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गुरुवार, 11 अगस्त 2022

स्वतंत्रता दिवस पर स्वदेशी तोप से होगी सलामी, ये हैं ATAGS गन की विशेषताएं

इस साल लाल किले (Red Fort) पर स्वतंत्रता दिवस समारोह (Independence Day) में 21 तोपों की सलामी स्वदेशी आर्टिलरी गन से दी जाएगी। अभी तक द्वितीय विश्वयुद्ध की ब्रिटिश पाउंडर-गन से 21 तोपों की सलामी दी जाती थी। आजादी के अमृत महोत्सव (Azadi Ka Amrit Mahotsav) यानि आजादी के 75 साल पूरे होने के उपलक्ष्य में लाल किले पर स्वतंत्रता दिवस समारोह में पहली बार नई पहल की गई है। रक्षा सचिव डा.अजय कुमार ने बताया कि रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) ने 'मेक इन इंडिया' के तहत एडवांस्ड टोड आर्टिलरी गन सिस्टम (एटीएजीएस) विकसित किया है।

अब तक परंपरागत रूप से सलामी के लिए इस्तेमाल की जा रही ब्रिटिश तोपों के साथ स्वदेशी होवित्जर तोप भी सलामी देंगी। इसके लिए एडवांस्ड टोड आर्टिलरी गन सिस्टम प्रोटोटाइप का उपयोग किया जाएगा। इस तोप का उपयोग करने की पहल स्वदेशी रूप से तोपों को विकसित करने की भारत की बढ़ती क्षमता का प्रतीक बनाने के उद्देश्य से की गई है।

क्या है अटैग गन की खासियत?

एडवांस टॉड गन सिस्टम (ATAGS तोप) सिस्टम को डीआरडीओ ने टाटा और भारत-फोर्ज कंपनियों के साथ मिलकर तैयार किया है। 155 x 52 कैलिबर की इस एटीएजीएस तोप की रेंज करीब 48 किलोमीटर है और जल्द ही भारतीय सेना के तोपखाने का हिस्सा बनने वाली है। वर्ष 2018 में रक्षा मंत्रालय ने 150 अटैग गन खरीदने को मंजूरी दी थी।

एटीएजीएस एक विश्व स्तरीय गन प्रणाली

स्वतंत्रता दिवस समारोह के लिए इसके गोले दागने में कुछ विशेष बदलाव किए गए हैं। मालूम हो कि एटीएजीएस परियोजना को 2013 में डीआरडीओ ने भारतीय सेना में पुरानी तोपों को आधुनिक 155 एमएम आर्टिलरी गन से बदलने के लिए शुरू की थी। एटीएजीएस 155 एमएम कैलिबर गन सिस्टम है जिसमें 48 किलोमीटर की फायरिंग रेंज और उच्च गतिशीलता, त्वरित तैनाती, रात के दौरान प्रत्यक्ष-फायर पद्धति में स्वचालित कमांड और नियंत्रण प्रणाली जैसी उन्नत विशेषताएं हैं। एटीएजीएस एक विश्व स्तरीय गन प्रणाली है जो अपनी खास क्षमता के लिए जानी जाती है।

<https://www.jagran.com/news/national-independence-day-atags-howitzer-will-be-a-part-of-21-gun-salute-on-august-15-know-everything-22971785.html>

THE ECONOMIC TIMES

Wed, 10 Aug 2022

Home-Grown Howitzer Gun to be Used for Ceremonial 21-Gun Salute on I-day

For the first time, a home-grown howitzer gun will be used for the ceremonial 21-gun salute during the Independence Day ceremony at Red Fort, Defence Secretary Ajay Kumar said on Wednesday. The Advanced Towed Artillery Gun System (ATAGS) has been developed under the government's 'Make in India' initiative by the Defence Research and Development Organisation (DRDO). The ATAGS will give the ceremonial 21-Gun Salute along with the British guns which are being traditionally used till now, Kumar said. The defence ministry said the initiative to use the gun will stand as a testament to India's growing capacity of developing arms and ammunition indigenously. The gun has been especially customised, with certain technical specifications being tweaked for the ceremony. The ministry said a team of DRDO's Armament Research & Development Establishment, Pune, led by scientists and artillery officers worked in the project to make use of the gun possible for the Independence Day ceremony. The ATAGS project was started in 2013 by the DRDO to replace older guns in service in the Indian Army with a modern 155mm artillery gun. This specialised gun system is compatible with C4I systems like the Artillery Combat Command and Control System called Shakti for technical fire control, fire planning, deployment management, operational logistics management of the Indian Army. The defence secretary also said.

NCC

NSE -0.76 % cadets from all districts of the country have been invited to attend the main event at Red Fort. These cadets will be seated at 'Gyan Path' in front of the Red Fort's ramparts in a geographical formation of the map of India. Kumar said the cadets will adorn local dresses, symbolising India's cultural diversity, to carry forward the message of 'Ek Bharat Shrestha Bharat'. In continuation to the initiative taken during Republic Day 2022, the section of society,

which is usually overlooked, has been invited as special guests for Independence Day as well, he said. "These include anganwadi workers, street vendors, mudra scheme borrowers, mortuary workers etc. They have been invited to attend the main event at Red Fort," Kumar said. Kumar said a total of 26 officers and supervisors and 127 cadets from 14 countries -- US, UK, Argentina, Brazil, Fiji, Indonesia, Kyrgyzstan, The Maldives, Mauritius, Mozambique, Nigeria, Seychelles, the UAE and Uzbekistan -- are already in India for the Independence Day celebrations. Apart from attending the main event at Red Fort, the youth will be visiting places of cultural and historical importance in Delhi and Agra.

