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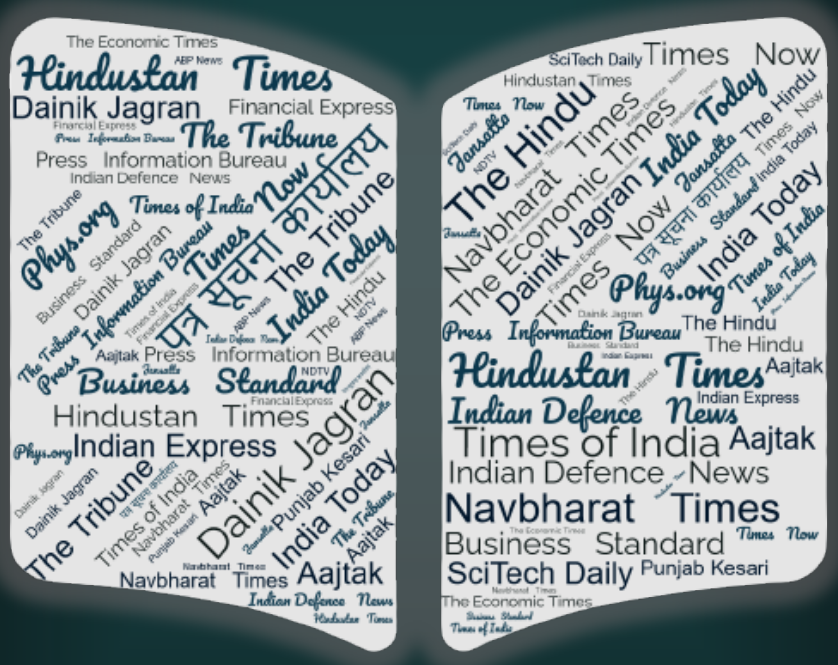

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THE HINDU

Fri, 09 Dec 2022

DFRL Conference Concludes

The three-day National Conference on "Futuristic Strategies for the Sustainment of Troops in Different Terrains", organised by the DRDO-Defence Food Research Laboratory (DFRL), concluded here on Friday. Senior officers of the armed forces, top officials of DRDO, researchers, service users, industry participants and academics attended the conference. There were technical sessions on a wide range of topics. DRDO Director General (Life Sciences) U.K. Singh, DFRL Director Anil D. Semwal, and scientists were present at the valedictory of the conference. The expo organised as part of the conference also had the industry participants to whom the technologies have been transferred. DFRL, in a note, said it was concentrating on the production of Meals-Ready-To-Eat with balanced micronutrients in accordance with military nutritional needs. Meals-Ready-To-Eat have been developed for the armed forces and they are terrain specific.

https://www.thehindu.com/news/national/karnataka/dfrl-conference-concludes/article66243855.ece

THE TIMES OF INDIA

Sat, 10 Dec 2022

DRDO, Army Conduct Trials of Upgraded Pinaka Rockets

The 'Make in India' upgraded Pinaka Mk-I User (Enhanced) Rocket System (EPRS) surface-to-surface extended range flight-testing was conducted by the Defence Research and Development Organisation (DRDO) and Indian Army at Pokhran Firing Range in Jaisalmer district on Wednesday & Thursday. Accuracy and consistency were achieved by the rockets, meeting all trial objectives satisfactorily. With these trials, the initial phase of technology absorption of EPRS by the industry has successfully been completed and the industry partners are ready for user trials/series production of the rocket system. Sources said the enhanced Pinaka Mk-1 is an upgraded version and has a range of more than 30km. The 15-foot long rocket weighs around 280kg and can carry warheads up to 100kg.

Official sources said, "The DRDO, along with the army, conducted indigenous (made by private sector) user enhanced range Pinaka rocket surface-to-surface trials with various warhead capabilities." Official said, "The EPRS is the upgraded version of the Pinaka variant which has

been in service for the last decade. The system has been upgraded with advanced technologies enhancing the range to meet emerging requirements." Source said the rockets will help replace imports from Russia and would be offered by India to friendly nations for exports.

https://timesofindia.indiatimes.com/city/jaipur/drdo-army-conduct-trials-of-upgraded-pinaka-rockets/articleshow/96123859.cms

Defence News

Defence Strategic : National/International

Press Information Bureau
Government of India

Ministry of Defence

Sun, 11 Dec 2022

39th Edition of India-Indonesia Coordinated Patrol

The 39th edition of India-Indonesia Coordinated Patrol (IND-INDO CORPAT) between the Indian Navy and the Indonesian Navy is being conducted from 08 – 19 December 2022. Indian Naval Ship (INS) Karmuk, an indigenously built Missile Corvette participated in the pre-deployment briefing at Belawan, Indonesia. The CORPAT will be executed along the International Maritime Boundary Line (IMBL) from 15 to 16 December 2022 and will conclude with a debrief at Port Blair. Along with INS Karmuk, L-58 (indigenously built Landing Craft Utility vessel) and Dornier Maritime Patrol Aircraft will be participating in the CORPAT. KRI Cut Nyak Dien, a Kapitan Pattimura Class Corvette, would represent the Indonesian side.

As part of Government of India's vision SAGAR (Security And Growth for All in the Region), Indian Navy has been proactively engaging with countries in the Indian Ocean Region (IOR) to enhance maritime security in the region. India and Indonesia have been carrying out CORPATs twice a year since 2002, with an aim of keeping this vital part of the IOR safe and secure for commercial shipping, international trade and conduct of legitimate maritime activities. CORPATs help build understanding and interoperability between navies, and facilitate institution of measures to prevent and suppress Illegal Unreported Unregulated (IUU) fishing, drug trafficking, maritime terrorism, armed robbery and piracy. It further helps enhance the operational synergy by exchange of information for prevention of smuggling, illegal immigration and for conduct of Search and Rescue (SAR) operations at sea. India and Indonesia have traditionally enjoyed a close and friendly relationship covering a wide spectrum of activities and interactions. The 39th edition of IND-INDO CORPAT seeks to bolster the maritime cooperation between the two navies and forge strong bonds of friendship between India and Indonesia.

https://pib.gov.in/PressReleasePage.aspx?PRID=1882468

Press Information Bureau
Government of India

Ministry of Defence

Fri, 09 Dec 2022

Space Defence Mission

Mission DefSpace was launched by Hon'ble Prime Minister during DefExpo in October, 2022 with 75 Defence Space Challenges relevant to the end users. These challenges have been categorised into existing DDP initiatives of iDEX, Make-I and Make-2. Private Industries, including Start-ups, MSMEs and Individual Innovators, are eligible to apply. The challenges, classified into five buckets viz. Launch System, Satellite System, Communication & Payload System, Ground System and Software System, provide a holistic 3600 overview of space.

The Government has taken several policy initiatives in the past few years and brought in reforms to encourage indigenous design, development and manufacture of defence equipment, there by promoting self-reliance in defence manufacturing & technology in the country. These initiatives, inter-alia, include according priority to procurement of capital items from domestic sources under Defence Acquisition Procedure (DAP)-2020; Announcement of 18 major defence platforms for industry led design & development in March 2022; Notification of four 'Positive Indigenization Lists' of total 411 items of Services and three 'Positive Indigenization Lists' of total 3738 items of Defence Public Sector Undertakings (DPSUs), for which there would be an embargo on the import beyond the timelines indicated against them; Simplification of Industrial licensing process with longer validity period; Liberalization of Foreign Direct Investment (FDI) policy allowing 74% FDI under automatic route; Simplification of Make Procedure; Launch of Innovations for Defence Excellence (iDEX) scheme involving start-ups & Micro, Small and Medium Enterprises (MSMEs); Implementation of Public Procurement (Preference to Make in India) Order, 2017; Launch of an indigenization portal namely SRIJAN to facilitate indigenization by Indian Industry including MSMEs; Reforms in Offset policy with thrust on attracting investment and Transfer of Technology for Defence manufacturing by assigning higher multipliers; Establishment of two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu; Opening up of Defence Research & Development (R&D) for industry, startups and academia with 25 percent of defence R&D budget; and Progressive increase in allocation of Defence Budget of military modernisation for procurement from domestic sources, etc.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Raja Amareshwara Naik and others in Lok Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1882082

Sat, 10 Dec 2022

Private Industries Including Startups Eligible to Apply for Mission DefSpace

Private industries including start-ups, individual innovators and Micro, Small and Medium Enterprises (MSMEs) are eligible to apply for Mission DefSpace. Prime Minister Narendra Modi launched Mission DefSpace in October to boost India's space-related defence preparedness. It was launched with 75 defence space challenges relevant to the end users. These challenges have been categorised into existing DDP initiatives of iDEX, Make-I and Make-2. The challenges, which have been classified into five buckets namely, launch system, satellite system, communication and payload system, ground system and software system, provide a holistic 360 degree overview of space. Mission DefSpace is among the several policy initiatives taken up by the government over the past few years to encourage indigenous design, development and manufacture of defence equipment, thereby promoting self-reliance in defence manufacturing and technology in the country.

During the Parliament session on Friday, Minister of State for Defence, Ajay Bhatt said that initiatives that prioritise the procurement of capital items from domestic sources under the Defence Acquisition Procedure (DAP)-2020 will be taken up in the coming year. These include simplifying the Make Procedure, launching innovations for Defence Excellence (iDEX) scheme involving start-ups and Micro, Small, and Medium Enterprises (MSMEs), launching an indigenisation portal called SRIJAN to facilitate indigenisation by Indian industries, establishing two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu, making reforms in offset policy with thrust on attracting investment and transfer of technology for defence manufacturing by assigning higher multipliers, among others.

https://www.indiatoday.in/india/story/mission-defspace-private-industries-eligible-to-apply-2307438-2022-12-10

Sat, 10 Dec 2022

Rajnath Singh Confirms Work in Progress to Build Country's 2nd Aircraft Carrier after INS Vikrant

Defence Minister Rajnath Singh stated that the country has started working on its second aircraft carrier after the successful launch of the indigenously built INS Vikrant in September. Speaking at an event on Friday, he hailed the successful launch of the INS Vikrant, saying India became the seventh country in the world to build an aircraft carrier. "When India became Independent not even a needle was manufactured in the country. In 2022, we are building a massive aircraft carrier like INS Vikrant. The work has begun on our second aircraft carrier too" he added. No one believed India was capable of making aircraft carrier: Singh. According to the Defence

Minister, a few years ago, no one would have thought India was capable of doing such a thing. Notably, India is only the seventh country after the US, UK, France, Germany, China and Japan to have built an aircraft carrier.

Defence Minister Singh underscored that the INS Vikrant aircraft carrier has achieved 73-74 per cent indigenisation. Currently, India operates two aircraft carriers – Russian-built INS Vikramaditya and indigenously built INS Vikrant, a 40,000-tonne vessel. Navy was considering a repeat order for INS Vikrant: Admiral Kumar Last week, Navy chief Admiral R Hari Kumar had said the Navy was considering a repeat order for INS Vikrant to capitalise on the expertise available within the country. Kumar said the Navy was yet to firm up its mind on building the indigenous aircraft carrier-2, a heavier vessel with 65,000 tonnes displacement. Meanwhile, the Defence Minister said Prime Minister Narendra Modi has appealed to businesses to 'Make in India' and 'Make for the World' under the 'Atmanirbhar Bharat' initiative.

