फरवरी
February
2023

खंड/Vol. : 48 अंक/Issue : 24

03/02/2023

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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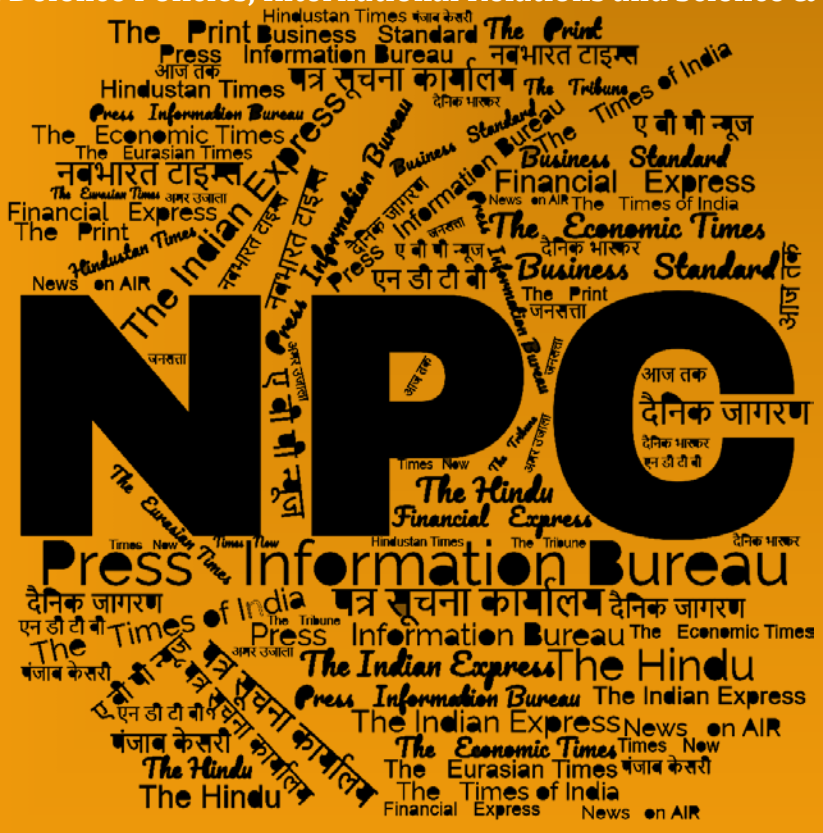

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FINANCIAL EXPRESS
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Thu, 02 Feb 2023

Aero India 2023: LCA Tejas to be at the Centre Stage of 'India Pavilion'

A full scale LCA-Tejas aircraft in Final Operational Clearance (FOC) configuration will be at the centre stage of "India Pavilion" at Aero India 2023, to be held from February 13 to 17 at Yelahanka Air Force Station here. The 14th Edition of the biennial aero show and aviation exhibition, organised by the Ministry of Defence, will have a separate "India Pavilion" based on 'Fixed Wing Platform' theme to showcase India's strides in the fixed wing area and future prospects in the field, a Defence release said on Thursday.

The India Pavilion will further showcase the growth of India in developing an eco-system for fixed wing platform which includes the demonstration of various structural modules, simulators and systems, among others, of LCA-Tejas aircraft being produced by private partners. There will also be a section for "Defence space, New Technologies" and a UAV (unmanned aerial vehicle) section which will give an insight about the growth of India in each sector.LCA Tejas is a single engine, light weight, highly agile, multi-role supersonic fighter. It has quadruplex digital fly-by-wire Flight Control System (FCS) with associated advanced flight control laws. The aircraft with delta wing is designed for 'air combat' and 'offensive air support' with 'reconnaissance' and 'anti-ship' as its secondary roles. "Extensive use of advanced composites in the airframe gives a high strength to weight ratio, long fatigue life and low radar signatures," the release said.

Tejas is equipped with state-of-the-art features like glass cockpit, zero-zero ejection seat, inflight refueling probe and jam-proof AESA Radar, among others, which make the aircraft "more lethal," it said. LCA has come a long way in terms of development and presently available in Air Force fighter & twin seater and LCA Navy fighter and twin seater. Other variants like LCA LIFT (Lead in fighter trainer) and MK-2 are being developed for LCA Tejas. Aero India provides a platform to various national and international aerospace and defence companies to showcase their advanced products and capabilities to explore business opportunities, it was noted.

https://www.financialexpress.com/defence/aero-india-2023-lca-tejas-to-be-at-the-centre-stage-of-india-pavilion/2969245/lite/

THE ECONOMIC TIMES

Thu, 02 Feb 2023

LCA Tejas to be at the Centre Stage of 'India Pavilion' at Aero India 2023

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https://m.economictimes.com/news/defence/lca-tejas-to-be-at-the-centre-stage-of-india-pavilion-at-aero-india-2023/amp_articleshow/97547160.cms

news nine

Thu, 02 Feb 2023

India to Develop Intelligent Aircraft-Mounted System for Long-Range Surveillance and Reconnaissance: Know All About it

Taking a step ahead in the nation’s Indigenisation drive, India is all set to develop an intelligent aircraft-mounted system for Long-range Surveillance and Reconnaissance. The move is the result of India’s major steps toward equipping its defence forces with cutting-edge technology

and armour over the next 15 years. The modernisation process includes the upgradation of hardware and systems as well as the procurement of new, state-of-the-art equipment to enable them to meet security challenges in the coming decades. In the recent budget presentation, Union Finance Minister NirmalaSitharaman allocated an amount of Rs 5.94 lakh crorefor the financial year 2023-24.

Who has taken the charge?

India's premier authority for Defence development, the Defence Research and Development Organisation (DRDO) has been given the responsibility of developing an electro-optical imaging system that can be mounted on an aerial platform. While the organisation's nodal agency Instruments Research and Development Establishment (IRDE) situated in Dehradun, will manage the projects and their accomplishment in association with the private sector as a boost to self-reliance. Work on the project is scheduled to begin this year.

About Intelligent Aircraft-Mounted System

The Intelligent Aircraft-Mounted System will be installed on helicopters, aeroplanes, and unmanned aerial vehicles allowing them an auto-acquisition and auto-tracking of numerous targets during both day and night movements and in a variety of climatic and environmental conditions.The artificial intelligence system can be mounted on the nose or the underside of the platform depending on whether the aerial platform is a fixed-wing aircraft or a helicopter. The sensor's inputs will be incorporated into the Indian Air Force's surveillance and communication networks and transmitted in real-time to command centres for decision-making.

