle, diving operations, and VBSS (visit, board, search, and seizure) operations.

How do India and Maldives benefit

Both exercises aim to enhance interoperability between the armed forces of both countries, focusing on sharing best practices, improving coordination, and fostering cooperation at the tactical level. A Ministry of Defence statement emphasised, "The defence cooperation between the two countries extends beyond joint exercises to assisting Maldives with defence training and equipment requirements." The statement from MoD implies that the interaction between the armed forces of both nations will not only strengthen friendly relations but also deepen economic, cultural, and military cooperation.

https://www.republicworld.com/india-news/general-news/maldives-general-seeks-indias-help-in-training-equipping-its-defence-forces-articleshow.html

The Economist

Thu, 22 Jun 2023

The War in Ukraine is Boosting Israel's Arms Exports

For decades the standout product of the Israeli arms industry was the Uzi, a submachine gun used by soldiers and action stars the world over. More recently, however, attention has shifted to the Iron

Dome. Footage of interceptor missiles pirouetting in Israel's skies, shooting down Palestinian rockets, has made it perhaps the world's best-known missile-defence system. The war in Ukraine has further increased interest and proved a boon for Israel's arms exports.

On June 14th Germany's parliament signed off on a €560m ($615m) instalment on the purchase of the Arrow-3, a missile-defence system, by the 17-nation European Sky Shield Initiative. The long-range Arrow-3, developed by the state-owned Israel Aerospace Industries and Boeing, an American aviation giant, is designed to intercept missiles above the Earth's atmosphere. It is already operational in Israel, which fears attacks from Iran. Germany and its allies worry about Russia. At €4bn, the deal will be Israel's largest-ever arms sale. Finland and the Czech Republic, similarly concerned, have placed orders for smaller Israeli missile-defence systems. Other European governments plan to do so.

Israel began developing anti-ballistic-missile technology in the late 1980s. It has since adapted it for use against smaller rockets and artillery shells. That Israel has these systems in operational use gives them a clear advantage over competitors, says Tal Inbar, an Israeli missile-technology analyst.

Europeans have been on a spending spree since Russia's invasion of Ukraine. Last year Israeli arms-export deals hit an all-time high of $12.5bn. Over a quarter of the sales were to Europe, a proportion expected to grow in 2023.

Drones, anti-tank missiles and advanced training systems have proved popular, along with missile-defence systems. Israel has even found customers for its used kit. An undisclosed European country wants to buy second-hand Merkava tanks, probably to replace older tanks earmarked for Ukraine.

Israel has remained on the fence in the war itself. It has sent humanitarian aid to Ukraine, but refused its entreaties for weapons. Israel frets about Russian troops near its border in Syria and about the fate of the large Jewish communities in Russia and Ukraine.

The surge in arms sales to Europe is a diplomatic boost for Israel. In the past potential customers have criticised its treatment of the Palestinians in the occupied territories. Now they will be using Israeli systems developed and used in Israel's conflicts in Gaza. Europeans who suddenly have a front line on their borders may be more understanding of Israel, suggests Jeremy Issacharoff, Israel's former ambassador to Germany.

https://www.economist.com/middle-east-and-africa/2023/06/22/the-war-in-ukraine-is-boosting-israels-arms-exports

JANES

Thu, 22 Jun 2023

Paris Air Show 2023: Rafael Launches New Air-to-Air Missile

Rafael unveiled its Sky Spear 'sixth-generation' air-to-air missile at the Paris Air Show 2023, held from 19 to 25 June.

Speaking to Janes, Yaniv Rotem, business development director for Rafael's air-defence systems and air-to-air directorate, said that the missile has very long-range interception capabilities and a new sophisticated radio frequency (RF) seeker that can handle airborne and ground-based jamming.

The Sky Spear is suited for both long-range and short-range engagements because of its high manoeuvrability and this reduces the number of missile types required for the aircraft, Rotem said.

The missile is in the “pre-full-scale development (FSD) phase” and is currently at a low technology readiness level (TRL). The company is therefore searching for a governmental partner to progress its development, Rotem added.

According to Rafael, the Sky Spear can be adapted to fit on any aircraft, including the F-35, and is powered by a three-pulse rocket motor that enables the missile to manage its kinetic energy in an optimal way. It also has a dual datalink that enables the two-way transfer of data between the missile and pilot, Rotem said.

https://www.janes.com/defence-news/news-detail/paris-air-show-2023-rafael-launches-new-air-to-air-missile

Science & Technology News

FINANCIAL EXPRESS
Read to Lead

Thu, 22 Jun 2023

India’s Entry into the Artemis Accords: Advancing Space Exploration for the Benefit of All

By Huma Siddiqui

India has joined the Artemis Accords led by the United States, a collaborative effort aimed at promoting civil space exploration. This marks a significant milestone in the country’s space ambitions. In conjunction with this development, NASA and the Indian Space Research Organisation (ISRO) have announced a joint mission to the International Space Station (ISS) in 2024.

This decision holds immense strategic and scientific value for India, reinforcing its commitment to space exploration and fostering international partnerships.

What is the significance of joining the Artemis Accord?

Strengthening International Cooperation

By joining the Artemis Accords, India has now aligned itself with like-minded nations committed to the peaceful exploration and use of outer space. The Artemis Accords grounded in the Outer Space Treaty of 1967 (OST), provide a non-binding framework of principles that guide civil space activities. India’s involvement in this collaborative effort underscores its willingness to foster international cooperation and contribute to the collective advancement of space exploration.

Advancing Space Exploration

The Artemis Accords, spearheaded by the United States, aim to establish a sustainable presence on the moon by 2025 and subsequently expand human exploration to Mars and beyond. India’s participation in the Accords demonstrates its ambition to be at the forefront of cutting-edge space exploration initiatives. By collaborating with NASA and other international partners, India can access advanced technologies, expertise, and resources, propelling its own space program to new heights.