<https://economictimes.indiatimes.com/news/defence/home-grown-howitzer-gun-to-be-used-for-ceremonial-21-gun-salute-on-i-day/articleshow/93478384.cms?from=mdr>



Wed, 10 Aug 2022

AzadiKaAmritMahotsav: Know More About the Indian Gun to be Used for Ceremonial 21-Gun Salute

Commemorating India's 75th Independence Day, for the first time an indigenous Advanced Towed Artillery Gun System (ATAGS) will be used for giving the ceremonial 21-gun salute. This was announced by Defence Secretary Ajay Kumar at a media briefing ahead of the Independence Day Ceremony next week at Red Fort. The ATAGS along with the 25 Pounder British guns which are being traditionally used till now will be giving the salute. This gun has been developed by the Defence Research and Development Organisation (DRDO) and has been made in India. This was developed by a team from Armament Research and Development Establishment (ARDE), Pune alongwith Artillery Officers of the Indian Army and Scientists of DRDO.

In 2013, the ATAGS project was started by DRDO to replace the existing older guns in service in the Indian Army with a modern 155mm artillery gun. Tata Advanced Systems and Bharat Forge worked with ARDE to manufacture this gun for the Army. It has been developed in a record time of 30 months after undergoing intensive trials and it is considered to be the most advanced and perhaps the world's first gun which has the capability to fire the Bimodular charge system in Zone 7 (BMCS).

Indigenous Content

It has more than 95 percent indigenous content – this includes the raw material to the end product. This gun system has 7463 components and out of these almost 4977 are manufactured parts. This involves almost 30,000 manufacturing processes, and more than 2,00,000 inspection parameters.

What is ATAGS?

It is a 155 mm calibre Gun System and has a firing range of 48 kms. It has other advanced features including automatic command and control system with night capability in direct-fire mode, advanced communication system, high mobility, quick deployability and auxiliary power

mode. The gun during its trials in extreme heat has proved its mettle and is undergoing DGQA evaluation. It has performed well through different levels of trials and evaluations in extreme weather conditions. Officials have confirmed to Financial Express Online that compared to other guns systems of the same caliber in the world, this has been designed to be accurate and consistent systems.

C4I

This system is compatible with C4I systems. This means it works well with the Army's Artillery Combat Command and Control System (ACCCS) called Shakti. Shakti is used for operational logistics management of the Indian Army and also for technical fire control, fire planning, and deployment management.

21 Gun Salute

For the August 15 ceremony, the gun has been specially customised and some technical specifications have been tweaked.

https://www.financialexpress.com/defence/azadi-ka-amrit-mahotsav-know-more-about-the-indian-gun-to-be-used-for-ceremonial-21-gun-salute/2625113/lite/?utm_source=defence_landing_page&utm_medium=article_listing_widget&utm_campaign=Tags

Defence News

Defence Strategic : National/International



Thu, 11 Aug 2022

India Develops AI-Driven Drones for Vigil Over LAC: All You Need to Know About it

Taking a step ahead to strengthen the Indian armed force and guard its border, the Hindustan Aeronautics Ltd (HAL) is working on developing AI-driven multi-role, advanced and long-endurance drones that will be used for invigilation in the areas along the Line of Actual Control (LAC). The move comes amid India's gearing up to step up vigilance strategically in high-altitude areas, including along the frontiers with China. Despite several rounds of talks between India and China, the tension at LAC remains unresolved following the Galwan valley clash between Indian and Chinese troops in May 2020. Features of Drone The drone will be designed keeping in mind the requirement of the armed forces to keep a strong vigil over the mountainous areas along the Line of Actual Control (LAC). The operating system of the long-endurance drone

will feature applications of Artificial Intelligence. The rotary-wing drone will have the capability to carry a load of 40 kg, including missiles and sensors. The armed forces will be able to use it for multiple purposes, including transporting essential supplies.

HAL is looking to conduct the maiden test-flying of the unmanned aerial vehicle (UAV) by the middle of next year. HAL has planned to produce 60 such platforms in the first phase of the project. Why drones at the border? The unmanned armed vehicles play a crucial role in border security as they allow for real-time reconnaissance, target acquisition, and tracking of people and illegal activities via high-quality video feed. In comparison to stationary video cameras, drones mounted with thermal detection cameras are much superior at tracking irregular activities such as illegal border crossing attempts through dense woods or mountainous terrain. HAL's other project is to keep our border safe. Besides, HAL is also looking to work with the manufacturers of the Israeli Heron TP drones to produce them. This project is aimed at addressing the requirements of the Indian armed forces as well as global supplies. In addition to that, it is also working on two separate drone projects with the Defence Research and Development Organisation (DRDO).

To significantly increase their surveillance capability, the three services intend to buy a sizable number of unmanned aerial systems over the next few years. This will allow them to keep a close eye on Chinese actions in the LAC and Indian Ocean region in particular. Each of the three services has drawn up plans for the acquisition of the new-age platforms. India also intends to purchase around 30 multi-mission armed Predator drones from the US at an estimated cost of over \$ 3 billion for the three services. In November 2020, the Navy got two non-weaponised MQ-9B Sea Guardian drones on lease from the US.