Features of the aircraft

The Intelligent Aircraft-Mounted System will boast various payloads and sensors such as a thermal imager, infra-red cameras, high-definition TV camera, laser target designator and laser range finder along with video target tracking, geo-positioning and geo-navigation capabilities. According to the report, the aircraft-mounted system will weigh 50 kg including the payloads and measure around 16 inches in diameter and 20 inches in height.

About the project designer

The Instruments Research and Development Establishment (IRDE) focused on research, design, development, and technology transfer in optical and electro-optical instrumentation, especially for defence services. Recently, the organisation has started working on projects to generate various electro-optical systems for drone detection and coastal and harbour surveillance.

https://www.news9live.com/knowledge/india-to-develop-intelligent-aircraft-mounted-system-for-long-range-surveillance-and-reconnaissance-know-all-about-it-au1321-2043380

JANES

Wed, 01Feb 2023

India Clears Acquisition of Futuristic Infantry Combat Vehicle

By Kapil Kajal

India's Defence Acquisition Council (DAC), chaired by Defence Minister Rajnath Singh, has approved the procurement of the Futuristic Infantry Combat Vehicle (FICV) for the Indian Army. The Ministry of Defence (MoD) said in a statement that the procurement, approved through the provision of an 'Acceptance of Necessity' (AoN) status under the 'Buy (Indian)' category, includes the tracked version of the FICV for the Mechanised Infantry Regiment of the Indian Army. The MoD added that the FICV should be amphibious and equip a manned turret with the future combat system (FCS), and fire-and-forget top-attack anti-tank guided missiles (ATGMs).

The FICV must be inducted with an automatic cannon of at least 30 mm calibre, a co-axial machine gun, and a stabilised remote control weapon station (RCWS) with a 12.7 mm machine gun. The FICV must be equipped with active protection and laser warning systems, and it must have a carrying capacity of 11 soldiers. In June 2021, the Indian Army issued a request for information (RFI) on the planned procurement of 1,750 units of indigenously developed, amphibious, tracked FICVs.

The issuance of the RFI marked the Indian Army's third attempt since 2008 to acquire FICVs to replace the service's ageing fleet of Soviet Union-era BMP-1 and BMP-2 infantry combat vehicles (ICVs), Janes reported at the time. India's state-run Armoured Vehicles Nigam Limited (AVNL), and private-sector companies such as Mahindra Defence Systems, Larsen & Toubro (L&T), and Tata Motors are developing FICV prototypes for the Indian Army and are likely to take part in the FICV bidding process.

https://www.janes.com/defence-news/news-detail/india-clears-acquisition-of-futuristic-infantry-combat-vehicle

FINANCIAL EXPRESS
Read to Lead

Thu, 02 Feb 2023

Ex-Trishakti Prahar: Synergizing Firepower Assets of Security Forces

Aimed at synergizing the firepower assets of the security forces to orchestrate an integrated battle, Indian Army, Indian Air Force (IAF) and Central Armed Police Force (CAPF) have recently concluded a joint training exercise named "Trishakti Prahar".

This exercise was conducted in north Bengal from January 21-31, and among the CAPFs — the troops from the Border Security Force (BSF), the ITBP, and the SSB participated.

According to sources in the defence and security establishment the main objective of drill was to practice battle preparedness in which latest weapons and equipment were used in a networked and integrated environment. And, in the joint exercise, all arms and services of the Army, IAF and CAPFs were involved.

According to sources this drill showcased capability of the Indian Armed Forces in synergised application which included the assets of the IAF, Airborne Special Forces and the Security Forces in a networked environment.

More about Trishakti Prahar

This exercise took place at different locations in north Bengal and the joint forces carried out deployment and swift mobilization practices. And agencies like Police, Civil Administration, Civil Defence Organisations, were involved. They were there to ensure quick mobilization and swift and efficient movement.

And on the last day of the drill the joint force conducted an integrated fire power exercise in Teesta Field Firing Ranges, and was reviewed by Lt Gen RP Kalita, Army Commander, Eastern Command.

There were several ground and aerial assets which were deployed in the exercise. And these include: medium & field artillery guns, infantry mortars, helicopters, latest fighter jets, tanks, infantry combat vehicles and other weapons and equipment in a networked environment. There was also a display of the major equipment and weapons.

Senior officers of BSF, SSB, ITBP, and civil administration dignitaries also witnessed the exercise.

https://www.financialexpress.com/defence/ex-trishakti-prahar-synergizing-firepower-assets-of-security-forces/2969801/

नवभारत टाइम्स

Fri, 03 Feb 2023

LAC कैसे बनी नई LOC यह भी दिख रहा बजट में

ईस्टर्न लद्दाख में चीन के साथ जबसे तनाव शुरू हुआ तबसे भारतीय सेनाओं की तैनाती और ऑपरेशनल कमिटमेंट किस तरह बढ़ा है यह बजट में भी दिख रहा है। पहले सिर्फ लाइन ऑफ कंट्रोल (एलओसी) यानी पाकिस्तान बॉर्डर पर ही ब ड़ी संख्या में सैनिकों की परमानेंट तैनाती रहती थी लेकिन 2020 में चीन के साथ शुरू हुए तनाव के बाद से लाइन ऑफ एक्चुअल कंट्रोल (एलएसी) यानी चीन बॉर्डर पर भी सैनिकों की तैनाती बहुत बढ़ी , जो पहले नहीं थी। ईस्टर्न लद्दाख में ही करीब 55 हजार अतिरिक्त सैनिकों की तैनाती की गई जो लगातार जारी है। कई एक्सपर्ट्स ने इसे लेकर कहा भी कि एलएसी भी नई एलओसी बन गई है।यह बुधवार को संसद में पेश किए गए बजट में भी दिखा।

डिफेंस के लिए जो कुल बजट है वह 5.93 लाख करोड़ रुपये है, इसमें 4.2 लाख करोड़ रुपये रेवेन्यू बजट है और 1.71 लाख करोड़ कैपिटल बजट। कैपिटल बजट नए हथियार, उपकरण खरीदने के लिए इस्तेमाल होता है। जबकि रेवेन्यू बजट में सैलरी से लेकर हथियारों , उपकरणों का रखरखाव , उनका अपग्रेडेशन, गोला बारूद, स्पेयर्स पार्ट, सैनिकों के रहने का इंतजाम आदि शामिल है। अब इसमें अगर सैलरी को हटा कर देखें तो सैलरी छोड़कर रेवेन्यू बजट पिछले साल के मुकाबले 44 पर्सेंट बढ़ा है।