He said Tata-Airbus have laid the foundation in India for manufacturing the C-295 transport aircraft, which will also be exported to other countries. According to Singh, defence exports had already touched Rs 14,000 crore this year and were set to reach Rs 19,000 crore by the end of 2023. Further, the Defence Minister also claimed India has set a target of Rs 25,000 in defence exports by 2024-25.

https://www.indiatvnews.com/news/india/defence-minister-rajnath-singh-confirms-work-in-progress-to-build-country-s-second-aircraft-carrier-after-ins-vikrant-2022-12-10-830084

नवभारत टाइम्स

नेवी के लिए मानवरहित नौकाएं तैयार

Poonam.Pandey@timesgroup.com

■ **नई दिल्ली:** भारतीय नौसेना के लिए पहली स्वदेशी Unmanned Boat यानी मानवरहित नौका तैयार हो गई है। यह किस तरह नौसेना की ताकत बढ़ाएगी और इसे दूर से ही कैसे काम में लाया जा सकेगा, इसकी झलक प्रधानमंत्री नरेंद्र मोदी ने भी देखी है। शुरू में इन Unmanned Boat का इस्तेमाल गश्त के लिए होगा। बाद में इसमें हथियार भी फिट हो सकते हैं। तब दूर से ही इस अनमैन्ड बोट में फिट हथियारों को ऑपरेट किया जा सकेगा।

● **किसने डिजाइन की नौका?** इस अनमैन्ड बोट को गोवा शिपयार्ड लिमिटेड ने डिजाइन किया है। इसका वजन 13 टन और लंबाई 15 मीटर है।

File

तुर्की की नौसेना में पिछले साल ऐसी हमलावर नौकाएं शामिल की गई थीं।

● **नेवी के लिए कैसे अहम?** इसका इस्तेमाल माइन क्लियरेंस ऑपरेशंस में भी हो सकेगा। यानी समंदर में दुश्मन ने कहां माइंस यानी बारूद बिछाया है, उसकी पहचान करने और उसे नष्ट करने में इसका इस्तेमाल हो सकेगा। अभी लंबी दूरी में माइन डिटेक्शन का काम MCM शिप यानी माइन काउंटर मीजर शिप करते हैं। माइन को नष्ट करने से पहले उसकी पोजिशन का पता होना चाहिए। अगर Unmanned Boat माइंस का पता कर उसे नष्ट करने का काम करेगी, तो जोखिम भी कम होगा।

● **निगरानी होगी बेहतर?** इस बोट को सैटलाइट बेस्ड कनेक्ट से ऑपरेट किया जा सकेगा। गश्त के लिए छोटी बोट भेजने का फायदा यह होगा कि यह आसानी से पकड़ में नहीं आएगी और ज्यादा वक्त तक पानी में रहकर निगरानी रख सकती है। साथ ही, लगातार लाइव फीड भेजने में सक्षम है। इसे दूर से कंट्रोल किया जा सकेगा।

FINANCIAL EXPRESS
Read to Lead

Fri, 09 Dec 2022

Indian Navy Seeks Indigenous Underwater Aerial Vehicles to Optimise Unmanned Tech: Know All About it

Underwater Domain Awareness (UDA) is one of the most vital sectors for India and the Indian Navy has established an "unmanned road map" to maximise the potential of unmanned technologies and systems. In October 2021, the defence minister Rajnath Singh had unveiled a roadmap on Unmanned Systems, and this year at the recent surveillance seminar, the navy has also unveiled the requirements for the future unmanned systems. On Dec 3, 21022, in response to a media query, the Chief of the Indian Navy Admiral R Hari Kumar had said that the technology the Navy is looking for has been shared with the industry. The navy is looking at unmanned not just aircraft but underwater vessels too. These Unmanned combat aerial vehicles and surface resolution underwater vehicles to carry out not just surveillance but missions including combat.

Unmanned Underwater Vehicles (UUV), sometimes known as underwater drones, are underwater vehicles that can operate without human assistance or intervention. These robots can be categorised as remotely operated underwater vehicles (ROUVs) or autonomous underwater vehicles (AUVs). Autonomous Underwater Vehicles (AUVs) are highly automated and operate independently, whilst Remotely Operated Underwater Vehicles (ROUVs) are remotely operated by a human operator. Frequently, vehicles in the second group are classified as unmanned vehicles. The finding of 'Chinese-origin' autonomous underwater gliders in Indonesian waters demonstrates the extent to which China is utilising undersea technologies for military gain.

In the past few years, it was determined that Unmanned Underwater Vehicles (UUVs) would reduce the need for minesweepers. And "while the industry developed UUVs for military uses, compatibility with current manned platforms must be considered a crucial deliverable," explained a senior Indian Navy officer. Former Vice Admiral Ashok Kumar had outlined four categories of UUVs: man-portable Autonomous Unmanned Vehicles (AUVs) with swarm functionality and an endurance of 10 to 20 hours, lightweight AUVs compatible with the existing lightweight torpedo tubes onboard ships and endurance of approximately two days, heavyweight AUVs compatible with the current heavyweight tubes and an endurance of the order of 3 to 4 days, and high endurance AUVs with the capability to submerge for at least 15 days.

India's UUV Efforts

Larsen and Toubro (L&T) once again displayed its autonomous underwater vehicle (AUV) at the defence exhibition, which was the frontrunner in the Navy's bid to acquire ten tube-launched AUVs. L&T's Adamya AUV may be launched from submarines with 533mm torpedo tubes. Those with operational endurance exceeding eight hours. The Adamya AUV which is five meters long and very heavy may be launched from a submarine torpedo tube without requiring additional modifications to the submarine. It can also be launched from surface ships using the included launch and recovery systems.

Based on the information available in the public domain, L&T has claimed that the Adamya's underwater endurance is greater than eight hours at approximately four knots, which can descend up to 500 metres. The operating payload of numerous systems can be tailored to the user's

specifications. L&T is developing several Autonomous Underwater Vehicles (AUVs) and during the DefExpo of 2020, it presented the Amogh, Adamya, and Maya AUVs.

DRDO's Unmanned Aerial Vehicle (ULUAV)

The primary objective of the proposed project is to design and develop technologies for launching Unmanned Aerial Vehicles from NATO-standard Torpedo Tubes of submerged undersea platforms. The underwater platform is up to 50 metres deep. Unmanned Aerial Vehicles (UAVs) will be expelled and launched from the canister using a pyro cartridge or similar mechanism that ensures launch-ready conditions. The canister has a maximum diameter of 533mm. The state is determined by the roll and pitch data received by the sensor. The mission of the Underwater Launched Unmanned Aerial Vehicle (ULUAV) is controlled in accordance with the mission profile transmitted via a data connection to the Control station. After mission completion, the Underwater Launched Unmanned Aerial Vehicle (ULUAV) will use a single-point recovery mechanism to return to the onboard position or a partner platform. ULUAV is primarily used for ISR operations, real-time target tracking, beach reconnaissance prior to the conduct of special operations, and enhancing marine domain awareness. The ULUAV will be outfitted with the ISR payload, sensors, and algorithms that will increase its capabilities. Also, the Ground Station would play a crucial role in transferring the necessary information between the submarine and the surface. Also, after completing the assigned duty, the drone must recover safely, either by landing on the partner platform using the One-point recovery method or by using a flotation bag.

MDL XLUUV

XLUUV is a concept developed by India's premier submarine manufacturer, Mazagon Dock (MDL). XLUUV is designed to accomplish tasks such as payload deployment, periodic communication, pre-programmed mission execution, and return to base. The internal and external cargo capacities are meant to be reconfigurable based on mission-specific requirements. The spatial advantage achieved permits it to have a greater energy capacity through a large number of energy modules, allowing for longer loitering periods, often a few months, and is thus a more cost-effective, mission-capable solution than the conventional assortment of UUVs.

Indian Navy begins to search for the UUVs

The Navy is open to both indigenous and foreign AUVs, according to sources, but senior officials are aware that it will take "a long time" for Indian-made underwater drones to be available for military use. The Indian UAV sector, which is still in its infancy, has already taken the initial steps toward achieving the Navy's goals. Until indigenous capabilities are established, foreign-made underwater drones will likely be deployed. However, the ultimate objective is to initially launch these AUVs from submarines for monitoring. If necessary, these AUVs will be utilised for military strikes in the future.

https://www.financialexpress.com/defence/indian-navy-seeks-indigenous-underwater-aerial-vehicles-to-optimise-unmanned-tech-know-all-about-it/2907602

BW BUSINESSWORLD

Mon, 12 Dec 2022

Indian Navy Re-Initiates Stalled Programme to Buy 6 More P8I Aircraft from US

The Indian Navy has re-initiated the programme to buy 6 more Boeing P8I Long Range Maritime Reconnaissance (LRMR) aircraft from the US under a multi-billion-dollar Government-to-Government deal which stalled after the expiry of the price offer on July 31. "A restated Letter of Offer and Acceptance (LOA) has been sought from USG (US Government)," Chief of Naval Staff Admiral R Hari Kumar told Businessworld in an exclusive interview. This is the first public statement from the Indian Navy affirming that the P8I deal is still on the table. It also provides a clear indication that the decks have been cleared for fresh price negotiations for the procurement of additional numbers of this key force multiplier, which is a prominent symbol of India-US military cooperation. "Based on the response from US side, the case would be progressed further for procurement under Buy Global route," Admiral Hari Kumar stated.

Under its Foreign Military Sales (FMS) process for Government-to-Government Defence deals, the Letter of Offer and Acceptance is issued by the US Government for signature after the conclusion of price negotiations with the buying country. It is akin to a contract document. The Indian Navy Chief's statement indicates that the two sides will pick up the thread from where it was left on July 31, and that this procurement programme would not have to be run afresh. The re-negotiated price would first have to be cleared by India's Defence Acquisition Council (DAC) headed by the Defence Minister and then the case put up for final approval to the Cabinet Committee on Security chaired by the Prime Minister before the deal can be signed.

The stalling of the deal following the expiry of the initial price offer validity was first reported by Businessworld on August 1. It represented a setback to the Indian Navy's plan to beef up its maritime reconnaissance and anti-submarine warfare capability. Several critical military procurements though the import route were either scrapped or put on a deferred list after India's Aatmanirbhar Bharat (self-reliant India) policy reinforcement last year.

Admiral Hari Kumar's statement is an indication that the Indian Navy stood its ground on the import of the P8Is and was able to convince the political decision-makers about the necessity of these force multipliers representing a capability which cannot be indigenised in the near term. As reported by Businessworld earlier, the Indian Navy operates 12 P8Is, of which 8 are based at the naval airbase INS Rajali in Arakonam on the Eastern Seaboard and 4 at INS Hansa in Goa on the West. The additional P8Is are meant to augment numbers on the Western Seaboard.

The induction of the P8I in 2013 has often been hailed as a game-changer for the Indian Navy's long-range reconnaissance and anti-submarine warfare capabilities, giving it a clear edge over adversaries in the Indian Ocean Region.

A big takeaway is the high availability rate of the P8I for missions, which is reported to be an impressive 85 per cent. This enables intense and sustained reconnaissance operations. "In the 9 years since 2013, the Indian Navy has done more flying on the P8I than it did on the Soviet-origin Tupolev-142 and Ilyushin-38 fleets combined for four decades," informed sources pointed

out. The Soviet-origin Tu-142 and the Il-38 were the backbones of the Indian Navy maritime reconnaissance operations before the induction of the American P8I.

https://www.businessworld.in/article/Indian-Navy-Re-initiates-Stalled-Programme-To-Buy-6-More-P8I-Aircraft-From-US/09-12-2022-457370/

The EurAsian Times

Fri, 09 Dec 2022

Indian Navy Chief Emphasizes on 3rd Aircraft Carrier; Says Key to Project Maritime Power From & at Sea

By Prakash Nanda

India needs a third aircraft carrier, which is named INS Vishal, says Indian Navy (IN) Chief Admiral R. Hari Kumar. In an exclusive interview, he said, "as a Blue-water force, considering the vast area of operations, operational philosophy centered on sea control and growing threat in the Indian Ocean Region (IOR), the Indian Navy has a requirement of three operational aircraft carriers. This is also important for sustaining our Maritime Dominance in all three geographical expanses of the IOR. The requirement of a third Aircraft Carrier for the Indian Navy has also been acknowledged by the Standing Committee on Defence. 'INS Vikrant stands testimony to our nation's efforts towards complete indigenization of our Armed Forces. With this, India has become part of the elite group of Nations possessing the niche capability to indigenously design and build an Aircraft Carrier.

The Carrier Battle Group (CBG), of which the Aircraft Carrier is the central entity, is a means of projecting maritime power at sea and from the sea. It is a self-contained and composite force capable of undertaking an entire range of tasks that no other platform/shore-based aircraft can undertake. The CBG is capable of providing "persistent air power" in a region at extremely short notice and has the inherent flexibility and mobility to shift to a new theatre of operations in 48 to 72 hours. "Further, while the requirement for a Third Carrier is being actively considered by the Govt, the Navy is already 'underway' in bringing the nascent imperatives to the drawing board. Talking about the Indian Navy's role in the Indo-Pacific, Admiral Kumar said that "I feel it is important that we understand the underlying principle of India's approach – not just to the Region but to the world at large. Put quite simply, as articulated by our Hon'ble External Affairs Minister in his book 'The India Way,' I quote – 'India will grow with others, not separately.' This, in essence, sums up our outlook."