<https://www.news9live.com/knowledge/india-develops-ai-driven-drones-for-vigil-over-lac-all-you-need-to-know-about-it-188650>



Thu, 11 Aug 2022

US Offers ToT to Build HALE Drones in India

Even as India is pushing for indigenous military grade drones for the armed forces, the deal for 30 Predator (MQ-9) series Unarmed Aerial Vehicles with the US is expected to be finalised soon. The deal according to sources is pegged at roughly below \$3 billion including spares, weapons and ground control stations. Confirming to Financial express Online, a senior navy officer said, “In view of India’s increasing role in the Indo-Pacific and Indian Ocean Region, the Indian Navy has been pushing for High Altitude Long Endurance (HALE) drones. The drones with the US are on track and soon it will be done.” ***Atmanirbhar Bharat in Drones: MRO & Transfer of Technology***

“The negotiations are in advanced stage and since this is a government to government deal through FMS route, part of India’s journey towards Atmanirbhar Bharat in Defence, the US has offered Transfer of Technology (ToT) to help enable India design and build armed HALE unmanned aircraft which usually is at least a ten-year effort based on global experience,” sources have confirmed to Financial Express Online.

Will this help the indigenous process?

If the US is willing to ToT it will help in pushing the building of HALE drones for the Indian Armed Forces. Even before the deal could be finalised two pre-production models of MQ-9 drones have been leased from the US-based General Atomics. Following the clashes between the Indian and Chinese forces in 2020, these were deployed for land and maritime operations. And they operated alongside the P-8, a multi-mission maritime patrol aircraft from the Boeing Company, to keep an eye on the growing presence of the Chinese boats in the region. The Predator (MQ-9) series as reported earlier have an endurance capability of flying for over 30 hours and have proved to be a big asset for the Indian Navy. And the two leased are flying under Indian colours. Recently, an MQ-9 drone was used to fire Hellfire RX9 missile to kill Al-Qaeda leader Ayman al-Zawahiri in Kabul, Afghanistan.

Dr Vivek Lall, Chief Executive of General Atomics Global Corporation had met with Financial Express Online in May this year and had talked about the discussions between the two governments related to the deal for 30 drones. The Indian Navy is the lead service for the MQ-9 Predators from the US and the discussions between the two sides have been on track. According to sources, the drones which have been leased from the US have been performing very well and have enhanced the Indian Navy's surveillance capability to keep an eye on the Indian Ocean Region.

What is the difference between HALE and MALE Drones?

Here is a comprehensive details on the difference between the difference between these two types of drones-

High Altitude Long Endurance (HALE)

This refers to a family of unmanned aerial systems (UAS) that operate in the ascribed conditions. The US based Boeing Company is trying various unarmed concepts, and another company Northrop Grumman has a HALE 'GlobalHawk' which is in the unarmed category. In fact General Atomic is the only company globally to have HALE Drones which is why India is set to buy through FMS. The HALE class of drones themselves form a part of pseudo satellites. These pseudo satellites are deployed near the tropopause however carry the apparent advantage of quicker deployment and lesser cost. According to an expert who wished to remain anonymous, "To drive home the relevance of HALE drones, consider the Kargil War of 1999 – how the Indian side suffered due to the denial of GPS services is known. Even satellite imagery was reportedly purchased at a premium. If there were HALE drones that could have been readily deployed, a lot of this would not have been an issue. Of course, we have NavIC and the Indian Space and Research Organisation today but HALE can readily bring what a satellite might to a battlefield."

Medium Altitude Long Endurance (MALE)

This flies between 10,000 ft and 30,000 ft and lasts for about a day or two in flight. This is the class of drones that a layman recognises. From IAI Heron to Baykar Bayraktar TB2, all these belong to this class of drones. These drones, although only recently becoming ubiquitous in militaries worldwide, have been performing various tasks. These offer combat capabilities as well as surveillance and reconnaissance support.

Indigenisation & DRDO

In India's indigenous journey for both HALE and MALE drones, armed variants seem to be on the back burner. However, India will need one proof-of-concept along with flight hours to be confident in entrusting its arsenal to drones. So, while Tactical Advanced Platform for Aerial Surveillance Beyond Horizon-201 (TAPAS BH-201), might not carry any warheads yet, one can be sure that later arrivals on the scene will be ready to engage in combat. HALE drones are already in the pipeline. The ambitious Combat Air Teaming Systems (CATS) envisions a pseudo satellite named CATS Infinity. Further, the Ministry of Defence (MoD) has released that it will encourage the private sector to develop the HALE class of UAS under a Special Purpose Vehicle. Separately, through Innovation in Defence Expo (iDEX), it aims for an indigenous low-orbit pseudo satellite. However, trust with the MALE class is different.