यह पिछले साल 62431 करोड़ रुपये था जो इस बार बजट अनुमान में 90000 करोड़ रुपये हो गया है।रक्षा मंत्रालय ने भी कहा कि बढ़ा हुआ रेवेन्यू बजट वॉरशिप , एयरक्राफ्ट सहित वेपन सिस्टम और प्लेटफॉर्म के रखरखाव, उनके अपग्रेडेशन, एम्युनिशन लेने, स्पेयर्स पार्ट लेने और मिलिट्री रिजर्व स्टॉकिंग पूरी करने में काम आएगा। पिछले बार सैलरी छोड़कर रेवेन्यू का जो अनुमानित बजट था वह संशोधित बजट में काफी बढ़ गया था। क्योंकि लाइन ऑफ एक्चुअल कंट्रोल में चीन के साथ तनाव होने से वहां इमरजेंसी में सैनिकों के रहने के लिए इंफ्रास्ट्रक्चर बनाया गया, इसमें परमानेंट स्ट्रक्चर भी शामिल हैं। साथ ही कई टैंको को वहां तैनात किया गया।

यह लगातार तीसरी सर्दी थी जब सैनिकों सहित टैंक और दूसरे सैन्य साजो सामान वहां लगातार तैनात रहे। टैंकों में विंटर किट लगाई गई , उस बर्फीली ठंड में सैनिकों सहित हथियारों को भी सुरक्षित रखने का इंतजाम किया गया। साथ ही गोला बारूद को भी स्टॉक किया गया।पिछले महीने ही इंडियन आर्मी चीफ जनरल मनोज पाण्डे ने बताया कि ईस्टर्न लद्दाख में हमारे करीब 55 हजार सैनिक तैनात हैं जिनके लिए हैबिटाट (शेल्टर) बनाए गए। करीब 400 गन और 500 टैंक और इंफ्रेंट्री वीइकल के लिए कवर्ड गरम शेल्टर बनाए गए और पिछले तीन साल में 1300 करोड़ रुपये इंफ्रास्ट्रक्चर और हैबिटाट पर खर्च हुए। रेवेन्यू बजट में यह सब साफ दिख रहा है कि एलएसी पर त नाव होने से किस तरह बजट का एक बड़ा हिस्सा वहां जा रहा है।

https://navbharattimes.indiatimes.com/india/amid-tension-with-china-deployment-shows-line-of-actual-control-becomes-new-loc-it-reflects-in-budget-too/articleshow/97560241.cms

THE ECONOMIC TIMES

Thu, 02 Feb 2023

General Atomics Initiates Three Key Projects in India in Artificial Intelligence, Drones and Semiconductors

General Atomics, a major American energy and defence corporation, has started three significant projects in India in the field of artificial intelligence, drones and semiconductors, a company official has said, a day after the launch of a landmark India-US initiative on critical and emerging technologies. With Bharat Forge, General Atomics Aeronautical Systems (GA-ASI) has entered into a partnership in the critical field of aerostructure manufacturing and with 114ai, an Indian artificial intelligence (AI) company, to develop the next generation of technologies in artificial intelligence, according to Vivek Lall, chief executive, of the General Atomics Global Corporation. Bharat Forge is one of the leading forging companies in India.

It has entered into a partnership with 3rdiTech, an Indian start-up, in the field of semiconductors, Lall said. Lall was one of the key private sector players who participated in the various events related to the launch of the India-US initiatives in Critical and Emerging Technologies or iCET here this week. "GA-ASI is eagerly looking forward to working with Bharat Forge in the critical field of aerostructure manufacturing. Bharat Forge's expertise in the field of forging is known globally, and their outstanding contributions in the aerospace sector has inspired us to work together for building the next generation of the world's most advanced unmanned aerial vehicles," Lall told PTI.

"General Atomics is pleased to unveil our partnership with 114ai. We are looking forward to increased cooperation on NextGen AI technologies that we have been working on with the team at 114ai for the last few months," he said. Their technology, track record and tenacity with customers in the US and UK has stood out, he asserted.

"We expect many world-leading products coming out of this partnership. General Atomics is committed to Indian Prime Minister (Narendra) Modi's 'Make in India' strategy and we're looking forward to much more cooperation with Indian companies as we move forward," he said in response to a question. Lall said GA-ASI has entered into a strategic partnership with 3rdiTech.

"Semiconductors are going to be the defining technology of this era. The team and capability being developed at 3rdiTech are representative of the new India under Prime Minister Modi's leadership. GA-ASI will work with 3rdiTech, one of the inaugural winners of the Indian Ministry of Defence's flagship iDEX Programme, to transition this cutting-edge capability onto some of India's platforms," he said. "General Atomics is committed to supporting Prime Minister Modi's vision of an Atmanirbhar India, and partnerships like these are a big step in the right direction," Lall said.

A task force set up by the US Semiconductor Industry Association (SIA) in partnership with the India Electronics Semiconductor Association (IESA) with participation from the Government of India Semiconductor Mission to develop a "readiness assessment" to identify near-term industry opportunities and facilitate the longer-term strategic development of complementary semiconductor ecosystems, the White House said a day earlier. "This task force will make

recommendations to the Department of Commerce and the India Semiconductor Mission on opportunities and challenges to overcome in order to further strengthen India's role within the global semiconductor value chain, and will also provide input to the US-India Commercial Dialogue.

"The task force will also identify and facilitate workforce development, R&D including with respect to advanced packaging, and exchange opportunities to benefit both countries," it said.

https://m.economictimes.com/news/defence/israeli-air-strikes-hit-gaza-strip/amp_articleshow/97541534.cms

THE HINDU

Thu, 02 Feb 2023

India, U.S. Keen to Conclude $3 Billion MQ-9B Predator Drone Deal

India and the United States are keen for an early conclusion of the 30 MQ-9B predator armed drones deal at a cost of over $3 billion, which will help New Delhi strengthen its overall surveillance apparatus along the Line of Actual Control (LAC) and the Indian Ocean.

In the works for more than five years, the “ball is now in India’s court”, officials familiar with the development said Wednesday, without explaining further.

The MQ-9B predator-armed drones — 10 each for three services — is seen to be a key part of India’s national security and defence needs.

The officials did not elaborate further but ruled out that there was any bureaucratic hurdle or regulatory issues involved.

“I have to take that back and check on that,” Assistant Secretary of State for Political Military Affairs Jessica Lewis told reporters here when asked for the delay in the deal, which was announced in the summer of 2017.

It has been pending for quite some time now, for reasons not known in the public. However, the issues are believed to have been discussed during the meetings that the visiting National Security Advisor Ajit K Doval has had with top American leadership, including his counterpart Jake Sullivan.

During the meetings, it is believed that both sides expressed their eagerness to see that the drone deal is fast tracked. India is eager that an early decision would help it get an early delivery of MQ-98 predator armed drones that would strengthen its national security and surveillance not only in the Indian Ocean, but also along the LAC.