He then explained in detail how the Indo-Pacific region has remained "an expression or idea that defines the contemporary geostrategic world – with India being privileged to be at the core of this defining idea of our times. The centrality of this Region is further underscored by the fact that numerous states and groupings have articulated their Indo-Pacific Strategies and Vision. To my mind, this Region could be aptly termed as the global 'Centre of Gravity' of geopolitics and geo-economics. "Geopolitical relations in the Indo-Pacific have increasingly become complex, as cooperation and competition co-exist. The increased centrality of the Indo-Pacific region in

global geo-strategic calculus is accompanied by a return of great power competition, which is here to stay. Our resource-rich region is also the arena for jostling between states for influence, resources, markets, and energy, among others. Notwithstanding this jostling, the intricately interwoven and interdependent matrix of economic relations also mandates a certain level of cooperation among all states. This simultaneous competition and cooperation – driven by self-interest – accentuates the complexities of security.

"Regarding geo-economics, this region is significant for global economic prosperity, as seven of the top 10 export destinations and about half of the global trade transits through the maritime trade routes in this Region. For India as well, 90% of our trade by volume and 70% by value is transported by the seas. With seas as the lifelines of global trade and prosperity, most nations within – and beyond – the Indo-Pacific have a core interest in keeping the region free for commerce. "As India aims to emerge as a $5 Tn economy, the oceans provide us with a vast resource pool that can be tapped to spur India's economic growth. And when we talk of Blue Economy opportunities for India, they span the entire spectrum from energy to ecology, fishing to tourism. While the Blue Economy contributes about 4% to India's GDP, I think there is tremendous potential to expand its contribution.

"The Indian Navy is a key stakeholder in realizing this vision, and its strength lies in ensuring safety, security, and good order at sea. The Navy is naturally playing an important role in providing an overarching security umbrella to protect, preserve and promote India's national interests in the maritime domain. We support a free, open, and inclusive Indo-Pacific, wherein no country should be excluded. The IN recognizes its responsibility in the region and would continue to be the pillar around which a combined 'Force for Good' could be built". On the Indian Navy's 'capacity' and 'capabilities' with reference to the dimensions such as surface, subsurface, aerospace, and cyber on the one hand and spheres such as 'brown water' and 'blue water' on the other, Admiral Kumar said, "IN platforms, by their role, are primarily categorized as Bluewater and Brown water platforms. Since the right Force mixture among both categories is essential, the Maritime Perspective Plans driven future inductions are structured to meet all possible threats. Therefore, platforms are envisaged to meet the 'Blue Water' and 'Brown Water' threats across the spectrum of surface, sub-surface, aerospace, and cyber domains.

This capability building is undertaken in a balanced manner to bring maximum 'power behind the punch' in order to make every platform at sea count. "Accordingly, the desired Force Mix and Teeth to Tail ratio have catered for the Power Projection matrix and Sea Control capability in our Areas of Interest and facilitate Out of Area Operations singularly or in conjunction with friendly foreign countries. Further, adequate capability to achieve desired power projection, influence events ashore in crises, support land campaigns during the conflict, undertake Military Operations Other Than War (MOOTW), and render succor/ assistance through HADR/ NEO has been catered in the IN's Maritime Capability Perspective Plan (MCPP) for our areas of interest. Admiral Kumar highlighted on "AatmaNirbhar Bharat" and "Make in India" policies of Prime Minister Narendra Modi and said, "with heavy impetus laid on indigenous production of Naval equipment and platforms, Indian Navy is committed to becoming fully AatmaNirbhar (self-reliant) by 2047".

In this context, he added, "While being at the forefront of the Aatma Nirbhar Bharat initiative of the government, IN is also fully committed to indigenous shipbuilding programs. This can be evidenced by the fact that to date, over 130 ships have been built and commissioned in India. In the last 10 years, an average of 65% of the total expenditure has been focused on Indigenous

procurement. In the next 5 to 7 years, the share of expenditure would increase to about 70% and will go up to about 80% in the next 10 to 15 years. “Indigenisation remains the best option available to reduce Foreign Dependency on Defence Equipment. The spares of all Foreign origin equipment are also being progressively indigenized. IN is aiming to achieve 100% indigenization of Naval Ammunition, wherein Conventional Ammunition by type has been indigenized by 90%. The balance, which includes niche technologies such as fuze, primers, etc, is being sourced from Indian Industry. With regards to guided weapons, such as missiles and torpedoes, indigenization is being taken up progressively through DRDO and Indian production agencies.

Wherein as part of the modernization process of the IN, three Visakhapatnam class destroyers(Project 15B) are being constructed at Mazagon Dock Shipbuilders Ltd, Mumbai. (The first ship of the class, INS Visakhapatnam, was commissioned on 21 Nov 21)”. On the question of the lessons the Indian Navy has learned from the ongoing Russia-Ukraine war in terms of tactics and emerging technologies, the Indian Navy Chief said, “ As you would be aware, the Indian Navy has always been a strong proponent of self-sufficiency and use of emerging technologies. Towards the need to harness emerging technologies, we have created the Naval Innovation and Indigenisation Organisation (NIIO). This is a three-tiered organization. The Naval Technology Acceleration Council (N-TAC) brings together the twin aspects of innovation and indigenization and is also providing apex-level directives. A working group under the N-TAC is implementing these projects. Finally, the Technology Development Acceleration Cell (TDAC) is looking at inducting emerging disruptive technologies in an accelerated time frame.

“The Hon’ble Prime Minister recently inaugurated the maiden NIIO Seminar, Swavlamban, which saw enthusiastic participation by the academia, industry, policymakers, think tanks, students, and senior government officials in addition to our naval personnel. The Hon’ble Prime Minister also unveiled ‘SPRINT Challenges,’ with SPRINT standing for “Supporting Pole-Vaulting in R&D through iDEX, NIIO, and TDAC.” Admiral Kumar is a strong votary of the idea of India having theatre commands and integrated battle groups for fighting future wars, an idea that originated from the late Chief of defense Stadd, General Bipin Rawat. “The Navy has been a strong proponent of the proposed Theatre Commands and integrated battle groups for fighting future wars. India is primarily a Maritime Nation, and addressing vital threats and challenges in the maritime domain necessitates an integrated approach and high levels of synergy in terms of strategy, planning, and application of force.

This would require a robust integrated force structure such as the Maritime Theatre Command, which would amalgamate core competencies of the three Services and the Coast Guard in the maritime domain. “I will say that the Armed Forces are well set in adopting an integrated approach towards developing capabilities and effective application of ‘Joint Force.’ The organizational changes required for the same are being progressed as part of the ongoing Theaterisation studies”, Admiral Kumar said.

https://eurasiantimes.com/exclusive-indian-navy-chief-emphasizes-on-3rd-aircraft-carrier/

The EurAsian Times

Sat, 10 Dec 2022

India could Boost BrahMos Supersonic Missile's Range to 1000 Km Thanks to Russian Upgrade of Onyx Missile

By Vijainder K Thakur

Work is underway in Russia to increase the range of the P-800 Onyx (SS-NX-26) sea and land-based supersonic cruise Missile to 1000 km. When initially developed by Russia, the maximum range of the Onyx was 600 km. The maximum range of the most recent Onyx variant, Onyx-M, is 800 km. Russia's upgrade of the Onyx could prove significant for India as the Indian BrahMos missile is based on the Onyx. The Onyx, which was under development when the Cold War ended in 1991, was developed from the P-700 Granit missile, which in turn was developed from the P-500 Bazalt missile. While the Bazalt was powered by a turbojet, its successors – Granit and Onyx – were powered by ramjets, as is the BrahMos.

BrahMos Is Based On Onyx

The P-800 project initially ran aground because of lack of funds. India invested $240 million to complete two decades of the missile's development and contributed its inertial navigation system to develop the BrahMos. The Onyx was developed by NPO Mashinostroyenie (NPOM), and the BrahMos was developed in parallel by BrahMos Aerospace, a joint venture between the DRDO and NPOM. A source close to the military told TASS that active work is underway to increase the flight range of the Onyx supersonic sea and the land-based cruise missile. "It is planned to increase the flight range of the supersonic Onyx to 1,000 km in the near future," the source said.

Like the Onyx, the BrahMos has sea and ground-launched variants. Additionally, Brahmos aerospace has developed an air-launched variant of the Brahmos missile. The sea and ground-launched variants of the BrahMos are 0.5 m shorter than the Onyx (8.4m, and 8.9m, respectively) and 0.1m smaller in diameter (0.5m and 0.6m, respectively) but weigh an identical 3000 kg. It is widely believed that NPOM deliberately reduced the range for the BrahMos from 600 km to 300 km in order to conform to the MTCR (Missile Technology Control Regime).

BrahMos Range Extension

Following India's induction into the MTCR, BrahMos Aerospace extended the range of the BrahMos missile from 290 km to 500 km through tweaks such as higher altitude cruise and better fuel management. Effectively, NPOM rolled back the range restrictions built into the missile. The 500 km variant of the BrahMos is referred to as BrahMos ER. During Aero India 2017, DRDO Chief S Christopher told reporters that a new variant of the BrahMos with a strike range of 800 km is under development. A BrahMos official explained to the author that the 800-km range would be achieved by optimizing the cruise performance of the missile's ramjet engine and through the use of composites to reduce missile weight, facilitating enhanced fuel load. The BrahMos official emphasized that the weight and external dimensions of the missile would not be altered. In April 2019, BrahMos managing co-director Alexander Maksichev told Sputnik that it's proposed to increase the speed of BrahMos from Mach 2.8 to Mach 4.5 through optimization

of its ramjet engine, thereby increasing the range of the missile further. With a higher cruising speed, the missile would travel a longer distance.

On January 20, 2022, a BrahMos variant with increased indigenous content and improved performance was successfully tested from Integrated Test Range, Chandipur. The accompanying press release stated that the test was a major milestone for the BrahMos program. The missile cruised at supersonic speed for its maximum range, following a modified optimal trajectory for enhanced efficiency and improved performance. The missile featuring a modified control system was fine-tuned to achieve an enhanced capability. It's likely the test was related to extending the range of the BrahMos beyond 500 km. It's not known how NPOM plans to increase the range of Onyx-M from 800 km to 1000 km, but it's highly likely that BrahMos Aerospace will benefit from NPOM's upgrade of Onyx. I It's also possible that NPOM is extending the range of the Onyx missile based on technology developed and tested to increase the range of BrahMos!

https://eurasiantimes.com/india-could-boost-brahmos-supersonic-missiles-range-to-1000-km/

Outlook

Sat, 10 Dec 2022

Phase-II of Airfield Modernisation is Underway: Ministry of Defence

Ajay Bhatt, Minister of State for Defence, informed the parliament that the second phase of airfield modernisation is underway. This was in response to a question seeking information on developments in airfield infrastructure in the country. The contract for the second phase of the modernisation project, worth Rs 1187 crore, was signed between the Ministry of Defence (MoD) and Tata Power SED on May 8, 2020. It is part of a dual-phase project called Modernisation of Air Field Infrastructure (MAFI). Phase-I of the MAFI project involved upgrading 30 Indian Air Force (IAF) airfields and was signed on March 16, 2011, for Rs 1215 crore. Phase-II is for the airfields of the IAF, the Indian Navy (IN) as well as the Indian Coast Guard (ICG). The new features and systems to be installed include Cat-II Instrument Landing System (ILS) and Cat-II Air Field Lightning System (AFLS). Both of them will be directly-connected to Air Traffic Control (ATC). These systems will allow aircraft to take-off and land in adverse weather conditions, thereby improving on flight safety and frequency of flight operations, Bhatt added. He also said that it will aid flights with night operations.

More than 250 micro, small and medium enterprises (MSMEs) will be direct beneficiaries due to this project. Investments of this nature boost the local economy as it involves the manpower, skill, and capital of the allied sector. The Communications, Avionics, and Information Technology (IT) fields will witness growth, as will civil and electrical equipment and construction, Bhatt concluded.

https://www.outlookindia.com/business/phase-ii-of-airfield-modernisation-is-underway-ministry-of-defence-news-243894

The Tribune

Sat, 10 Dec 2022

Must be Prepared for Prolonged Wars: Indian Air Force Chief Air Chief Marshal VR Chaudhari

Indian Air Force (IAF) Chief Air Chief Marshal VR Chaudhari said on Saturday that new forms of threats have emerged and there was a need for making preparations for prolonged wars instead of short and swift operations. “We used to make preparations for short and swift wars. Now we have to prepare for the possibility of prolonged wars. We have to increase logistics footprints, technology and tactics,” he said at an event. On the wide spectrum of threats, he said, “There are drones that travel at very slow speed, and then there are hypersonic weapons. Now, threats posed by information war are more pronounced.” On the fighter jet fleet, the IAF Chief said, “Our strength is going down due to phasing out of older jets…After MiG 21s are phased out, the same will happen with Jaguar and Mirage.” He said the focus was on the production of the Light Combat Aircraft Mark 1-A version, followed by the LCA Mark-2 version and the Advanced Medium Combat Aircraft. “The immediate gap is being filled by the Multirole Fighter Aircraft, 114 of which will be made in India with a foreign partner,” he said.