The Defence Research and Development Organisation (DRDO) has been working on Rustom for a while. Meanwhile, Hindustan Aeronautics (HAL) has been working tirelessly to bring many options to the MALE class. It is working with DRDO on CATS while also seeking an opportunity with Israeli maker, IAI, to produce its Heron TP here in India. Even the private sector has been bullish. Adani Group has a joint venture with Israeli Elbit Systems to manufacture their Hermes UAS. However, the first MALE drone that will be made in India for commission into the three services is slated to be the Tactical Advanced Platform for Aerial Surveillance Beyond Horizon-201 (TAPAS BH-201). HAL is already working on six airframes for the evaluation of the system. While TAPAS is still under development, DRDO remains confident.

https://www.financialexpress.com/defence/us-offers-tot-to-build-hale-drones-in-india/2625411/lite/?utm_source=defence_landing_page&utm_medium=article_listing_widget&utm_campaign=Tags



Press Information Bureau
Government of India

Ministry Of Defence

Wed, 10 Aug 2022 5:12 PM

Tactical Leadership Programme

In the month of July 2022, the Indian Air Force (IAF) carried out a one-month long engagement with the Egyptian Air Force (EAF) at the Egyptian Fighter Weapon School, located in Cairo West Air Force Base. This was a first of its kind interaction for both the air forces as it was conducted between their respective Fighter Weapon Schools. On behalf of the IAF, Tactics and Air Combat Development Establishment (TACDE) participated in the programme with three Sukhoi-30 MKI aircraft and six Combat Instructor Pilots.

The interaction between the two air forces, under the aegis of the Tactical Leadership Program of EAF, saw a fruitful exchange of ideas in the domain of Large Force Engagements involving complex, multi-aircraft missions. During the interaction, IAF pilots flew alongside those of the EAF in missions of multiple complexities with the participants also sharing their experiences in the art and science of air combat, while also discussing their best practices. The induction and

de-induction involved flights of over six hours with mid airrefueling support from the IAF and UAE Air to Air refuellers.

This programme, involving synergistic air operations, has illustrated a high degree of professional trust that has developed between the two Air Forces. The bond between the two Air Forces dates back to the 1960s when GpCaptKapilBhargava, an IAF Test Pilot, test flew the Egyptian prototype of the Helwan HA-300 with Test Pilots from the EAF. This was followed by Indian Qualified Flying Instructors training young Egyptian pilots - a programme that continued into the 1980s.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1850533>



Thu, 11 Aug 2022

Indian Navy Wants to Develop A New “Glidefire” Missile

The specifications for a new ship-launched surface-to-surface missile have been revealed by the Indian Navy (SSM). The glidefire SSM missile will be created in accordance with India’s Defence Acquisition Procedure (DAP) 2020’s Make-II category. This group includes privately funded project development that is not supported by the government. When Acceptance In Principle (AIP) was granted on September 16, 2021, the project first came to light. On April 6, 2022, a new AIP was granted as the project conducted a feasibility study. After that, a project brief that included the Glidefire SSM’s preliminary requirements was published in May. A “lightweight, modular, and cost-effective” missile with anti-ship and land strike capabilities was requested for to be developed. The missile would be fired from both a universal vertical launcher module now installed on Indian warships and a modular, expandable launcher. Additionally, DRDO is creating a universal vertical launcher that can be used to launch all homegrown missiles from Indian Navy ships.

“Hybrid propulsion” and “unique controlled surfaces” would be used by Glidefire SSM to engage enemy targets precisely. Fire control systems (FCS), launchers, and other interface hardware are examples of associated systems. A total of 115 missiles and two prototypes are needed for the Indian Navy. There were no details about the missile’s performance provided in this indicative document. However, further information on Glidefire SSM was given in a questionnaire paper that was published in July. The hybrid propulsion of Glidefire is designed to reach a terminal speed of at least 2000 kts (Mach 3). At “extended ranges of up to 180 kilometres,” it could engage hostile targets. Each year, 20 missiles are to be produced.

Glidefire is probably being considered as a ship-launched, medium-range anti-ship missile, a type of missile whose importation will be prohibited beginning in December 2027. Additionally, this would be a replacement for the Navy’s present Kh-35 “Uran” missiles. In the meantime, work is being done to enhance the FCS for the Uran SSM, which was introduced for the first time in 1997. The Rafael Sea Breaker, which has a larger range and a covert terminal phase, may be comparable to the Glidefire SSM in terms of performance. By 2027, many active Indian anti-ship missile projects, including a Submarine Launched Cruise Missile (SLCM) and Naval Anti-Ship Missile – Short and Medium Range, would also be produced. Long Range Land Attack

Cruise Missile (LRLACM), a subsonic hypersonic anti-ship missile, and BrahMos enhancements with longer ranges are some of the other Indian naval SSM programmes.

<https://defenceaviationpost.com/indian-navy-wants-to-develop-a-new-glidefire-missile/>



Wed, 10 Aug 2022

Defence R&D to be Opened to Private Sector for High-Tech Platforms

In the background of Russian and Chinese belligerence in Ukraine and Taiwan, the NarendraModi government will soon open defence research and development to the private sector for specific platforms to provide competition to the public sector and ensure that armed forces requirements are met in time. In the next meeting of Defence Acquisition Council (DAC), the NarendraModi government is slated to approve amendments in the Defence Acquisition Procedure (DAP) to allow Indian private sector into defence research and development (R&D) through special purpose vehicles and in collaboration with the defence public sector undertakings (DPSUs).

According to officials aware of the developments, the amendments will allow the Indian private sector to acquire a major stake in Defence R&D companies, which will be set up for development of major hardware platforms like drones, helicopters, aircrafts, and advanced submarines. This is a ground breaking development as till now, only government DPSUs and laboratories were allowed defence R&D with only minor items being exposed to private R&D. This is in line with the defence budget, where it was announced that 25 per cent of defence R & D budget would be spent on these platform specific SPVs with the private sector.