The Biden administration is keen on inking this deal as soon as possible, which will create jobs and would be politically beneficial ahead of the next year's presidential elections, according to people familiar with the development.

“MQ-9B would enable its Indian military users to fly farther than anything else in this category, spend more time in the air and handle a greater diversity of missions than any other similar

aircraft. The SkyGuardian and SeaGuardian can deliver full-motion video in virtually any conditions, day or night, as well as other kinds of detailed sensing with their onboard systems," Vivek Lall, chief executive, General Atomics Global Corporation, told PTI.

"The aircraft also can carry a wide variety of specialist payloads if they must adapt to a specific mission. A SkyGuardian becomes a SeaGuardian, for example, when it carries a 360-degree maritime search radar that gives users a quality of maritime domain awareness they can't achieve any other way," he said.

Artificial intelligence, machine learning and other sophisticated technologies help unlock the rich feed of insight from these aircraft, analyse it and distribute it to those who need it to take quick decisions, Lall said.

"Other payloads include communications relays – so the aircraft can serve as a node connecting forces over land or sea – or other intelligence, surveillance or military systems. These aircraft can conduct search and rescue, help fight wildfires, support customs authorities, augment naval forces and take many other tasks," he said.

"In short, MQ-9B is the premier multi-role, long endurance remotely piloted aircraft in the world today. It is in high demand. Japan, Belgium, Great Britain, and several other nations are flying or are on track to begin flying them," Lall said.

Early in the day, Assistant Secretary of State for Political Military Affairs Lewis told reporters that the India-U.S. defense relationship has gained pace.

"When we look at the relationship with India and our security cooperation with India and the defense relationship with India over the past 10 years or even a little bit longer, we've really seen that grow and evolve and change…in very positive ways," Lewis said in response to a question.

"I think all the discussions (during this week's iCET dialogue) are in that context," she said, a day after the two countries embarked upon the ambitious initiative in critical and emerging technologies.

"Everything from Indian procurement and or consideration of U.S. systems and India's competition, when they're having competitions for specific systems, to just the across-the-board relationship between our defense department, the Ministry of Defense. So we see this as a place where we want to continue to work closely," she said.

"Without getting into any of the details of the conversation, I think it's a very rich conversation right now. And one that we're deeply committed to not only continuing but to have growth," Lewis said.

Responding to a question, the State Department official said the U.S. is ready to help India diversify its defence needs.

"When it comes to India, I think there are a whole host of options. Obviously, we need to work those out with the Indian government, see what the needs are. But I think there are a whole host of options in terms of us being able to find additional systems, ways to cooperate. Obviously respecting India's own sort of rules of the game in terms of how that works. There's a lot more that we can do together and hope we can continue to work on that," Lewis said.

https://www.thehindu.com/news/national/india-us-keen-to-conclude-3-billion-mq-9b-predator-drone-deal/article66461838.ece

ThePrint

Thu, 02 Feb 2023

US-India Business Council Holds Round Table to Discuss Steps to Strengthen US-India Defence Partnership

US-India Business Council has held a round table discussion with Scientific Advisor to the Defence Minister, Satheesh Reddy and Director-General (Naval Systems and Materials) MZ Siddique on steps to strengthen the US-India defence partnership.

During the Wednesday meeting, the dignitaries including USIBC President Atul Keshap and President of the US Chamber of Commerce's Defence and Aerospace Council (DAC) Keith Webster discussed how greater engagement with global defence companies can support India's role as a major defence partner to the United States and a net security provider in the Indo-Pacific.

"USIBC held an engaging member roundtable with Dr. G. Satheesh Reddy, Scientific Advisor to the Defence Minister of India Dr. MZ Siddique, Director General (Naval Systems and Materials), Amb. Atul Keshap, and Keith Webster on steps to strengthen the U.S.-India defense partnership," USIBC stated on its official Twitter handle.

It further said, "Attendees discussed how greater engagement with global defense companies can support India's role as a major defense partner to the US and a net security provider in the #IndoPacific."

Earlier on January 31, USIBC hosted National Security Advisor Ajit Doval, US Secretary of Commerce Gina Raimondo, US National Security Advisor Jake Sullivan ahead of the inaugural launch of the US-India Initiative on Critical and Emerging Technologies (iCET).

In a roundtable organised by USIBC, NSA Ajit Doval and India's Ambassador to the United States Taranjit Singh Sandhu highlighted India's remarkable capacity for technology development and absorption, the US Chamber of Commerce said in a statement. They emphasized India's use of technology not only as an enabler of economic growth but also as an instrument of social inclusion.

Doval and Sandhu emphasized India's growing role as a trusted supply chain partner and contributor in the global technology value chain, according to the statement released by the US Chamber of Commerce. They stressed on the importance of easing export control measures to facilitate technology access, co-production, and co-development between India and the US.

https://theprint.in/world/us-india-business-council-holds-round-table-to-discuss-steps-to-strengthen-us-india-defence-partnership/1349418/?amp

FINANCIAL EXPRESS
Read to Lead

Thu, 02 Feb 2023

Arming for Emergencies: Russian Weapon Engineers Create the Ultimate Pilot Survival Tool

By Girish Linganna

The Russian aerospace forces officially approve the addition of the PPK-20U. The Russian PPK-20 U is a submachine gun designed for integration into pilot survival kits. It has a lightweight, compact design and features a folding telescopic polymer buttstock. It weighs 2.5 kg (5.5 pounds) unloaded and is 16 inches long in its shortest configuration making it useful for other units that need a compact submachine gun, such as bodyguards, undercover security officers, and vehicle crews. It uses a simple blowback method of operation and fires 9mm parabellum rounds. It also has a quick detachable sound and flash suppressor to aid in avoiding detection.

It is included in the Russian KM36 ejection seat survival kit along with other items such as water storage container, a machete, first aid supplies, signalling devices like flares and pen lights and a survival knife. As Downed Russian pilots have more than just a pistol for protection. The gun is intended to be a tool for the pilot's main goal of escaping in emergency situations and not meant for a prolonged firefight. The ejection seat has a high survival rate of 97% and the pilot survival kit has limited space and weight, so the weapon must be able to handle harsh conditions.

PPK-20's Lethal Trio: Blowback Mechanism, Drum Magazines, and High-Pressure Ammunition

The submachine gun's design traces its roots to the 1990s and quality control standards during the start of the Russian Federation were reportedly low. The Kalashnikov USA KR-9 SBR is a civilian attempt to reproduce the aesthetics of the Vityaz-style firearm, the predecessor of the PPK-20.The weapon was first unveiled in August 2021 at the international military-technical forum.