Navy Chief for common ranks

Navy Chief Admiral R Hari Kumar on Saturday reiterated the need to get rid of colonial practices in the armed forces and specifically cited the names of some ranks in the Navy. He questioned the designations such as “petty officer” and “chief petty officer”. “Why should it be named ‘petty’?” he questioned. The Admiral suggested that some ranks and designations could be same in the three services.

https://www.tribuneindia.com/news/nation/must-be-prepared-for-prolonged-wars-indian-air-force-chief-air-chief-marshal-vr-chaudhari-459691

mint

Sat, 10 Dec 2022

India’s Defence Exports Hit Rs. 14,000 crore, Highest Ever

India’s defence exports stood at a record Rs. 14,000 crore in 2021-22, defence minister Rajnath Singh said on Friday, adding that the feat was an outcome of the government’s policies to boost the export of military hardware to friendly foreign countries. The minister said that due to government’s efforts, defence exports have now crossed Rs. 14,000 crore, as compared to Rs. 900 crore in 2014. He exuded confidence that, “by 2023, defence exports will cross Rs. 19,000 crore and we are well on course to achieve the target of Rs. 25,000 crore worth of exports by 2025." Singh added that with the Centre’s vision of ‘Aatmanirbhar Bharat’, India has joined mainstream of manufacturing and is now producing indigenous aircraft carriers such as INS Vikrant.

He said, the government's focus is on increasing participation of the private sector for their as well as the nation's growth while inviting foreign companies to 'Make in India, Make for the World'. Positive indigenisation lists of over 3,700 items including components/line replacement units for defence public sector units, and 310 other defence related items have been issued by Ministry of Defence to promote self-reliance. India's defence exports recorded nearly a six-fold increase between 2017 and 2021, shooting up from Rs. 1,520 crore to Rs. 8,435 crore during that period, according to defence ministry data. Commending the Prime Minister Narendra Modi's vision for the welfare of the nation,Singh said India has become the fifth largest economy with a GDP of $3.5 trillion in the last 8.5 years.

"Before 2014, India was among the 'Fragile Five' nations, a word coined investment firm Morgan Stanley. Today, we have moved out of that category and joined the 'Fabulous Five' economies of the world. According to a recently published article on the global economic outlook by Managing Director of Morgan Stanley Chetan Ahya, India will be the third largest economy after the US and China by 2027. India's GDP will increase to USD 8.5 trillion in the next ten years. This clearly shows that India has become a centre of hope and confidence for the world," he said. Singh added that due to the country's strong economic condition, there has been a record foreign direct investment (FDI) despite COVID-19. He said 2021-22 recorded the highest ever FDI at $83.6 billion. India will become one of the most powerful nations in the times to come, he said.

https://www.livemint.com/news/india/indias-defence-exports-hit-14-000-crore-highest-ever-11670661555303.html

ThePrint

Sat, 10 Dec 2022

Is India's Defence Business a Good News Story or Bad? Perhaps Both, but Changing for the Better

What most people know about India's defence business is that, while the government has been trying for decades to achieve self-reliance in weapons development and manufacture (mostly through government-owned companies), the reality is that India is the second-largest importer of defence hardware. That paradoxical outcome is not for want of trying — though perhaps not trying the right way. What few know is that India has the third- or fourth-largest budget for defence research and development (counting space and atomic energy as part of defence). The money spent is a lot less than by either the US or China, but it is bigger than the defence R&D budgets of the UK, Germany, and France, all of which make frontline defence weaponry in a way that India does not.

In fact, for leading public sector defence companies in aerospace and electronics, R&D has accounted for a bigger share of total expenditure than the international average.The paradoxes don't end there. On the one hand, it is evident that indigenously produced weaponry is slowly coming into its own, examples being the Tejas and Brahmos, a range of other missiles, and impressive shipyard capabilities. On the other, while officials who have dealt with the subject talk of a sharp increase in the sales of domestic defence units, a greater share for the private sector, and reduced dependence on imported hardware, the available numbers suggest that

defence production has been more or less static in dollar terms, as indeed have defence exports. So, has this been a good news story, or its opposite? Perhaps both.

What is clear though, from a recent discussion involving people in the field, is that some winds of change are blowing. The government has determinedly opened up the sector to private manufacture; and the finance minister in her last Budget speech said that a quarter of defence R&D spending funded by the government would be done by private industry and in non-government institutions. So far that has remained a statement of intent, but the C-295 transport aircraft will be made by a Tata-Airbus joint venture, and howitzers are being made by Larsen & Toubro and Bharat Forge. Such large enterprises now keep company with the 10,000 small and medium enterprises that already exist in the sector. On the R&D front too, the government set up four years ago a Defence Innovation Organisation, whose executive arm (Innovation for Defence Excellence, or Idex) has funded well over a hundred R&D projects in the field of drones, robotics, artificial intelligence, and advanced materials, among others. In addition, some start-ups produce dual-use products for image recognition, wearable technology, and the like. Those in the sector talk of a spreading awareness that things are finally changing. Which is not to say that problems don't persist. The defence procurement system remains a stumbling block for many. The armed forces take too long to accept products based on domestic R&D, and the standard practice of going for the cheapest bidder does little to encourage vendors who have developed technology with government funding.

Idex funding has helped with drone technology in particular, but so far there are few if any actual orders materialising. The fact that a production-linked incentive scheme has just been announced for the manufacture of drones and drone components might make a difference. Exports too might get scaled up. Tesla, for instance, is said to have shown interest in locally developed materials technology for the faster charging of batteries. Two companies have won export orders for the Pinaka rocket firing system. And earlier this year, Malaysia signed a memorandum of understanding with Hindustan Aeronautics for the Tejas fighter; unfortunately, China might eventually get the contract. Perhaps it is too early for isolated deals and breakthrough domestic R&D to register on a scale large enough to make a difference to the macro numbers. But among the steps that have helped is that the government no longer claims ownership of the intellectual property created with government-funded research; companies are therefore better positioned to raise capital for moving to the production stage. With luck, defence research and defence production could emerge as a genuine good news story.

https://theprint.in/opinion/is-indias-defence-business-a-good-news-story-or-bad-perhaps-both-but-changing-for-the-better/1258200/

THE ECONOMIC TIMES

Sun, 11 Dec 2022

Punjab: BSF Seizes Illegal Weapons in Border District

The day after unidentified assailants targeted the Border Security Force (BSF) with a Rocket Propelled Grenade (RPG) in Tarn Taran district of Punjab, the border personnel on Sunday recovered illegal weapons in Ferozepur, another district bordering Pakistan, during a search operation. "On December 11, 2022, at about 1215 hrs, Border Security Force troops while carrying out area domination patrolling ahead of border fence observed fresh dug soil and during

a consequent search of the area, the party recovered weapon consignment near Village -- Chandi Wala, District -- Ferozepur," an official statement said.

The weapons recovered included two AK 47 rifles, 4 rifle magazines, 2 pistols and 4 pistol magazines, and 10 live cartridges. On Saturday morning, a low-intensity blast was reported at the Tarn Taran Police Sanjha Kendra in Punjab. According to the police, the attack was carried out with a Rocket Propelled Granade (RPG). It added that a case was registered under the Unlawful Activities (Prevention) Act. After receiving word of the attack, officials of the National Investigation Agency (NIA) arrived at the Sarhali Kalan police station in Tarn Taran on Saturday evening. The officias said they suspected a 'terror link' in the attack. Also, on Saturday, Tarn Taran Senior Superintendent Of Police (SSP) Gurmeet Singh Chauhan told repporters that some suspects have already been questioned in connection with the incident. Later on Saturday, a pro-Khalistan shadow outfit named Sikhs For Justice (SFJ) claimed responsibility for the attack.

After surveying the scene of the attack on Saturday, Punjab DGP Gaurav Yadav said, "An RPG hit the Police Subidha Centre. An FIR under UAP(A) has been registered." "A forensic team has also arrived at the spot. We are connecting all loose ends to reconstruct what happened," he added. He said that there is a clear indication of a strategy by "foreign elements to bleed India through thousand cuts". "We'll investigate SFJ's claim. We'll investigate all angles and theories. Handlers and operators in Pakistan, elements they're in touch within Europe, North America and their links are being probed so that real perpetrators are arrested soon," he said. He also appealed to the common people to not be afraid and cooperate with the police.

https://economictimes.indiatimes.com/news/defence/punjab-bsf-seizes-illegal-weapons-in-border-district/articleshow/96152779.cms

Hindustan Times

Mon, 12 Dec 2022

In Historic Move, Navy to Allow Women to opt for Special Forces

The Indian Navy has decided to open the doors of its elite special forces to women, a development that will allow them to serve as commandos for the first time in any of the three defence services, senior officials familiar with the matter said on Sunday. The special forces of the army, navy and air force consist of some of the toughest soldiers who undergo rigorous training, are capable of mounting a swift and stealthy response in denied territories, and have thus far been a male preserve. “Women in the navy can now become marine commandos (Marcos) if they choose to and meet the criteria. It’s truly a watershed in India’s military history. But no one is directly assigned to special forces units. People have to volunteer for it,” said one of the officials cited above, asking not to be named. The option of volunteering to become Marcos will be open to both women officers and sailors who will join the service as Agniveers next year, said a second official. The Marcos are trained for a raft of missions and can operate in sea, air and land.

These commandos can conduct clandestine attacks against enemy warships, offshore installations and other vital assets, specialised diving operations, and surveillance and reconnaissance missions to support naval operations. They can also fight terrorists in a maritime

environment, and have been deployed in Kashmir's Wular lake area in a counterterror role. "From special operations to flying to warship duties, no wing of the navy now bars women. It has transformed itself into a fully gender-neutral force. If you have what it takes, there's no dearth of opportunities," said a third official. The opening of the navy's special forces wing to women comes at a time when the force is on the threshold of inducting them in the personnel below officer rank (PBOR) cadre for the first time.

The navy is closely monitoring the training of its first batch of Agniveers, including women, at the INS Chilka training establishment in Odisha. The navy's first batch of Agniveers consists of 3,000 trainees including 341 women. INS Chilka, the sprawling lakeside campus, earlier got a raft of facilities to make life is easier for the women who are on the threshold of a naval career. From earmarking two new accommodation blocks exclusively for them to installing sanitary pad vending and disposal machines, and a separate dining area to hiring women staff, the navy took several measures to make the training establishment women-friendly. Other changes made at INS Chilka include setting up of more toilets for women trainees, installation of security cameras and hiring women as matrons, swimming instructors and safai karamcharis. Three decades after the military commissioned its first batch of women officers in the short-service stream, the armed forces have come a long way and are now offering them a raft of opportunities that have given them new hard-earned identities, empowered them and helped bridge the gender gap significantly in a traditionally male-dominated field, as previously reported.

Women in uniform are no longer on the fringes but are being assigned central roles on a par with their male counterparts – they are flying fighter planes, serving on board warships, being inducted in the personnel below officer (PBOR) cadre, eligible for permanent commission, and, the first batch of women candidates is currently undergoing training at the National Defence Academy. While the government and the armed forces have taken steps to promote gender-neutrality in the military system, the courts have also played an important role in pushing inclusion. The courts have passed landmark judgments over the years to overturn rules that restricted women from being granted permanent commission, and therefore pension, like their male counterparts, and also made them eligible for NDA.

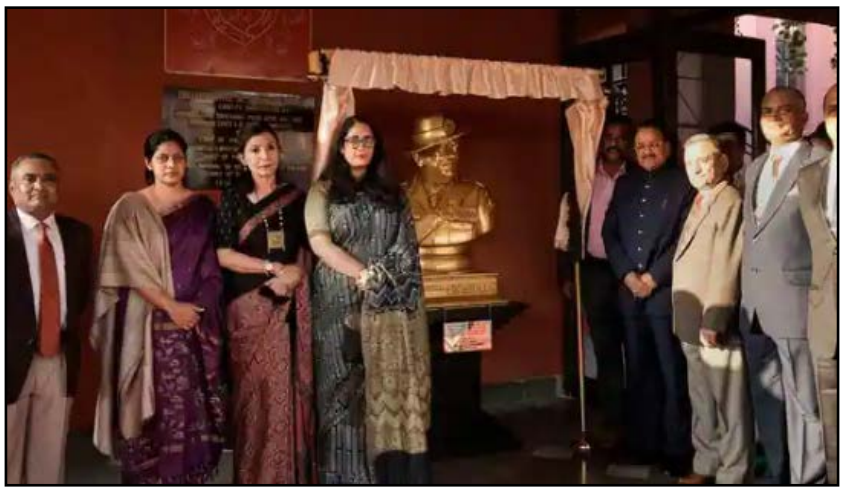
https://www.hindustantimes.com/india-news/in-historic-move-navy-to-allow-women-to-opt-for-special-forces-101670782370892.html

mint

Sat, 10 Dec 2022

MoS Defence Unveils Bust of India's First CDS Late Gen Bipin Rawat

To commemorate the first death anniversary of India's first Chief of Defence Staff (CDS) General Bipin Rawat, his bust was unveiled by MoS Defence Ajay Bhatt at United Service Institution of India (USI) in New Delhi on December 10. During the ceremony, rich tributes were paid to General Rawat by the MoS Defence, current CDS General Anil Chauhan, Chief of the Air Staff Air Chief Marshal VR Chaudhari, Chief of the Naval Staff Admiral R Hari Kumar, Chief of the Army Staff General Manoj Pande and other serving and retired members of the military fraternity.