Given the global turmoil sparked off by the Ukraine war and the Chinese belligerence in the Indo-Pacific, India has no options but to make defence R & D competitive as the public sector alone cannot cater to growing Indian defence platform requirements in the stipulated time. The global defence market is set to face new challenges as countries like Japan, Germany, ASEAN, South Korea, and east European countries will be seeking more weapons from the US to deter Russia and China, and the latter will be cutting down on exports to service their own requirements. India has no options but to develop and manufacture hardware platforms on its own as its major supplier Russia is focused on the Ukraine war and it is only a matter of time when scarcity of spare parts hits the Indian armed forces.

While the Defence Research and Development Organization (DRDO) has been developing hardware platforms over the decades, the entry of private sector into defence R&D will give India more options for developing stand-off weapon systems like long endurance armed drones, anti-drone systems, 12-ton multi-purpose helicopters, next

generation of fighter aircraft and perhaps nuclear powered and conventionally armed submarines. The matter has acquired urgency as China has been able to develop armed high altitude long endurance drones like Wing Loong 10, which is powered by turbofan engines like state-of-the-art US armed drones. India, on the other hand, is still relying on getting its medium altitude long endurance drones being upgraded by Israel and has no answer to the long strides that China or for that matter Iran and Turkey have taken in development of unmanned aircraft systems.

<http://www.indiandefensenews.in/2022/08/defence-r-to-be-opened-to-private.html>



Wed, 10 Aug 2022

Atmanirbharta in Defence: A New Dimension to Grow Indo-US Strategic Partnership

Providing a huge boost to 'Make in India' & 'Atmanirbharta in Defence' and adding a new dimension to the burgeoning Indo-US strategic partnership, US Navy Ship (USNS) Charles Drew arrived at L&T's Shipyard at Kattupalli, Chennai on August 07, 2022 for undertaking repairs and allied services. This is the first ever repair of a US Navy ship in India. The US Navy had awarded a contract to L&T's Shipyard at Kattupalli for undertaking maintenance of the ship. The event signifies the capabilities of Indian shipyards in the global ship repairing market. Indian shipyards offer wide ranging and cost-effective ship repair and maintenance services, using advanced maritime technology platforms. Defence Secretary Dr Ajay Kumar, Vice Chief of Naval Staff Vice Admiral SN Ghormade, Flag Officer Commanding Tamil Nadu & Puducherry Naval Area Rear Admiral S Venkat Raman and other senior officials of Ministry of Defence visited the shipyard to welcome the vessel. Consul General in Chennai Ms Judith Ravin and Defence Attaché at the US Embassy at New Delhi Rear Admiral Michael Baker were also present.

Terming the event as a red-letter-day for the Indian shipbuilding industry and the Indo-US defence relationship, Defence Secretary Dr Ajay Kumar said, "We are indeed pleased to welcome US Naval Ship USNS Charles Drew to India, for making her voyage ready. India's initiative also assumes special significance in furthering the strategic partnership between India and the US. It marks the beginning of a new chapter for deeper engagements". Dr Ajay Kumar described the arrival of USNS Charles Drew for repairs as a sign of a maturing Indian shipbuilding industry. "Today, India has six major shipyards with turnover of nearly \$2 billion. We are making ships not only for our own requirements. We have our own design house capable of making all kinds of state-of-the-art ships.

The country's first Indigenous Aircraft Carrier Vikrant is a shining example of the growth of the Indian shipbuilding industry. Under the new innovation ecosystem, vessels capable of undertaking autonomous missions have been built by Goa Shipyard Limited and some of our start-ups. The shipbuilding industry today is not just carrying out conventional things, but is also amalgamating the latest technologies with it," he said. The Defence Secretary also asserted that

the ties between India & US have been expanding in scale & scope and are based on common values & beliefs of an open, inclusive and rule-based order in Indo-Pacific and rest of the global common systems. He added that there has been a tremendous amount of traction in the defence industry cooperation over the last couple of years between the two countries.

“Indian defence exports have seen a massive increase in the last four-five years. Exports, which were worth about Rs 1,500 crore in 2015-16, have now grown by 800% to around Rs 13,000 crore. A major destination for Indian exports is the US,” Dr Ajay Kumar said, thanking the US partners for their cooperation and support to the Indian defence industry. He hoped that the defence exports will increase further in the times to come. US Consul General in Chennai Ms Judith Ravin said: “In April, at the US-India 2+2 Ministerial Dialogue, US Secretary of State Antony Blinken and Secretary of Defence Lloyd Austin affirmed their intention to explore utilising Indian shipyards for repairs on US Navy vessels. This inaugural repair of USNS Charles Drew is a landmark development to be celebrated as a symbol of our strengthened US-India partnership.”

Defence Attaché at the US Embassy at New Delhi Rear Admiral Michael Baker said: “Our shipping industries positively contribute to a free and open Indo-Pacific by partnering to deliver effective, efficient, and economical repair of military vessels.” Member of the Executive Council and Advisor to the CEO of L&T for Defence and Smart Technologies Shri JD Patil said, the Marine Sealift Command of the US Navy had undertaken rigorous evaluation of select shipyards in India and cleared L&T for undertaking repairs on their vessels. It is a recognition for the modern infrastructure at the shipyard built to global standards. The USNS Charles Drew will be at Kattupalli shipyard for a period of 11 days and undergo repairs in various areas.