The PPK-20U was created by a team of Russian weapon engineers and heavily based on the Bizon design, which was accepted into service in 1996. The PPK-20U features a quick-detachable sound and flash suppressor, making it ideal for a down pilot trying to avoid detection. The PPK-20U uses a 64-round politic feed magazine, a design feature borrowed from the Russian love for drum magazines on submachine guns. The PPK-20 U, an upgraded version of the Vityaz, completed state trials in 2020. It is a further development of the Vityaz, which is used by the Russian police, some law enforcement units and FSB security agency.

The PPK-20 is designed for close combat in buildings. It is capable of firing high-pressure armour-piercing ammunition. It operates using a blowback mechanism. It is equipped with a combined safety and fire mode selector, with options for safe, semi-auto, and full-auto. It is not particularly accurate, with an effective range of around 50 metres, but remains lethal up to 200 metres. A lighter and more compact variant, the PPK-20U, was released for military pilots and has a number of improvements over the standard PPK-20, including a new polymer grip, ambidextrous fire selector, and adjustable stock.

A lighter and more compact version, the PPK-20U, was designed for military pilots and unveiled in 2021. It is slightly shorter and lighter, with a new polymer grip, trigger guard, handguard, and ambidextrous fire selector switch. It can mount a sound suppressor and be stored inside a pilot's seat. However Kalashnikov intends to market the submachine gun to international customers.

Armed for Survival: Compact Weapons Rise to Meet Pilots' Firepower Needs

The PPK-20 U was developed to address the issue of Russian pilots needing more firepower after incidents in the Syrian war and the invasion of Ukraine. Ukrainian troops have brought down 184 confirmed and another 73 captured Russian aircraft in 8 months since Russia's invasion of Ukraine, 55 fighters and 54 helicopters have been destroyed.

The Russian air force, navy and army have lost 15% of their Su-34 strike fighters and a quarter of their Ka-52 attack helicopters. The manpower crunch is likely to be severe as the number of experienced pilots who have died is incredibly high. However, the need for increased firepower for pilots who find themselves in the ground started much earlier than the invasion of Ukraine. As a Russian military plane was shot down in Syria by rebel forces and the pilot Major Roman Nikolayevich Filipov was killed. The incident took place in a rebel-held area in northwest Syria. After the crash, Major Filipov engaged in a gunfight with the rebel forces. But rather than enduring what would have happened if he was captured he used the grenade on himself. The Russian Defense Ministry confirmed the downing of the aircraft and the death of the pilot as The downing of the Russian plane and the death of the pilot marked a significant escalation in the Syrian conflict and raised tensions between Russia and the rebel forces.

It is not just Russian pilots who are asking for higher firepower. All of the NATO countries are requesting for increased firepower among fighter pilots after the downing of Jordanian Air Force pilot, Kasha Bay, in December 2014. Moaz al-Kasasbeh was a Jordanian pilot who was held captive by the Islamic State (ISIS) group. He was reportedly captured after his warplane crashed while he was participating in coalition air strikes against the group in Syria.

The US Air Force's development of a folding M4 carbine for air crew members is a response to the same issue that is being faced by other NATO countries, including Russia, of needing a compact and portable personal defence weapon for pilots that provides increased firepower compared to a pistol. The M4 carbine, when folded, can fit into a survival kit and can be used in case the crew has to eject and survive behind enemy lines. However, its disadvantage is the time required to assemble the weapon, which can take up to 60 seconds, before it can be used.

The Kalashnikov Group and India established the Indo-Russian Rifles Private Limited (IRRPL) in 2019 to produce AK-203 assault rifles under licence in India. The manufacturing processes could begin after a firm contract is signed. The AK-203 was showcased at the Army 2021 and features a slotted muzzle brake, integral Picatinny rail, ergonomic pistol grip, folding telescopic stock, and a 30-round plastic magazine that allows controlling ammo consumption. It can be used by the air force, army or navy during combat.

The Russian aerospace forces' approval of the PPK-20U is a step towards enhancing the safety and security of Russian pilots in emergency situations. With its lightweight, compact design and high firepower, the PPK-20U is a well-rounded weapon that can serve the diverse needs of Russian pilots. The folding telescopic polymer buttstock and quick detachable sound and flash suppressor are among its standout features. The weapon's approval reflects the growing need for increased firepower among military pilots globally and is a response to the numerous incidents in

recent years where pilots have found themselves in hostile environments. The Russian aerospace forces have taken a proactive approach to ensuring the safety of their pilots by incorporating the PPK-20U into the KM36 ejection seat survival kit.

https://www.financialexpress.com/defence/arming-for-emergencies-russian-weapon-engineers-create-the-ultimate-pilot-survival-tool/2969748/lite/

JANES

Thu, 02 Feb 2023

South Korean Army Showcases Future Fighting Force

By KapilKajal

The Republic of Korea (RoK) Army has showcased a new combat unit known as the Army Tiger Demonstration Brigade (ATDB) in a training exercise with the United States. The exercise was held in Paju city, near the North Korean border. The US Army's quick reaction unit known as Stryker Brigade Combat Team also participated in the drills. The ATDB is designed to integrate artificial intelligence (AI), unmanned systems, and intelligence-based concepts into the RoK Army combat brigades in the coming decade and beyond.

South Korea's Ministry of National Defense (MND) created the ATDB in 2022 within the RoK Army's 25th Infantry Division in Yangju, Gyeonggi-do province, which is responsible for command-and-control operations. “Since declaring the first ATDB in 2022, the RoK Army is planning to gradually reform the structure and power system of its brigades and turn all combat brigades into ATDBs by 2040,” an MND spokesperson told Janes. The RoK-US alliance is constantly assessing North Korea's constant provocations and the Russia-Ukraine conflict, as a result of which, the joint drill was conducted, the spokesperson said.

The training exercise was held to improve the capability of the RoK-US forces' joint operations and both sides shared modern warfare tactics, small combat skills, and enhanced interoperability, he added. “Various weapons systems such as K808 wheel-type armoured vehicles, anti-tank missiles (Hyungung), reconnaissance drones, and unmanned aerial vehicles (UAVs) were used [in the exercise]. Korean soldiers wore Warrior Platforms [peer-identified infrared devices, high-performance magnifiers and target indicators] during the drill,” the spokesperson said.

https://www.janes.com/defence-news/news-detail/south-korean-army-showcases-future-fighting-force#:~:text=The%20Republic%20of%20Korea%20(RoK,near%20the%20North%20Korean%20border.