Leveraging Technological Advancements

The collaboration between NASA and ISRO in the joint mission to the International Space Station in 2024 presents an unparalleled opportunity for India to leverage technological advancements and gain valuable experience in human spaceflight. As this opens avenues for knowledge sharing, joint research, and technological exchange between the two space agencies, fostering innovation and pushing the boundaries of what is possible in space exploration.

Economic and Industrial Benefits

India's participation in the Artemis Accords holds immense economic potential. It allows Indian companies and industries to participate in the global space economy and access new markets. Collaborative space missions create opportunities for technology transfer, joint ventures, and commercial partnerships, enabling the growth of India's space industry. Furthermore, increased investment in the space sector drives job creation, research and development, and the overall economic growth of the country.

Scientific Advancements and Knowledge Exchange

Engaging in joint missions and collaborations with NASA provides India's scientists and researchers with unprecedented access to cutting-edge technologies, data, and experiments conducted aboard the ISS. By participating in the Artemis Accords, India can actively contribute to humanity's understanding of the universe while harnessing the collective wisdom of the global scientific community.

Diplomatic Relations and Soft Power Projection

It paves the way for enhanced collaboration in various domains, including space. Such partnerships contribute to the broader diplomatic goals of both nations and promote cultural exchanges, people-to-people interactions, and the projection of soft power. It also underscores India's rising stature as a key player in the international space arena.

Does being signatory to Artemis Accord help India to collaborate with other members?

Yes.

When India adds its signature to the Artemis Accord, it joins an esteemed group of nations including the United Kingdom, United States, Italy, Japan, United Arab Emirates, Luxembourg, France, Romania, South Korea, New Zealand, Nigeria, Saudi Arabia, Brazil, Singapore, and Ukraine.

The Accord encourages signatory countries to exchange information, data, and best practices related to space exploration. India can actively participate in knowledge-sharing initiatives, scientific forums, and workshops, where experts from different nations collaborate to enhance their understanding of space science, technology, and exploration. This cooperation can facilitate the exchange of research findings, technological advancements, and lessons learned, fostering mutual growth and progress.

The Artemis Accords promote joint missions and projects among signatory nations. India can collaborate with other countries to plan and execute missions to the moon, Mars, or other celestial bodies. This could involve pooling resources, sharing spacecraft, conducting joint experiments, and exchanging personnel. By leveraging the strengths and expertise of multiple nations, collaborative missions can achieve greater scientific and exploratory objectives while reducing individual costs and risks. It also focuses on international cooperation in human spaceflight endeavours. India, through its partnership with NASA and other participating nations, can contribute to crewed missions to the ISS or even future lunar missions.

https://www.financialexpress.com/business/defence-indias-entry-into-the-artemis-accords-advancing-space-exploration-for-the-benefit-of-all-3138295/

THE HINDU

Thu, 22 Jun 2023

First Abort Mission of 'Gaganyaan' to be Conducted in August-end: ISRO Chairman

The first abort mission for India's maiden human spaceflight 'Gaganyaan' would be conducted at the end of August this year, while the unmanned mission to orbit would take place next year, Chairman of the Indian Space Research Organisation (ISRO), S. Somanath, said here on Thursday.

Talking to media-persons on the sidelines of an event at the Physical Research Laboratory (PRL) here, he said the test vehicle is ready at Sriharikota and the assembly work of the crew module and crew escape system has also begun.

"For Gaganyaan, the first and foremost thing is that the abort mission has to be done. For that, we have made a new rocket called a test vehicle, which is ready at Sriharikota. Assemblies of the crew module and crew escape system are just getting ready," Mr. Somanath told reporters when asked about the latest update on Gaganyaan.

"So I am informed that this month-end it will go for a fully functional testing, vibration testing, etc. So we are hoping that in August-end or so we will be able to fire the launch of this crew abort mission. Then it will be followed by a repeat mission with different conditions of abort. This is planned for this year," he said.

He added that the "unmanned mission to the orbit" as part of the project will take place around the beginning of the next year.

"In the beginning of the next year, we will have the unmanned mission to the orbit. And from there, it has to be brought back safely, which will be the third mission. Currently, we have scheduled these three missions," said Mr. Somanath, who also serves as the Secretary of the Department of Space. When asked about the major challenges of this mission, the ISRO chief said safety of crew members was the most important aspect in the Gaganyaan project.

"Since humans will be part of the mission, crew safety becomes paramount. For that, we are doing two more additional things, one is called the crew escape system. It means if a contingency is developed in the rocket, the system should get activated. The second one is the integrated vehicle health management system," he said.

The crew escape is a conventional engineering solution, in which the computer detects and asks the propulsion system to fire so that you are moved away, Mr. Somanath said, adding that the second system is more intelligent which makes informed decisions on board without any human intervention. "You need to develop as well as test such systems to make sure that they will function beyond any doubt. So in Gaganyaan programme, we will not go into the final mission without knowing how much we are ready for it," he said.

The chairman of India's space agency was at PRL to inaugurate Param Vikram-1000, a High Performance Computing (HPC) facility or a supercomputer.

"Param Vikram-1000 is a new supercomputer installed at the PRL. In terms of computational capabilities, it is 10 times faster than Vikram-100 currently in use. Now, PRL scientists have better capability to run their models and computer simulations to support their research work. This will enhance the speed at which the PRL is carrying out its work," Mr. Somanath said.

https://www.thehindu.com/sci-tech/science/first-abort-mission-of-gaganyaan-to-be-conducted-in-august-end-isro-chairman/article66997659.ece