<http://www.indiandefensenews.in/2022/08/atmanirbharta-in-defence-new-dimension.html>



Wed, 10 Aug 2022

U.S. President Biden will Expedite India-Specific CAATSA Sanctions Waiver because He has the Political Mileage: RO Khanna

The recent India-specific CAATSA sanctions waiver by the U.S. House of Representatives is the most consequential vote since the civilian nuclear deal, an influential Indian-American Democratic Congressman has said, asserting that U.S. President Joe Biden will expedite the waiver because he has the “political mileage” and the backing of 300 members of the Congress. In July, the U.S. House of Representatives passed a legislative amendment that approves an India-specific waiver for punitive CAATSA sanctions for its purchase of the S-400 missile defence system from Russia. Authored and introduced by Indian-American Congressman Ro Khanna, the amendment urges the Biden administration to use the authority to provide India with a Countering America’s Adversaries Through Sanctions Act (CAATSA) waiver to help deter aggressors like China.

“The U.S.-India relationship has never been more critical. When you see an expansionist China at an expansionist Russia, I believe this is going to be a defining relationship of the 21st century. And we needed to send a clear message to India that America values this relationship as very

important,” Mr.Khanna told PTI in an interview.The legislative amendment was passed last month by voice vote as part of an en bloc (all together as a single unit) amendment during floor consideration of the National Defence Authorisation Act (NDAA).The legislation is yet to be passed by the United States Senate before it can be sent to President Biden to be signed into law.“Having the threat of sanctions hanging over India undermines our ability to build that strong strategic relationship. It undermines the ability to strengthen the QUAD with Australia and Japan,” the 45-year-old Democrat said.

CAATSA is a stringent U.S. law that authorises the U.S. administration to impose sanctions on countries that purchase major defence hardware from Russia in response to Russia’s annexation of Crimea in 2014 and its alleged meddling in the 2016 U.S. Presidential elections.The bipartisan vote, which had the support of 300 members of the Congress, is the most consequential vote for India-U.S. relationship, he noted.“So, this amendment where you have 300 members of Congress telling President Biden to waive the sanctions is an enormous show of support for that relationship. It’s the most historic vote in the House, ...since the India civilian nuclear deal. And it doesn’t so much matter whether it’s ultimately in the NDAA or in the Senate, because President Biden has the ultimate authority and this gives him the political mileage to waive off those sanctions,” Mr.Khanna said.

Mr.Khanna, who was part of the high-profile delegation led by U.S. House Speaker Nancy Pelosi that travelled to Taiwan recently, said that his legislative amendment passed by the House had the support of the Biden administration.“It would never have passed the House, if the White House had not indicated a positiveness. I mean, you would never have had the amendment ruled in order or have had a vote on it or had it gone, without the support of the House Foreign Affairs chair, Greg Meeks. We have been in touch with the National Security team with the state department and they appreciated it,” he explained.When asked why Mr. Biden has not issued the national interest waiver to India so far, Mr.Khanna said the President has his hands full with a wide-range of international and domestic challenges.“He’s dealing with Ukraine. He’s dealing with China, and he probably wants to see the process play out in the Senate. But this was a strong step in that direction of him having the wave,” Mr.Khanna noted.

He said the administration understands the strategic importance, and understands the need to strengthen the defence relationship with India.“The administration understands there are times we will disagree and we want India to condemn the Ukraine invasion, but that we still have to forge ahead on building a strong relationship, understands the importance of human rights,” he said.Mr.Khanna has also proposed India to become the sixth nation in the NATO plus arrangement to bolster defence ties.“Right now, you have NATO plus five. Basically Australia, South Korea, New Zealand, Israel and Japan get expedited arms, like NATO does. And I’m working to add India to it. I had introduced that earlier, and this amendment builds momentum for that,” he added.

<https://www.thehindu.com/news/international/us-president-biden-will-expedite-india-specific-caatsa-sanctions-waiver-because-he-has-the-political-mileage-khanna/article65753378.ece>

Wed, 10 Aug 2022

Spain Emerging as India's Most Reliable Defence Allies

To improve its naval and air defence capabilities, India regularly collaborates with Spain. In keeping with that, India may purchase five Spanish naval submarines. This comes after India and Spain signed an agreement to buy 56 C295MW Airbus planes for 2.5 billion euros to replace the Indian Air Force's (IAF) AVRO fleet. "Spain is among the nations competing in the tender as India considers purchasing submarines. Spain views Navantia's (a Spanish corporation) proposition as being extremely competitive in terms of quality, price, technology transfer, and indigenization. Navantia would be responsible for supplying the Indian Navy with cutting-edge conventional Air Independent Propulsion (AIP) submarines if the Indian government accepts the offer," Jose Maria Ridaio, the ambassador of Spain to India, said.

In the meantime, India and Spain have agreed to a deal to pay Euro 2.5 billion for 56 Airbus planes. "This contract exemplifies the enormous potential between our two countries. On the one hand, it demonstrates the significance of Spain's defence sector, and on the other, it supports the "Make in India" strategy. In that regard, the first 16 aircraft will be constructed in Seville, and TATAs will produce the remaining 40 aircraft with aid from Spain," Ambassador Ridaio added. This will be the country's first private sector "Make in India" aerospace initiative, involving the full establishment of an entire industrial ecosystem, from production through assembly, testing and certification to delivery and maintenance for the aircraft's entire lifecycle.