THE ECONOMIC TIMES

Fri, 03 Feb 2023

Chinese Spy Balloon Spotted over Western US: Pentagon

The U.S. is tracking a suspected Chinese surveillance balloon that has been spotted over U.S. airspace for a couple days, but the Pentagon decided not to shoot it down due to risks of harm for

people on the ground, officials said Thursday. The discovery of the balloon puts a further strain on U.S.-China relations at a time of heightened tensions. A senior defense official told Pentagon reporters that the U.S. has "very high confidence" it is a Chinese high-altitude balloon and it was flying over sensitive sites to collect information. One of the places the balloon was spotted was Montana, which is home to one of the nation's three nuclear missile silo fields at Malmstrom Air Force Base. The official spoke on condition of anonymity to discuss sensitive information.

Brig. Gen. Patrick Ryder, Pentagon press secretary, provided a brief statement on the issue, saying the government continues to track the balloon. He said it is "currently traveling at an altitude well above commercial air traffic and does not present a military or physical threat to people on the ground." He said similar balloon activity has been seen in the past several years. He added that the U.S. took steps to ensure it did not collect sensitive information. The defense official said the U.S. has "engaged" Chinese officials through multiple channels and communicated the seriousness of the matter.

The incident comes as Secretary of State Antony Blinken was supposed to make his first trip to Beijing, expected this weekend, to try to find some common ground. Although the trip has not been formally announced, both Beijing and Washington have been talking about his imminent arrival. It was not immediately clear if the discovery of the balloon would impact Blinken's travel plans.

The senior defense official said the U.S. did get fighter jets, including F-22s, ready to shoot down the balloon if ordered to by the White House. The Pentagon ultimately recommended against it, noting that even as the balloon was over a sparsely populated area of Montana, its size would create a debris field large enough that it could have put people at risk. It was not clear what the military was doing to prevent it from collecting sensitive information or what will happen with the balloon if it isn't shot down.

The defense official said the spy balloon was trying to fly over the Montana missile fields, but the U.S. has assessed that the balloon has "limited" value in terms of providing China intelligence it couldn't already collect by other means, such through spy satellites. The official would not specify the size of the balloon, but said it was large enough that despite its high altitude, commercial pilots could see it. All air traffic was halted at Montana's Billings Logan International Airport from 1:30 p.m. to 3:30 p.m. Wednesday, as the military provided options to the White House.

A photograph of a large white balloon lingering over the area was captured by The Billings Gazette, but the Pentagon would not confirm if that was the surveillance balloon. The balloon could be seen drifting in and out of clouds and had what appeared to be a solar array hanging from the bottom, said Gazette photographer Larry Mayer. The defense official said what concerned them about this launch was the altitude the balloon was flying at and the length of time it lingered over a location, without providing specifics.

Montana Gov. Greg Gianforte said he was briefed Wednesday about the situation after the Montana National Guard was notified of an ongoing military operation taking place in Montana airspace, according to a statement from the Republican governor and spokesperson Brooke Stroyke.

"From the spy balloon to the Chinese Communist Party spying on Americans through TikTok to CCP-linked companies buying American farmland, I'm deeply troubled by the constant stream of alarming developments for our national security," Gianforte said in a statement.

Tensions with China are particularly high on numerous issues, ranging from Taiwan and the South China Sea to human rights in China's western Xinjiang region and the clampdown on democracy activists in Hong Kong. Not least on that list of irritants are China's tacit support for Russia's invasion of Ukraine, its refusal to rein in North Korea's expanding ballistic missile program and ongoing disputes over trade and technology.

On Tuesday, Taiwan scrambled fighter jets, put its navy on alert and activated missile systems in response to nearby operations by 34 Chinese military aircraft and nine warships that are part Beijing's strategy to unsettle and intimidate the self-governing island democracy.

Twenty of those aircraft crossed the central line in the Taiwan Strait that has long been an unofficial buffer zone between the two sides, which separated during a civil war in 1949.

Beijing has also increased preparations for a potential blockade or military action against Taiwan, which has stirred increasing concern among military leaders, diplomats and elected officials in the U.S., Taiwan's key ally.

The surveillance balloon was first reported by NBC News.

Some Montana residents reported seeing an unusual object in the sky around the time of the airport shutdown Wednesday, but it's not clear that what they were seeing was the balloon.

From an office window in Billings, Chase Doak said he saw a "big white circle in the sky" that he said was too small to be the moon.

He took some photos, then ran home to get a camera with a stronger lens and took more photos and video. He could see it for about 45 minutes and it appeared stationary, but Doak said the video suggested it was slowly moving.

"I thought maybe it was a legitimate UFO," he said. "So I wanted to make sure I documented it and took as many photos as I could."

https://m.economictimes.com/news/defence/chinese-spy-balloon-spotted-over-western-us-pentagon/amp_articleshow/97565499.cms

THE ECONOMIC TIMES

Thu, 02 Feb 2023

Iran Blames Israel for Drone Attack, Threatens Retaliation

Iran on Thursday blamed Israel for a drone attack that targeted a military workshop in its central city of Isfahan over the weekend, warning it "reserves its legitimate and inherent right" to retaliate. Iran's mission to the United Nations, in a letter it published on its website, attributed the attack late Saturday to Israel. "Early investigations suggest that the Israeli regime was responsible for this attempted act of aggression," the letter signed by Iranian ambassador Amir Saeid Iravani said.

The letter did not elaborate on what evidence supported Iran's suspicion. Israeli officials declined to comment. However, Israel has carried out a series of attacks targeting Iran's nuclear program and other sites since the collapse of its 2015 nuclear deal with world powers as part of a yearslong shadow war between the Mideast rivals. Details on the Isfahan attack, which happened around 11:30 pm Saturday, still remain scarce days after the assault.

A Defense Ministry statement described three drones being launched at the facility, with two of them successfully shot down. A third apparently made it through to strike the building, causing "minor damage" to its roof and wounding no one, the ministry said.

Iran's state-run IRNA news agency later described the drones as "quadcopters equipped with bomblets." Quadcopters, which get their name from having four rotors, typically operate from short ranges by remote control. Iranian state television later aired footage of debris from the drones, which resembled commercially available quadcopters.

It remains unclear what the workshop produced. Iravani referred to it only as a "a workshop complex of the Iranian Defense Ministry" in his letter. Israel had been initially suspected as possibly being behind the attack. Iran's Intelligence Ministry in July claimed to have broken up a plot to target sensitive sites around Isfahan.

A segment aired on Iranian state television in October included purported confessions by alleged members of Komala, a Kurdish opposition party that is exiled from Iran and now lives in Iraq, that they planned to target a military aerospace facility in Isfahan after being trained by Israel's Mossad intelligence service. However, activists say Iran has aired hundreds of coerced confession on state TV over the last decade.