Union MoS for Defence Ajay Bhatt with Chief of Defence Staff General Anil Chauhan and other Chiefs of defence forces unveiling a bust of India's first CDS late Gen Bipin Rawat (PTI)

The Armed Forces and the USI have taken the initiative to institute a Chair of Excellence and a Memorial Lecture in the memory of General Bipin Rawat at the Institution. During his illustrious service, India's first CDS was conferred with PVSM, UYSM, AVSM, YSM, SM, VSM and Padma Vibhushan (posthumously). He was a visionary leader and a scholar soldier, known for his professionalism, principles, conviction and decisiveness. During his four decades in service, General Rawat had gained vast operational experience in the full spectrum of warfare. As a brigadier, he led successful counter-terrorism operations in Sopore and successfully commanded a multinational brigade under United Nations in Democratic Republic of Congo.

As a Major General, he had commanded an Infantry Division along the Line of Control in North Kashmir. As the Corps commander, he oversaw the conduct of hot pursuits of terror groups executed by Indian Army's Special Forces into Myanmar. This was the beginning of the transformation of India's strategic culture from restraint to assertion. Later on, as Vice Chief of the Army Staff, he was instrumental in overseeing the surgical strikes against Pakistan-based terrorist groups in PoK. As Chief of the Army Staff, General Rawat's achievements were remarkable in all spheres of military and national security affairs. He followed the Indian Army's motto of 'Service before Self' as a guiding principle throughout his Army career. As the first CDS, he rallied for organisational and structural reforms to integrate the Armed Forces. Path breaking transformational initiatives and civil-military synergy will remain his legacy.

https://www.livemint.com/news/india/mos-defence-unveils-bust-of-india-s-first-cds-late-gen-bipin-rawat-11670685516373.html

नवभारत टाइम्स

शनिवार, 10 दिसंबर 2022

बड़ी ताकत बनकर उभरेगा भारत : यूएस

भारत-अमेरिकी रिश्तों पर बोले टॉप अमेरिकी अधिकारी

■ पीटीआई, वॉशिंगटन

वाइट हाउस के टॉप अधिकारी कर्ट कैंपवेल ने गुरुवार को कहा कि भारत, अमेरिका का सिर्फ एक सहयोगी नहीं, वल्कि एक वड़ी ताकत वनकर उभरेगा। उन्होंने कहा कि पिछले 20 साल में भारत और अमेरिका के द्विपक्षीय संवंध जितनी तेजी से मजवूत हुए हैं, वैसा किसी भी अन्य द्विपक्षीय संवंध के साथ नहीं हुआ। 'ऐस्पन सिक्यॉरिटी फोरम' की वैठक में कैंपवेल ने कहा, भारत, अमेरिका का एक सहयोगी नहीं होगा। वह एक स्वतंत्र, शक्तिशाली देश वनने की इच्छा रखता है और वह एक और महान शक्ति वनकर उभरेगा...। उन्होंने जोर देकर कहा कि भारत-अमेरिका संवंध केवल चीन को लेकर चिंता के कारण नहीं वने हैं। ये हमारे समाजों के वीच महत्वपूर्ण तालमेल पर आधारित हैं। वहीं अमेरिका के शीर्ष आतंकवाद रोधी अधिकारी टिमोथी वेट्स अगले सप्ताह आतंक रोधी संयुक्त कार्य समूह की वैठक के लिए भारत आ रहे हैं।

'दोनों देशों के रिश्ते गहराने की वजह चीन पर चिंता नहीं'

यूएस बोला, भारत में वीजा से जुड़ी देरी से वाकिफ हैं

■ पीटीआई, वॉशिंगटन : वाइट हाउस की प्रेस सचिव ने गुरुवार को कहा कि अमेरिकी प्रशासन भारत में वीजा प्रक्रिया में देरी से वाकिफ है और वह इन वीजा सेवाओं संबंधी मांग को पूरा करने के लिए काम कर रहा है। वता दें कि भारत में वीजा आवेदन प्रक्रिया पूरी होने में 1000 से अधिक दिन लग रहे हैं।

THE ECONOMIC TIMES

Sun, 11 Dec 2022

How India's Nuclear Bomb Capability Rattled US in 1968

Canadian nuclear inspectors visiting the Canada-India Reactor (CIR) at Trombay in Mumbai in June 1968 were "unsettled" by data suggesting that India was heading towards the "development of a nuclear device", triggering strong US reaction and fears of an arms race. As per declassified documents published Friday in Washington, the Canadians later told US diplomats that the reactor fuel had been irradiated at a level low enough to produce "weapons grade plutonium" and that, if India was seeking to produce plutonium, the reactor could generate up to 12kg a year.

The documents obtained by the US National Security Archive shed light on US policy in the early years of India's nuclear programme, before its first nuclear test in May 1974. These secret papers said India's top nuclear officials posed a significant challenge to US non-proliferation policy when they insisted that they could freely use plutonium produced in their reactors for a peaceful nuclear explosion (PNE). Accordingly, a November 1970 US demarche to the Indian government said the "use of plutonium produced pursuant to US-Indian civil agreements for the

manufacture of…PNE devices would be incompatible with such agreements and … we would object most strongly to such use."

In reply, Indian officials declared that they did not intend to develop nuclear weapons, but they had wide scope to use nuclear technology "for any peaceful purposes and to undertake whatever development is required for this". The documents said: "A recently declassified June 1974 Interagency Intelligence Memorandum acknowledged that Washington had no evidence of Indian nuclear decision-making. But estimated that Indian policymakers had several major choices before them." "One was continuing nuclear development for peaceful uses, with no military purposes. If India made such a choice, technology developed for PNE would be eminently suited for application to nuclear weapons developments should the decision be made."

https://m.economictimes.com/news/defence/how-indias-nuclear-bomb-capability-rattled-us-in-1968/amp_articleshow/96146543.cms

THE TIMES OF INDIA

Mon, 12 Dec 2022

Tata-Airbus Project Set to Bag Order for 15 More Planes

The mega Rs 21,935 crore Tata-Airbus project to supply 56 twin-turboprop C-295 military transport aircraft to the IAF is set to become even bigger. The defence ministry is now planning the acquisition of another 15 such planes for the Navy and Coast Guard as well. The plan is to modify nine C-295s for Navy and six for Coast Guard, and equip them with multi-mode radars, electro-optic cameras and sonobuoys, for surveillance missions over the high seas, sources told TOI.

Airbus Defence and Space (Spain) will modify the initial couple of planes for maritime requirements. The rest will be manufactured at the Tata-Airbus facility at Vadodara in Gujarat, with the DRDO executing the overall project for equipping them to serve as medium-range maritime reconnaissance (MRMR) aircraft. The Rajnath Singh-led Defence Acquisitions Council will soon take up the grant of acceptance of necessity (AoN) for the 15-aircraft project, which could cost around Rs 18,000 crore, the sources added. Both Navy and Coast Guard have been looking for new MRMR aircraft to ensure the Indian Ocean Region (IOR) can be more effectively patrolled to detect both conventional and terror threats in time.

The Navy currently has 12 P-8I aircraft, acquired from the US for $3.2 billion, for long-range reconnaissance missions. Packed with radars and sensors as well as armed with Harpoon Block-II missiles, MK-54 lightweight torpedoes, rockets and depth charges, the P-8Is are primarily meant for hunting enemy submarines. The P-8Is patrol the outermost layer of the three-tier maritime surveillance grid along with two unarmed Sea Guardian drones leased from US firm General Atomics. "The 15 MRMR aircraft, which have a flight endurance of up to 11 hours, in turn, will be used for medium-range missions in the IOR along with the Dornier-228 fleet," a source said. While India's primary area of strategic interest stretches from Persian Gulf to Malacca Strait, it also has a vast 5,422-km coastline, 1,197 islands and two million sq km of EEZ to guard against threats.

PM Modi had laid the foundation stone for the Tata-Airbus Vadodara facility on October 30. The first 16 C-295s are to be delivered to IAF in a flyaway condition by Airbus between September 2023 to August 2025, with the remaining 40 to be produced at Vadodara. The first 'Made in India' C-295, which can carry up to nine-tonne of payload or 71 soldiers with "short take-off and land" capability from semi-prepared surfaces, will roll out in September 2026. Induction of these 56 planes in the 2023-2031 timeframe will boost IAF's tactical airlift capability along the border with China. This is the first time a military aircraft will be manufactured by the private sector in India, breaking the virtual monopoly of defence PSU Hindustan Aeronautics for decades.

https://timesofindia.indiatimes.com/business/india-business/tata-airbus-project-set-to-bag-order-for-15-more-planes/articleshow/96155795.cms

ThePrint

Sat, 10 Dec 2022

India, Australia Discuss Ways to Enhance Bilateral Defence Cooperation

Amid the ongoing joint exercise 'Austra Hind 22' between the two countries, Major General Chris Field of the Australian Army called on India's Lt. General M.V. Suchindra Kumar, Deputy Chief of Army Staff (Strategy) and discussed ways to boost defence ties. "Maj Gen Chris Field from the @AustralianArmy called on Lt Gen MV Suchindra Kumar DCOAS (Strat) and discussed about the ongoing joint Exercise #AustraHind between both Armies and ways to further enhance bilateral defence cooperation," a tweet by the official handle of Additional Directorate General of Public Information (ADG PI), Indian Army read. The joint military exercise between armies of Australia and India 'Austra Hind-22' began at Rajasthan's Mahajan Field Firing Range on November 28, focusing on peacekeeping operations under the UN mandate. The exercise, which is set to take place till December 11, aims to strengthen military ties, share best practices, and encourage cooperation.

During the ongoing joint drills, the troops have exchanged their expertise in drone technology. "Troops of #IndianArmy and @AustralianArmy exchanged their expertise in the employment of cutting edge #drone technology including #nanodrones in combat," the Indian Army (@adgpi) tweeted. The Australian army contingent comprises soldiers from the 13th Brigade of the 2nd Division while the Indian Army is represented by troops from the Dogra Regiment. "Aim of the exercise is to build positive military relations, imbibe each other's best practices and promote the ability to operate together while undertaking multi-domain operations in Semi deserts terrain under a UN peace enforcement mandate," according to the Defence Ministry. The 'Austra Hind' is a yearly event that will be conducted alternatively in India and Australia.

https://theprint.in/world/india-australia-discuss-ways-to-enhance-bilateral-defence-cooperation/1258853/

THE ECONOMIC TIMES

Mon, 12 Dec 2022

In Multiple Airstrikes, Ukrainian Forces Target Russian Military Barracks, Kill Many Soldiers in Occupied Areas

Ukrainian airstrikes targeted Russian military barracks in a massive attack in the occupied city of Melitopol. Ukrainian officials disclosed that a total of 10 blasts rocked the military complexes set up by the Russians, killing several of their soldiers. Video footage captured from the affected zone showed the barracks engulfed in flames. Another footage displayed rescue workers trying to help in the ruins as several bodies lay around. The attack was carried out using HIMARS rockets. The Ukrainian forces targeted a former resort and hotel complex, which had been turned into Russian barracks by the soldiers in the city locally known as the Hunter's Halt. Pro-Russian authorities revealed that the missile blast killed only two people, and 10 others were injured. While the exiled mayor, Ivan Fedorov, said that several of the "invaders" had died.