"The first 16 aircraft will be delivered by Airbus from its final assembly line in Seville, Spain, in "fly-away" condition in accordance with the contract. As part of an industrial collaboration between the two businesses, the following 40 aircraft will be produced and assembled by TATA Advanced Systems (TASL) in India," announced a Tata representative. The C295 is utilized for tactical transport of up to 71 infantry or 50 paratroopers and logistical operations to regions inaccessible to more modern heavier aircraft because of its demonstrated ability to operate from short to unprepared airstrips. The difference between imports and exports in Spain has increased recently. "The difference between Spanish exports and imports from India in 2021 was €1,496.53 million, or 35.6% of the total value of exports and imports. As a sign of recovery following the recession, total exports rose by 37.1% in 2021," Ambassador Ridaio indicated the epidemic. Spanish imports from India were €2,466.7 million, and exports to India were €731.9 million in the first five months of 2022, for a coverage rate of 29.67 per cent.

<http://www.indiandefensenews.in/2022/08/spain-emerging-as-indias-most-reliable.html>

Business Standard

Wed, 10 Aug 2022

China Says Exercises Near Taiwan, Conducted Post Pelosi Visit, Have Ended

China on Wednesday announced that it has concluded its military drills after more than a week-long training near Taiwan, simulating an attack on the self-ruled island. The PLA Eastern Theater Command said it had successfully completed various missions during recent drills around Taiwan and effectively tested the troops' joint operation combat capacity, state media outlet Global Times reported. The command will regularly organize combat readiness patrols in the Taiwan Strait, it added. On Tuesday, Taiwan's Foreign Minister Joseph Wu said China used the military drills to influence the international community's freedom of navigation in the waters and airspace of the Taiwan Strait and to prepare for an invasion. Addressing an international press conference, Wu said China's decision to carry out military exercises in areas surrounding Taiwan is a gross violation of Taiwan's rights under international law and gravely threatens regional peace and security. "China has used the drills in its military playbook to prepare for the invasion of Taiwan. It is conducting large-scale military exercises and missile launches, as well as cyberattacks, disinformation, and economic coercion, in an attempt to weaken public morale in Taiwan," he said.

Justifying its large-scale military drills and airspace violations in the East and South China sea, China on Tuesday said that after Pelosi's visit to Taiwan, the country is now preparing itself for every possible scenario. Chinese Foreign Affairs Ministry Spokesperson Hua Chunying said that Pelosi's Taiwan visit is a major provocation that upgraded US-Taiwan relations and a real threat to China's sovereignty & territorial integrity adding that China has to prepare itself for every possible scenario. Commenting on the US foreign policy on Iraq, Libya, Afghanistan and NATO eastward expansion, she questioned if US believed in the basic principles itself. Amid rising Chinese aggression, Taiwan's Defense Ministry said that the country is involved in robust training to respond to the People's Liberation Army (PLA) which is continuing its military drills and demonstrating that it is a threat to the neighbouring region.

https://www.business-standard.com/article/international/china-says-exercises-near-taiwan-conducted-post-pelosi-visit-have-ended-122081000897_1.html

Science & Technology News



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Newly Appointed DG, CSIR, N. Kalaiselvi Calls on Union Minister Dr Jitendra Singh and Discusses the Status of Ongoing Research Projects in Cutting Edge and Futuristic Technologies

CSIR with 38 laboratories and over 4,500 scientists must focus on emerging innovations in areas like Hydrogen in the energy transition, Carbon capture and storage, Accessible solar power, Plastic recycling and Cheap energy storage: Dr Jitendra Singh. Newly appointed DG, CSIR, N. Kalaiselvi today called on Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh and discussed the status of ongoing research projects in cutting edge and futuristic technologies. Earlier, N. Kalaiselvi worked as Director of the CSIR-Central Electrochemical Research Institute (CSIR-CECRI), Karaikudi, Tamil Nadu.

Ms. Kalaiselvi's apprised Dr Jitendra Singh about her research experience spanning over two decades in areas like electrochemical power systems, energy storage devices, lithium technologies and electric mobility. Dr Jitendra Singh congratulated Ms Kalaiselvi for being the first woman DG of CSIR in its rich history and legacy of over 80 years. He also underlined that Prime Minister Modi has penchant for taking such historic decisions having positive bearing on overall growth and development of the country. Dr Jitendra Singh said that CSIR having a network of 38 laboratories and over 4,500 scientists must focus on emerging innovations in areas like Hydrogen in the energy transition, Carbon capture and storage, Accessible solar power, Plastic recycling and Cheap energy storage. He lauded National Aerospace Laboratories, a constituent of the Council of Scientific and Industrial Research (CSIR-NAL) for recently showcasing the solar powered high altitude long endurance unmanned aerial vehicle, also known as the 'High Altitude Performance (HAP) Vehicle.

The HAP is designed to fly at an altitude of 22 km and for a span of up to 90 days and could work as a pseudo satellite, with a higher performance, lower launch cost. Similarly, the Minister also underlined the pioneering work being done in Drone technology. Dwelling on the Aroma

Mission of CSIR, Dr Jitendra Singh said, “Purple Revolution” in Jammu and Kashmir has changed the face of farming in UT. He said, due to high monetary returns, in a brief span of time, aroma/lavender cultivation has become a popular option in farming for agricultural Start-ups in J&K.