Iravani's letter to UN Secretary-General Antonio Guterres and the Security Council warned Tehran could respond to the attack.

"The Islamic Republic of Iran reserves its legitimate and inherent right ... to defend its national security and respond resolutely to any threats or wrongful actions by the Israeli regime, wherever and whenever deemed necessary," the letter read.

Israeli officials rarely acknowledge operations carried out by the country's secret military units or its Mossad intelligence agency. However, Israeli Prime Minister Benjamin Netanyahu, who recently re-entered the premiership, long has considered Iran to be the biggest threat his nation faces.

Iravani's letter separately complained about Mykhailo Podolyak, an adviser to Ukrainian President Ukrainian President Volodymyr Zelenskyy, tweeting after the drone attack: "Explosive night in Iran ... Ukraine had warned you." Iran has supplied Russia with bomb-carrying drones that Moscow has used to target power plants and civilian sites in Ukraine in its war on the country.

https://m.economictimes.com/news/defence/iran-blames-israel-for-drone-attack-threatens-retaliation/amp_articleshow/97549266.cms

The Indian EXPRESS

Thu, 02 Feb 2023

Russia-Ukraine Conflict: The Fresh Supply of Weapons will bring NATO and Russia One Step Closer to Direct Confrontation

By Rajan Kumar

The Russia-Ukraine conflict has become more dangerous with NATO's commitment to send tanks and missiles to Ukraine. In a clear sign of escalation, NATO decided to provide more weapons to Ukraine ranging from Patriot missiles to Leopard 2 battle tanks. In the first phase of the war, NATO transported Soviet armoured vehicles, ammunition and defensive weapons to Ukraine. In the next stage, it provided long-range howitzers and HIMARS. And now, it has agreed to deliver air defence systems, tanks and armoured vehicles.

While these weapons are not enough to defeat Russia, they will likely replenish stocks and rebuild Ukrainian forces for a fresh assault. Ukraine has almost depleted its weapons and is entirely dependent on western supplies. NATO members were reluctant to supply critical weapons to Ukraine fearing escalation, but the growing Russian assault nudged them to reconsider and take greater risks. The Ukrainian army is under intense pressure. It desperately needs advanced weapons to counter the Russian offensive. Its retreat from Soledar near Bakhmut contributed to the West's decision to supply these critical weapons.

The Biden administration has decided to send 31 Abrams tanks, while Germany has offered 14 Leopard battle tanks to Ukraine. There is also a discussion on providing more fighter aircraft to Ukraine. The Pentagon was reluctant to send the Abrams tanks, but to persuade Germany, it conceded to such a demand. The Germans had put a condition that they would send the Leopard 2 only if the US sent its Abrams tanks.

Germany's reluctance was partly due to its post-World War II pacifist foreign policy. It avoids sending military and weapons to other countries. Chancellor Olaf Scholz was concerned that providing advanced weaponry to Ukraine would give Moscow the impression that Berlin was an active party in the conflict. He feared being drawn into a conflict, which is the worst in Europe since World War II. But the growing domestic pressure and the fear of missing out in Europe led him to change his decision.

NATO agreed to upgrade its level of support for several reasons. First, Russia's offensive is likely to increase in the spring. Second, the Russian army has fortified itself in the Donbas region, and it is difficult for the Ukrainian military to penetrate further without long-range missiles and protective tanks. Third, the West is preparing for a long-term war, as it will take several months before new weapons reach the battlefield. Finally, internal NATO politics contributed to such a decision. Germany came under severe criticism for not providing critical support to Ukraine. As a leader of Europe, it cannot be seen missing out when other states were coming forward.

Introduced during the Cold War period in 1979, the Leopard 2 tank became one of the main battle tanks of NATO. More than a dozen countries possess this tank, and there are nearly 2,000

Leopard tanks in Europe. Germany has agreed to send its relatively new 2A6 model, while other European states will provide its older versions. Western military experts consider these tanks superior to the Russian T-72 and the T-90 tanks. The Leopard 2 tanks can move faster than the American Abrams tanks and run on easily-available diesel.

These tanks will create parity with the Russian tanks and artillery. Russia's deputy envoy to the Organization for Security and Co-operation in Europe (OSCE), MaksimBuyakevich, warned that NATO had crossed the red line and would lead to a full-blown conflict in Europe. The chances of direct conflict between NATO and Russia are high.

Ukraine convinced the West that the tanks and long-range missiles would be game changers. But independent security experts dismiss the idea as premature and wishful thinking. Ukraine still does not possess the wherewithal and firepower to push Russian forces out of its occupied territory. General Mark Milley, the US Chair of the Joints Chiefs of Staff, also argued a few days earlier on similar lines. These weapons will boost the morale of Ukraine's army and may dissuade Russian forces from advancing further. But they are insufficient to reverse Russia's gains in the last eleven months. The fresh supply of weapons will bring NATO and Russia one step closer to direct confrontation. Russia may consider targeting the NATO supply line to Ukraine, which it has avoided until now.

If Ukraine goes too far, Russia will retaliate with a vengeance and more firepower. Moscow views the conflict as an existential crisis. It portrays the war in civilisational terms in which Russia is fighting for its survival, historical glory and future. From its perspective, the war became inevitable to stop the West from dismembering and destroying Russia. The Kremlin's narrative, widely popular in Russia, often juxtaposes this crisis with the Soviet Union's war with the Nazis in the Second World War. Russia might incur heavy losses in such a war, as the Soviet Union did, but it would not give up and surrender. Moreover, President Vladimir Putin's regime will come under the shadow if Russian forces retreat further from their present positions in Ukraine. To avert that situation, Moscow would not hesitate to commit more resources, technology and people. Hence, what we are going to witness is a further escalation in the coming months. There are no signs of negotiations as yet.

https://indianexpress.com/article/opinion/columns/russia-ukraine-war-tanks-missiles-nato-8419482/lite/

Science & Technology News

ThePrint

Thu, 02 Feb 2023

X-57: NASA's Electric Plane is Preparing to Fly – Here's How it Advances Emissions–Free Aviation

The experimental aeroplane X-57, developed by NASA, is due to fly for the first time this year. It has an impressive 14 propellers along its wings and is powered entirely by electricity. This sounds great considering we have to get off fossil fuels yet our demand for aviation is growing.

But how much closer will NASA's plane bring us to this goal? Finding an alternative to aviation fuels such as kerosene will be key if we want to continue flying. The X-57 uses lithium batteries to run electric motors for its propellers. But the energy you get from batteries, relative to their weight, is 50 times less than you can get from aviation fuel.