The Moscow-appointed governor of the occupied Zaporizhzhia region, Yevgeny Balitsky, noted that the air defence system had intercepted two missiles, but four others reached their targets. He added that a recreational centre where people were dining was also destroyed in the Ukrainian attack. Putin also issued warnings that any attack towards Russian-controlled regions would be met with necessary military actions. Several other explosions were also reported in the Russian-occupied areas like Crimea in the cities of Sevastopol and Simferopol. Despite the Russian aggression, Ukraine plans to take back all the territories, which were lost to Russia till now.

https://economictimes.indiatimes.com/news/international/uk/in-multiple-airstrikes-ukrainian-forces-target-russian-military-barracks-kill-many-soldiers-in-occupied-areas/articleshow/96155503.cms

FINANCIAL EXPRESS
Read to Lead

Fri, 09 Dec 2022

UK, Italy and Japan Announce the Teaming for Sixth-Generation Global Combat Air Programme

The UK, Italy and Japan have announced the joint working mechanism for the Global Combat Air Programme (GCAP) which is a new partnership to develop combat jets. The UK government which is leading the project is aimed to deliver the next generation of combat air fighter jets. All three countries are already part of the US fifth-generation F-35 stealth fighter program. Under the F-35 program, all three contribute the development of the F-35 and the different versions of the warplane are assembled in Italy and Japan. While the F-35 program will continue, the focus will shift towards the sixth generational upgrades. The new jet will replace Britain's Typhoon fighters and Japan's F-2s. This move also comes in a response to the Chinese fifth-generation fighters jets – Beijing's J-20 and J-31 and Russian Su-57. Despite, the F-35 retains the edge over the Chinese and Russian jets in terms of stealth and engine performance.

"We are announcing the Global Combat Air Program (GCAP) – an ambitious endeavour to develop a next-generation fighter aircraft by 2035," British, Italian and Japanese leaders said in a joint statement. "The UK will work with Italy and Japan to adapt and respond to the security threats of the future, through an unprecedented international aerospace coalition announced by the Prime Minister," it clarifies. The British Prime Minister will visit a UK RAF base today to launch the first major phase of the programme, which aims to harness the combined expertise and strength of our countries' defence technology industries to push the boundaries of what has been achieved in aerospace engineering to date. According to the statement, the GCAP will incorporate a network of capabilities such as uncrewed aircraft, advanced sensors, cutting-edge weapons and innovative data systems.

"By combining forces with Italy and Japan on the next phase of the programme, the UK will utilise their expertise, share costs and ensure the RAF remains interoperable with our closest partners. The project is expected to create high-skilled jobs in all three countries, strengthening our industrial base and driving innovation with benefits beyond pure military use," it said.

Merging the Tempest with GCAP

With the announcement of GCAP, UK merges Tempest programme with Italy and Japan for the sixth-generation fighter jet. According to the official involved in the project, the Global Combat Air Programme (GCAP) will leverage from the UK's Tempest and Japan's F-X programmes. The UK's BAE Systems, a lead integrator of the project –the Tempest– has been working alongside Leonardo UK, MBDA UK, Rolls-Royce and the UK Ministry of Defence since 2018. The concept GCAP also aims to redefine the critical components of the aircraft's physical controls with augmented-reality and virtual-reality (AR and VR) systems. The new dimensions will further boost the futuristic teaming concept what is known as the Loyal Wingman Uncrewed Aircraft. The joint cooperation also highlights the emerging threat as the UK Prime Minister said: "The international partnership we have announced today with Italy and Japan aims to do just that, underlining that the security of the Euro-Atlantic and Indo-Pacific regions are indivisible. The next-generation of combat aircraft we design will protect us and our allies around the world by harnessing the strength of our world-beating defence industry – creating jobs while saving lives."

The combat aircraft developed through GCAP is also expected to be compatible with other NATO partners' fighter jets. The new combat aircraft designed by GCAP is expected to replace the Typhoon when it comes out of service. The UK, Italy and Japan will collaborate to establish the core platform concept and set up the structures needed to deliver this defence project. It is expected to reach the development phase in 2024. Ahead of the development phase, partners will also agree the cost-sharing arrangements based on a joint assessment of costs and national budgets. Alongside the development of the core future combat aircraft with Italy and Japan, the UK will assess our needs on any additional capabilities, for example weapons and Uncrewed Air Vehicles. GCAP sits alongside our other defence cooperation with international allies, including the AUKUS partnership and NATO – to which the UK remains the leading European contributor. In addition to that, the US also has a parallel sixth-generation fighter jet program – the Next-Generation Air Dominance (NGAD) program which is based on the F-22.

https://www.financialexpress.com/defence/uk-italy-and-japan-announce-the-teaming-for-sixth-generation-global-combat-air-programme/2907960

The EurAsian Times

Sun, 11 Dec 2022

Taiwan Invasion: China 'Fully Prepared' to Gobble Taiwan; 3 Key Factors could Trigger Military Ops – Experts

By Parth Satam

Based on specific military exercises and a particular pattern of the types and frequency of the aircraft it sends into Taiwan's Air Defense Identification Zone (ADIZ), it can be estimated that China's military action in Taiwan could be near. However, whether it translates that military encirclement into a full-scale war, a limited strike on the Taiwanese military to coerce it into surrendering, or; a prolonged blockade to force Taipei to buckle by presenting a fait accompli remains to be seen.

Military exercises growing more specific

The live-fire drills were mainly at a strategic logistical level, where the People's Liberation Army (PLA) undertook "multi-directional" "high intensity" "close-in deterrence joint sea and air assaults." Indeed, firsts like firing missiles over Taiwan or using the J-20 stealth fighter in the live-fire drills gave China the confidence to enforce a blockade of Taiwan from all directions and sustain for a prolonged time. The minor tactical, operational, and technical plans for each aerial, naval, and ground role; identifying, recording, and analyzing Taiwanese targets; drawing up fire plans; preparing countermeasures for possible Taiwanese resistance and; refining the logistics-combined arms-fire-reinforcements chain could not have been possibly done in a 10-12 day time frame.

If anything, the drills served to identify issues with the very micro-level roles like amphibious landings; aerial and sea-borne air defense; airborne early warning; electronics, signals, and communications intelligence (ELINT, SIGINT, COMINT); long-range stand-off missile fires from bombers and fighters; and air dominance; and lastly intelligence-surveillance-reconnaissance roles as a part of a larger sensor-to-shooter kill chain. The last bit is a military practice China is believed to share with Russia, where there is a preference to lead military operations with accurate long-range missile fires and restrained ground offensives. Moreover, one of the locations in the north of Taiwan and two in the south during the live-fire exercises were within the island's territorial waters. This served as a significant political statement: China disregards the maritime boundary to uphold its claim over the island, and it is not a violation of international law for a country's military to operate within its territory.

A brief look at the People's Liberation Army Force's (PLAAF) recent flights into Taiwan's ADIZ gives an idea. On November 21, PLAAF sent twelve aircraft and four ships to Taiwan, including five H-6K bombers. This was "to work out the issue of breaking through the Taiwanese air defense system in the southern part of the strait," according to a comment on a leading online Chinese defense issues forum. The next day (November 22) saw five aircraft, including a BZK-005 drone, 4 J-10 fighters, and an anti-submarine warfare Y-8Q (or KQ-200), entering the southern part of Taiwan's ADIZ. The Southern Theatre Command has emerged as

central to China's potential Taiwan operation since China assumed the US to try and break its blockade from that direction.

This depends upon the scale and extent of the perceived provocation from Taiwan or the United States. Chinese actions could be stimulated with the declaration of independence by separatists, the US recognizing the island as a country and renouncing its own One China policy, or another visit by a top-most representative from the US. The aftermath of the visit of former US Speaker Nancy Pelosi has permanently changed Cross-Strait relations. China has calculated that the US will continue to push Beijing's red lines. China has been trying to find gaps in its attack and integral defense plans in the Taiwan Strait and northern SCS. While the unprecedented nature of the live-fire exercises around Taiwan after the Pelosi visit in early August was one indication, regular tent military exercises and rapid induction of military platforms since September is another. On a different note, on Thursday, the PLA's 75th Brigade in Yunnan under the STC accepted the delivery of several military equipments. These included seven Type 624 anti-aircraft missile and gun systems, eight 122mm multiple launch rocket systems (MLRS), eight transport-loading vehicles, and five other trucks for transporting personnel and command and control roles.

On the same day, the Eastern Fleet of the People's Liberation Army Navy (PLAN) tested the third ship of the Type 075 amphibious landing helicopter dock (LHD) with weapons trials in the East China Sea. Besides the fleet of hundreds of civilian fishing vessels and maritime militia and some roll-on roll-over (RoRo) to transport tanks and troops, the Type 075s, too, will contribute in an amphibious landing role. Thursday also saw the PLA Marine Corps "sharpening its amphibious combat skills" in combined arms battalions in a new "flatter command method" to prepare for a "Taiwan attack," according to the South China Morning Post (SCMP). The land, sea, and air drills combined multiple tasks like "obstacle removal, reconnaissance, and firing while functioning as a single battalion." These were supported by "dozens of amphibious armored vehicles and assault boats carrying marines, while helicopters carrying the reconnaissance and attack unit (conducted) infiltration and attack maneuvers to the enemy's rear."

The latest flights into Taiwan's ADIZ on December 8 saw nine aircraft and four UAVs crossing and returning from the median line. These were four J-10s and one CH-4 reconnaissance UAV in the northern part of the median line; four J-16s in the central region; one Y-8 ASW aircraft, and one BZK-005 reconnaissance UAV in the southern part. J-16s and Y-8s have extensively been used under the STC's area of responsibility in the northern South China Sea (SCS), where China believes the US will try to break its blockade of Taiwan.

China is nearly prepared; US is not!

Senior Director of the Hawaii-based Pacific Forum, Dr. John Hemmings, said in an online Hudson Institute talk how Beijing is "no longer following its hiding and biding doctrine" and that President Xi Jinping has a "very deliberate timeline" to annex Taiwan "by force or by diplomacy." China officially advocates "peaceful reunification" with Taiwan but has not ruled out military force if the mentioned scenarios happen. Hemmings seems to attribute China's military drills as a reaction to this eventuality when he says Xi Jinping is "quite prepared, quite willing and seems to be even further preparing to do it by force."

He further pointed to the US' slow pace of military preparations, which have not been happening "quickly enough" to thwart a Chinese attack on Taiwan. Wargames by the RAND Corporation

and Center for Strategic and International Studies (CSIS) have shown either devastating US and Taiwanese defeats or horrible losses that would take “years to rebuild.” The wargames saw China swarming them with thousands of boats, military vessels, UAVs, missiles, and planes. The EurAsian Times had reported in multiple previous analyses of Chinese lead in doctrinal, logistical, and technological systems and US military leaders admitting their lagging in the very areas.

Pelosi wouldn’t be the last

US House Minority Leader, China-hawk, and possibly the future US Speaker Representative Kevin McCarthy pledged to arm Taiwan and visit the island if he is elected to office in 2023. China is therefore prepared for another set of military and diplomatic hostilities in the western Pacific with the US. The sentiment that the US will continue to provoke China in Taiwan regardless of Democratic or Republican persuasion has firmly gained hold in Beijing. The American political landscape remains divided on Russia, with Republicans, especially former President Donald Trump’s camp, opposing arming Ukraine and reconciling with Russia and Democrats following a hardline. But both parties share a mutual interest in a Great Power Contest with China.

https://eurasiantimes.com/taiwan-invasion-china-fully-prepared-to-gobble-taiwan-3-key-factors/

BBC NEWS

Sun, 11 Dec 2022

Ukraine War: US Says Iran Now Russia's 'Top Military Backer'

Russia and Iran's relationship has warmed to a fully fledged defence partnership, the US has said. Russia is giving an unprecedented level of military support, says US national security council spokesman John Kirby. The US has seen reports that the two countries are considering joint production of lethal drones, he adds. It comes after Ukraine accused Iran of supplying Russia with "kamikaze" drones used in deadly attacks on 17 October, which Tehran initially denied. The Middle Eastern country later admitted sending Moscow a limited number of drones, "many months" before the war. In response, Ukraine's President Volodymyr Zelensky said this was a lie and that many more Iranian drones were being used. The Ukrainian air force said it downed 10 of 15 such drones used to attack southern regions in the early hours of Saturday.

The strikes left more than 1.5 million people without power in Odesa, Mr Zelensky said in his evening address, adding it could take days for electricity to be restored. Earlier, Australia announced it was sanctioning three Iranians and one Iranian business for supplying Russia with drones to use against Ukraine. Speaking on Friday, Mr Kirby said that a partnership between Iran and Russia to produce drones would be harmful to Ukraine, Iran's neighbours and the international community. "Russia is seeking to collaborate with Iran in areas like weapons development, training," he said, adding that the US fears that Russia intended to "provide Iran with advanced military components" including helicopters and air defence systems. "Iran has become Russia's top military backer..." he said. "Russia's been using Iranian drones to strike

energy infrastructure, depriving millions of Ukrainians of power, heat, critical services. People in Ukraine today are actually dying as a result of Iran's actions." In response to Mr Kirby's comments, UK Foreign Secretary James Cleverly said that Iran had become one of Russia's main military supporters and that the relationship between them was threatening global security.