Dr Jitendra Singh also discussed to take the state-of-the-art Heli-borne survey technology of CSIR for groundwater management on a wider scale with cooperation and coordination from Jal Shakti Ministry. He said, the technology developed by CSIR-NGRI Hyderabad was applied last year in States of Rajasthan, Gujarat, Punjab and Haryana and this could play an important role in positively contributing to Prime Minister Narendra Modi’s Vision and Mission of “HarGharNal Se Jal”. Similarly, the mechanized sewage cleaning system developed by CSIR for wider dissemination will help in achieving the target of Swachh Bharat Mission, he added.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1849955>

Business Standard

Thu, 11 Aug 2022

ISRO Successfully Tests Gaganyaan Low Altitude Escape Motor from Andhra

In another important milestone in the Gaganyaan project, Indian Space Research Organisation (ISRO) successfully carried out the test-firing of the Low Altitude Escape Motor (LEM) of Crew Escape System, from Sriharikota, Andhra Pradesh, said the officials on Wednesday. "The Crew Escape System (CES) takes away the Crew module of the Gaganyaan mission in case of any eventuality and rescues the astronauts. In case of mission-abort during the initial phase of flight, LEM provides required thrust to CES, to take away Crew Module from the launch vehicle," read a statement by ISRO. The LEM is a distinctive special purpose solid rocket motor with four reverse flow nozzles and generates a maximum sea level thrust of 842 kN (nominal) with a burn time of 5.98 seconds (nominal).

The nozzle end of LEM is mounted at the fore end of the launch vehicle unlike at the aft end in conventional rocket motors to avoid exhaust plume impingement on the crew module. This necessitates the use of a reverse flow multiple nozzle in this solid rocket motor. The reverse flow nozzle implies the reversal of the exhaust gas flow direction in the nozzle region. The space research organisation also listed the main objectives of the static test which included evaluation of motor ballistic parameters, validation of motor subsystem performance and to confirm the design margins, evaluation the thermal performance of nozzle liners; especially to confirm the erosion / ablative characteristics. Validation of integrity of all interfaces, evaluation the head-end mounted safe arm (HMSA) based ignition system performance and evaluation of the side thrust due to misalignment and variation in flow and other functional parameters including flow reversal were among the other primary reasons listed.

https://www.business-standard.com/article/current-affairs/isro-successfully-tests-gaganyaan-low-altitude-escape-motor-from-andhra-122081100125_1.html

Indian Start-Up Achieves Break-Through in Aero Engine Design with Digital Twin

This Indian DeepTechstartup has recently achieved a breakthrough in the design of State-of-the-Art Aero-Engines for Cruise Missiles and Large UAVs recognized by DPIIT “Startup India” program. With a team of 35 engineers including Chief Engineers with Global OEM experience and expertise, PhDs and talented graduates from Global Universities including students from IITs, Paninian has embarked on this challenging journey of designing and developing state of the art Aero-Engines also known as Turbofan Engines to power our critical Defence needs.

For the first time ever in the Indian private sector Paninian has successfully demonstrated the design and validation of a 4.5 KN Turbojet Engine which is further being developed into a family of engines in the range of 3-12 KN thrust, along with AI augmented digital twin companions. The other breakthrough is in terms of developing an Artificial Intelligence driven Digital Twin for Legacy engine performance modelling and prognostics for supporting Mission performance and life extension efforts for IAF aircrafts like Jaguar, Sukhoi and Mirage 2000. This can now serve as a tool to study the extension of engines and greatly assist the IAF and Centre for Military Airworthiness and Certification in their study of performance degradation. Such Digital Twin which are required for cutting-edge Prognostics, Engine Health and Performance Monitoring have been conceived entirely from scratch in India by Indian engineers. Now India can carry out life extension of engines locally and accurately without resorting to foreign assistance.

Dr.Gouda , a former Senior Scientist and Program Director in DRDO,currently serving as an technology advisor for Paninian, brought out that such digital twin can also be 3D printed to develop future power requirements of cruise missiles and large UAVs for India as well as for exports. “With design / development centres in Hyderabad, Bangalore and Pune, I feel Paninian is quite well poised to attract the very best of the global Indian talent in Engineering and Manufacturing to join in this exciting journey”, he added.Paninian intends to develop and manufacture these complete families of engines ranging between 3-12 KN within India using state of the art 3D Printing technology. The founder Raghu Adla also said that he’s “immensely grateful to many senior Industry leaders from Lockheed Martin, GE, Rolls Royce including senior leaders from DRDO, IAF, IIT and IISc research faculty who have been supporting this journey.”

He also emphasised on the need for the public sector to support such start up efforts by providing grants, access to laboratories. This innovation could go a long way in the “Make in India” program to make the country “AtmaNirbhar” in the strategic field of aero engines. “I am glad to dedicate this innovation to the country on the eve of “AzadikaAmrutMahotsav”, Raghu added. Paninian is also participating in the upcoming Wargame conducted by Insighteon Consulting, a pioneer consulting firm in Aerospace and Defence, to identify barriers in the development of indigenous aero engines in India, being held in August 2022.

<https://www.thehindu.com/brandhub/pr-release/indian-start-up-achieves-break-through-in-aero-engine-design-with-digital-twin/article65752878.ece>