The X-57 is a modified, four-seater, Italian-built Tecnam P2006T aircraft. It relies on a combination of lots of propellers, small motors and many batteries spread out across an aircraft, known as "distributed propulsion". This approach represents an exciting area of research and development that can be found in many experimental electric aircraft designs. What's different about the X-57 is that the wings are completely redesigned with propellers positioned to optimise air flow around them. When a propeller is not needed, its blades can be folded back to reduce drag. Propeller technology generally is having a rebirth. Designs are becoming not just more efficient, but also less noisy and more affordable. The speed and pitch angle of propellers can even be changed during flight to adapt to the different aircraft speeds required for takeoff, landing and cruising.

Air density changes with altitude and affects the thrust you get from a propeller. Now that we can make propellers that work effectively at all altitudes and speeds, we can really get the most out of the energy stored in the batteries. New designs, such as the first ever 11-bladed propeller (on the Piper Cheyenne plane), can achieve very high thrust even at high air density. Some aircraft even use "vectored thrust" by allowing the motors and propellers to rotate, which gives the option of vertical takeoff and landing. These aircraft might more resemble helicopters than planes, and might mean conventional airports with long runways and large terminals will be a thing of the past.

Battery technology The X-57 uses off-the-shelf lithium-ion batteries. This is because the project is primarily addressing the potential for new propeller and wing configurations rather than developing the perfect battery. But that will be an important challenge for electric aircraft developers to overcome. Lithium batteries are pretty much the best we've got so far, but they are still heavy. Lithium metal is also hazardous as it catches fire easily.

There are advantages to using batteries. Their weight stays constant throughout the flight, meaning they don't need to be stored in the wings as aviation fuel traditionally has been. With liquid fuel, the weight of the plane reduces significantly as fuel is consumed and keeping the fuel in the wings ensures that the balance of the aircraft isn't changed. However, it is really energy density – the amount of energy a battery contains compared to its weight or size – that matters. New advances are being made constantly, such as batteries created based on quantum technology. But while these charge faster than normal batteries they won't replace lithium batteries and are unlikely to transform the prospects for electrically powered flight.

What we are really waiting for is a revolution in battery technology, one that gives an energy density comparable to aviation fuel. Is X-57 the future? With a range of about 160 km and a flight time of about one hour, the X-57 is not expected to lead to a replacement technology for long-haul flying. At least not straight away. Instead, short-hop flights with ten or so passengers are a good and potentially possible target for early, battery-powered flights. Hydrogen-powered planes are also of great interest because the energy density of hydrogen is nearly three times greater than that of conventional aviation fuel. But hydrogen is a gas and it needs to be stored in pressurised fuel tanks to reduce its volume.

This would require a complete rethink of aircraft design. Some work has been done with hydrogen stored as a liquid at -253 degree Celsius. Hydrogen for aviation is therefore exciting, but probably impractical. Synthetic fuels are ready to go as a substitute for aviation fuels – at a price. Perhaps as technologies develop, they'll become cheaper, but it's still likely that the cost of flying will increase as we move away from fossil fuels.

Batteries will almost certainly be powering our short-haul flights in the near future and if there is a revolution in battery technology then the future of aviation will be completely changed. Eventually, we will be faced with an ultimatum: either we figure out how to make planes that don't need fossil fuels, or we stop flying.

https://theprint.in/world/x-57-nasas-electric-plane-is-preparing-to-fly-heres-how-it-advances-emissions-free-aviation/1349599/

mint

Thu, 02 Feb 2023

Centre has Not Allowed External Agencies to Use ISRO Facilities: Jitendra Singh

Union Minister Jitendra Singh on Thursday said that the government has not allowed external agencies to use ISRO facilities. In a written reply to a question in the RajyaSabha, the minister said that only Non-Government Indian entities (NGEs) are being allowed to use ISRO facilities and the technical support, as applicable, through IN-SPACe.

Singh added that recent facilities used by NGEs include the Sounding Rocket Launch Complex at SHAR by Skyroot for its mission PRARAMBH and the Vertical Test Facility at Thumba Equatorial Rocket Launching Station (TERLS), Thiruvananthapuram by Agnikul Cosmos Pvt. Ltd. for hot testing of its engine – Agnilet.

He said that the government envisages enhanced participation of private sector in conducting of end-to-end activities in the space sector. "Participation of private sector including academic institutions, start-ups and industries in end-to-end space activities is expected to expand the national space economy, generate more employment opportunities and create a thriving space ecosystem and result in increased Indian share in the global space economy in long term," the minister added.

https://www.livemint.com/news/india/centre-has-not-allowed-external-agencies-to-use-isro-facilities-jitendra-singh/amp-11675344846804.html

THE ECONOMIC TIMES

Thu, 02 Feb 2023

India has 111 Payloads, 105 Space Debris Objects in Orbit: Government

India has 111 payloads and 105 space debris objects orbiting the earth as tracked and catalogued by USSPACECOM, Union minister Jitendra Singh told the RajyaSabha on Thursday. In a

written reply, Singh said all orbiting debris will have impact on the sustainability of outer space and future missions and added that ISRO has been carrying out many studies on impacts of growing space debris on space environment. Singh said that the Indian Space Research Organisation (ISRO) has carried out 21 collision avoidance manoeuvres of Indian Operational Space assets in 2022 to avoid collision threats from other space objects.

The minister said that research and studies on the potential and emerging threats from space debris are carried out by ISRO and academia since early 1990s. He said in 2022, ISRO System for Safe and Sustainable Operations Management (IS4OM) has been established towards more focused efforts to continually monitor the objects posing collision threat, improve prediction of evolution of space debris environment and concerted activities to mitigate the risk posed by space debris. To deal with the threat of very small debris objects which are too small to be tracked, spacecraft needs to shielded against the impact risk, he said.

Spacecraft shielding related studies and development are under progress in ISRO to improve the protection for the upcoming missions, Singh said. In reply to a separate question, Singh said that the government was taking measures to augment domestic capacity for future realisation of space tourism. He said ISRO has also carried out a few feasibility studies for a sub-orbital space tourism mission onboard a liquid propellant stage booster. Singh said through Gaganyaan, India's maiden human spaceflight programme, ISRO was engaged in development of various technologies, which are essential building blocks for human space missions. The minister said that the objective of the Gaganyaanprogramme was the demonstration of human spaceflightcapability to low earth orbit. Future missions will be taken up after the accomplishment of Gaganyaan mission, Singh said.

https://economictimes.indiatimes.com/news/science/india-has-111-payloads-105-space-debris-objects-in-orbit-government/articleshow/97559864.cms