The "sordid deals" between the two countries have seen Iran send hundreds of drones to Russia, he said. "In return, Russia is offering military and technical support to the Iranian regime, which will increase the risk it poses to our partners in the Middle East and to international security," he added. He said the UK agreed with the US that Iranian support for the Russian military would grow in the coming months as Russia tried to get hold of more weapons, including hundreds of ballistic missiles. On Saturday, Penny Wong, Australia's foreign minister, said in a statement: "The supply of drones to Russia is evidence of the role Iran plays in destabilising global security. This listing highlights that those who provide material support to Russia will face consequences." She also announced measures against 19 other people and two entities, including Iran's Morality Police, for the brutal treatment of anti-government protesters following the death of 22-year-old Mahsa Amini in custody earlier this year.

In other developments:

- Russia has turned the Ukrainian city of Bakhmut into "burnt ruins", President Zelensky says, following months of deadly fighting in the eastern Donbas region
- The United Nations says Belarus will allow the transit of Ukrainian grain through its territory for export from Lithuanian ports
- The head of a Ukrainian human rights organisation that was jointly awarded this year's Nobel Peace Prize - Oleksandra Matviichuk of the Centre for Civil Liberties - has called on nations to set up an international tribunal to try Russian President Vladimir Putin for Russia's war in Ukraine
- Russian human rights activist Yan Rachinsky, from the organisation Memorial which was also awarded this year's accolade, has told the BBC he was ordered to turn down the prize by Russian authorities.
- The International Olympic Committee says it will explore a proposal to allow athletes from Russia and Belarus to take part in sporting events in Asia - despite an international ban.

https://www.bbc.com/news/world-europe-63921007

the pioneer

Mon, 12 Dec 2022

S Korea Top Nuclear Envoy Leaves for Indonesia to Meet US, Japanese Counterparts

In Jakarta, Kim is scheduled to meet with Sung Kim, US special representative for North Korea, on Monday, and a meeting with his Japanese counterpart, Takehiro Funakoshi, the next day, according to officials. The three will also hold a trilateral meeting Tuesday, Yonhap News Agency reported. It marks the first gathering of the three top nuclear envoys since their last meeting in Tokyo in September. They are expected to share their assessments on regional

tensions attributable to North Korea's evolving missile provocations and discuss ways to respond to the country's military provocations through trilateral and global collaboration.

https://www.dailypioneer.com/2022/world/s-korea-top-nuclear-envoy-leaves-for-indonesia-to-meet-us--japanese-counterparts.html

Science & Technology News

TIMESNOW

Sat, 10 Dec 2022

ISRO Hypersonic Vehicle Test Flight Completed Successfully, Achieved All Objectives

The test flight of hypersonic vehicles with Headquarters of the Integrated Defense Staff (HQ IDS) was successful, according to a statement released by the Indian Space Research Organization (ISRO) on Friday. The nation's premier space agency issued a statement saying the combined hypersonic vehicle trial was successful. In a nutshell, ISRO's test of hypersonic vehicles was a smashing success.

The official ISRO account took to Twitter to announce that they have collaborated with the JSIIC to conduct tests on hypersonic vehicles. The tests were successful in every way and proved the feasibility of developing hypersonic vehicles.

What is a hypersonic vehicle?

Any aircraft, missile, or spacecraft that can exceed Mach 5 (five times the speed of sound) is considered a hypersonic vehicle. Hypersonic weapons are considered state-of-the-art, and many countries, including the United States, China, India, and Russia, have been seeking to improve their effectiveness. There is an ongoing effort by Indian researchers to develop a hypersonic cruise missile with dual capabilities as part of the country's Hypersonic Technology Demonstrator Vehicle programme.

The missile, which will be manufactured in India, will have the capability of launching both nuclear and conventional missiles. Additionally, ISRO has completed the initial blow down test of the Trisonic Wind Tunnel at the VSSC. The aerodynamic design of rockets and re-entry spacecraft can benefit from the Trisonic Wind Tunnel, a technology that assists by measuring forces, moments, load distribution, and keeping pressures and noise levels constant on a scale model. Around 160 metres in length, its cross section is barely more than 5.4 metres across. The trisonic wind tunnel gets its name from the fact that it may be used to test spacecraft in three distinct flight regimes: subsonic, supersonic, and subsonic. Between 68 and 1,360 metres per second, or 0.2 and 4.0 times the speed of sound, respectively, the tunnel may imitate flight. You may read the announcement issued by ISRO here on their website.

https://www.timesnownews.com/technology-science/isro-hypersonic-vehicle-test-flight-completed-successfully-achieved-all-objectives-article-96113144

THE HINDU

Fri, 09 Dec 2022

Vikram Sarabhai Space Centre Gets a New Trisonic Wind Tunnel

The new trisonic wind tunnel at the Vikram Sarabhai Space Centre (VSSC) was inaugurated on Thursday by conducting the first blow-down test successfully. The massive structure, which can perform tests in three speed regimes, equips the Indian Space Research Organisation (ISRO) with a robust in-house support system for space missions. For the country as a whole, it is a big step towards self-reliance in the aerospace sector, the VSSC says. Wind tunnels are devices used to study the effects of air flows on solid objects—in this case, scale models of ISRO rockets and spacecraft.

The trisonic wind tunnel at VSSC is about 160 metres long and measures 5.4 metres at its widest part.The blow down was switched on by ISRO chairman S. Somanath. In a 'blow down test', stored gases are released and blown through the tunnel's test section, simulating flight conditions. The tunnel can simulate flight conditions from 0.2 times the speed of sound (68 metres per second) to four times the speed of sound (1,360 metres per second), according to the space agency. 'Trisonic' refers to the tunnel's capability to test in three speed regimes—below the speed of sound (subsonic), at the speed of sound (transonic), and above the speed of sound (supersonic). Its parts include air storage vessels, a settling chamber where the airflow is 'smoothened' out, and nozzles for releasing the air into the test section. Senior ISRO officials including VSSC director S. Unnikrshanan Nair, Liquid Propulsion Systems Centre (LPSC) director V. Narayanan, and ISRO Inertial Systems Unit (IISU) director Sam Dayala Dev also witnessed the test.

The trisonic wind tunnel was implemented through M/s Tata Projects India Ltd with the assistance of industries across the country. For years, ISRO had depended on the trisonic wind tunnel at the National Aerospace Laboratory (NAL), Bengaluru. The VSSC is already equipped with a hypersonic wind tunnel for testing parameters of re-entry missions. Commissioned in 2017, this tunnel can simulate flow speeds up to Mach 12.

https://www.thehindu.com/news/national/kerala/vikram-sarabhai-space-centre-gets-a-new-trisonic-wind-tunnel/article66242037.ece

FINANCIAL EXPRESS
Read to Lead

Sat, 10 Dec 2022

Honeywell's ETJ Tech to Help Cut Emission Says Vice President Ashish Gaikwad

Earlier this year in October, Honeywell announced a new, innovative ethanol-to-jet fuel (ETJ) processing technology. This technology can reduce greenhouse gas (GHG) emissions by 80 percent on a total lifecycle basis, compared to petroleum-based jet fuel. The development of this

technology was undertaken at the Honeywell India Technology Center in Gurugram. By 2035, the company is committed to achieving carbon neutrality in its operations and facilities.

What is the new technology?

Innovative ethanol-to-jet fuel (ETJ) processing technology allows producers to convert sugar or corn or cellulosic based ethanol into sustainable aviation fuel (SAF). According to top company officials it all depends on the type of ethanol feedstock used. Ashish Gaikwad, Vice President and General Manager, Honeywell UOP India speaks to Huma Siddiqui about the company's new technologies being adopted by the aviation sector.

Following are excerpts:

Aviation industry is known as the major contributor of greenhouse gas (GHG) emissions. How are Honeywell technologies helping them achieve their sustainability goals?

Honeywell's ethanol-to-jet fuel (ETJ) processing technology utilizes innovative, high-performance catalysts and heat management capabilities to maximize production efficiency, resulting in a cost-effective, lower carbon intensity aviation fuel. Depending on the type of ethanol feedstock used, jet fuel produced from Honeywell's Ethanol-to-Jet (ETJ) technology can reduce greenhouse gas (GHG) emissions by 80 percent on a total lifecycle basis, compared to petroleum-based jet fuel

How do you see the demand growing for Sustainable Aviation Fuel (SAF)? How are biofuels contributing to the demand-supply gap?

The global sustainable aviation fuel (SAF) market is developing fast and is expected to grow at a rapid pace in the foreseeable future. Industry reports predict a CAGR in the SAF market of 60 percent during 2022-2032. In India, adoption of SAF is at a very nascent stage. There have been few demonstration flights on blended fuel for lower carbon emissions. In August 2018, SpiceJet operated the first such flight which operated on a blend of 75 percent aviation turbine fuel and 25 percent biojet fuel made from jatropha plant. In February 2022, IndiGo flew in a new jet with 10 percent blend of SAF from France to India, shortly after signing an agreement with the Council of Scientific and Industrial Research-Indian Institute of Petroleum (CSIRIIP) to deploy SAF in India and globally. Recently, the Ministry of Civil Aviation and the Ministry of Petroleum and Natural Gas announced that they are working on a roadmap for SAF in the near future in India. The aim is to establish a framework for lowering carbon emissions by the aviation industry.

Honeywell has pioneered SAF production with its Ecofining technology to support the aviation sector's efforts to reduce GHG emissions, meet global SAF production targets, and to meet the exponentially growing demand for clean fuels. The ethanol to jet process supports greater production of SAF by providing a solution to produce SAF from an abundant feedstock like ethanol.

What was the idea behind introducing ethanol-to-jet fuel (ETJ) processing technology?

Today, aviation is an essential contributor to the health and well-being of the nation's economy and has evolved into the fastest, safest, and most reliable transportation mode in the country. While the aviation sector is expected to grow at a CAGR of 10.6%, it is important to ensure this growth is environmentally sustainable. Hence, while the demand for SAF continues to grow, the aviation industry faces the challenge of limited supplies of traditional SAF feedstocks such as vegetable oils, animal fats and waste oils. Ethanol offers producers a widely available,

economically viable feedstock. Honeywell's ETJ processing technology uses high-performance catalysts and heat management capabilities to maximize production efficiency, resulting in a cost-effective, lower carbon intensity aviation fuel.

Apart from the aviation industry, who are the other beneficiaries of ethanol-to-jet fuel (ETJ) processing technology?

Apart from the aviation sector, petroleum refineries and transportation fuel producers can also benefit from the ETJ design. It is purpose-built to enable conversion of current or idle facilities to SAF production plants, potentially maximizing use of existing sites for SAF production to meet the growing market demand. Honeywell's initiatives towards developing sustainable feedstock alternatives are varied and are not limited to just the aviation sector. While Honeywell's two-stage designs can process feedstocks including used cooking oils and animal fats, and produce renewable jet fuel, the single-stage UOP Ecofining technology produces Honeywell Green Diesel fuel, which is chemically identical to petroleum-based diesel and can be used as a drop-in replacement in vehicles with no modifications.

https://www.financialexpress.com/defence/exclusive-interview-honeywells-etj-tech-to-help-cut-emission-says-vice-president-ashish-gaikwad/2908529

THE TIMES OF INDIA

Sun, 11 Dec 2022

IIT Delhi Offers Technology Solutions on 'Industry Day'

From advanced soft body armour to clothing to sustain defence personnel in extreme weather or mechanism to detect seizures, a wide range of solutions were on display at the "Industry Day" organised at IIT Delhi on Saturday. The collaborative and interdisciplinary product demonstrations included future-ready solutions in the field of healthcare technologies, electric vehicle research, communications and sustainable clean energy and environment. Professor Rangan Banerjee, director, IIT Delhi said, "(An) industry can benefit in multiple ways when it partners with premier technology institutions like IIT Delhi as the industry gets access to world-class research facilities, access to a vibrant research ecosystem, global research and innovations and an opportunity to look at the problems from a new perspective and find path-breaking solutions."

"The short-term and long-term problems of an industry can be solved with different perspectives by interfacing with students and researchers. To make India Atmanirbhar (self-reliant), or industries need to be globally competitive and we are committed to working with industry so that we can make a difference through our research and knowledge." Speaking about the soft body armours which has been developed in partnership with the Defence Research and Development Organisation (DRDO), Jyotirmoy Das, a PhD scholar demonstrated how the various layers will help in mitigating the trauma resulting from bullets. Universal portable plug-in EV chargers were also on display. "The size of the market is big as most of the EV chargers are for commercial area installation and parking facility installation with a much higher cost as compared to the vehicle cost. The technology serves e-rickshaw owners by facilitating home inverter solutions with the use of the same charger and stored energy in vehicle batteries without any additional expenses on other power electronic interfaces. The technology also serves the small food vendors

who can use the stored energy for their small-scale businesses," officials explained. An AI-based portable device for the rapid detection of epilepsy was also showcased.

https://timesofindia.indiatimes.com/city/delhi/iit-delhi-offers-technology-solutions-on-industry-day/articleshow/96145199.cms

the pioneer

Mon, 12 Dec 2022

India Key Nation for Sustainable Aerospace Programme: Boeing

American plane maker Boeing on Sunday said India is a priority country for its ambitious programme to decarbonise aerospace globally from both the civilian and military aircraft and to chart a path toward a sustainable future. Brian, Boeing's Vice President for Global Sustainability Policy and Partnerships, said the company is confident of delivering commercial airplanes capable of flying on 100 per cent Sustainable Aviation Fuel (SAF) by 2030. "India is hugely important to Boeing and to our aviation business, but also to our sustainability journey. I think some of the commitments and potential that we see here in India to become self-reliant through the scaling of sustainable aviation fuel is really promising," he told PTI.

In a significant global announcement, Boeing said last year that its commercial airplanes will be capable and certified to fly on 100 per cent sustainable aviation fuels by 2030. There has been growing deliberations globally on curbing carbon emissions from flying. Boeing has been a major partner of India's aerospace sector for almost eight decades, both as the mainstay of the country's commercial aviation sector as well as for the armed forces.

https://www.dailypioneer.com/2022/india/india-key-nation-for-sustainable-aerospace-programme--boeing.html

tv9 भारतवर्ष

रविवार, 11 दिसंबर 2022

चीन ने बनाया अपना नया अंतरिक्ष स्टेशन, दिया 'स्वर्ग महल' नाम; जानिए कैसा है तियांगोंग

अंतरराष्ट्रीय अंतरिक्ष स्टेशन अब एकमात्र ऐसा स्थान रहीं रह जाएगा, जिसमें मनुष्य कक्षा में रह सकते हैं. इस साल 29 नवंबर को चीन के गोबी डेजर्ट नामक स्थान से शेंजू 15 मिशन शुरू हुआ था, जिसके जरिए तीन अंतरिक्ष यात्री अंतरिक्ष के लिए रवाना हुए थे. छह घंटे बाद वे अपने गंतव्य तक पहुंच गए.चीन ने हाल में अपना अंतरिक्ष स्टेशन तैयार किया है, जिसका नाम तियांगोंग है। मंदारिन भाषा में तियांगोंग का अर्थ

स्वर्ग का महल होता है. इस मिशन के तहत अंतरिक्ष में गए तीन अंतरिक्ष यात्री वहां पहले से मौजूद दल की जगह लेंगे, जिसने स्टेशन के निर्माण में मदद की है.इस मिशन के सफल होने के साथ ही, चीन अपना स्थायी अंतरिक्ष स्टेशन चलाने वाला दुनिया का तीसरा देश बन गया है.

चीन की स्थिति मजबूत होगी

इस सफलता से अमेरिका और रूस जैसी दुनिया की दो शीर्ष अंतरिक्ष शक्तियों के बीच चीन की स्थिति मजबूत होगी. इंडियाना यूनिवर्सिटी ऑस्ट्रॉम वर्कशॉप के स्पेस गवर्नेंस प्रोग्राम का नेतृत्व करने वाले अंतरिक्ष कानून व अंतरिक्ष नीति विद्वानों के रूप में हम रुचि के साथ चीनी अंतरिक्ष स्टेशन के विकास को देख रहे हैं.

अंतरिक्ष स्टेशन वाला पहला देश

अमेरिकी नेतृत्व वाले अंतरराष्ट्रीय अंतरिक्ष स्टेशन के विपरीत, तियांगोंग पूरी तरह से चीन द्वारा निर्मित और संचालित है. स्टेशन का सफल उद्घाटन विज्ञान के कुछ रोमांचक पलों में शुमार है. साथ ही स्टेशन देश की आत्मनिर्भरता की नीति पर भी प्रकाश डालता है.इसके अलावा यह अंतरिक्ष में शक्ति के बदलते परिदृश्य के बीच बड़ी अंतरिक्ष महत्वाकांक्षाओं को प्राप्त करने की दिशा में चीन के लिए एक महत्वपूर्ण कदम है.

चीनी स्टेशन की क्षमताएं

चीन के मानव अंतरिक्ष कार्यक्रम ने तीन दशक में तियांगोंग अंतरिक्ष स्टेशन का काम पूरा किया है.स्टेशन 180 फीट (55 मीटर) लंबा है और इसमें तीन मॉड्यूल शामिल हैं जिन्हें अलग से लॉन्च करने के बाद अंतरिक्ष में जोड़ा गया था.इनमें एक कोर मॉड्यूल शामिल है जहां अधिकतम छह अंतरिक्ष यात्री रह सकते हैं. इसके अलावा 3,884 क्यूबिक फुट (110 क्यूबिक मीटर) के दो मॉड्यूल हैं.

तियांगोंग स्टेशन का आधुनिकीकरण किया गया

स्टेशन के पास एक बाहरी रोबोटिक खंड भी है, जो स्टेशन के बाहर गतिविधियों और प्रयोगों पर नजर रखता है. आपूर्ति वाहनों और मानवयुक्त अंतरिक्ष यान के लिए तीन डॉकिंग पोर्ट हैं.चीन के विमान वाहकों और अन्य अंतरिक्ष यान की तरह तियांगोंग सोवियत-युग के डिजाइन पर आधारित है. यह 1980 के दशक के सोवियत अंतरिक्ष स्टेशन मीर से काफी मिलता जुलता है. लेकिन तियांगोंग स्टेशन का काफी आधुनिकीकरण किया गया है.

अंतरिक्ष स्टेशन 15 साल तक कक्षा में रह सकता है

चीनी अंतरिक्ष स्टेशन 15 साल तक कक्षा में रह सकता है. जिसमें हर साल छह-छह महीने के लिए संचालन दल और कार्गो मिशन भेजने की योजना है. स्टेशन में वैज्ञानिक परीक्षण पहले ही शुरू हो चुके हैं.इसकी

शुरुआत स्टेशन के जैविक परीक्षण कैबिनेट में, बंदर प्रजनन से जुड़े एक योजनाबद्ध अध्ययन से हुई है. यह अध्ययन सफल रहेगा या नहीं यह एक अलग मामला है.

जानिए कैसा है तियांगोंग

तियांगोंग के निर्माण के साथ ही चीन एकमात्र ऐसा देश बन गया है जिसके पास पूरी तरह से एक अंतरिक्ष स्टेशन होगा और वह नासा के नेतृत्व वाले अंतरराष्ट्रीय अंतरिक्ष स्टेशन (आईएसएस) का प्रतिस्पर्धी होगा, जिसकी स्थापना 1998 में की गई थी.

https://www.tv9hindi.com/world/china-news/china-built-its-new-space-station-named-it-heaven-palace-know-how-is-tiangong-au545-1605365.html

पंजाब केसरी

शनिवार, 10 दिसंबर 2022

चीन की अंतरिक्ष गतिविधियों पर अमेरिका की पैनी नजर

पृथ्वी की निचली कक्षा में तेजी से इकट्ठे होते मलबे के बीच अमेरिका चीन की उन गतिविधियों पर करीबी नजर रख रहा है, जो अंतरिक्ष में अमेरिकी संपत्ति को संभावित रूप से खतरे में डाल सकती हैं। अंतरिक्ष में अमेरिका के सैन्य अभियान के प्रमुख ने शुक्रवार को यह बात कही। यूएस स्पेस कमांड आर्मी के कमांडर जनरल जेम्स डिकिंसन ने संयुक्त राष्ट्र में उस प्रस्ताव के भारी मतों से पारित होने का स्वागत किया, जिसमें यह प्रावधान किया गया है कि देश सीधी उड़ान भरने वाली उपग्रह रोधी प्रणाली का परीक्षण नहीं करेंगे, जो बड़े पैमाने पर अंतरिक्ष मलबा पैदा कर उपग्रहों और अंतरिक्ष स्टेशन के अस्तित्व को खतरे में डालती हैं। जिन चार देशों ने इस तरह की उपग्रह रोधी प्रणाली का परीक्षण किया है, उनमें से सिर्फ अमेरिका ने इस प्रस्ताव के पक्ष में मतदान किया। चीन और रूस ने जहां प्रस्ताव का विरोध किया, वहीं भारत मतदान से दूर रहा। एशिया के संवाददाताओं से टेलीफोन पर हुई बातचीत में जनरल डिकिंसन ने कहा, “हम अंतरिक्ष में मौजूद मलबे को बढ़ाना जारी नहीं रख सकते। ज्यादातर मलबा पृथ्वी की अहम निचली कक्षा में मौजूद है, जो बहुत भरा हुआ और प्रतिस्पर्धा एवं संघर्ष का केंद्र बन गया है।” उन्होंने कहा कि अंतरिक्ष में वस्तुओं की संख्या तेजी से बढ़ रही है और धातु के छोटे टुकड़े भी खतरा पैदा कर सकते हैं।

डिकिंसन ने बताया कि अमेरिकी स्पेस कमांड पृथ्वी की कक्षा के पास अभी 48 हजार से अधिक वस्तुओं की निगरानी कर रहा है, जिनमें उपग्रह, दूरबीन, अंतरिक्ष स्टेशन और हर आकार का मलबा शामिल है। उन्होंने बताया कि तीन साल पहले ऐसी वस्तुओं की संख्या 25 हजार के आसपास थी। चीन 2003 में अमेरिका और पूर्व सोवियत संघ के बाद अंतरिक्ष में मानव भेजने वाला दुनिया का तीसरा देश बना था। तब

से उसका मानव अंतरिक्ष कार्यक्रम काफी तेजी से बढ़ा है। 2007 में चीन को अंतरिक्ष में अपने एक निष्क्रिय उपग्रह को उड़ाने के लिए एक मिसाइल का अघोषित परीक्षण करने पर अंतरराष्ट्रीय स्तर पर काफी आलोचनाओं का सामना करना पड़ा था। इस परीक्षण के कारण अंतरिक्ष में बड़े पैमाने पर मलबा फैल गया था, जो अभी भी खतरे का सबब बना हुआ है।

डिकिंसन ने कहा, "बीजिंग को लगता है कि अंतरिक्ष न केवल उसकी अर्थव्यवस्था और वैश्विक अर्थव्यवस्था के लिए, बल्कि सैन्य क्षेत्र के लिए भी अहम कारक है। ऐसे में जब वह अपनी अंतरिक्ष क्षमताओं में लगातार इजाफा कर रहा है, तब हम उसकी गतिविधियों पर बेहद करीबी नजर रख रहे हैं।" ताइवान, दक्षिण चीन सागर और व्यापार एवं तकनीक के क्षेत्र में अमेरिका और चीन के बीच बढ़ते तनाव के बीच अंतरिक्ष दोनों देशों में तेजी से टकराव के एक संभावित केंद्र के रूप में उभर रहा है।

इसके अलावा, पेंटागन ने पिछले हफ्ते वार्षिक चीन सुरक्षा रिपोर्ट जारी की थी, जिसमें आगाह किया गया था कि वर्ष 2035 तक बीजिंग के पास 1,500 परमाणु हथियार हो सकते हैं और उसने यह स्पष्ट नहीं किया है कि वह इन हथियारों का किस रूप में इस्तेमाल करने की मंशा रखता है। डिकिंसन ने कहा कि चीन 'उन क्षमताओं का निर्माण कर रहा है, जो वास्तव में अंतरिक्ष में हमारी ज्यादा संपत्तियों को खतरे में डालती हैं।' उन्होंने कहा कि यूक्रेन के खिलाफ रूस के युद्ध ने भी दिखाया है कि अंतरिक्ष 'टकराव का केंद्र है, जिसकी रक्षा किया जाना जरूरी है। यह एक ऐसी भूमिका है, जिसे यूएस स्पेस कमांड काफी गंभीरता से ले रहा है।'

https://www.punjabkesari.in/international/news/us-keeps-eye-on-china-s-space-activities-for-potential-risks-1731176